

**STORMWATER MANAGEMENT STUDY  
FOR  
THE VILLAGE AT BAILEY'S POND**

**ROUTE 150 & SUMMIT AVENUE  
AMESBURY, MASSACHUSETTS**

Prepared for:

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Project 12013  
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### The Village at Bailey's Pond

Summit Ave and Rte 150  
Amesbury, Massachusetts

**OCG**

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### SITE LOCATION USGS MAP

DRAWN BY:  
SPM

SCALE:  
AS NOTED

CHECKED BY:  
SPM

DATE:  
10/1/15

FIGURE NO.

**1**



## 1.0 INTRODUCTION

Oak Consulting Group has prepared the following Stormwater Management Study for the redevelopment of a former gravel pit in Amesbury, Massachusetts. The objective of this study was to engineer a drainage design using Best Management Practices (BMPs) that meet the Stormwater Management Standards set forth in the Massachusetts Department of Environmental Protection's (MA DEP's) Stormwater Policy and standard engineering practice.

The Project Area is located on Bailey's Pond, with access from Beacon Street, Summit Avenue, and Route 150. The project consists of redevelopment of an abandoned gravel pit for a new residential condominium with associated parking, utility, lighting, landscape, and drainage improvements.

The total area of disturbance is approximately 18.0 acres. Portions of the proposed work area are within buffers to wetlands resource areas subject to protection under the Wetlands Protection Act and the local bylaw. The project has been designed to minimize and mitigate disturbance in these buffers and to help protect Bailey's Pond.

### 1.1 Existing Conditions

The site of the proposed project is situated on the north and west sides of Bailey's Pond in areas that were formally used for the mining and export of gravel and sand. The project area is bisected by a culverted stream which daylight on the north end of the property, adjacent to Summit Avenue, and flows into the pond. The day-lighted portion of the stream on the site is subject to protection by the 200-foot Riverfront Area buffer.

Bailey's Pond covers approximately 12.5 acres and its water elevation is controlled by a weir structure at the south end, adjacent to an existing parking area on the north side of Merrimack Street. Overflow from the pond outletted by this structure is piped underground, south across Merrimack Street through the former Merrimack Hat Factory building, and discharged to the Merrimack River.

In addition to the stream there are four observed drainage outlets that contribute offsite drainage to the project area and the pond. These outlets consist of 12- to 18-inch culverts projecting from the side slopes of the site and do not provide any stormwater detention or treatment. High stormwater flows through these culverts have caused some significant erosion at these outfalls. This erosion was observed to have undermined some of the culvert headwalls and eroded deep rills through the sandy site, depositing sediment into the pond. Additional investigation suggests that the culvert crossing Route 150 originates in an abandoned manhole located on the former truck stop site and no longer receives any significant flow.

The project area has been significantly altered over the years. It appears mining operations removed a significant amount of native material. As a result of these operations, the site slopes steeply down from Route 150 and Summit Avenue with a 30- to 40-foot change in elevation, and then flattens at the base, with a more moderate slope across the site. Adjacent to the pond, the slope again drops steeply 6 to 8 feet to the pond elevation. Existing ground cover consists predominantly of a weedy brush and exposed earth in most areas of the former gravel pit. Some tree stands providing forest cover existing primarily around the perimeter of the site, the pond, and stream.

As noted above, the site was previously used as a gravel pit. It is not known when this operation took place or for how long, however an aerial photograph from 1966 shows the project area completely denuded and void of vegetation. Twenty three test pits were conducted on site in November 2004. As

expected these tests revealed consistent gravel and sandy material throughout the site with rapid percolation rates greater than 2 minutes per inch. Because the site had undergone significant alteration, the estimation of seasonal high ground water throughout most of the site was inconclusive. Test pits revealed a top layer of miscellaneous fill and disturbed soil of varying depth with soil mottling observed immediately below the fill layers in most locations. It was concluded that the soil mottling observed was likely relic and was not indicative of current seasonal high ground water levels. Mean High Water of the pond is estimated to be approximately 28.0. Based on the rapid infiltration of water through the soil, it is believed seasonal high groundwater is at or near the pond mean high water elevation.

## 1.2 Proposed Conditions

The project proposes construction of 37 buildings on the ±24-acre site along with new roads, driveways and drainage system. The drainage system has been designed to manage existing off-site culvert outfalls and to mitigate the impacts of development to stormwater runoff from the site. Controlling stormwater runoff together with the new lawn and landscaped areas between and around the proposed buildings will also help to stabilize the site.

The proposed drainage design focuses on filtering and infiltrating runoff to the ground. Infiltration of stormwater will effectively mimic the pre-development drainage condition by helping to control the rate and volume of runoff from the site and recharging runoff generated by new impervious areas to the ground.

Stormwater treatment is provided primarily through the use pre-treatment devices such as deep sump catch basins and sediment forebays prior to directing runoff to infiltration basins spread throughout the project area. The infiltration areas are shallow (generally 1-3' deep) grassed basins with a drywell to help promote infiltration in all seasons. These stormwater treatment areas are designed to capture, retain and treat at least the first inch of runoff from impervious areas, known as the "first flush."

## 1.3 Methodology

Drainage conditions of the project area were analyzed in both the pre-development and post-development condition using the computer program HydroCAD. This program utilized the SCS TR-20 drainage model to generate estimated peak rates of runoff for the Subcatchment areas modeled. The site is characterized by a single watershed to Bailey's Pond. The pre-development analysis divided the site into seven sub-catchments based on the locations of offsite drainage outfalls and the discharge points of eroded channels. In the post-development analysis the watershed to the pond was broken down to approximately 40 subcatchment areas to analyze the proposed BMP's for the project. The Pre-Development Watershed Plans and Post-Development Watershed Plans depicting the sub-areas analyzed can be found in Appendices A and B, respectively.

## 2.0 STORMWATER MANAGEMENT STANDARDS

The plans included with this drainage study present the existing and proposed storm drain systems and erosion control measures proposed for the project. The stormwater BMPs were designed to meet and exceed the performance standards of the Stormwater Policy. The measures taken to address each of the standards are presented below.

### 2.1 No New Untreated Discharges (Standard 1)

The proposed project will not result in new untreated discharges. Existing stormwater runoff from off-site and generated on the project site, flows overland and via existing drain pipes to Bailey's Pond. Runoff from the proposed project area and new impervious areas will be captured, treated to remove total suspended solids (TSS), and infiltrated on site. Treated runoff not infiltrated on site will be discharged at a rate and volume not to exceed the pre-development condition.

### 2.2 Peak Rate Attenuation (Standard 2)

The Post-development rate and volume of runoff from the site will be less than the Pre-development Conditions. HydroCAD stormwater calculations for the 25- and 100-year design storms are provided in Appendices A and B, and the 2- 10- 25-, and 100-year storm events are summarized in the table below. The existing and proposed drainage conditions were evaluated at the point of discharge to the pond.

Table 2.2.1

	<b>Peak Rate of Runoff for <u>2-Year Storm Event (3.1")</u></b>	<b>Peak Rate of Runoff for <u>10-Year Storm Event (4.6")</u></b>	<b>Peak Rate of Runoff for <u>25-Year Storm Event (5.5")</u></b>	<b>Peak Rate of Runoff for <u>100-Year Storm Event (6.7")</u></b>
Pre-development	3.34 cfs	8.43 cfs	13.91 cfs	23.58 cfs
Post-development	3.30cfs	6.45 cfs	9.52 cfs	13.22 cfs
Change (cfs)	-0.04 cfs	-1.98 cfs	-4.39 cfs	10.36 cfs
Change (%)	<b>-1%</b>	<b>-23%</b>	<b>-32%</b>	<b>-44%</b>

Table 2.2.2

	<b>Volume of Runoff for <u>2-Year Storm Event (3.1")</u></b>	<b>Volume of Runoff for <u>10-Year Storm Event (4.6")</u></b>	<b>Volume of Runoff for <u>25-Year Storm Event (5.5")</u></b>	<b>Volume of Runoff for <u>100-Year Storm Event (6.7")</u></b>
Pre-development	0.577 acft	1.447 acft	2.202 acft	3.425 acft
Post-development	0.311 acft	0.567 acft	0.801 acft	1.281 acft
Change (cfs)	-0.266 acft	-0.88 cfs	-1.40 acft	-2.144 acft
Change (%)	<b>-46%</b>	<b>-61%</b>	<b>-64%</b>	<b>-63%</b>

As shown above, there will be a net decrease in the rate and volume of runoff to Bailey's Pond in the post-development condition.

### 2.3 Groundwater Recharge (Standard 3)

The performance standards require an approximate restoration of groundwater recharge in post-development conditions. Soil data was obtained from multiple test pits previously conducted on site. Soils were classified as sands and gravels with a hydrologic Soil Group A. The project will create a net increase of 6.95 acres of impervious area in the form of new building roofs and drives. The MADEP recharge standard for Group A soils (0.60 in./imperv. area) was applied to the entire additional impervious area to determine the minimum amount of recharge required.

$$\text{Volume required} = 6.95 \text{ acre} \times (43,560 \text{ ft}^2/\text{acre}) \times (0.6 \text{ in}) / (12 \text{ in/ft}) = \underline{15,130} \text{ cubic feet}$$

The project will use infiltration basins for stormwater treatment and groundwater recharge. These basins were sized to capture and hold greater than the required stormwater treatment volume for the site. This volume is the first inch of runoff from the contributing impervious roadway areas. This volume was calculated to be 11,593 cf. The treatment volume will be pretreated then held in the infiltration areas and filtered as the runoff percolates through the soil and recharges groundwater. Using the Static Method, the infiltration areas have been calculated to recharge 54,169 cubic feet of water to the aquifer.

$$\text{Total Recharge Volume provided} = \underline{54,169} \text{ cubic feet}$$

The proposed groundwater infiltration systems were designed and modeled as "ponds" in HydroCAD. Based on the soil characterization as sand, an infiltration rate of 8.27 inches/hour was obtained from Rawls Tables as required by the Stormwater Policy. Percolation tests previously performed on site resulted in rates of <2 minutes per inch (30 inch/hour); however, the use of percolation rates for stormwater infiltration is not allowed by the stormwater regulations and therefore the more conservative Rawls rate was used.

### 2.4 Water Quality (Standard 4)

Runoff generated by the site will be treated to remove at least 80 percent of the total annual load of Total Suspended Solids (TSS). Runoff from the new driveway areas will be directed to infiltration areas described above primarily via drainage pipes. Pretreatment of runoff to these areas will be primarily provided by a grassed filter strips, deep sump catchbasins, and sediment forebays. The only new impervious areas not directed to the stormwater management system consist of portions of the roof of seven buildings closest to the pond. Because this is roof runoff it is considered clean, not requiring treatment. A summary of the required treatment volumes can be found in Appendix C.

### 2.5 Land Use with Higher Potential Pollutant Loads (LUHPPLs) (Standard 5)

The proposed project involves the construction of a residential development. This use is not associated with higher potential pollutant loads.

## 2.6 Critical Areas (Standard 6)

The site does not contain critical environmental resource areas. Stormwater generated from the site will be infiltrated or treated and released to Bailey's Pond.

## 2.7 Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable (Standard 7)

A "redevelopment" project is defined in the MA DEP Stormwater Policy as: "Development, rehabilitation, expansion, and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area."

The proposed project does not meet this definition of a redevelopment project and the proposed stormwater management system is in full compliance with stormwater regulations for new development projects.

## 2.8 Construction-Period Pollution Prevention and Erosion and Sedimentation Control (Standard 8)

Below is a summary of the erosion and sediment control procedures. Additional detail can be found on Sheet C-601, Erosion Control Notes, and details provided on the project plans.

Land-disturbing activities proposed under this project will include the items listed in, and be sequenced according to, the following preliminary construction schedule:

1. Installation of temporary erosion controls (hay bales, sedimentation barriers, and catchbasin inlet protection).
2. Clearing and grubbing. Stockpile topsoil.
3. Excavation, grading, construction of drainage system, and stabilization.
4. Construction of roadways and utilities.
5. Construction of buildings, landscaping, and final stabilization.
6. Removal of temporary erosion controls and any trapped sediment.

Erosion/sediment controls will be in place throughout the site during all phases of construction. All existing catchbasins in the project area will have a silt basket installed under the grate. The Contractor shall be responsible for checking all of the erosion/sediment control measures periodically and after every storm. The Contractor shall repair, replace, and maintain all erosion/sediment control measures throughout construction until all disturbed areas have been stabilized. Efforts will be made to establish vegetative cover over all disturbed areas as soon as possible after the work in that area is complete. All disturbed areas will be treated with a 4-inch depth of loam and seed.

The occurrence of an extended shutdown during the construction phase of this project is not anticipated and is unlikely. Should unexpected events dictate, measures will be taken to stabilize the disturbed areas of the site as a last construction activity before the start of an extended shutdown. These measures will include careful planning of the immediate construction schedule so that further land disturbance is kept to a minimum and the re-stabilization of existing disturbed areas is maximized prior to

the extended shutdown. Other measures will include the reinforcement and repair of all erosion/sediment controls in place at the time of the extended shutdown.

2.9 Operation and Maintenance Plan (Standard 9)

See Appendix D.

2.10 Prohibition of Illicit Discharges

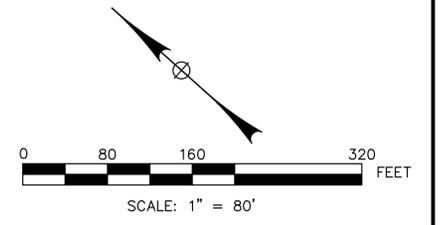
Illicit discharges are prohibited.

**APPENDIX A**

Pre-Development Drainage Calculations

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts





- LEGEND**
- SUBCATCHMENT BOUNDARY
  - - - DRAINAGE FLOW PATH
  - ①D SUBCATCHMENT NUMBER



REV	DATE	DESCRIPTION	BY

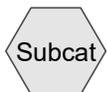
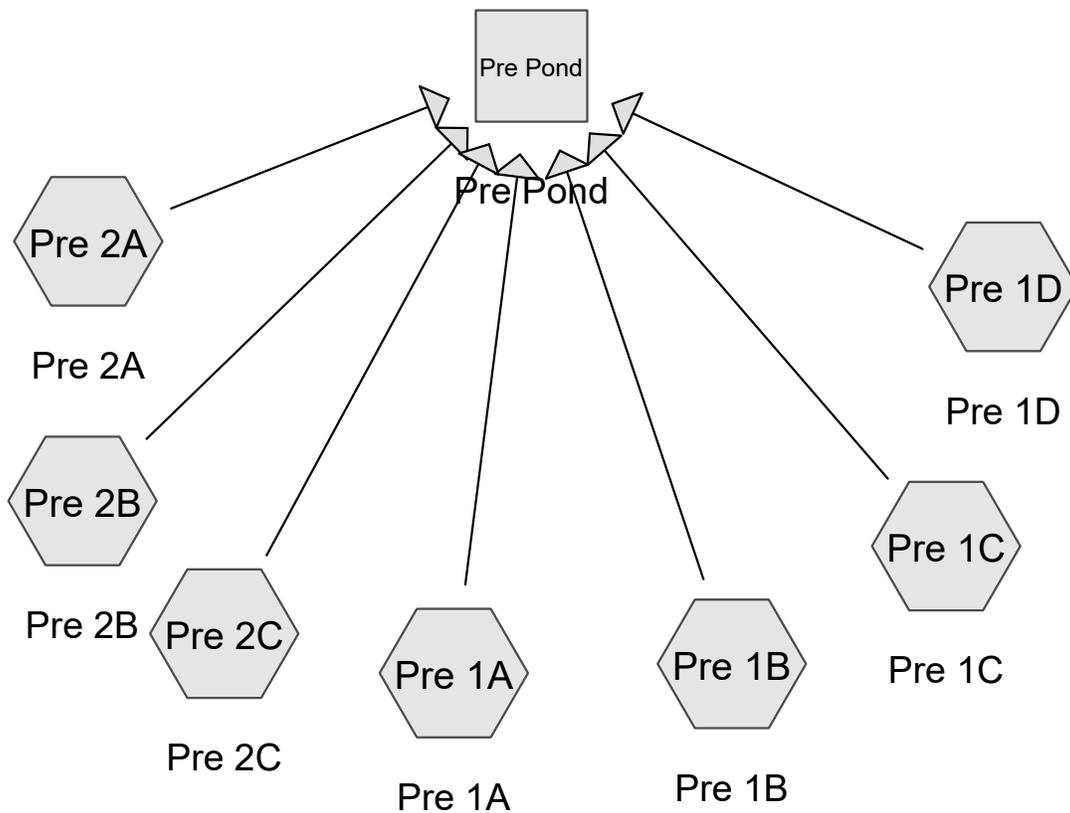
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**THE VILLAGE AT BAILEY'S POND**  
 Route 150 and Summit Avenue  
 Amesbury, Massachusetts

**PRE-DEVELOPMENT  
 DRAINAGE PLAN**

SCALE: AS NOTED	DESIGN: SPM	SHEET:
DRAWN: SPM	PROJECT: 12013	<b>DR-001</b>
CHECKED: PFA	DATE: 10/1/15	

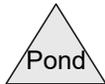




Subcat



Reach



Pond



Link

**Routing Diagram for 12013 Pre**

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**12013 Pre**

Type III 24-hr 2 year Rainfall=3.10"

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

**SubcatchmentPre 1A: Pre 1A**

Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>0.19"  
 Flow Length=511' Tc=19.8 min CN=51 Runoff=0.33 cfs 0.076 af

**SubcatchmentPre 1B: Pre 1B**

Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>0.31"  
 Flow Length=666' Tc=22.5 min CN=54 Runoff=0.70 cfs 0.128 af

**SubcatchmentPre 1C: Pre 1C**

Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>0.26"  
 Flow Length=642' Tc=28.1 min CN=55 Runoff=0.31 cfs 0.077 af

**SubcatchmentPre 1D: Pre 1D**

Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.02"  
 Flow Length=390' Tc=19.2 min CN=39 Runoff=0.01 cfs 0.005 af

**SubcatchmentPre 2A: Pre 2A**

Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>1.39"  
 Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=78 Runoff=0.68 cfs 0.056 af

**SubcatchmentPre 2B: Pre 2B**

Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.08"  
 Flow Length=569' Tc=18.2 min CN=42 Runoff=0.26 cfs 0.044 af

**SubcatchmentPre 2C: Pre 2C**

Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>0.52"  
 Flow Length=514' Tc=19.0 min CN=48 Runoff=1.66 cfs 0.192 af

**Reach Pre Pond: Pre Pond**

Inflow=3.38 cfs 0.577 af  
 Outflow=3.38 cfs 0.577 af

**Total Runoff Area = 27.642 ac Runoff Volume = 0.577 af Average Runoff Depth = 0.25"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 0.33 cfs @ 12.32 hrs, Volume= 0.076 af, Depth> 0.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 0.70 cfs @ 12.34 hrs, Volume= 0.128 af, Depth> 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b> Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b> Woodland Kv= 5.0 fps
22.5	666	Total			

**12013 Pre**

Type III 24-hr 2 year Rainfall=3.10"

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**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 0.31 cfs @ 12.58 hrs, Volume= 0.077 af, Depth&gt; 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.01 cfs @ 14.94 hrs, Volume= 0.005 af, Depth&gt; 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.056 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 0.26 cfs @ 12.24 hrs, Volume= 0.044 af, Depth> 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 1.66 cfs @ 12.25 hrs, Volume= 0.192 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2 year Rainfall=3.10"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 0.25" for 2 year event

Inflow = 3.38 cfs @ 12.27 hrs, Volume= 0.577 af

Outflow = 3.38 cfs @ 12.27 hrs, Volume= 0.577 af, Atten= 0%, Lag= 0.0 min

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

**12013 Pre**

Type III 24-hr 10 year Rainfall=4.60"

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

**SubcatchmentPre 1A: Pre 1A**

Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>0.65"  
 Flow Length=511' Tc=19.8 min CN=51 Runoff=1.50 cfs 0.255 af

**SubcatchmentPre 1B: Pre 1B**

Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>0.83"  
 Flow Length=666' Tc=22.5 min CN=54 Runoff=2.10 cfs 0.338 af

**SubcatchmentPre 1C: Pre 1C**

Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>0.82"  
 Flow Length=642' Tc=28.1 min CN=55 Runoff=1.55 cfs 0.246 af

**SubcatchmentPre 1D: Pre 1D**

Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.15"  
 Flow Length=390' Tc=19.2 min CN=39 Runoff=0.14 cfs 0.040 af

**SubcatchmentPre 2A: Pre 2A**

Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>2.50"  
 Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=78 Runoff=1.28 cfs 0.101 af

**SubcatchmentPre 2B: Pre 2B**

Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.28"  
 Flow Length=569' Tc=18.2 min CN=42 Runoff=0.73 cfs 0.151 af

**SubcatchmentPre 2C: Pre 2C**

Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>0.85"  
 Flow Length=514' Tc=19.0 min CN=48 Runoff=2.52 cfs 0.317 af

**Reach Pre Pond: Pre Pond**

Inflow=8.49 cfs 1.447 af  
 Outflow=8.49 cfs 1.447 af

**Total Runoff Area = 27.642 ac Runoff Volume = 1.447 af Average Runoff Depth = 0.63"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**12013 Pre**

Type III 24-hr 10 year Rainfall=4.60"

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**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 1.50 cfs @ 12.38 hrs, Volume= 0.255 af, Depth&gt; 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b>
					Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00'
					n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 2.10 cfs @ 12.38 hrs, Volume= 0.338 af, Depth&gt; 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b>
					Woodland Kv= 5.0 fps
22.5	666	Total			

**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 1.55 cfs @ 12.49 hrs, Volume= 0.246 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.14 cfs @ 12.49 hrs, Volume= 0.040 af, Depth> 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 1.28 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 0.73 cfs @ 12.36 hrs, Volume= 0.151 af, Depth> 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 2.52 cfs @ 12.25 hrs, Volume= 0.317 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10 year Rainfall=4.60"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 0.63" for 10 year event

Inflow = 8.49 cfs @ 12.35 hrs, Volume= 1.447 af

Outflow = 8.49 cfs @ 12.35 hrs, Volume= 1.447 af, Atten= 0%, Lag= 0.0 min

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

**12013 Pre***Type III 24-hr 25 year Rainfall=5.50"*

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

**SubcatchmentPre 1A: Pre 1A**

Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>1.03"  
 Flow Length=511' Tc=19.8 min CN=51 Runoff=2.86 cfs 0.406 af

**SubcatchmentPre 1B: Pre 1B**

Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>1.25"  
 Flow Length=666' Tc=22.5 min CN=54 Runoff=3.57 cfs 0.506 af

**SubcatchmentPre 1C: Pre 1C**

Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>1.27"  
 Flow Length=642' Tc=28.1 min CN=55 Runoff=2.66 cfs 0.381 af

**SubcatchmentPre 1D: Pre 1D**

Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.33"  
 Flow Length=390' Tc=19.2 min CN=39 Runoff=0.32 cfs 0.087 af

**SubcatchmentPre 2A: Pre 2A**

Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>3.22"  
 Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=78 Runoff=1.67 cfs 0.131 af

**SubcatchmentPre 2B: Pre 2B**

Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.51"  
 Flow Length=569' Tc=18.2 min CN=42 Runoff=1.42 cfs 0.269 af

**SubcatchmentPre 2C: Pre 2C**

Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>1.14"  
 Flow Length=514' Tc=19.0 min CN=48 Runoff=3.09 cfs 0.422 af

**Reach Pre Pond: Pre Pond**

Inflow=13.99 cfs 2.202 af  
 Outflow=13.99 cfs 2.202 af

**Total Runoff Area = 27.642 ac Runoff Volume = 2.202 af Average Runoff Depth = 0.96"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**12013 Pre**

Type III 24-hr 25 year Rainfall=5.50"

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**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 2.86 cfs @ 12.34 hrs, Volume= 0.406 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 3.57 cfs @ 12.37 hrs, Volume= 0.506 af, Depth> 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b> Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b> Woodland Kv= 5.0 fps
22.5	666	Total			

**12013 Pre**

Type III 24-hr 25 year Rainfall=5.50"

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**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 2.66 cfs @ 12.46 hrs, Volume= 0.381 af, Depth&gt; 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.32 cfs @ 12.40 hrs, Volume= 0.087 af, Depth&gt; 0.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 1.67 cfs @ 12.09 hrs, Volume= 0.131 af, Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 1.42 cfs @ 12.32 hrs, Volume= 0.269 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 3.09 cfs @ 12.25 hrs, Volume= 0.422 af, Depth> 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25 year Rainfall=5.50"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 0.96" for 25 year event

Inflow = 13.99 cfs @ 12.34 hrs, Volume= 2.202 af

Outflow = 13.99 cfs @ 12.34 hrs, Volume= 2.202 af, Atten= 0%, Lag= 0.0 min

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

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

**SubcatchmentPre 1A: Pre 1A** Runoff Area=205,388 sf 2.71% Impervious Runoff Depth>1.64"  
Flow Length=511' Tc=19.8 min CN=51 Runoff=5.19 cfs 0.645 af

**SubcatchmentPre 1B: Pre 1B** Runoff Area=211,854 sf 6.45% Impervious Runoff Depth>1.90"  
Flow Length=666' Tc=22.5 min CN=54 Runoff=5.97 cfs 0.769 af

**SubcatchmentPre 1C: Pre 1C** Runoff Area=157,286 sf 1.51% Impervious Runoff Depth>1.95"  
Flow Length=642' Tc=28.1 min CN=55 Runoff=4.41 cfs 0.588 af

**SubcatchmentPre 1D: Pre 1D** Runoff Area=136,654 sf 0.00% Impervious Runoff Depth>0.68"  
Flow Length=390' Tc=19.2 min CN=39 Runoff=0.92 cfs 0.178 af

**SubcatchmentPre 2A: Pre 2A** Runoff Area=21,228 sf 32.49% Impervious Runoff Depth>4.24"  
Flow Length=745' Slope=0.0500 '/' Tc=6.0 min CN=78 Runoff=2.21 cfs 0.172 af

**SubcatchmentPre 2B: Pre 2B** Runoff Area=277,757 sf 1.93% Impervious Runoff Depth>0.91"  
Flow Length=569' Tc=18.2 min CN=42 Runoff=2.91 cfs 0.481 af

**SubcatchmentPre 2C: Pre 2C** Runoff Area=193,937 sf 5.39% Impervious Runoff Depth>1.60"  
Flow Length=514' Tc=19.0 min CN=48 Runoff=4.05 cfs 0.594 af

**Reach Pre Pond: Pre Pond** Inflow=23.68 cfs 3.425 af  
Outflow=23.68 cfs 3.425 af

**Total Runoff Area = 27.642 ac Runoff Volume = 3.425 af Average Runoff Depth = 1.49"**  
**96.32% Pervious = 26.625 ac 3.68% Impervious = 1.017 ac**

**Summary for Subcatchment Pre 1A: Pre 1A**

Runoff = 5.19 cfs @ 12.32 hrs, Volume= 0.645 af, Depth> 1.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
154,026	48	Brush, Poor, HSG A
45,802	57	Woods/grass comb., Poor, HSG A
5,560	98	Paved parking & roofs
205,388	51	Weighted Average
199,828	50	97.29% Pervious Area
5,560	98	2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	150	0.0600	0.13		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	361	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, BC</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
19.8	511	Total			

**Summary for Subcatchment Pre 1B: Pre 1B**

Runoff = 5.97 cfs @ 12.35 hrs, Volume= 0.769 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
132,992	48	Brush, Poor, HSG A
65,190	57	Woods/grass comb., Poor, HSG A
13,672	98	Paved parking & roofs
211,854	54	Weighted Average
198,182	51	93.55% Pervious Area
13,672	98	6.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	150	0.1200	0.17		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	137	0.1400	1.87		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
5.9	292	0.0270	0.82		<b>Shallow Concentrated Flow, CD</b> Woodland Kv= 5.0 fps
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, DE</b> Woodland Kv= 5.0 fps
22.5	666	Total			

**Summary for Subcatchment Pre 1C: Pre 1C**

Runoff = 4.41 cfs @ 12.43 hrs, Volume= 0.588 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
43,172	48	Brush, Poor, HSG A
111,739	57	Woods/grass comb., Poor, HSG A
2,375	98	Paved parking & roofs
157,286	55	Weighted Average
154,911	54	98.49% Pervious Area
2,375	98	1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.6	150	0.0500	0.12		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	156	0.2600	2.55		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
6.5	336	0.0300	0.87		<b>Shallow Concentrated Flow, CD</b>
					Woodland Kv= 5.0 fps
28.1	642	Total			

**Summary for Subcatchment Pre 1D: Pre 1D**

Runoff = 0.92 cfs @ 12.45 hrs, Volume= 0.178 af, Depth> 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
33,479	48	Brush, Poor, HSG A
103,175	36	Woods, Fair, HSG A
136,654	39	Weighted Average
136,654	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	133	0.0600	0.13		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	257	0.2200	2.35		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.2	390	Total			

**Summary for Subcatchment Pre 2A: Pre 2A**

Runoff = 2.21 cfs @ 12.09 hrs, Volume= 0.172 af, Depth> 4.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
0	48	Brush, Poor, HSG A
0	36	Woods, Fair, HSG A
6,898	98	Paved parking & roofs
14,330	68	<50% Grass cover, Poor, HSG A
21,228	78	Weighted Average
14,330	68	67.51% Pervious Area
6,898	98	32.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.44		<b>Sheet Flow, AB</b> Smooth surfaces n= 0.011 P2= 3.20"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total, Increased to minimum Tc = 6.0 min			

**Summary for Subcatchment Pre 2B: Pre 2B**

Runoff = 2.91 cfs @ 12.33 hrs, Volume= 0.481 af, Depth> 0.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
103,591	48	Brush, Poor, HSG A
168,808	36	Woods, Fair, HSG A
5,358	98	Paved parking & roofs
277,757	42	Weighted Average
272,399	41	98.07% Pervious Area
5,358	98	1.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	150	0.1800	0.20		<b>Sheet Flow, AB</b> Woods: Light underbrush n= 0.400 P2= 3.20"
5.7	341	0.0400	1.00		<b>Shallow Concentrated Flow, BC</b> Woodland Kv= 5.0 fps
0.2	78	0.0200	8.05	418.35	<b>Trap/Vee/Rect Channel Flow, CD</b> Bot.W=10.00' D=2.00' Z= 8.0 '/' Top.W=42.00' n= 0.030 Earth, grassed & winding
18.2	569	Total			

**Summary for Subcatchment Pre 2C: Pre 2C**

Runoff = 4.05 cfs @ 12.27 hrs, Volume= 0.594 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100 year Rainfall=6.70"

Area (sf)	CN	Description
144,839	36	Woods, Fair, HSG A
10,452	98	Paved parking & roofs
24,197	98	Water Surface, 0% imp
14,449	48	Brush, Poor, HSG A
193,937	48	Weighted Average
183,485	45	94.61% Pervious Area
10,452	98	5.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	150	0.1300	0.18		<b>Sheet Flow, AB</b>
					Woods: Light underbrush n= 0.400 P2= 3.20"
5.0	364	0.0600	1.22		<b>Shallow Concentrated Flow, BC</b>
					Woodland Kv= 5.0 fps
19.0	514	Total			

**Summary for Reach Pre Pond: Pre Pond**

Inflow Area = 27.642 ac, 3.68% Impervious, Inflow Depth > 1.49" for 100 year event

Inflow = 23.68 cfs @ 12.34 hrs, Volume= 3.425 af

Outflow = 23.68 cfs @ 12.34 hrs, Volume= 3.425 af, Atten= 0%, Lag= 0.0 min

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

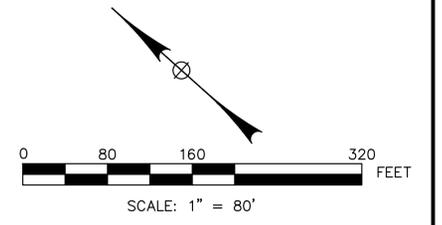


**APPENDIX B**

Post-Development Drainage Calculations

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts





- LEGEND**
- SUBCATCHMENT BOUNDARY
  - DRAINAGE FLOW PATH
  - 1D SUBCATCHMENT NUMBER

**THE VILLAGE AT BAILEY'S POND**  
 Route 150 and Summit Avenue  
 Amesbury, Massachusetts

**POST-DEVELOPMENT  
 DRAINAGE PLAN**

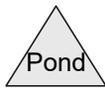
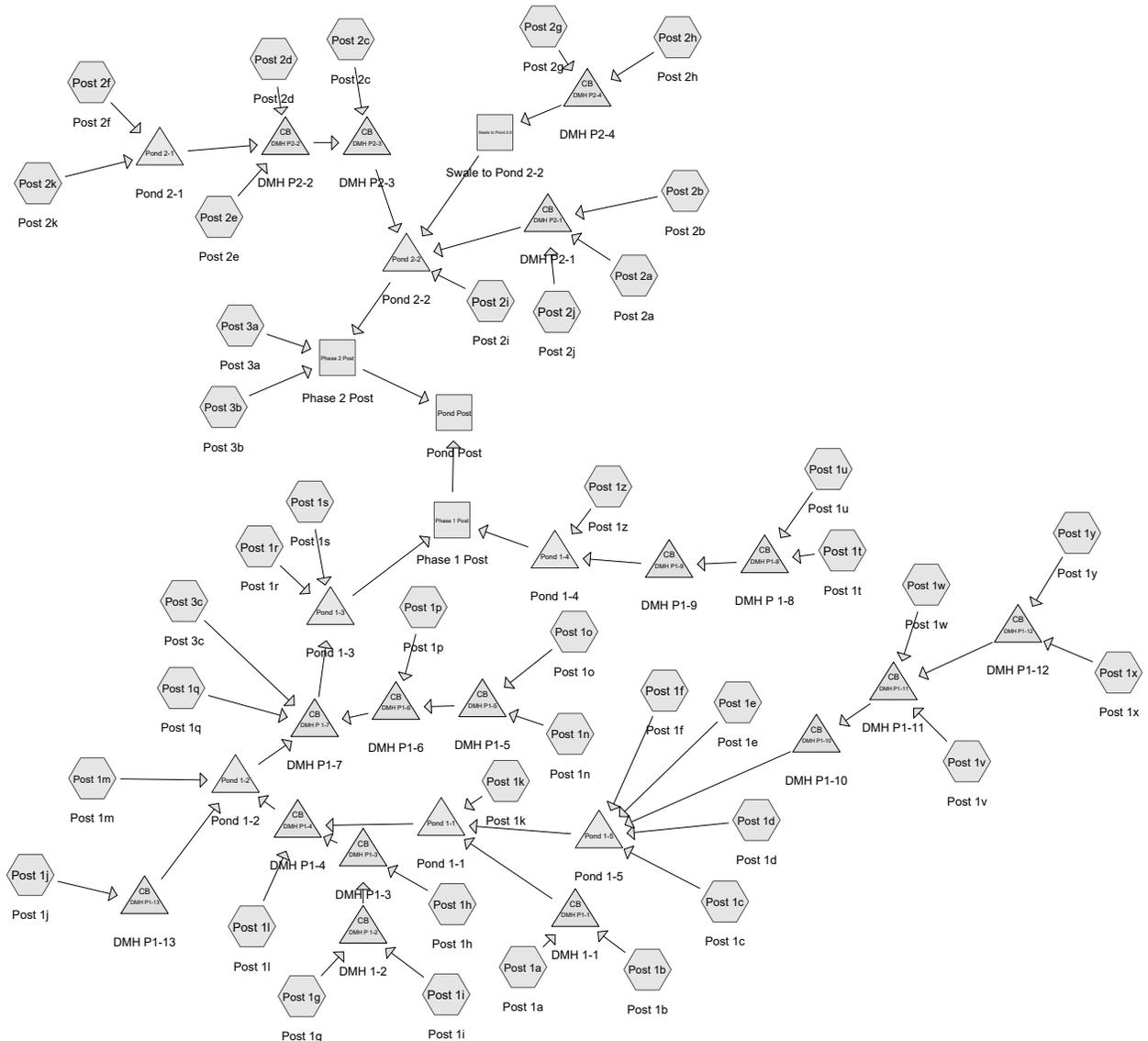
REV	DATE	DESCRIPTION	BY
2	6/9/16	GENERAL REVISIONS	SPM
1	12/15/15	CHANGES PER BOARD COMMENTS	SPM



**OCG** Oak Consulting Group  
 P.O. Box 1123  
 Newburyport, MA 01950  
 Ph. 978.312.3120

SCALE: AS NOTED	DESIGN: SPM	SHEET:
DRAWN: SPM	PROJECT: 12013	<b>DR-002</b>
CHECKED: PFA	DATE: 10/1/15	





**Routing Diagram for 12013 Post**  
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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=6,252 sf 95.59% Impervious Runoff Depth>2.74" Flow Length=239' Tc=1.0 min CN=95 Runoff=0.46 cfs 0.033 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=4,636 sf 97.76% Impervious Runoff Depth>2.80" Flow Length=290' Tc=1.3 min CN=97 Runoff=0.34 cfs 0.025 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=29,936 sf 42.27% Impervious Runoff Depth>1.21" Flow Length=239' Tc=1.3 min CN=63 Runoff=0.96 cfs 0.069 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=20,256 sf 10.24% Impervious Runoff Depth>0.29" Flow Length=200' Tc=18.1 min UI Adjusted CN=41 Runoff=0.10 cfs 0.011 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=23,349 sf 0.00% Impervious Runoff Depth=0.00" Flow Length=89' Tc=10.2 min CN=38 Runoff=0.00 cfs 0.000 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=82,367 sf 25.75% Impervious Runoff Depth>0.74" Flow Length=478' Tc=9.5 min CN=54 Runoff=1.28 cfs 0.116 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=15,897 sf 69.30% Impervious Runoff Depth>1.99" Flow Length=300' Tc=1.0 min CN=80 Runoff=0.85 cfs 0.060 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=83,632 sf 27.38% Impervious Runoff Depth>0.78" Flow Length=523' Tc=5.8 min UI Adjusted CN=51 Runoff=1.55 cfs 0.126 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=3,042 sf 100.00% Impervious Runoff Depth>2.87" Flow Length=266' Tc=1.0 min CN=98 Runoff=0.23 cfs 0.017 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=8,891 sf 22.49% Impervious Runoff Depth>0.65" Flow Length=124' Tc=0.9 min UI Adjusted CN=51 Runoff=0.15 cfs 0.011 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=31,689 sf 22.34% Impervious Runoff Depth>0.64" Flow Length=200' Tc=3.0 min CN=52 Runoff=0.53 cfs 0.039 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=14,607 sf 84.31% Impervious Runoff Depth>2.42" Flow Length=271' Tc=5.5 min CN=89 Runoff=0.84 cfs 0.068 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=54,912 sf 21.57% Impervious Runoff Depth>0.62" Flow Length=249' Tc=2.6 min UI Adjusted CN=50 Runoff=0.89 cfs 0.065 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=16,566 sf 42.96% Impervious Runoff Depth>1.23" Flow Length=236' Tc=1.2 min CN=64 Runoff=0.54 cfs 0.039 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=14,474 sf 77.53% Impervious Runoff Depth>2.22" Flow Length=191' Slope=0.0150 '/' Tc=1.8 min CN=85 Runoff=0.84 cfs 0.062 af
<b>SubcatchmentPost 1p: Post 1p</b>	Runoff Area=6,584 sf 80.95% Impervious Runoff Depth>2.32" Flow Length=127' Tc=0.7 min CN=87 Runoff=0.42 cfs 0.029 af

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<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=4,608 sf 77.43% Impervious Runoff Depth>2.22" Flow Length=75' Tc=0.4 min CN=85 Runoff=0.28 cfs 0.020 af
<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=6,804 sf 88.18% Impervious Runoff Depth>2.53" Flow Length=169' Tc=1.1 min CN=91 Runoff=0.46 cfs 0.033 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=12,365 sf 18.27% Impervious Runoff Depth>0.52" Flow Length=118' Tc=0.5 min CN=50 Runoff=0.18 cfs 0.012 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=24,013 sf 83.39% Impervious Runoff Depth>2.39" Flow Length=304' Tc=1.5 min CN=88 Runoff=1.51 cfs 0.110 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=27,102 sf 80.43% Impervious Runoff Depth>2.31" Flow Length=358' Tc=2.0 min CN=86 Runoff=1.63 cfs 0.120 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=10,841 sf 92.44% Impervious Runoff Depth>2.65" Flow Length=244' Tc=0.8 min CN=94 Runoff=0.78 cfs 0.055 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=12,069 sf 85.92% Impervious Runoff Depth>2.46" Flow Length=250' Tc=1.0 min CN=90 Runoff=0.80 cfs 0.057 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=28,013 sf 11.12% Impervious Runoff Depth>0.32" Flow Length=281' Tc=5.9 min CN=45 Runoff=0.21 cfs 0.017 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=5,336 sf 98.84% Impervious Runoff Depth>2.83" Flow Length=269' Tc=1.0 min CN=97 Runoff=0.41 cfs 0.029 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=25,257 sf 31.61% Impervious Runoff Depth>0.91" Flow Length=97' Tc=1.1 min CN=58 Runoff=0.61 cfs 0.044 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=5,548 sf 96.88% Impervious Runoff Depth>2.78" Flow Length=242' Slope=0.0800 '/' Tc=0.8 min CN=96 Runoff=0.42 cfs 0.029 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=3,935 sf 100.00% Impervious Runoff Depth>2.87" Flow Length=259' Slope=0.0800 '/' Tc=0.9 min CN=98 Runoff=0.30 cfs 0.022 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=20,579 sf 83.57% Impervious Runoff Depth>2.40" Flow Length=228' Slope=0.0200 '/' Tc=1.5 min CN=88 Runoff=1.29 cfs 0.094 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=19,582 sf 78.76% Impervious Runoff Depth>2.26" Flow Length=252' Tc=1.2 min CN=85 Runoff=1.18 cfs 0.085 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=8,242 sf 45.00% Impervious Runoff Depth>1.29" Flow Length=416' Tc=13.6 min CN=66 Runoff=0.20 cfs 0.020 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=87,061 sf 9.23% Impervious Runoff Depth>0.26" Flow Length=256' Tc=2.3 min UI Adjusted CN=42 Runoff=0.60 cfs 0.044 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=26,366 sf 6.30% Impervious Runoff Depth>0.18" Flow Length=296' Tc=2.5 min CN=41 Runoff=0.12 cfs 0.009 af

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<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=6,563 sf 71.02% Impervious Runoff Depth>2.04" Flow Length=117' Slope=0.0600 '/' Tc=0.8 min CN=81 Runoff=0.36 cfs 0.026 af
<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=52,643 sf 23.27% Impervious Runoff Depth>0.67" Flow Length=424' Tc=9.2 min CN=53 Runoff=0.75 cfs 0.067 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=12,114 sf 4.53% Impervious Runoff Depth>0.13" Flow Length=151' Slope=0.3300 '/' Tc=1.8 min CN=41 Runoff=0.04 cfs 0.003 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=12,346 sf 30.07% Impervious Runoff Depth>0.86" Flow Length=227' Tc=3.6 min CN=57 Runoff=0.27 cfs 0.020 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 33.88% Impervious Runoff Depth>0.97" Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=59 Runoff=0.54 cfs 0.039 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=345,589 sf 14.36% Impervious Runoff Depth>0.41" Flow Length=601' Tc=9.9 min CN=46 Runoff=2.97 cfs 0.272 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=8,810 sf 39.01% Impervious Runoff Depth>1.12" Flow Length=132' Tc=2.1 min CN=62 Runoff=0.26 cfs 0.019 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
<b>Reach Phase 2 Post: Phase 2 Post</b>	Inflow=3.30 cfs 0.311 af Outflow=3.30 cfs 0.311 af
<b>Reach Pond Post: Pond Post</b>	Inflow=3.30 cfs 0.311 af Outflow=3.30 cfs 0.311 af
<b>Reach Swale to Pond 2-2: Swale to</b>	Avg. Flow Depth=0.11' Max Vel=1.97 fps Inflow=0.48 cfs 0.035 af n=0.035 L=165.0' S=0.0727 '/' Capacity=57.26 cfs Outflow=0.46 cfs 0.035 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=45.64' Inflow=1.08 cfs 0.077 af 12.0" Round Culvert n=0.012 L=60.0' S=0.0267 '/' Outflow=1.08 cfs 0.077 af
<b>Pond DMH P 1-7: DMH P1-7</b>	Peak Elev=35.69' Inflow=2.31 cfs 0.168 af 15.0" Round Culvert n=0.012 L=84.0' S=0.0030 '/' Outflow=2.31 cfs 0.168 af
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=58.81' Inflow=0.80 cfs 0.058 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0283 '/' Outflow=0.80 cfs 0.058 af
<b>Pond DMH P1-10: DMH P1-10</b>	Peak Elev=41.42' Inflow=2.13 cfs 0.158 af 15.0" Round Culvert n=0.012 L=110.0' S=0.0245 '/' Outflow=2.13 cfs 0.158 af
<b>Pond DMH P1-11: DMH P1-11</b>	Peak Elev=43.72' Inflow=2.13 cfs 0.158 af 12.0" Round Culvert n=0.012 L=52.0' S=0.0404 '/' Outflow=2.13 cfs 0.158 af
<b>Pond DMH P1-12: DMH P1-12</b>	Peak Elev=55.38' Inflow=0.56 cfs 0.046 af 12.0" Round Culvert n=0.012 L=225.0' S=0.0533 '/' Outflow=0.56 cfs 0.046 af

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**Pond DMH P1-13: DMH P1-13**Peak Elev=39.77' Inflow=0.15 cfs 0.011 af  
18.0" Round Culvert n=0.012 L=130.0' S=0.0123 '/ Outflow=0.15 cfs 0.011 af**Pond DMH P1-3: DMH P1-3**Peak Elev=44.18' Inflow=2.40 cfs 0.203 af  
15.0" Round Culvert n=0.012 L=142.0' S=0.0479 '/ Outflow=2.40 cfs 0.203 af**Pond DMH P1-4: DMH P1-4**Peak Elev=37.45' Inflow=3.22 cfs 0.270 af  
18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/ Outflow=3.22 cfs 0.270 af**Pond DMH P1-5: DMH P1-5**Peak Elev=36.58' Inflow=1.37 cfs 0.101 af  
12.0" Round Culvert n=0.012 L=50.0' S=0.0050 '/ Outflow=1.37 cfs 0.101 af**Pond DMH P1-6: DMH P1-6**Peak Elev=36.31' Inflow=1.78 cfs 0.130 af  
12.0" Round Culvert n=0.012 L=116.0' S=0.0052 '/ Outflow=1.78 cfs 0.130 af**Pond DMH P1-8: DMH P 1-8**Peak Elev=37.38' Inflow=3.12 cfs 0.229 af  
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/ Outflow=3.12 cfs 0.229 af**Pond DMH P1-9: DMH P1-9**Peak Elev=36.86' Inflow=3.12 cfs 0.229 af  
15.0" Round Culvert n=0.012 L=144.0' S=0.0045 '/ Outflow=3.12 cfs 0.229 af**Pond DMH P2-1: DMH P2-1**Peak Elev=47.98' Inflow=0.76 cfs 0.054 af  
12.0" Round Culvert n=0.012 L=70.0' S=0.0500 '/ Outflow=0.76 cfs 0.054 af**Pond DMH P2-2: DMH P2-2**Peak Elev=48.38' Inflow=1.29 cfs 0.105 af  
12.0" Round Culvert n=0.012 L=64.0' S=0.0070 '/ Outflow=1.29 cfs 0.105 af**Pond DMH P2-3: DMH P2-3**Peak Elev=48.10' Inflow=2.58 cfs 0.199 af  
12.0" Round Culvert n=0.012 L=110.0' S=0.0468 '/ Outflow=2.58 cfs 0.199 af**Pond DMH P2-4: DMH P2-4**Peak Elev=54.54' Inflow=0.48 cfs 0.035 af  
12.0" Round Culvert n=0.012 L=100.0' S=0.0300 '/ Outflow=0.48 cfs 0.035 af**Pond Pond 1-1: Pond 1-1**Peak Elev=36.45' Storage=934 cf Inflow=1.29 cfs 0.108 af  
Discarded=0.44 cfs 0.109 af Primary=0.00 cfs 0.000 af Outflow=0.44 cfs 0.109 af**Pond Pond 1-2: Pond 1-2**Peak Elev=36.89' Storage=3,657 cf Inflow=4.22 cfs 0.346 af  
Discarded=0.96 cfs 0.346 af Primary=0.00 cfs 0.000 af Outflow=0.96 cfs 0.346 af**Pond Pond 1-3: Pond 1-3**Peak Elev=33.55' Storage=1,841 cf Inflow=2.94 cfs 0.214 af  
Discarded=0.68 cfs 0.214 af Primary=0.00 cfs 0.000 af Outflow=0.68 cfs 0.214 af**Pond Pond 1-4: Pond 1-4**Peak Elev=36.84' Storage=3,665 cf Inflow=3.71 cfs 0.273 af  
Discarded=0.66 cfs 0.273 af Primary=0.00 cfs 0.000 af Outflow=0.66 cfs 0.273 af**Pond Pond 1-5: Pond 1-5**Peak Elev=39.08' Storage=3,768 cf Inflow=3.90 cfs 0.355 af  
Discarded=0.89 cfs 0.343 af Primary=0.55 cfs 0.012 af Outflow=1.44 cfs 0.355 af**Pond Pond 2-1: Pond 2-1**Peak Elev=50.15' Storage=269 cf Inflow=0.87 cfs 0.064 af  
Discarded=0.35 cfs 0.065 af Primary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.065 af

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**Pond Pond 2-2: Pond 2-2**

Peak Elev=38.56' Storage=3,050 cf Inflow=4.22 cfs 0.355 af  
Discarded=1.13 cfs 0.356 af Primary=0.00 cfs 0.000 af Outflow=1.13 cfs 0.356 af

**Total Runoff Area = 27.642 ac Runoff Volume = 2.015 af Average Runoff Depth = 0.87"**  
**69.48% Pervious = 19.206 ac 30.52% Impervious = 8.436 ac**

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 0.46 cfs @ 12.01 hrs, Volume= 0.033 af, Depth&gt; 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,198	98	Paved parking, HSG A
738	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
276	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,252	95	Weighted Average
276	39	4.41% Pervious Area
5,976	98	95.59% Impervious Area
738		12.35% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.03		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	214	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	239	Total			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.34 cfs @ 12.02 hrs, Volume= 0.025 af, Depth&gt; 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,621	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
104	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,636	97	Weighted Average
104	39	2.24% Pervious Area
4,532	98	97.76% Impervious Area
911		20.10% Unconnected

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Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	290	Total			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 0.96 cfs @ 12.02 hrs, Volume= 0.069 af, Depth&gt; 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
2,478	98	Roofs, HSG A
7,246	98	Paved parking, HSG A
2,929	98	Unconnected pavement, HSG A
6,383	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,900	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
29,936	63	Weighted Average
17,283	38	57.73% Pervious Area
12,653	98	42.27% Impervious Area
2,929		23.15% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	58	0.2500	2.50		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.6	161	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	239	Total			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.10 cfs @ 12.24 hrs, Volume= 0.011 af, Depth&gt; 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Adj	Description
464	98	98	Roofs, HSG A
103	98	98	Paved parking, HSG A
1,507	98	98	Unconnected pavement, HSG A
9,452	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
8,730	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
20,256	44	41	Weighted Average, UI Adjusted
18,182	37	37	89.76% Pervious Area
2,074	98	98	10.24% Impervious Area
1,507			72.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	100	0.0400	0.10		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	30	0.0300	0.87		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
1.0	70	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
18.1	200	Total			

**Summary for Subcatchment Post 1e: Post 1e**

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
11,230	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
12,119	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
23,349	38	Weighted Average
23,349	38	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	66	0.0600	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	23	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	89	Total			

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Type III 24-hr 2-Year Rainfall=3.10"

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**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 1.28 cfs @ 12.13 hrs, Volume= 0.116 af, Depth&gt; 0.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
20,047	98	Roofs, HSG A
1,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
61,155	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
82,367	54	Weighted Average
61,155	39	74.25% Pervious Area
21,212	98	25.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	85	0.3300	0.34		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
5.4	393	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.5	478	Total			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 0.85 cfs @ 12.01 hrs, Volume= 0.060 af, Depth&gt; 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,873	98	Roofs, HSG A
7,143	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
15,897	80	Weighted Average
4,881	39	30.70% Pervious Area
11,016	98	69.30% Impervious Area

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Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.2500	3.24		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	300	Total			

**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 1.55 cfs @ 12.08 hrs, Volume= 0.126 af, Depth&gt; 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
10,621	98	98	Roofs, HSG A
853	98	98	Paved parking, HSG A
11,421	98	98	Unconnected pavement, HSG A
12,848	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
47,889	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
83,632	55	51	Weighted Average, UI Adjusted
60,737	38	38	72.62% Pervious Area
22,895	98	98	27.38% Impervious Area
11,421			49.88% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.3	443	0.0400	1.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.8	523	Total			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.23 cfs @ 12.01 hrs, Volume= 0.017 af, Depth&gt; 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,042	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,042	98	Weighted Average
3,042	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	246	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	266	Total			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.15 cfs @ 12.01 hrs, Volume= 0.011 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
1,317	98	98	Roofs, HSG A
308	98	98	Paved parking, HSG A
375	98	98	Unconnected pavement, HSG A
243	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
6,648	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
8,891	52	51	Weighted Average, UI Adjusted
6,891	39	39	77.51% Pervious Area
2,000	98	98	22.49% Impervious Area
375			18.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	90	0.2000	3.13		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.2	24	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.9	124	Total			

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**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.53 cfs @ 12.05 hrs, Volume= 0.039 af, Depth&gt; 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
7,078	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,611	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
31,689	52	Weighted Average
24,611	39	77.66% Pervious Area
7,078	98	22.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	35	0.4000	3.64		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.8	165	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.0	200	Total			

**Summary for Subcatchment Post 1l: Post 1l**

Runoff = 0.84 cfs @ 12.08 hrs, Volume= 0.068 af, Depth&gt; 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
4,807	98	Roofs, HSG A
7,508	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,292	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,607	89	Weighted Average
2,292	39	15.69% Pervious Area
12,315	98	84.31% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	60	0.0500	0.22		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.9	211	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.5	271	Total			

**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 0.89 cfs @ 12.04 hrs, Volume= 0.065 af, Depth&gt; 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
8,658	98	98	Roofs, HSG A
256	98	98	Paved parking, HSG A
2,928	98	98	Unconnected pavement, HSG A
11,179	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,891	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
54,912	51	50	Weighted Average, UI Adjusted
43,070	38	38	78.43% Pervious Area
11,842	98	98	21.57% Impervious Area
2,928			24.73% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.9	130	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	109	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.6	249	Total			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.54 cfs @ 12.02 hrs, Volume= 0.039 af, Depth&gt; 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
3,763	98	Roofs, HSG A
3,354	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
9,449	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,566	64	Weighted Average
9,449	39	57.04% Pervious Area
7,117	98	42.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	216	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	236	Total			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 0.84 cfs @ 12.03 hrs, Volume= 0.062 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,247	98	Roofs, HSG A
7,974	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,253	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,474	85	Weighted Average
3,253	39	22.47% Pervious Area
11,221	98	77.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0150	1.09		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	131	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	191	Total			

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**Summary for Subcatchment Post 1p: Post 1p**

Runoff = 0.42 cfs @ 12.01 hrs, Volume= 0.029 af, Depth&gt; 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,438	98	Roofs, HSG A
3,892	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,254	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,584	87	Weighted Average
1,254	39	19.05% Pervious Area
5,330	98	80.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	107	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	127	Total			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.28 cfs @ 12.00 hrs, Volume= 0.020 af, Depth&gt; 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,363	98	Roofs, HSG A
2,205	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,040	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,608	85	Weighted Average
1,040	39	22.57% Pervious Area
3,568	98	77.43% Impervious Area

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Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	55	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.4	75	Total			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.46 cfs @ 12.01 hrs, Volume= 0.033 af, Depth&gt; 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
520	98	Roofs, HSG A
5,480	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
804	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,804	91	Weighted Average
804	39	11.82% Pervious Area
6,000	98	88.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	149	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.1	169	Total			

**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 0.18 cfs @ 12.01 hrs, Volume= 0.012 af, Depth&gt; 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
1,915	98	Roofs, HSG A
344	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,106	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,365	50	Weighted Average
10,106	39	81.73% Pervious Area
2,259	98	18.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.4000	3.74		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	78	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	118	Total			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 1.51 cfs @ 12.02 hrs, Volume= 0.110 af, Depth> 2.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
5,398	98	Roofs, HSG A
14,627	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,988	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
24,013	88	Weighted Average
3,988	39	16.61% Pervious Area
20,025	98	83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	284	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	304	Total			

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Type III 24-hr 2-Year Rainfall=3.10"

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**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 1.63 cfs @ 12.03 hrs, Volume= 0.120 af, Depth&gt; 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
8,747	98	Roofs, HSG A
13,050	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,305	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
27,102	86	Weighted Average
5,305	39	19.57% Pervious Area
21,797	98	80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	308	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.0	358	Total			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 0.78 cfs @ 12.01 hrs, Volume= 0.055 af, Depth&gt; 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,517	98	Roofs, HSG A
6,504	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
820	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,841	94	Weighted Average
820	39	7.56% Pervious Area
10,021	98	92.44% Impervious Area

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Type III 24-hr 2-Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	30	0.4000	3.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	184	0.0600	4.97		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	244	Total			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 0.80 cfs @ 12.01 hrs, Volume= 0.057 af, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,296	98	Roofs, HSG A
7,074	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,699	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,069	90	Weighted Average
1,699	39	14.08% Pervious Area
10,370	98	85.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	230	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	250	Total			

**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,116	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
8,382	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
16,515	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
28,013	45	Weighted Average
24,897	38	88.88% Pervious Area
3,116	98	11.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.2500	0.19		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	221	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.9	281	Total			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 0.41 cfs @ 12.01 hrs, Volume= 0.029 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,234	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
62	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,336	97	Weighted Average
62	39	1.16% Pervious Area
5,274	98	98.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	249	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	269	Total			

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**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 0.61 cfs @ 12.01 hrs, Volume= 0.044 af, Depth&gt; 0.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
7,216	98	Roofs, HSG A
768	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
17,273	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,257	58	Weighted Average
17,273	39	68.39% Pervious Area
7,984	98	31.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	27	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	97	Total			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.42 cfs @ 12.01 hrs, Volume= 0.029 af, Depth&gt; 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,014	98	Roofs, HSG A
4,022	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
173	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,548	96	Weighted Average
173	39	3.12% Pervious Area
5,375	98	96.88% Impervious Area
339		6.31% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	222	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	242	Total			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.30 cfs @ 12.01 hrs, Volume= 0.022 af, Depth&gt; 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,880	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,935	98	Weighted Average
3,935	98	100.00% Impervious Area
55		1.40% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	239	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	259	Total			

**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 1.29 cfs @ 12.02 hrs, Volume= 0.094 af, Depth&gt; 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
5,680	98	Roofs, HSG A
11,517	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,382	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
20,579	88	Weighted Average
3,382	39	16.43% Pervious Area
17,197	98	83.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	208	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	228	Total			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 1.18 cfs @ 12.02 hrs, Volume= 0.085 af, Depth&gt; 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
4,913	98	Roofs, HSG A
10,510	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,159	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
19,582	85	Weighted Average
4,159	39	21.24% Pervious Area
15,423	98	78.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0600	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	232	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	252	Total			

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**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.20 cfs @ 12.18 hrs, Volume= 0.020 af, Depth&gt; 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,444	98	Roofs, HSG A
2,265	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,533	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,242	66	Weighted Average
4,533	39	55.00% Pervious Area
3,709	98	45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	80	0.0200	0.16		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.2	36	0.2500	3.50		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.6	416	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 0.60 cfs @ 12.04 hrs, Volume= 0.044 af, Depth&gt; 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Adj	Description
6,321	98	98	Roofs, HSG A
27	98	98	Paved parking, HSG A
1,685	98	98	Unconnected pavement, HSG A
47,632	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,396	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
87,061	43	42	Weighted Average, UI Adjusted
79,028	37	37	90.77% Pervious Area
8,033	98	98	9.23% Impervious Area
1,685			20.98% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	59	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.9	165	0.4000	3.16		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.3	256	Total			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.12 cfs @ 12.04 hrs, Volume= 0.009 af, Depth&gt; 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,182	98	Roofs, HSG A
357	98	Paved parking, HSG A
121	98	Unconnected pavement, HSG A
13,159	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
11,547	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
26,366	41	Weighted Average
24,706	37	93.70% Pervious Area
1,660	98	6.30% Impervious Area
121		7.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.2	255	0.1500	1.94		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.5	296	Total			

**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.36 cfs @ 12.01 hrs, Volume= 0.026 af, Depth&gt; 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
1,807	98	Roofs, HSG A
2,854	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,902	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,563	81	Weighted Average
1,902	39	28.98% Pervious Area
4,661	98	71.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0600	1.83		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	67	0.0600	3.94		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.8	117	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 0.75 cfs @ 12.12 hrs, Volume= 0.067 af, Depth> 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
11,373	98	Roofs, HSG A
877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
40,393	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
52,643	53	Weighted Average
40,393	39	76.73% Pervious Area
12,250	98	23.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.4000	0.25		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	28	0.4000	4.43		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.5	296	0.0800	1.98		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.2	424	Total			

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**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.04 cfs @ 12.03 hrs, Volume= 0.003 af, Depth&gt; 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
459	98	Roofs, HSG A
90	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
4,518	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
7,047	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,114	41	Weighted Average
11,565	38	95.47% Pervious Area
549	98	4.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	20	0.3300	0.26		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.5	131	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.8	151	Total			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.27 cfs @ 12.05 hrs, Volume= 0.020 af, Depth&gt; 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
3,713	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
8,633	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,346	57	Weighted Average
8,633	39	69.93% Pervious Area
3,713	98	30.07% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
3.5	207	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.6	227	Total			

**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 0.54 cfs @ 12.05 hrs, Volume= 0.039 af, Depth&gt; 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
7,192	98	Unconnected pavement, HSG A
769	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
13,267	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	59	Weighted Average
14,036	39	66.12% Pervious Area
7,192	98	33.88% Impervious Area
7,192		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 2.97 cfs @ 12.14 hrs, Volume= 0.272 af, Depth&gt; 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

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Area (sf)	CN	Description
16,932	98	Roofs, HSG A
4,544	98	Paved parking, HSG A
3,956	98	Unconnected pavement, HSG A
185,603	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
110,357	39	>75% Grass cover, Good, HSG A
24,197	98	Water Surface, HSG A
345,589	46	Weighted Average
295,960	37	85.64% Pervious Area
49,629	98	14.36% Impervious Area
3,956		7.97% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.7	165	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.2	416	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.9	601	Total			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 0.26 cfs @ 12.03 hrs, Volume= 0.019 af, Depth> 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,640	98	Roofs, HSG A
1,797	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
886	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,487	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,810	62	Weighted Average
5,373	39	60.99% Pervious Area
3,437	98	39.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.40		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.7	102	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	132	Total			

Summary for Reach Phase 1 Post: Phase 1 Post

Inflow Area = 13.368 ac, 40.21% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach Phase 2 Post: Phase 2 Post

Inflow Area = 14.274 ac, 21.44% Impervious, Inflow Depth > 0.26" for 2-Year event
Inflow = 3.30 cfs @ 12.12 hrs, Volume= 0.311 af
Outflow = 3.30 cfs @ 12.12 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach Pond Post: Pond Post

Inflow Area = 27.642 ac, 30.52% Impervious, Inflow Depth > 0.14" for 2-Year event
Inflow = 3.30 cfs @ 12.12 hrs, Volume= 0.311 af
Outflow = 3.30 cfs @ 12.12 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach Swale to Pond 2-2: Swale to Pond 2-2

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 0.55" for 2-Year event
Inflow = 0.48 cfs @ 12.02 hrs, Volume= 0.035 af
Outflow = 0.46 cfs @ 12.04 hrs, Volume= 0.035 af, Atten= 3%, Lag= 1.4 min

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

Max. Velocity= 1.97 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 4.3 min

Peak Storage= 39 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 57.26 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.035 High grass
Length= 165.0' Slope= 0.0727 '/'
Inlet Invert= 50.00', Outlet Invert= 38.00'



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**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.435 ac, 74.23% Impervious, Inflow Depth > 2.13" for 2-Year event  
 Inflow = 1.08 cfs @ 12.01 hrs, Volume= 0.077 af  
 Outflow = 1.08 cfs @ 12.01 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.08 cfs @ 12.01 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.64' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 43.50' S= 0.0267 ' / Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.04 cfs @ 12.01 hrs HW=45.63' TW=44.13' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 1.04 cfs @ 2.47 fps)

**Summary for Pond DMH P 1-7: DMH P1-7**

Inflow Area = 11.175 ac, 36.18% Impervious, Inflow Depth > 0.18" for 2-Year event  
 Inflow = 2.31 cfs @ 12.02 hrs, Volume= 0.168 af  
 Outflow = 2.31 cfs @ 12.02 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.31 cfs @ 12.02 hrs, Volume= 0.168 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.69' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.75'	<b>15.0" Round Culvert</b> L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.75' / 34.50' S= 0.0030 ' / Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.21 cfs @ 12.02 hrs HW=35.67' TW=33.29' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 2.21 cfs @ 3.19 fps)

**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.250 ac, 96.51% Impervious, Inflow Depth > 2.77" for 2-Year event  
 Inflow = 0.80 cfs @ 12.01 hrs, Volume= 0.058 af  
 Outflow = 0.80 cfs @ 12.01 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.80 cfs @ 12.01 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 58.81' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.35'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 58.35' / 57.50' S= 0.0283 '/' Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.77 cfs @ 12.01 hrs HW=58.80' TW=36.14' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 0.77 cfs @ 2.27 fps)

**Summary for Pond DMH P1-10: DMH P1-10**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 1.47" for 2-Year event  
 Inflow = 2.13 cfs @ 12.01 hrs, Volume= 0.158 af  
 Outflow = 2.13 cfs @ 12.01 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.13 cfs @ 12.01 hrs, Volume= 0.158 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 41.42' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	40.70'	<b>15.0" Round Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 40.70' / 38.00' S= 0.0245 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.04 cfs @ 12.01 hrs HW=41.41' TW=38.61' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 2.04 cfs @ 2.86 fps)

**Summary for Pond DMH P1-11: DMH P1-11**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 1.47" for 2-Year event  
 Inflow = 2.13 cfs @ 12.01 hrs, Volume= 0.158 af  
 Outflow = 2.13 cfs @ 12.01 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.13 cfs @ 12.01 hrs, Volume= 0.158 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 43.72' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.90'	<b>12.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.90' / 40.80' S= 0.0404 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.05 cfs @ 12.01 hrs HW=43.70' TW=41.41' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 2.05 cfs @ 3.04 fps)

**Summary for Pond DMH P1-12: DMH P1-12**

Inflow Area = 0.766 ac, 25.16% Impervious, Inflow Depth > 0.72" for 2-Year event  
 Inflow = 0.56 cfs @ 12.03 hrs, Volume= 0.046 af  
 Outflow = 0.56 cfs @ 12.03 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.56 cfs @ 12.03 hrs, Volume= 0.046 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.38' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	<b>12.0" Round Culvert</b> L= 225.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.00' / 43.00' S= 0.0533 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.55 cfs @ 12.03 hrs HW=55.37' TW=43.68' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 0.55 cfs @ 2.07 fps)

**Summary for Pond DMH P1-13: DMH P1-13**

Inflow Area = 0.204 ac, 22.49% Impervious, Inflow Depth > 0.65" for 2-Year event  
 Inflow = 0.15 cfs @ 12.01 hrs, Volume= 0.011 af  
 Outflow = 0.15 cfs @ 12.01 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.15 cfs @ 12.01 hrs, Volume= 0.011 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.77' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.60'	<b>18.0" Round Culvert</b> L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.60' / 38.00' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=0.15 cfs @ 12.01 hrs HW=39.77' TW=36.41' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 0.15 cfs @ 1.39 fps)

**Summary for Pond DMH P1-3: DMH P1-3**

Inflow Area = 2.355 ac, 36.03% Impervious, Inflow Depth > 1.03" for 2-Year event  
 Inflow = 2.40 cfs @ 12.05 hrs, Volume= 0.203 af  
 Outflow = 2.40 cfs @ 12.05 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.40 cfs @ 12.05 hrs, Volume= 0.203 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.18' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	43.40'	<b>15.0" Round Culvert</b> L= 142.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.40' / 36.60' S= 0.0479 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=2.40 cfs @ 12.05 hrs HW=44.18' TW=37.45' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 2.40 cfs @ 3.00 fps)

**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 8.538 ac, 35.38% Impervious, Inflow Depth > 0.38" for 2-Year event  
 Inflow = 3.22 cfs @ 12.06 hrs, Volume= 0.270 af  
 Outflow = 3.22 cfs @ 12.06 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.22 cfs @ 12.06 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.45' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.50'	<b>18.0" Round Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.50' / 36.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.16 cfs @ 12.06 hrs HW=37.44' TW=36.54' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 3.16 cfs @ 3.88 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.713 ac, 59.08% Impervious, Inflow Depth > 1.69" for 2-Year event  
 Inflow = 1.37 cfs @ 12.02 hrs, Volume= 0.101 af  
 Outflow = 1.37 cfs @ 12.02 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.37 cfs @ 12.02 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.58' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.80'	<b>12.0" Round 15" Culvert</b> L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.80' / 35.55' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.10 cfs @ 12.02 hrs HW=36.54' TW=36.28' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 1.10 cfs @ 2.47 fps)

**Summary for Pond DMH P1-6: DMH P1-6**

Inflow Area = 0.864 ac, 62.91% Impervious, Inflow Depth > 1.80" for 2-Year event  
 Inflow = 1.78 cfs @ 12.02 hrs, Volume= 0.130 af  
 Outflow = 1.78 cfs @ 12.02 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.78 cfs @ 12.02 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.31' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.45'	<b>12.0" Round 12" Culvert</b> L= 116.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 35.45' / 34.85' S= 0.0052 ' / n= 0.012, Flow Area= 0.79 sf Cc= 0.900

**Primary OutFlow** Max=1.57 cfs @ 12.02 hrs HW=36.28' TW=35.67' (Dynamic Tailwater)  
 ↑1=12" Culvert (Outlet Controls 1.57 cfs @ 3.08 fps)

**Summary for Pond DMH P1-8: DMH P 1-8**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 2.35" for 2-Year event  
 Inflow = 3.12 cfs @ 12.03 hrs, Volume= 0.229 af  
 Outflow = 3.12 cfs @ 12.03 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.12 cfs @ 12.03 hrs, Volume= 0.229 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.38' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.30'	<b>15.0" Round 15" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.30' / 35.75' S= 0.0050 ' / n= 0.012, Flow Area= 1.23 sf Cc= 0.900

**Primary OutFlow** Max=2.65 cfs @ 12.03 hrs HW=37.34' TW=36.78' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 2.65 cfs @ 3.28 fps)

**Summary for Pond DMH P1-9: DMH P1-9**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 2.35" for 2-Year event  
 Inflow = 3.12 cfs @ 12.03 hrs, Volume= 0.229 af  
 Outflow = 3.12 cfs @ 12.03 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.12 cfs @ 12.03 hrs, Volume= 0.229 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.86' @ 12.44 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.65'	<b>15.0" Round Culvert</b> L= 144.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.65' / 35.00' S= 0.0045 ' / n= 0.012, Flow Area= 1.23 sf Cc= 0.900

**Primary OutFlow** Max=2.43 cfs @ 12.03 hrs HW=36.78' TW=36.34' (Dynamic Tailwater)  
 ↑1=Culvert (Outlet Controls 2.43 cfs @ 2.74 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.496 ac, 45.65% Impervious, Inflow Depth > 1.31" for 2-Year event  
 Inflow = 0.76 cfs @ 12.01 hrs, Volume= 0.054 af  
 Outflow = 0.76 cfs @ 12.01 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.76 cfs @ 12.01 hrs, Volume= 0.054 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 47.98' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 70.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 44.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.73 cfs @ 12.01 hrs HW=47.96' TW=38.24' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 0.73 cfs @ 2.05 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area = 2.921 ac, 24.27% Impervious, Inflow Depth > 0.43" for 2-Year event  
 Inflow = 1.29 cfs @ 12.02 hrs, Volume= 0.105 af  
 Outflow = 1.29 cfs @ 12.02 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.29 cfs @ 12.02 hrs, Volume= 0.105 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 48.38' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	<b>12.0" Round 12" Culvert</b> L= 64.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.60' / 47.15' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.01 cfs @ 12.02 hrs HW=48.33' TW=48.07' (Dynamic Tailwater)  
 ↑1=12" Culvert (Outlet Controls 1.01 cfs @ 2.30 fps)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area = 3.393 ac, 32.52% Impervious, Inflow Depth > 0.70" for 2-Year event  
 Inflow = 2.58 cfs @ 12.02 hrs, Volume= 0.199 af  
 Outflow = 2.58 cfs @ 12.02 hrs, Volume= 0.199 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.58 cfs @ 12.02 hrs, Volume= 0.199 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 48.10' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	<b>12.0" Round 12" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 42.00' S= 0.0468 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.47 cfs @ 12.02 hrs HW=48.07' TW=38.26' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 2.47 cfs @ 3.27 fps)

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**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 0.55" for 2-Year event  
 Inflow = 0.48 cfs @ 12.02 hrs, Volume= 0.035 af  
 Outflow = 0.48 cfs @ 12.02 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.48 cfs @ 12.02 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.54' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	<b>12.0" Round 12" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.20' / 51.20' S= 0.0300 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.46 cfs @ 12.02 hrs HW=54.54' TW=50.10' (Dynamic Tailwater)  
 ↑**1=12" Culvert** (Inlet Controls 0.46 cfs @ 1.97 fps)

**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 5.848 ac, 32.31% Impervious, Inflow Depth > 0.22" for 2-Year event  
 Inflow = 1.29 cfs @ 12.03 hrs, Volume= 0.108 af  
 Outflow = 0.44 cfs @ 12.52 hrs, Volume= 0.109 af, Atten= 66%, Lag= 29.8 min  
 Discarded = 0.44 cfs @ 12.52 hrs, Volume= 0.109 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.45' @ 12.52 hrs Surf.Area= 2,276 sf Storage= 934 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 10.7 min ( 762.9 - 752.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	10,322 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,891	0	0
38.00	3,608	5,499	5,499
39.00	6,038	4,823	10,322

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

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**Discarded OutFlow** Max=0.44 cfs @ 12.52 hrs HW=36.45' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.44 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=36.50' (Dynamic Tailwater)

↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 10.003 ac, 33.37% Impervious, Inflow Depth > 0.42" for 2-Year event  
 Inflow = 4.22 cfs @ 12.05 hrs, Volume= 0.346 af  
 Outflow = 0.96 cfs @ 12.45 hrs, Volume= 0.346 af, Atten= 77%, Lag= 24.1 min  
 Discarded = 0.96 cfs @ 12.45 hrs, Volume= 0.346 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

Peak Elev= 36.89' @ 12.45 hrs Surf.Area= 5,020 sf Storage= 3,657 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 22.2 min ( 777.1 - 754.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	14,458 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	3,158	0	0
38.00	7,320	10,478	10,478
38.50	8,599	3,980	14,458

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.96 cfs @ 12.45 hrs HW=36.89' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.96 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.75' (Dynamic Tailwater)

↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 11.615 ac, 36.44% Impervious, Inflow Depth > 0.22" for 2-Year event  
 Inflow = 2.94 cfs @ 12.02 hrs, Volume= 0.214 af  
 Outflow = 0.68 cfs @ 12.38 hrs, Volume= 0.214 af, Atten= 77%, Lag= 21.6 min  
 Discarded = 0.68 cfs @ 12.38 hrs, Volume= 0.214 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

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Peak Elev= 33.55' @ 12.38 hrs Surf.Area= 3,549 sf Storage= 1,841 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 13.1 min ( 765.7 - 752.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	12,888 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,114	0	0
36.00	5,478	12,888	12,888

Device	Routing	Invert	Outlet Devices
#1	Discarded	33.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			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
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.68 cfs @ 12.38 hrs HW=33.55' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.68 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=33.00' TW=0.00' (Dynamic Tailwater)↑**2=Broad-Crested Rectangular Weir**( Controls 0.00 cfs)**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 1.753 ac, 65.22% Impervious, Inflow Depth > 1.87" for 2-Year event  
 Inflow = 3.71 cfs @ 12.03 hrs, Volume= 0.273 af  
 Outflow = 0.66 cfs @ 12.45 hrs, Volume= 0.273 af, Atten= 82%, Lag= 25.4 min  
 Discarded = 0.66 cfs @ 12.45 hrs, Volume= 0.273 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

Peak Elev= 36.84' @ 12.45 hrs Surf.Area= 3,459 sf Storage= 3,665 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 46.2 min ( 799.2 - 753.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	9,051 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	1,202	0	0
36.00	1,753	1,478	1,478
38.00	5,820	7,573	9,051

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Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.66 cfs @ 12.45 hrs HW=36.84' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.66 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=35.00' TW=0.00' (Dynamic Tailwater)

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

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 4.871 ac, 30.50% Impervious, Inflow Depth > 0.87" for 2-Year event  
 Inflow = 3.90 cfs @ 12.03 hrs, Volume= 0.355 af  
 Outflow = 1.44 cfs @ 12.36 hrs, Volume= 0.355 af, Atten= 63%, Lag= 20.2 min  
 Discarded = 0.89 cfs @ 12.36 hrs, Volume= 0.343 af  
 Primary = 0.55 cfs @ 12.36 hrs, Volume= 0.012 af

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

Peak Elev= 39.08' @ 12.36 hrs Surf.Area= 4,651 sf Storage= 3,768 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 25.3 min ( 780.7 - 755.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	5,921 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,339	0	0
39.50	5,556	5,921	5,921

Device	Routing	Invert	Outlet Devices
#1	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.00'	<b>10.0' long x 2.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

**Discarded OutFlow** Max=0.89 cfs @ 12.36 hrs HW=39.08' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.89 cfs)

**Primary OutFlow** Max=0.54 cfs @ 12.36 hrs HW=39.08' TW=36.38' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.54 cfs @ 0.71 fps)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.282 ac, 11.82% Impervious, Inflow Depth > 0.34" for 2-Year event  
 Inflow = 0.87 cfs @ 12.04 hrs, Volume= 0.064 af  
 Outflow = 0.35 cfs @ 12.21 hrs, Volume= 0.065 af, Atten= 60%, Lag= 10.1 min  
 Discarded = 0.35 cfs @ 12.21 hrs, Volume= 0.065 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.15' @ 12.21 hrs Surf.Area= 1,824 sf Storage= 269 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 3.2 min ( 757.1 - 753.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	9,380 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,727	0	0
52.00	3,014	4,741	4,741
53.00	6,264	4,639	9,380

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.35 cfs @ 12.21 hrs HW=50.15' (Free Discharge)  
 ↑**2=Exfiltration** (Exfiltration Controls 0.35 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.60' (Dynamic Tailwater)  
 ↑**1=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Pond 2-2**

Inflow Area = 5.854 ac, 30.00% Impervious, Inflow Depth > 0.73" for 2-Year event  
 Inflow = 4.22 cfs @ 12.03 hrs, Volume= 0.355 af  
 Outflow = 1.13 cfs @ 12.42 hrs, Volume= 0.356 af, Atten= 73%, Lag= 23.4 min  
 Discarded = 1.13 cfs @ 12.42 hrs, Volume= 0.356 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.56' @ 12.42 hrs Surf.Area= 5,900 sf Storage= 3,050 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 13.3 min ( 768.0 - 754.7 )

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Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,302 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,933	0	0
40.00	8,369	13,302	13,302

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#3	Primary	39.25'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=1.13 cfs @ 12.42 hrs HW=38.56' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 1.13 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' TW=0.00' (Dynamic Tailwater)  
 ↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)  
 ↳ **3=Orifice/Grate** ( Controls 0.00 cfs)

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

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=6,252 sf 95.59% Impervious Runoff Depth>4.18" Flow Length=239' Tc=1.0 min CN=95 Runoff=0.69 cfs 0.050 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=4,636 sf 97.76% Impervious Runoff Depth>4.27" Flow Length=290' Tc=1.3 min CN=97 Runoff=0.51 cfs 0.038 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=29,936 sf 42.27% Impervious Runoff Depth>1.90" Flow Length=239' Tc=1.3 min CN=63 Runoff=1.44 cfs 0.109 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=20,256 sf 10.24% Impervious Runoff Depth>0.53" Flow Length=200' Tc=18.1 min UI Adjusted CN=41 Runoff=0.15 cfs 0.020 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=23,349 sf 0.00% Impervious Runoff Depth>0.09" Flow Length=89' Tc=10.2 min CN=38 Runoff=0.01 cfs 0.004 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=82,367 sf 25.75% Impervious Runoff Depth>1.22" Flow Length=478' Tc=9.5 min CN=54 Runoff=1.92 cfs 0.192 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=15,897 sf 69.30% Impervious Runoff Depth>3.06" Flow Length=300' Tc=1.0 min CN=80 Runoff=1.27 cfs 0.093 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=83,632 sf 27.38% Impervious Runoff Depth>1.28" Flow Length=523' Tc=5.8 min UI Adjusted CN=51 Runoff=2.32 cfs 0.204 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=3,042 sf 100.00% Impervious Runoff Depth>4.36" Flow Length=266' Tc=1.0 min CN=98 Runoff=0.35 cfs 0.025 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=8,891 sf 22.49% Impervious Runoff Depth>1.08" Flow Length=124' Tc=0.9 min UI Adjusted CN=51 Runoff=0.23 cfs 0.018 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=31,689 sf 22.34% Impervious Runoff Depth>1.07" Flow Length=200' Tc=3.0 min CN=52 Runoff=0.79 cfs 0.065 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=14,607 sf 84.31% Impervious Runoff Depth>3.70" Flow Length=271' Tc=5.5 min CN=89 Runoff=1.25 cfs 0.103 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=54,912 sf 21.57% Impervious Runoff Depth>1.03" Flow Length=249' Tc=2.6 min UI Adjusted CN=50 Runoff=1.33 cfs 0.108 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=16,566 sf 42.96% Impervious Runoff Depth>1.95" Flow Length=236' Tc=1.2 min CN=64 Runoff=0.81 cfs 0.062 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=14,474 sf 77.53% Impervious Runoff Depth>3.41" Flow Length=191' Slope=0.0150 '/' Tc=1.8 min CN=85 Runoff=1.26 cfs 0.094 af
<b>SubcatchmentPost 1p: Post 1p</b>	Runoff Area=6,584 sf 80.95% Impervious Runoff Depth>3.56" Flow Length=127' Tc=0.7 min CN=87 Runoff=0.62 cfs 0.045 af

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<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=4,608 sf 77.43% Impervious Runoff Depth>3.41" Flow Length=75' Tc=0.4 min CN=85 Runoff=0.42 cfs 0.030 af
<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=6,804 sf 88.18% Impervious Runoff Depth>3.86" Flow Length=169' Tc=1.1 min CN=91 Runoff=0.69 cfs 0.050 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=12,365 sf 18.27% Impervious Runoff Depth>0.90" Flow Length=118' Tc=0.5 min CN=50 Runoff=0.26 cfs 0.021 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=24,013 sf 83.39% Impervious Runoff Depth>3.66" Flow Length=304' Tc=1.5 min CN=88 Runoff=2.25 cfs 0.168 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=27,102 sf 80.43% Impervious Runoff Depth>3.53" Flow Length=358' Tc=2.0 min CN=86 Runoff=2.44 cfs 0.183 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=10,841 sf 92.44% Impervious Runoff Depth>4.04" Flow Length=244' Tc=0.8 min CN=94 Runoff=1.16 cfs 0.084 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=12,069 sf 85.92% Impervious Runoff Depth>3.77" Flow Length=250' Tc=1.0 min CN=90 Runoff=1.19 cfs 0.087 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=28,013 sf 11.12% Impervious Runoff Depth>0.58" Flow Length=281' Tc=5.9 min CN=45 Runoff=0.31 cfs 0.031 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=5,336 sf 98.84% Impervious Runoff Depth>4.31" Flow Length=269' Tc=1.0 min CN=97 Runoff=0.61 cfs 0.044 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=25,257 sf 31.61% Impervious Runoff Depth>1.47" Flow Length=97' Tc=1.1 min CN=58 Runoff=0.91 cfs 0.071 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=5,548 sf 96.88% Impervious Runoff Depth>4.23" Flow Length=242' Slope=0.0800 '/' Tc=0.8 min CN=96 Runoff=0.62 cfs 0.045 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=3,935 sf 100.00% Impervious Runoff Depth>4.36" Flow Length=259' Slope=0.0800 '/' Tc=0.9 min CN=98 Runoff=0.45 cfs 0.033 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=20,579 sf 83.57% Impervious Runoff Depth>3.67" Flow Length=228' Slope=0.0200 '/' Tc=1.5 min CN=88 Runoff=1.93 cfs 0.144 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=19,582 sf 78.76% Impervious Runoff Depth>3.46" Flow Length=252' Tc=1.2 min CN=85 Runoff=1.76 cfs 0.130 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=8,242 sf 45.00% Impervious Runoff Depth>2.03" Flow Length=416' Tc=13.6 min CN=66 Runoff=0.30 cfs 0.032 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=87,061 sf 9.23% Impervious Runoff Depth>0.48" Flow Length=256' Tc=2.3 min UI Adjusted CN=42 Runoff=0.90 cfs 0.080 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=26,366 sf 6.30% Impervious Runoff Depth>0.36" Flow Length=296' Tc=2.5 min CN=41 Runoff=0.19 cfs 0.018 af

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<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=6,563 sf 71.02% Impervious Runoff Depth>3.14" Flow Length=117' Slope=0.0600 '/' Tc=0.8 min CN=81 Runoff=0.54 cfs 0.039 af
<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=52,643 sf 23.27% Impervious Runoff Depth>1.11" Flow Length=424' Tc=9.2 min CN=53 Runoff=1.12 cfs 0.112 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=12,114 sf 4.53% Impervious Runoff Depth>0.29" Flow Length=151' Slope=0.3300 '/' Tc=1.8 min CN=41 Runoff=0.06 cfs 0.007 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=12,346 sf 30.07% Impervious Runoff Depth>1.40" Flow Length=227' Tc=3.6 min CN=57 Runoff=0.41 cfs 0.033 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 33.88% Impervious Runoff Depth>1.56" Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=59 Runoff=0.80 cfs 0.063 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=345,589 sf 14.36% Impervious Runoff Depth>0.70" Flow Length=601' Tc=9.9 min CN=46 Runoff=4.44 cfs 0.461 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=8,810 sf 39.01% Impervious Runoff Depth>1.77" Flow Length=132' Tc=2.1 min CN=62 Runoff=0.39 cfs 0.030 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=1.67 cfs 0.043 af Outflow=1.67 cfs 0.043 af
<b>Reach Phase 2 Post: Phase 2 Post</b>	Inflow=4.93 cfs 0.524 af Outflow=4.93 cfs 0.524 af
<b>Reach Pond Post: Pond Post</b>	Inflow=6.45 cfs 0.567 af Outflow=6.45 cfs 0.567 af
<b>Reach Swale to Pond 2-2: Swale to</b>	Avg. Flow Depth=0.13' Max Vel=2.22 fps Inflow=0.71 cfs 0.057 af n=0.035 L=165.0' S=0.0727 '/' Capacity=57.26 cfs Outflow=0.69 cfs 0.057 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=45.79' Inflow=1.62 cfs 0.119 af 12.0" Round Culvert n=0.012 L=60.0' S=0.0267 '/' Outflow=1.62 cfs 0.119 af
<b>Pond DMH P 1-7: DMH P1-7</b>	Peak Elev=35.97' Inflow=3.45 cfs 0.261 af 15.0" Round Culvert n=0.012 L=84.0' S=0.0030 '/' Outflow=3.45 cfs 0.261 af
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=58.92' Inflow=1.20 cfs 0.088 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0283 '/' Outflow=1.20 cfs 0.088 af
<b>Pond DMH P1-10: DMH P1-10</b>	Peak Elev=41.63' Inflow=3.19 cfs 0.246 af 15.0" Round Culvert n=0.012 L=110.0' S=0.0245 '/' Outflow=3.19 cfs 0.246 af
<b>Pond DMH P1-11: DMH P1-11</b>	Peak Elev=44.10' Inflow=3.19 cfs 0.246 af 12.0" Round Culvert n=0.012 L=52.0' S=0.0404 '/' Outflow=3.19 cfs 0.246 af
<b>Pond DMH P1-12: DMH P1-12</b>	Peak Elev=55.47' Inflow=0.84 cfs 0.075 af 12.0" Round Culvert n=0.012 L=225.0' S=0.0533 '/' Outflow=0.84 cfs 0.075 af

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**Pond DMH P1-13: DMH P1-13**Peak Elev=39.81' Inflow=0.23 cfs 0.018 af  
18.0" Round Culvert n=0.012 L=130.0' S=0.0123 '/ Outflow=0.23 cfs 0.018 af**Pond DMH P1-3: DMH P1-3**Peak Elev=44.40' Inflow=3.59 cfs 0.323 af  
15.0" Round Culvert n=0.012 L=142.0' S=0.0479 '/ Outflow=3.59 cfs 0.323 af**Pond DMH P1-4: DMH P1-4**Peak Elev=37.72' Inflow=4.81 cfs 0.426 af  
18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/ Outflow=4.81 cfs 0.426 af**Pond DMH P1-5: DMH P1-5**Peak Elev=36.87' Inflow=2.05 cfs 0.156 af  
12.0" Round Culvert n=0.012 L=50.0' S=0.0050 '/ Outflow=2.05 cfs 0.156 af**Pond DMH P1-6: DMH P1-6**Peak Elev=36.65' Inflow=2.67 cfs 0.201 af  
12.0" Round Culvert n=0.012 L=116.0' S=0.0052 '/ Outflow=2.67 cfs 0.201 af**Pond DMH P1-8: DMH P 1-8**Peak Elev=38.20' Inflow=4.67 cfs 0.351 af  
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/ Outflow=4.67 cfs 0.351 af**Pond DMH P1-9: DMH P1-9**Peak Elev=37.66' Inflow=4.67 cfs 0.351 af  
15.0" Round Culvert n=0.012 L=144.0' S=0.0045 '/ Outflow=4.67 cfs 0.351 af**Pond DMH P2-1: DMH P2-1**Peak Elev=48.10' Inflow=1.14 cfs 0.085 af  
12.0" Round Culvert n=0.012 L=70.0' S=0.0500 '/ Outflow=1.14 cfs 0.085 af**Pond DMH P2-2: DMH P2-2**Peak Elev=48.88' Inflow=1.92 cfs 0.162 af  
12.0" Round Culvert n=0.012 L=64.0' S=0.0070 '/ Outflow=1.92 cfs 0.162 af**Pond DMH P2-3: DMH P2-3**Peak Elev=48.68' Inflow=3.86 cfs 0.306 af  
12.0" Round Culvert n=0.012 L=110.0' S=0.0468 '/ Outflow=3.86 cfs 0.306 af**Pond DMH P2-4: DMH P2-4**Peak Elev=54.63' Inflow=0.71 cfs 0.057 af  
12.0" Round Culvert n=0.012 L=100.0' S=0.0300 '/ Outflow=0.71 cfs 0.057 af**Pond Pond 1-1: Pond 1-1**Peak Elev=37.73' Storage=4,550 cf Inflow=3.75 cfs 0.240 af  
Discarded=0.65 cfs 0.241 af Primary=0.00 cfs 0.000 af Outflow=0.65 cfs 0.241 af**Pond Pond 1-2: Pond 1-2**Peak Elev=37.40' Storage=6,476 cf Inflow=6.31 cfs 0.552 af  
Discarded=1.16 cfs 0.552 af Primary=0.00 cfs 0.000 af Outflow=1.16 cfs 0.552 af**Pond Pond 1-3: Pond 1-3**Peak Elev=34.02' Storage=3,579 cf Inflow=4.40 cfs 0.332 af  
Discarded=0.75 cfs 0.333 af Primary=0.00 cfs 0.000 af Outflow=0.75 cfs 0.333 af**Pond Pond 1-4: Pond 1-4**Peak Elev=37.17' Storage=4,911 cf Inflow=5.56 cfs 0.422 af  
Discarded=0.79 cfs 0.379 af Primary=1.67 cfs 0.043 af Outflow=2.46 cfs 0.422 af**Pond Pond 1-5: Pond 1-5**Peak Elev=39.24' Storage=4,531 cf Inflow=5.83 cfs 0.571 af  
Discarded=0.96 cfs 0.484 af Primary=2.93 cfs 0.088 af Outflow=3.88 cfs 0.571 af**Pond Pond 2-1: Pond 2-1**Peak Elev=50.36' Storage=670 cf Inflow=1.30 cfs 0.113 af  
Discarded=0.38 cfs 0.113 af Primary=0.00 cfs 0.000 af Outflow=0.38 cfs 0.113 af

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**Pond Pond 2-2: Pond 2-2**

Peak Elev=39.01' Storage=5,886 cf Inflow=6.32 cfs 0.560 af  
Discarded=1.28 cfs 0.561 af Primary=0.00 cfs 0.000 af Outflow=1.28 cfs 0.561 af

**Total Runoff Area = 27.642 ac Runoff Volume = 3.228 af Average Runoff Depth = 1.40"**  
**69.48% Pervious = 19.206 ac 30.52% Impervious = 8.436 ac**

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 0.69 cfs @ 12.01 hrs, Volume= 0.050 af, Depth&gt; 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,198	98	Paved parking, HSG A
738	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
276	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,252	95	Weighted Average
276	39	4.41% Pervious Area
5,976	98	95.59% Impervious Area
738		12.35% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.03		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	214	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	239	Total			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.51 cfs @ 12.02 hrs, Volume= 0.038 af, Depth&gt; 4.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,621	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
104	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,636	97	Weighted Average
104	39	2.24% Pervious Area
4,532	98	97.76% Impervious Area
911		20.10% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	290	Total			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 1.44 cfs @ 12.02 hrs, Volume= 0.109 af, Depth&gt; 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
2,478	98	Roofs, HSG A
7,246	98	Paved parking, HSG A
2,929	98	Unconnected pavement, HSG A
6,383	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,900	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
29,936	63	Weighted Average
17,283	38	57.73% Pervious Area
12,653	98	42.27% Impervious Area
2,929		23.15% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	58	0.2500	2.50		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.6	161	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	239	Total			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.15 cfs @ 12.24 hrs, Volume= 0.020 af, Depth&gt; 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Adj	Description
464	98	98	Roofs, HSG A
103	98	98	Paved parking, HSG A
1,507	98	98	Unconnected pavement, HSG A
9,452	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
8,730	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
20,256	44	41	Weighted Average, UI Adjusted
18,182	37	37	89.76% Pervious Area
2,074	98	98	10.24% Impervious Area
1,507			72.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	100	0.0400	0.10		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	30	0.0300	0.87		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
1.0	70	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
18.1	200	Total			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 0.01 cfs @ 15.02 hrs, Volume= 0.004 af, Depth> 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
11,230	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
12,119	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
23,349	38	Weighted Average
23,349	38	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	66	0.0600	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	23	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	89	Total			

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**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 1.92 cfs @ 12.13 hrs, Volume= 0.192 af, Depth&gt; 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
20,047	98	Roofs, HSG A
1,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
61,155	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
82,367	54	Weighted Average
61,155	39	74.25% Pervious Area
21,212	98	25.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	85	0.3300	0.34		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
5.4	393	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.5	478	Total			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 1.27 cfs @ 12.01 hrs, Volume= 0.093 af, Depth&gt; 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
3,873	98	Roofs, HSG A
7,143	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
15,897	80	Weighted Average
4,881	39	30.70% Pervious Area
11,016	98	69.30% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.2500	3.24		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	300	Total			

**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 2.32 cfs @ 12.08 hrs, Volume= 0.204 af, Depth> 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
10,621	98	98	Roofs, HSG A
853	98	98	Paved parking, HSG A
11,421	98	98	Unconnected pavement, HSG A
12,848	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
47,889	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
83,632	55	51	Weighted Average, UI Adjusted
60,737	38	38	72.62% Pervious Area
22,895	98	98	27.38% Impervious Area
11,421			49.88% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.3	443	0.0400	1.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.8	523	Total			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.35 cfs @ 12.01 hrs, Volume= 0.025 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,042	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,042	98	Weighted Average
3,042	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	246	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	266	Total			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.23 cfs @ 12.01 hrs, Volume= 0.018 af, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
1,317	98	98	Roofs, HSG A
308	98	98	Paved parking, HSG A
375	98	98	Unconnected pavement, HSG A
243	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
6,648	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
8,891	52	51	Weighted Average, UI Adjusted
6,891	39	39	77.51% Pervious Area
2,000	98	98	22.49% Impervious Area
375			18.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	90	0.2000	3.13		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.2	24	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.9	124	Total			

**12013 Post**

Type III 24-hr 10-Year Rainfall=4.60"

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**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.79 cfs @ 12.05 hrs, Volume= 0.065 af, Depth&gt; 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
7,078	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,611	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
31,689	52	Weighted Average
24,611	39	77.66% Pervious Area
7,078	98	22.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	35	0.4000	3.64		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.8	165	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.0	200	Total			

**Summary for Subcatchment Post 1l: Post 1l**

Runoff = 1.25 cfs @ 12.08 hrs, Volume= 0.103 af, Depth&gt; 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
4,807	98	Roofs, HSG A
7,508	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,292	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,607	89	Weighted Average
2,292	39	15.69% Pervious Area
12,315	98	84.31% Impervious Area

**12013 Post**

Type III 24-hr 10-Year Rainfall=4.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	60	0.0500	0.22		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.9	211	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.5	271	Total			

**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 1.33 cfs @ 12.04 hrs, Volume= 0.108 af, Depth&gt; 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
8,658	98	98	Roofs, HSG A
256	98	98	Paved parking, HSG A
2,928	98	98	Unconnected pavement, HSG A
11,179	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,891	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
54,912	51	50	Weighted Average, UI Adjusted
43,070	38	38	78.43% Pervious Area
11,842	98	98	21.57% Impervious Area
2,928			24.73% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.9	130	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	109	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.6	249	Total			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.81 cfs @ 12.02 hrs, Volume= 0.062 af, Depth&gt; 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
3,763	98	Roofs, HSG A
3,354	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
9,449	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,566	64	Weighted Average
9,449	39	57.04% Pervious Area
7,117	98	42.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	216	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	236	Total			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 1.26 cfs @ 12.03 hrs, Volume= 0.094 af, Depth> 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
3,247	98	Roofs, HSG A
7,974	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,253	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,474	85	Weighted Average
3,253	39	22.47% Pervious Area
11,221	98	77.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0150	1.09		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	131	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	191	Total			

**12013 Post**

Type III 24-hr 10-Year Rainfall=4.60"

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**Summary for Subcatchment Post 1p: Post 1p**

Runoff = 0.62 cfs @ 12.01 hrs, Volume= 0.045 af, Depth&gt; 3.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,438	98	Roofs, HSG A
3,892	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,254	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,584	87	Weighted Average
1,254	39	19.05% Pervious Area
5,330	98	80.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	107	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	127	Total			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.42 cfs @ 12.00 hrs, Volume= 0.030 af, Depth&gt; 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,363	98	Roofs, HSG A
2,205	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,040	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,608	85	Weighted Average
1,040	39	22.57% Pervious Area
3,568	98	77.43% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	55	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.4	75	Total			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.69 cfs @ 12.01 hrs, Volume= 0.050 af, Depth&gt; 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
520	98	Roofs, HSG A
5,480	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
804	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,804	91	Weighted Average
804	39	11.82% Pervious Area
6,000	98	88.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	149	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.1	169	Total			

**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 0.26 cfs @ 12.01 hrs, Volume= 0.021 af, Depth&gt; 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
1,915	98	Roofs, HSG A
344	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,106	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,365	50	Weighted Average
10,106	39	81.73% Pervious Area
2,259	98	18.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.4000	3.74		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	78	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	118	Total			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 2.25 cfs @ 12.02 hrs, Volume= 0.168 af, Depth&gt; 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
5,398	98	Roofs, HSG A
14,627	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,988	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
24,013	88	Weighted Average
3,988	39	16.61% Pervious Area
20,025	98	83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	284	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	304	Total			

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**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 2.44 cfs @ 12.03 hrs, Volume= 0.183 af, Depth&gt; 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
8,747	98	Roofs, HSG A
13,050	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,305	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
27,102	86	Weighted Average
5,305	39	19.57% Pervious Area
21,797	98	80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	308	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.0	358	Total			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 1.16 cfs @ 12.01 hrs, Volume= 0.084 af, Depth&gt; 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
3,517	98	Roofs, HSG A
6,504	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
820	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,841	94	Weighted Average
820	39	7.56% Pervious Area
10,021	98	92.44% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	30	0.4000	3.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	184	0.0600	4.97		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	244	Total			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 1.19 cfs @ 12.01 hrs, Volume= 0.087 af, Depth> 3.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
3,296	98	Roofs, HSG A
7,074	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,699	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,069	90	Weighted Average
1,699	39	14.08% Pervious Area
10,370	98	85.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	230	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	250	Total			

**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,116	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
8,382	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
16,515	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
28,013	45	Weighted Average
24,897	38	88.88% Pervious Area
3,116	98	11.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.2500	0.19		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	221	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.9	281	Total			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 0.61 cfs @ 12.01 hrs, Volume= 0.044 af, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,234	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
62	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,336	97	Weighted Average
62	39	1.16% Pervious Area
5,274	98	98.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	249	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	269	Total			

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**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 0.91 cfs @ 12.01 hrs, Volume= 0.071 af, Depth&gt; 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
7,216	98	Roofs, HSG A
768	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
17,273	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,257	58	Weighted Average
17,273	39	68.39% Pervious Area
7,984	98	31.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	27	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	97	Total			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.62 cfs @ 12.01 hrs, Volume= 0.045 af, Depth&gt; 4.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,014	98	Roofs, HSG A
4,022	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
173	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,548	96	Weighted Average
173	39	3.12% Pervious Area
5,375	98	96.88% Impervious Area
339		6.31% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	222	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	242	Total			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.45 cfs @ 12.01 hrs, Volume= 0.033 af, Depth&gt; 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,880	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,935	98	Weighted Average
3,935	98	100.00% Impervious Area
55		1.40% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	239	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	259	Total			

**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 1.93 cfs @ 12.02 hrs, Volume= 0.144 af, Depth&gt; 3.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
5,680	98	Roofs, HSG A
11,517	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,382	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
20,579	88	Weighted Average
3,382	39	16.43% Pervious Area
17,197	98	83.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	208	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	228	Total			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 1.76 cfs @ 12.02 hrs, Volume= 0.130 af, Depth> 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
4,913	98	Roofs, HSG A
10,510	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,159	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
19,582	85	Weighted Average
4,159	39	21.24% Pervious Area
15,423	98	78.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0600	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	232	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	252	Total			

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**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.30 cfs @ 12.18 hrs, Volume= 0.032 af, Depth&gt; 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,444	98	Roofs, HSG A
2,265	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,533	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,242	66	Weighted Average
4,533	39	55.00% Pervious Area
3,709	98	45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	80	0.0200	0.16		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.2	36	0.2500	3.50		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.6	416	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 0.90 cfs @ 12.04 hrs, Volume= 0.080 af, Depth&gt; 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Adj	Description
6,321	98	98	Roofs, HSG A
27	98	98	Paved parking, HSG A
1,685	98	98	Unconnected pavement, HSG A
47,632	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,396	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
87,061	43	42	Weighted Average, UI Adjusted
79,028	37	37	90.77% Pervious Area
8,033	98	98	9.23% Impervious Area
1,685			20.98% Unconnected

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Type III 24-hr 10-Year Rainfall=4.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	59	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.9	165	0.4000	3.16		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.3	256	Total			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.19 cfs @ 12.04 hrs, Volume= 0.018 af, Depth&gt; 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,182	98	Roofs, HSG A
357	98	Paved parking, HSG A
121	98	Unconnected pavement, HSG A
13,159	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
11,547	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
26,366	41	Weighted Average
24,706	37	93.70% Pervious Area
1,660	98	6.30% Impervious Area
121		7.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.2	255	0.1500	1.94		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.5	296	Total			

**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.54 cfs @ 12.01 hrs, Volume= 0.039 af, Depth&gt; 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
1,807	98	Roofs, HSG A
2,854	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,902	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,563	81	Weighted Average
1,902	39	28.98% Pervious Area
4,661	98	71.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0600	1.83		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	67	0.0600	3.94		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.8	117	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 1.12 cfs @ 12.12 hrs, Volume= 0.112 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
11,373	98	Roofs, HSG A
877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
40,393	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
52,643	53	Weighted Average
40,393	39	76.73% Pervious Area
12,250	98	23.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.4000	0.25		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	28	0.4000	4.43		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.5	296	0.0800	1.98		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.2	424	Total			

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**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.06 cfs @ 12.03 hrs, Volume= 0.007 af, Depth&gt; 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
459	98	Roofs, HSG A
90	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
4,518	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
7,047	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,114	41	Weighted Average
11,565	38	95.47% Pervious Area
549	98	4.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	20	0.3300	0.26		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.5	131	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.8	151	Total			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.41 cfs @ 12.05 hrs, Volume= 0.033 af, Depth&gt; 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
3,713	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
8,633	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,346	57	Weighted Average
8,633	39	69.93% Pervious Area
3,713	98	30.07% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
3.5	207	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.6	227	Total			

**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 0.80 cfs @ 12.05 hrs, Volume= 0.063 af, Depth&gt; 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
7,192	98	Unconnected pavement, HSG A
769	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
13,267	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	59	Weighted Average
14,036	39	66.12% Pervious Area
7,192	98	33.88% Impervious Area
7,192		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 4.44 cfs @ 12.13 hrs, Volume= 0.461 af, Depth&gt; 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

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Area (sf)	CN	Description
16,932	98	Roofs, HSG A
4,544	98	Paved parking, HSG A
3,956	98	Unconnected pavement, HSG A
185,603	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
110,357	39	>75% Grass cover, Good, HSG A
24,197	98	Water Surface, HSG A
345,589	46	Weighted Average
295,960	37	85.64% Pervious Area
49,629	98	14.36% Impervious Area
3,956		7.97% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.7	165	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.2	416	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.9	601	Total			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 0.39 cfs @ 12.03 hrs, Volume= 0.030 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
1,640	98	Roofs, HSG A
1,797	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
886	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,487	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,810	62	Weighted Average
5,373	39	60.99% Pervious Area
3,437	98	39.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.40		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.7	102	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	132	Total			

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**Summary for Reach Phase 1 Post: Phase 1 Post**

Inflow Area = 13.368 ac, 40.21% Impervious, Inflow Depth = 0.04" for 10-Year event  
Inflow = 1.67 cfs @ 12.17 hrs, Volume= 0.043 af  
Outflow = 1.67 cfs @ 12.17 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min

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

**Summary for Reach Phase 2 Post: Phase 2 Post**

Inflow Area = 14.274 ac, 21.44% Impervious, Inflow Depth > 0.44" for 10-Year event  
Inflow = 4.93 cfs @ 12.12 hrs, Volume= 0.524 af  
Outflow = 4.93 cfs @ 12.12 hrs, Volume= 0.524 af, Atten= 0%, Lag= 0.0 min

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

**Summary for Reach Pond Post: Pond Post**

Inflow Area = 27.642 ac, 30.52% Impervious, Inflow Depth > 0.25" for 10-Year event  
Inflow = 6.45 cfs @ 12.14 hrs, Volume= 0.567 af  
Outflow = 6.45 cfs @ 12.14 hrs, Volume= 0.567 af, Atten= 0%, Lag= 0.0 min

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

**Summary for Reach Swale to Pond 2-2: Swale to Pond 2-2**

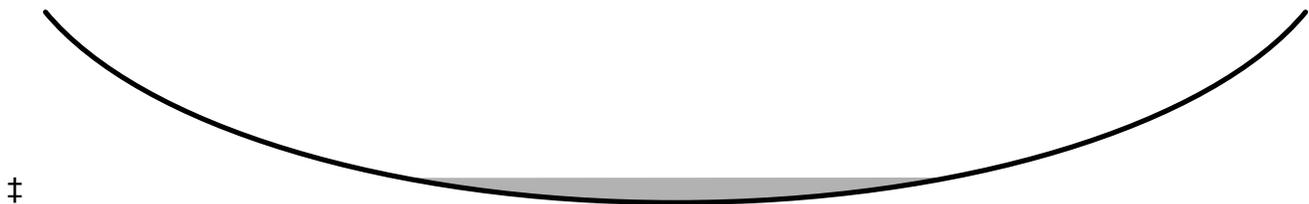
Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 0.91" for 10-Year event  
Inflow = 0.71 cfs @ 12.02 hrs, Volume= 0.057 af  
Outflow = 0.69 cfs @ 12.04 hrs, Volume= 0.057 af, Atten= 3%, Lag= 1.3 min

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

Max. Velocity= 2.22 fps, Min. Travel Time= 1.2 min  
Avg. Velocity = 0.75 fps, Avg. Travel Time= 3.7 min

Peak Storage= 51 cf @ 12.04 hrs  
Average Depth at Peak Storage= 0.13'  
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 57.26 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.035 High grass  
Length= 165.0' Slope= 0.0727 '  
Inlet Invert= 50.00', Outlet Invert= 38.00'



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**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.435 ac, 74.23% Impervious, Inflow Depth > 3.27" for 10-Year event  
 Inflow = 1.62 cfs @ 12.01 hrs, Volume= 0.119 af  
 Outflow = 1.62 cfs @ 12.01 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.62 cfs @ 12.01 hrs, Volume= 0.119 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.79' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 43.50' S= 0.0267 ' / Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.55 cfs @ 12.01 hrs HW=45.77' TW=44.34' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 1.55 cfs @ 2.78 fps)

**Summary for Pond DMH P 1-7: DMH P1-7**

Inflow Area = 11.175 ac, 36.18% Impervious, Inflow Depth > 0.28" for 10-Year event  
 Inflow = 3.45 cfs @ 12.02 hrs, Volume= 0.261 af  
 Outflow = 3.45 cfs @ 12.02 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.45 cfs @ 12.02 hrs, Volume= 0.261 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 35.97' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.75'	<b>15.0" Round Culvert</b> L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.75' / 34.50' S= 0.0030 ' / Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.30 cfs @ 12.02 hrs HW=35.94' TW=33.56' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 3.30 cfs @ 3.53 fps)

**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.250 ac, 96.51% Impervious, Inflow Depth > 4.22" for 10-Year event  
 Inflow = 1.20 cfs @ 12.01 hrs, Volume= 0.088 af  
 Outflow = 1.20 cfs @ 12.01 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.20 cfs @ 12.01 hrs, Volume= 0.088 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 58.92' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.35'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 58.35' / 57.50' S= 0.0283 '/' Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.15 cfs @ 12.01 hrs HW=58.91' TW=36.32' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.15 cfs @ 2.55 fps)

**Summary for Pond DMH P1-10: DMH P1-10**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 2.28" for 10-Year event  
 Inflow = 3.19 cfs @ 12.01 hrs, Volume= 0.246 af  
 Outflow = 3.19 cfs @ 12.01 hrs, Volume= 0.246 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.19 cfs @ 12.01 hrs, Volume= 0.246 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 41.63' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	40.70'	<b>15.0" Round Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 40.70' / 38.00' S= 0.0245 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.06 cfs @ 12.01 hrs HW=41.60' TW=38.97' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 3.06 cfs @ 3.23 fps)

**Summary for Pond DMH P1-11: DMH P1-11**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 2.28" for 10-Year event  
 Inflow = 3.19 cfs @ 12.01 hrs, Volume= 0.246 af  
 Outflow = 3.19 cfs @ 12.01 hrs, Volume= 0.246 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.19 cfs @ 12.01 hrs, Volume= 0.246 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 44.10' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.90'	<b>12.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.90' / 40.80' S= 0.0404 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.06 cfs @ 12.01 hrs HW=44.06' TW=41.60' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 3.06 cfs @ 3.90 fps)

**Summary for Pond DMH P1-12: DMH P1-12**

Inflow Area = 0.766 ac, 25.16% Impervious, Inflow Depth > 1.17" for 10-Year event  
 Inflow = 0.84 cfs @ 12.03 hrs, Volume= 0.075 af  
 Outflow = 0.84 cfs @ 12.03 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.84 cfs @ 12.03 hrs, Volume= 0.075 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.47' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	<b>12.0" Round Culvert</b> L= 225.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.00' / 43.00' S= 0.0533 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.82 cfs @ 12.03 hrs HW=55.46' TW=44.02' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 0.82 cfs @ 2.31 fps)

**Summary for Pond DMH P1-13: DMH P1-13**

Inflow Area = 0.204 ac, 22.49% Impervious, Inflow Depth > 1.08" for 10-Year event  
 Inflow = 0.23 cfs @ 12.01 hrs, Volume= 0.018 af  
 Outflow = 0.23 cfs @ 12.01 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.23 cfs @ 12.01 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.81' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.60'	<b>18.0" Round Culvert</b> L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.60' / 38.00' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=0.22 cfs @ 12.01 hrs HW=39.80' TW=36.71' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 0.22 cfs @ 1.54 fps)

**Summary for Pond DMH P1-3: DMH P1-3**

Inflow Area = 2.355 ac, 36.03% Impervious, Inflow Depth > 1.64" for 10-Year event  
 Inflow = 3.59 cfs @ 12.05 hrs, Volume= 0.323 af  
 Outflow = 3.59 cfs @ 12.05 hrs, Volume= 0.323 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.59 cfs @ 12.05 hrs, Volume= 0.323 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.40' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	43.40'	<b>15.0" Round Culvert</b> L= 142.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.40' / 36.60' S= 0.0479 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.58 cfs @ 12.05 hrs HW=44.40' TW=37.71' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 3.58 cfs @ 3.41 fps)

**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 8.538 ac, 35.38% Impervious, Inflow Depth > 0.60" for 10-Year event  
 Inflow = 4.81 cfs @ 12.06 hrs, Volume= 0.426 af  
 Outflow = 4.81 cfs @ 12.06 hrs, Volume= 0.426 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.81 cfs @ 12.06 hrs, Volume= 0.426 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.72' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.50'	<b>18.0" Round Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.50' / 36.00' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=4.73 cfs @ 12.06 hrs HW=37.70' TW=36.88' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 4.73 cfs @ 4.25 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.713 ac, 59.08% Impervious, Inflow Depth > 2.63" for 10-Year event  
 Inflow = 2.05 cfs @ 12.02 hrs, Volume= 0.156 af  
 Outflow = 2.05 cfs @ 12.02 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.05 cfs @ 12.02 hrs, Volume= 0.156 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.87' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.80'	<b>12.0" Round 15" Culvert</b> L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.80' / 35.55' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.42 cfs @ 12.02 hrs HW=36.79' TW=36.58' (Dynamic Tailwater)  
 ↑1=15" Culvert (Outlet Controls 1.42 cfs @ 2.28 fps)

**Summary for Pond DMH P1-6: DMH P1-6**

Inflow Area = 0.864 ac, 62.91% Impervious, Inflow Depth > 2.79" for 10-Year event  
 Inflow = 2.67 cfs @ 12.02 hrs, Volume= 0.201 af  
 Outflow = 2.67 cfs @ 12.02 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.67 cfs @ 12.02 hrs, Volume= 0.201 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.65' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.45'	<b>12.0" Round 12" Culvert</b> L= 116.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 35.45' / 34.85' S= 0.0052 '/' Cc= 0.900  
n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.30 cfs @ 12.02 hrs HW=36.58' TW=35.94' (Dynamic Tailwater)  
↑1=12" Culvert (Outlet Controls 2.30 cfs @ 3.25 fps)

**Summary for Pond DMH P1-8: DMH P 1-8**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 3.59" for 10-Year event  
Inflow = 4.67 cfs @ 12.03 hrs, Volume= 0.351 af  
Outflow = 4.67 cfs @ 12.03 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min  
Primary = 4.67 cfs @ 12.03 hrs, Volume= 0.351 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 38.20' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.30'	<b>15.0" Round 15" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.30' / 35.75' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.34 cfs @ 12.03 hrs HW=37.96' TW=37.55' (Dynamic Tailwater)  
↑1=15" Culvert (Outlet Controls 3.34 cfs @ 2.72 fps)

**Summary for Pond DMH P1-9: DMH P1-9**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 3.59" for 10-Year event  
Inflow = 4.67 cfs @ 12.03 hrs, Volume= 0.351 af  
Outflow = 4.67 cfs @ 12.03 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min  
Primary = 4.67 cfs @ 12.03 hrs, Volume= 0.351 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 37.66' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.65'	<b>15.0" Round Culvert</b> L= 144.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.65' / 35.00' S= 0.0045 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.85 cfs @ 12.03 hrs HW=37.55' TW=36.88' (Dynamic Tailwater)  
↑1=Culvert (Outlet Controls 3.85 cfs @ 3.14 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.496 ac, 45.65% Impervious, Inflow Depth > 2.05" for 10-Year event  
Inflow = 1.14 cfs @ 12.01 hrs, Volume= 0.085 af  
Outflow = 1.14 cfs @ 12.01 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.14 cfs @ 12.01 hrs, Volume= 0.085 af

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

Peak Elev= 48.10' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 70.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 44.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.10 cfs @ 12.01 hrs HW=48.08' TW=38.47' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.10 cfs @ 2.30 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area =	2.921 ac, 24.27% Impervious, Inflow Depth > 0.66" for 10-Year event
Inflow =	1.92 cfs @ 12.02 hrs, Volume= 0.162 af
Outflow =	1.92 cfs @ 12.02 hrs, Volume= 0.162 af, Atten= 0%, Lag= 0.0 min
Primary =	1.92 cfs @ 12.02 hrs, Volume= 0.162 af

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

Peak Elev= 48.88' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	<b>12.0" Round 12" Culvert</b> L= 64.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.60' / 47.15' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.73 cfs @ 12.02 hrs HW=48.66' TW=48.61' (Dynamic Tailwater)

↑1=12" Culvert (Outlet Controls 0.73 cfs @ 1.10 fps)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area =	3.393 ac, 32.52% Impervious, Inflow Depth > 1.08" for 10-Year event
Inflow =	3.86 cfs @ 12.02 hrs, Volume= 0.306 af
Outflow =	3.86 cfs @ 12.02 hrs, Volume= 0.306 af, Atten= 0%, Lag= 0.0 min
Primary =	3.86 cfs @ 12.02 hrs, Volume= 0.306 af

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

Peak Elev= 48.68' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	<b>12.0" Round 12" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 42.00' S= 0.0468 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.69 cfs @ 12.02 hrs HW=48.60' TW=38.50' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 3.69 cfs @ 4.70 fps)

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**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 0.91" for 10-Year event  
 Inflow = 0.71 cfs @ 12.02 hrs, Volume= 0.057 af  
 Outflow = 0.71 cfs @ 12.02 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.71 cfs @ 12.02 hrs, Volume= 0.057 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.63' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	<b>12.0" Round 12" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.20' / 51.20' S= 0.0300 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.68 cfs @ 12.02 hrs HW=54.62' TW=50.13' (Dynamic Tailwater)  
 ↑**1=12" Culvert** (Inlet Controls 0.68 cfs @ 2.20 fps)

**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 5.848 ac, 32.31% Impervious, Inflow Depth > 0.49" for 10-Year event  
 Inflow = 3.75 cfs @ 12.15 hrs, Volume= 0.240 af  
 Outflow = 0.65 cfs @ 12.62 hrs, Volume= 0.241 af, Atten= 83%, Lag= 28.0 min  
 Discarded = 0.65 cfs @ 12.62 hrs, Volume= 0.241 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.73' @ 12.62 hrs Surf.Area= 3,375 sf Storage= 4,550 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 52.1 min ( 802.1 - 750.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	10,322 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,891	0	0
38.00	3,608	5,499	5,499
39.00	6,038	4,823	10,322

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

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**Discarded OutFlow** Max=0.65 cfs @ 12.62 hrs HW=37.73' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.65 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=36.50' (Dynamic Tailwater)

↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 10.003 ac, 33.37% Impervious, Inflow Depth > 0.66" for 10-Year event  
 Inflow = 6.31 cfs @ 12.05 hrs, Volume= 0.552 af  
 Outflow = 1.16 cfs @ 12.50 hrs, Volume= 0.552 af, Atten= 82%, Lag= 27.1 min  
 Discarded = 1.16 cfs @ 12.50 hrs, Volume= 0.552 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

Peak Elev= 37.40' @ 12.50 hrs Surf.Area= 6,077 sf Storage= 6,476 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 35.9 min ( 797.0 - 761.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	14,458 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	3,158	0	0
38.00	7,320	10,478	10,478
38.50	8,599	3,980	14,458

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=1.16 cfs @ 12.50 hrs HW=37.40' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.16 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.75' (Dynamic Tailwater)

↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 11.615 ac, 36.44% Impervious, Inflow Depth > 0.34" for 10-Year event  
 Inflow = 4.40 cfs @ 12.02 hrs, Volume= 0.332 af  
 Outflow = 0.75 cfs @ 12.45 hrs, Volume= 0.333 af, Atten= 83%, Lag= 26.0 min  
 Discarded = 0.75 cfs @ 12.45 hrs, Volume= 0.333 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

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Peak Elev= 34.02' @ 12.45 hrs Surf.Area= 3,916 sf Storage= 3,579 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 26.4 min ( 778.0 - 751.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	12,888 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,114	0	0
36.00	5,478	12,888	12,888

Device	Routing	Invert	Outlet Devices
#1	Discarded	33.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.75 cfs @ 12.45 hrs HW=34.02' (Free Discharge)  
↳ **1=Exfiltration** (Exfiltration Controls 0.75 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=33.00' TW=0.00' (Dynamic Tailwater)  
↳ **2=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 1.753 ac, 65.22% Impervious, Inflow Depth > 2.89" for 10-Year event  
Inflow = 5.56 cfs @ 12.02 hrs, Volume= 0.422 af  
Outflow = 2.46 cfs @ 12.17 hrs, Volume= 0.422 af, Atten= 56%, Lag= 8.6 min  
Discarded = 0.79 cfs @ 12.17 hrs, Volume= 0.379 af  
Primary = 1.67 cfs @ 12.17 hrs, Volume= 0.043 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 37.17' @ 12.17 hrs Surf.Area= 4,127 sf Storage= 4,911 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 47.3 min ( 797.1 - 749.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	9,051 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	1,202	0	0
36.00	1,753	1,478	1,478
38.00	5,820	7,573	9,051

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Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.79 cfs @ 12.17 hrs HW=37.16' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.79 cfs)

**Primary OutFlow** Max=1.61 cfs @ 12.17 hrs HW=37.16' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 1.61 cfs @ 0.99 fps)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 4.871 ac, 30.50% Impervious, Inflow Depth > 1.41" for 10-Year event  
 Inflow = 5.83 cfs @ 12.03 hrs, Volume= 0.571 af  
 Outflow = 3.88 cfs @ 12.17 hrs, Volume= 0.571 af, Atten= 33%, Lag= 8.8 min  
 Discarded = 0.96 cfs @ 12.17 hrs, Volume= 0.484 af  
 Primary = 2.93 cfs @ 12.17 hrs, Volume= 0.088 af

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

Peak Elev= 39.24' @ 12.17 hrs Surf.Area= 4,990 sf Storage= 4,531 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 23.1 min ( 787.4 - 764.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	5,921 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,339	0	0
39.50	5,556	5,921	5,921

Device	Routing	Invert	Outlet Devices
#1	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.00'	<b>10.0' long x 2.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

**Discarded OutFlow** Max=0.95 cfs @ 12.17 hrs HW=39.23' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.95 cfs)

**Primary OutFlow** Max=2.86 cfs @ 12.17 hrs HW=39.23' TW=36.95' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.86 cfs @ 1.23 fps)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.282 ac, 11.82% Impervious, Inflow Depth > 0.59" for 10-Year event  
 Inflow = 1.30 cfs @ 12.04 hrs, Volume= 0.113 af  
 Outflow = 0.38 cfs @ 12.33 hrs, Volume= 0.113 af, Atten= 71%, Lag= 17.6 min  
 Discarded = 0.38 cfs @ 12.33 hrs, Volume= 0.113 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.36' @ 12.33 hrs Surf.Area= 1,961 sf Storage= 670 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 6.7 min ( 795.2 - 788.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	9,380 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,727	0	0
52.00	3,014	4,741	4,741
53.00	6,264	4,639	9,380

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.38 cfs @ 12.33 hrs HW=50.36' (Free Discharge)  
 ↑2=Exfiltration (Exfiltration Controls 0.38 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.60' (Dynamic Tailwater)  
 ↑1=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Pond 2-2**

Inflow Area = 5.854 ac, 30.00% Impervious, Inflow Depth > 1.15" for 10-Year event  
 Inflow = 6.32 cfs @ 12.03 hrs, Volume= 0.560 af  
 Outflow = 1.28 cfs @ 12.48 hrs, Volume= 0.561 af, Atten= 80%, Lag= 27.5 min  
 Discarded = 1.28 cfs @ 12.48 hrs, Volume= 0.561 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.01' @ 12.48 hrs Surf.Area= 6,675 sf Storage= 5,886 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 26.0 min ( 783.6 - 757.7 )

**12013 Post**

Type III 24-hr 10-Year Rainfall=4.60"

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Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,302 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,933	0	0
40.00	8,369	13,302	13,302

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#3	Primary	39.25'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=1.28 cfs @ 12.48 hrs HW=39.01' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 1.28 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' TW=0.00' (Dynamic Tailwater)  
 ↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)  
 ↳ **3=Orifice/Grate** ( Controls 0.00 cfs)

**12013 Post***Type III 24-hr 25-Year Rainfall=5.50"*

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

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=6,252 sf 95.59% Impervious Runoff Depth>5.04" Flow Length=239' Tc=1.0 min CN=95 Runoff=0.82 cfs 0.060 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=4,636 sf 97.76% Impervious Runoff Depth>5.15" Flow Length=290' Tc=1.3 min CN=97 Runoff=0.62 cfs 0.046 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=29,936 sf 42.27% Impervious Runoff Depth>2.38" Flow Length=239' Tc=1.3 min CN=63 Runoff=1.72 cfs 0.136 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=20,256 sf 10.24% Impervious Runoff Depth>0.76" Flow Length=200' Tc=18.1 min UI Adjusted CN=41 Runoff=0.18 cfs 0.029 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=23,349 sf 0.00% Impervious Runoff Depth>0.25" Flow Length=89' Tc=10.2 min CN=38 Runoff=0.03 cfs 0.011 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=82,367 sf 25.75% Impervious Runoff Depth>1.58" Flow Length=478' Tc=9.5 min CN=54 Runoff=2.30 cfs 0.250 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=15,897 sf 69.30% Impervious Runoff Depth>3.74" Flow Length=300' Tc=1.0 min CN=80 Runoff=1.52 cfs 0.114 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=83,632 sf 27.38% Impervious Runoff Depth>1.65" Flow Length=523' Tc=5.8 min UI Adjusted CN=51 Runoff=2.77 cfs 0.264 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=3,042 sf 100.00% Impervious Runoff Depth>5.26" Flow Length=266' Tc=1.0 min CN=98 Runoff=0.42 cfs 0.031 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=8,891 sf 22.49% Impervious Runoff Depth>1.42" Flow Length=124' Tc=0.9 min UI Adjusted CN=51 Runoff=0.28 cfs 0.024 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=31,689 sf 22.34% Impervious Runoff Depth>1.42" Flow Length=200' Tc=3.0 min CN=52 Runoff=0.95 cfs 0.086 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=14,607 sf 84.31% Impervious Runoff Depth>4.48" Flow Length=271' Tc=5.5 min CN=89 Runoff=1.50 cfs 0.125 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=54,912 sf 21.57% Impervious Runoff Depth>1.35" Flow Length=249' Tc=2.6 min UI Adjusted CN=50 Runoff=1.59 cfs 0.142 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=16,566 sf 42.96% Impervious Runoff Depth>2.44" Flow Length=236' Tc=1.2 min CN=64 Runoff=0.97 cfs 0.077 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=14,474 sf 77.53% Impervious Runoff Depth>4.15" Flow Length=191' Slope=0.0150 '/' Tc=1.8 min CN=85 Runoff=1.50 cfs 0.115 af
<b>SubcatchmentPost 1p: Post 1p</b>	Runoff Area=6,584 sf 80.95% Impervious Runoff Depth>4.32" Flow Length=127' Tc=0.7 min CN=87 Runoff=0.74 cfs 0.054 af

**12013 Post***Type III 24-hr 25-Year Rainfall=5.50"*

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<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=4,608 sf 77.43% Impervious Runoff Depth>4.15" Flow Length=75' Tc=0.4 min CN=85 Runoff=0.50 cfs 0.037 af
<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=6,804 sf 88.18% Impervious Runoff Depth>4.68" Flow Length=169' Tc=1.1 min CN=91 Runoff=0.82 cfs 0.061 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=12,365 sf 18.27% Impervious Runoff Depth>1.22" Flow Length=118' Tc=0.5 min CN=50 Runoff=0.32 cfs 0.029 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=24,013 sf 83.39% Impervious Runoff Depth>4.44" Flow Length=304' Tc=1.5 min CN=88 Runoff=2.70 cfs 0.204 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=27,102 sf 80.43% Impervious Runoff Depth>4.29" Flow Length=358' Tc=2.0 min CN=86 Runoff=2.93 cfs 0.223 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=10,841 sf 92.44% Impervious Runoff Depth>4.89" Flow Length=244' Tc=0.8 min CN=94 Runoff=1.39 cfs 0.101 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=12,069 sf 85.92% Impervious Runoff Depth>4.57" Flow Length=250' Tc=1.0 min CN=90 Runoff=1.43 cfs 0.105 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=28,013 sf 11.12% Impervious Runoff Depth>0.83" Flow Length=281' Tc=5.9 min CN=45 Runoff=0.38 cfs 0.044 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=5,336 sf 98.84% Impervious Runoff Depth>5.20" Flow Length=269' Tc=1.0 min CN=97 Runoff=0.73 cfs 0.053 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=25,257 sf 31.61% Impervious Runoff Depth>1.88" Flow Length=97' Tc=1.1 min CN=58 Runoff=1.10 cfs 0.091 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=5,548 sf 96.88% Impervious Runoff Depth>5.11" Flow Length=242' Slope=0.0800 '/' Tc=0.8 min CN=96 Runoff=0.75 cfs 0.054 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=3,935 sf 100.00% Impervious Runoff Depth>5.26" Flow Length=259' Slope=0.0800 '/' Tc=0.9 min CN=98 Runoff=0.54 cfs 0.040 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=20,579 sf 83.57% Impervious Runoff Depth>4.45" Flow Length=228' Slope=0.0200 '/' Tc=1.5 min CN=88 Runoff=2.32 cfs 0.175 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=19,582 sf 78.76% Impervious Runoff Depth>4.21" Flow Length=252' Tc=1.2 min CN=85 Runoff=2.11 cfs 0.158 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=8,242 sf 45.00% Impervious Runoff Depth>2.53" Flow Length=416' Tc=13.6 min CN=66 Runoff=0.36 cfs 0.040 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=87,061 sf 9.23% Impervious Runoff Depth>0.70" Flow Length=256' Tc=2.3 min UI Adjusted CN=42 Runoff=1.08 cfs 0.117 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=26,366 sf 6.30% Impervious Runoff Depth>0.56" Flow Length=296' Tc=2.5 min CN=41 Runoff=0.22 cfs 0.028 af

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<b>SubcatchmentPost 2h: Post 2h</b>	Runoff Area=6,563 sf 71.02% Impervious Runoff Depth>3.83" Flow Length=117' Slope=0.0600 '/' Tc=0.8 min CN=81 Runoff=0.65 cfs 0.048 af
<b>SubcatchmentPost 2i: Post 2i</b>	Runoff Area=52,643 sf 23.27% Impervious Runoff Depth>1.46" Flow Length=424' Tc=9.2 min CN=53 Runoff=1.34 cfs 0.147 af
<b>SubcatchmentPost 2j: Post 2j</b>	Runoff Area=12,114 sf 4.53% Impervious Runoff Depth>0.49" Flow Length=151' Slope=0.3300 '/' Tc=1.8 min CN=41 Runoff=0.07 cfs 0.011 af
<b>SubcatchmentPost 2k: Post 2k</b>	Runoff Area=12,346 sf 30.07% Impervious Runoff Depth>1.80" Flow Length=227' Tc=3.6 min CN=57 Runoff=0.49 cfs 0.043 af
<b>SubcatchmentPost 3a: Post 3a</b>	Runoff Area=21,228 sf 33.88% Impervious Runoff Depth>1.98" Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=59 Runoff=0.96 cfs 0.081 af
<b>SubcatchmentPost 3b: Post 3b</b>	Runoff Area=345,589 sf 14.36% Impervious Runoff Depth>0.96" Flow Length=601' Tc=9.9 min CN=46 Runoff=5.33 cfs 0.632 af
<b>SubcatchmentPost 3c: Post 3c</b>	Runoff Area=8,810 sf 39.01% Impervious Runoff Depth>2.23" Flow Length=132' Tc=2.1 min CN=62 Runoff=0.46 cfs 0.038 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=3.62 cfs 0.086 af Outflow=3.62 cfs 0.086 af
<b>Reach Phase 2 Post: Phase 2 Post</b>	Inflow=5.92 cfs 0.715 af Outflow=5.92 cfs 0.715 af
<b>Reach Pond Post: Pond Post</b>	Inflow=9.52 cfs 0.801 af Outflow=9.52 cfs 0.801 af
<b>Reach Swale to Pond 2-2: Swale to</b>	Avg. Flow Depth=0.14' Max Vel=2.35 fps Inflow=0.85 cfs 0.076 af n=0.035 L=165.0' S=0.0727 '/' Capacity=57.26 cfs Outflow=0.83 cfs 0.076 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=45.87' Inflow=1.94 cfs 0.144 af 12.0" Round Culvert n=0.012 L=60.0' S=0.0267 '/' Outflow=1.94 cfs 0.144 af
<b>Pond DMH P 1-7: DMH P1-7</b>	Peak Elev=36.16' Inflow=4.13 cfs 0.321 af 15.0" Round Culvert n=0.012 L=84.0' S=0.0030 '/' Outflow=4.13 cfs 0.321 af
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=58.99' Inflow=1.44 cfs 0.106 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0283 '/' Outflow=1.44 cfs 0.106 af
<b>Pond DMH P1-10: DMH P1-10</b>	Peak Elev=41.75' Inflow=3.82 cfs 0.304 af 15.0" Round Culvert n=0.012 L=110.0' S=0.0245 '/' Outflow=3.82 cfs 0.304 af
<b>Pond DMH P1-11: DMH P1-11</b>	Peak Elev=44.41' Inflow=3.82 cfs 0.304 af 12.0" Round Culvert n=0.012 L=52.0' S=0.0404 '/' Outflow=3.82 cfs 0.304 af
<b>Pond DMH P1-12: DMH P1-12</b>	Peak Elev=55.52' Inflow=1.01 cfs 0.097 af 12.0" Round Culvert n=0.012 L=225.0' S=0.0533 '/' Outflow=1.01 cfs 0.097 af

**Pond DMH P1-13: DMH P1-13**

Peak Elev=39.83' Inflow=0.28 cfs 0.024 af  
 18.0" Round Culvert n=0.012 L=130.0' S=0.0123 '/' Outflow=0.28 cfs 0.024 af

**Pond DMH P1-3: DMH P1-3**

Peak Elev=44.55' Inflow=4.31 cfs 0.408 af  
 15.0" Round Culvert n=0.012 L=142.0' S=0.0479 '/' Outflow=4.31 cfs 0.408 af

**Pond DMH P1-4: DMH P1-4**

Peak Elev=37.88' Inflow=5.77 cfs 0.533 af  
 18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/' Outflow=5.77 cfs 0.533 af

**Pond DMH P1-5: DMH P1-5**

Peak Elev=37.41' Inflow=2.46 cfs 0.192 af  
 12.0" Round Culvert n=0.012 L=50.0' S=0.0050 '/' Outflow=2.46 cfs 0.192 af

**Pond DMH P1-6: DMH P1-6**

Peak Elev=37.17' Inflow=3.19 cfs 0.247 af  
 12.0" Round Culvert n=0.012 L=116.0' S=0.0052 '/' Outflow=3.19 cfs 0.247 af

**Pond DMH P1-8: DMH P 1-8**

Peak Elev=39.20' Inflow=5.59 cfs 0.427 af  
 15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=5.59 cfs 0.427 af

**Pond DMH P1-9: DMH P1-9**

Peak Elev=38.34' Inflow=5.59 cfs 0.427 af  
 15.0" Round Culvert n=0.012 L=144.0' S=0.0045 '/' Outflow=5.59 cfs 0.427 af

**Pond DMH P2-1: DMH P2-1**

Peak Elev=48.17' Inflow=1.36 cfs 0.105 af  
 12.0" Round Culvert n=0.012 L=70.0' S=0.0500 '/' Outflow=1.36 cfs 0.105 af

**Pond DMH P2-2: DMH P2-2**

Peak Elev=49.45' Inflow=2.30 cfs 0.198 af  
 12.0" Round Culvert n=0.012 L=64.0' S=0.0070 '/' Outflow=2.30 cfs 0.198 af

**Pond DMH P2-3: DMH P2-3**

Peak Elev=49.12' Inflow=4.62 cfs 0.373 af  
 12.0" Round Culvert n=0.012 L=110.0' S=0.0468 '/' Outflow=4.62 cfs 0.373 af

**Pond DMH P2-4: DMH P2-4**

Peak Elev=54.67' Inflow=0.85 cfs 0.076 af  
 12.0" Round Culvert n=0.012 L=100.0' S=0.0300 '/' Outflow=0.85 cfs 0.076 af

**Pond Pond 1-1: Pond 1-1**

Peak Elev=38.41' Storage=7,160 cf Inflow=5.88 cfs 0.340 af  
 Discarded=0.88 cfs 0.341 af Primary=0.00 cfs 0.000 af Outflow=0.88 cfs 0.341 af

**Pond Pond 1-2: Pond 1-2**

Peak Elev=37.72' Storage=8,519 cf Inflow=7.57 cfs 0.700 af  
 Discarded=1.29 cfs 0.700 af Primary=0.00 cfs 0.000 af Outflow=1.29 cfs 0.700 af

**Pond Pond 1-3: Pond 1-3**

Peak Elev=34.31' Storage=4,738 cf Inflow=5.27 cfs 0.410 af  
 Discarded=0.79 cfs 0.411 af Primary=0.00 cfs 0.000 af Outflow=0.79 cfs 0.411 af

**Pond Pond 1-4: Pond 1-4**

Peak Elev=37.28' Storage=5,372 cf Inflow=6.66 cfs 0.517 af  
 Discarded=0.83 cfs 0.432 af Primary=3.62 cfs 0.086 af Outflow=4.45 cfs 0.517 af

**Pond Pond 1-5: Pond 1-5**

Peak Elev=39.31' Storage=4,910 cf Inflow=6.99 cfs 0.731 af  
 Discarded=0.99 cfs 0.582 af Primary=4.47 cfs 0.148 af Outflow=5.45 cfs 0.731 af

**Pond Pond 2-1: Pond 2-1**

Peak Elev=50.54' Storage=1,034 cf Inflow=1.56 cfs 0.160 af  
 Discarded=0.40 cfs 0.160 af Primary=0.00 cfs 0.000 af Outflow=0.40 cfs 0.160 af

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**Pond Pond 2-2: Pond 2-2**

Peak Elev=39.29' Storage=7,775 cf Inflow=7.57 cfs 0.702 af  
Discarded=1.37 cfs 0.699 af Primary=0.14 cfs 0.002 af Outflow=1.51 cfs 0.702 af

**Total Runoff Area = 27.642 ac Runoff Volume = 4.125 af Average Runoff Depth = 1.79"**  
**69.48% Pervious = 19.206 ac 30.52% Impervious = 8.436 ac**

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Type III 24-hr 25-Year Rainfall=5.50"

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 0.82 cfs @ 12.01 hrs, Volume= 0.060 af, Depth&gt; 5.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,198	98	Paved parking, HSG A
738	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
276	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,252	95	Weighted Average
276	39	4.41% Pervious Area
5,976	98	95.59% Impervious Area
738		12.35% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.03		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	214	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	239	Total			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.62 cfs @ 12.02 hrs, Volume= 0.046 af, Depth&gt; 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,621	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
104	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,636	97	Weighted Average
104	39	2.24% Pervious Area
4,532	98	97.76% Impervious Area
911		20.10% Unconnected

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	290	Total			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 1.72 cfs @ 12.02 hrs, Volume= 0.136 af, Depth&gt; 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
2,478	98	Roofs, HSG A
7,246	98	Paved parking, HSG A
2,929	98	Unconnected pavement, HSG A
6,383	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,900	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
29,936	63	Weighted Average
17,283	38	57.73% Pervious Area
12,653	98	42.27% Impervious Area
2,929		23.15% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	58	0.2500	2.50		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.6	161	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	239	Total			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.18 cfs @ 12.24 hrs, Volume= 0.029 af, Depth&gt; 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Adj	Description
464	98	98	Roofs, HSG A
103	98	98	Paved parking, HSG A
1,507	98	98	Unconnected pavement, HSG A
9,452	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
8,730	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
20,256	44	41	Weighted Average, UI Adjusted
18,182	37	37	89.76% Pervious Area
2,074	98	98	10.24% Impervious Area
1,507			72.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	100	0.0400	0.10		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	30	0.0300	0.87		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
1.0	70	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
18.1	200	Total			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 0.03 cfs @ 12.50 hrs, Volume= 0.011 af, Depth> 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
11,230	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
12,119	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
23,349	38	Weighted Average
23,349	38	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	66	0.0600	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	23	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	89	Total			

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Type III 24-hr 25-Year Rainfall=5.50"

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**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 2.30 cfs @ 12.13 hrs, Volume= 0.250 af, Depth&gt; 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
20,047	98	Roofs, HSG A
1,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
61,155	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
82,367	54	Weighted Average
61,155	39	74.25% Pervious Area
21,212	98	25.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	85	0.3300	0.34		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
5.4	393	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.5	478	Total			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 1.52 cfs @ 12.01 hrs, Volume= 0.114 af, Depth&gt; 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,873	98	Roofs, HSG A
7,143	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
15,897	80	Weighted Average
4,881	39	30.70% Pervious Area
11,016	98	69.30% Impervious Area

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.2500	3.24		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	300	Total			

**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 2.77 cfs @ 12.08 hrs, Volume= 0.264 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
10,621	98	98	Roofs, HSG A
853	98	98	Paved parking, HSG A
11,421	98	98	Unconnected pavement, HSG A
12,848	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
47,889	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
83,632	55	51	Weighted Average, UI Adjusted
60,737	38	38	72.62% Pervious Area
22,895	98	98	27.38% Impervious Area
11,421			49.88% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.3	443	0.0400	1.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.8	523	Total			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.42 cfs @ 12.01 hrs, Volume= 0.031 af, Depth> 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,042	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,042	98	Weighted Average
3,042	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	246	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	266	Total			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.28 cfs @ 12.01 hrs, Volume= 0.024 af, Depth> 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
1,317	98	98	Roofs, HSG A
308	98	98	Paved parking, HSG A
375	98	98	Unconnected pavement, HSG A
243	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
6,648	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
8,891	52	51	Weighted Average, UI Adjusted
6,891	39	39	77.51% Pervious Area
2,000	98	98	22.49% Impervious Area
375			18.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	90	0.2000	3.13		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.2	24	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.9	124	Total			

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**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 0.95 cfs @ 12.05 hrs, Volume= 0.086 af, Depth&gt; 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
7,078	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,611	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
31,689	52	Weighted Average
24,611	39	77.66% Pervious Area
7,078	98	22.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	35	0.4000	3.64		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.8	165	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.0	200	Total			

**Summary for Subcatchment Post 1l: Post 1l**

Runoff = 1.50 cfs @ 12.08 hrs, Volume= 0.125 af, Depth&gt; 4.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
4,807	98	Roofs, HSG A
7,508	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,292	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,607	89	Weighted Average
2,292	39	15.69% Pervious Area
12,315	98	84.31% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	60	0.0500	0.22		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.9	211	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.5	271	Total			

**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 1.59 cfs @ 12.04 hrs, Volume= 0.142 af, Depth&gt; 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
8,658	98	98	Roofs, HSG A
256	98	98	Paved parking, HSG A
2,928	98	98	Unconnected pavement, HSG A
11,179	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,891	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
54,912	51	50	Weighted Average, UI Adjusted
43,070	38	38	78.43% Pervious Area
11,842	98	98	21.57% Impervious Area
2,928			24.73% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.9	130	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	109	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.6	249	Total			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 0.97 cfs @ 12.02 hrs, Volume= 0.077 af, Depth&gt; 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
3,763	98	Roofs, HSG A
3,354	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
9,449	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,566	64	Weighted Average
9,449	39	57.04% Pervious Area
7,117	98	42.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	216	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	236	Total			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 1.50 cfs @ 12.03 hrs, Volume= 0.115 af, Depth&gt; 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,247	98	Roofs, HSG A
7,974	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,253	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,474	85	Weighted Average
3,253	39	22.47% Pervious Area
11,221	98	77.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0150	1.09		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	131	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	191	Total			

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**Summary for Subcatchment Post 1p: Post 1p**

Runoff = 0.74 cfs @ 12.01 hrs, Volume= 0.054 af, Depth&gt; 4.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,438	98	Roofs, HSG A
3,892	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,254	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,584	87	Weighted Average
1,254	39	19.05% Pervious Area
5,330	98	80.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	107	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	127	Total			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.50 cfs @ 12.00 hrs, Volume= 0.037 af, Depth&gt; 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,363	98	Roofs, HSG A
2,205	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,040	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,608	85	Weighted Average
1,040	39	22.57% Pervious Area
3,568	98	77.43% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	55	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.4	75	Total			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 0.82 cfs @ 12.01 hrs, Volume= 0.061 af, Depth&gt; 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
520	98	Roofs, HSG A
5,480	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
804	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,804	91	Weighted Average
804	39	11.82% Pervious Area
6,000	98	88.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	149	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.1	169	Total			

**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 0.32 cfs @ 12.01 hrs, Volume= 0.029 af, Depth&gt; 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
1,915	98	Roofs, HSG A
344	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,106	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,365	50	Weighted Average
10,106	39	81.73% Pervious Area
2,259	98	18.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.4000	3.74		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	78	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	118	Total			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 2.70 cfs @ 12.02 hrs, Volume= 0.204 af, Depth&gt; 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,398	98	Roofs, HSG A
14,627	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,988	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
24,013	88	Weighted Average
3,988	39	16.61% Pervious Area
20,025	98	83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	284	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	304	Total			

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**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 2.93 cfs @ 12.03 hrs, Volume= 0.223 af, Depth&gt; 4.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
8,747	98	Roofs, HSG A
13,050	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,305	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
27,102	86	Weighted Average
5,305	39	19.57% Pervious Area
21,797	98	80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	308	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.0	358	Total			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 1.39 cfs @ 12.01 hrs, Volume= 0.101 af, Depth&gt; 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,517	98	Roofs, HSG A
6,504	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
820	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,841	94	Weighted Average
820	39	7.56% Pervious Area
10,021	98	92.44% Impervious Area

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	30	0.4000	3.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	184	0.0600	4.97		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	244	Total			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 1.43 cfs @ 12.01 hrs, Volume= 0.105 af, Depth&gt; 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,296	98	Roofs, HSG A
7,074	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,699	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,069	90	Weighted Average
1,699	39	14.08% Pervious Area
10,370	98	85.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	230	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	250	Total			

**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.044 af, Depth&gt; 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,116	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
8,382	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
16,515	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
28,013	45	Weighted Average
24,897	38	88.88% Pervious Area
3,116	98	11.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.2500	0.19		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	221	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.9	281	Total			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 0.73 cfs @ 12.01 hrs, Volume= 0.053 af, Depth&gt; 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,234	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
62	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,336	97	Weighted Average
62	39	1.16% Pervious Area
5,274	98	98.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	249	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	269	Total			

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Type III 24-hr 25-Year Rainfall=5.50"

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**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 1.10 cfs @ 12.01 hrs, Volume= 0.091 af, Depth&gt; 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
7,216	98	Roofs, HSG A
768	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
17,273	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,257	58	Weighted Average
17,273	39	68.39% Pervious Area
7,984	98	31.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	27	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	97	Total			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.75 cfs @ 12.01 hrs, Volume= 0.054 af, Depth&gt; 5.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,014	98	Roofs, HSG A
4,022	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
173	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,548	96	Weighted Average
173	39	3.12% Pervious Area
5,375	98	96.88% Impervious Area
339		6.31% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	222	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	242	Total			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.54 cfs @ 12.01 hrs, Volume= 0.040 af, Depth&gt; 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,880	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,935	98	Weighted Average
3,935	98	100.00% Impervious Area
55		1.40% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	239	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	259	Total			

**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 2.32 cfs @ 12.02 hrs, Volume= 0.175 af, Depth&gt; 4.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
5,680	98	Roofs, HSG A
11,517	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,382	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
20,579	88	Weighted Average
3,382	39	16.43% Pervious Area
17,197	98	83.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	208	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	228	Total			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 2.11 cfs @ 12.02 hrs, Volume= 0.158 af, Depth> 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
4,913	98	Roofs, HSG A
10,510	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,159	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
19,582	85	Weighted Average
4,159	39	21.24% Pervious Area
15,423	98	78.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0600	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	232	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	252	Total			

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**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.36 cfs @ 12.18 hrs, Volume= 0.040 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,444	98	Roofs, HSG A
2,265	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,533	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,242	66	Weighted Average
4,533	39	55.00% Pervious Area
3,709	98	45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	80	0.0200	0.16		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.2	36	0.2500	3.50		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.6	416	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 1.08 cfs @ 12.04 hrs, Volume= 0.117 af, Depth> 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
6,321	98	98	Roofs, HSG A
27	98	98	Paved parking, HSG A
1,685	98	98	Unconnected pavement, HSG A
47,632	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,396	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
87,061	43	42	Weighted Average, UI Adjusted
79,028	37	37	90.77% Pervious Area
8,033	98	98	9.23% Impervious Area
1,685			20.98% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	59	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.9	165	0.4000	3.16		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.3	256	Total			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.22 cfs @ 12.04 hrs, Volume= 0.028 af, Depth&gt; 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,182	98	Roofs, HSG A
357	98	Paved parking, HSG A
121	98	Unconnected pavement, HSG A
13,159	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
11,547	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
26,366	41	Weighted Average
24,706	37	93.70% Pervious Area
1,660	98	6.30% Impervious Area
121		7.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.2	255	0.1500	1.94		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.5	296	Total			

**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.65 cfs @ 12.01 hrs, Volume= 0.048 af, Depth&gt; 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
1,807	98	Roofs, HSG A
2,854	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,902	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,563	81	Weighted Average
1,902	39	28.98% Pervious Area
4,661	98	71.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0600	1.83		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	67	0.0600	3.94		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.8	117	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 1.34 cfs @ 12.12 hrs, Volume= 0.147 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
11,373	98	Roofs, HSG A
877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
40,393	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
52,643	53	Weighted Average
40,393	39	76.73% Pervious Area
12,250	98	23.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.4000	0.25		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	28	0.4000	4.43		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.5	296	0.0800	1.98		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.2	424	Total			

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**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.07 cfs @ 12.03 hrs, Volume= 0.011 af, Depth&gt; 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
459	98	Roofs, HSG A
90	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
4,518	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
7,047	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,114	41	Weighted Average
11,565	38	95.47% Pervious Area
549	98	4.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	20	0.3300	0.26		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.5	131	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.8	151	Total			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.49 cfs @ 12.05 hrs, Volume= 0.043 af, Depth&gt; 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,713	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
8,633	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,346	57	Weighted Average
8,633	39	69.93% Pervious Area
3,713	98	30.07% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
3.5	207	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.6	227	Total			

**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 0.96 cfs @ 12.05 hrs, Volume= 0.081 af, Depth&gt; 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
7,192	98	Unconnected pavement, HSG A
769	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
13,267	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	59	Weighted Average
14,036	39	66.12% Pervious Area
7,192	98	33.88% Impervious Area
7,192		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 5.33 cfs @ 12.14 hrs, Volume= 0.632 af, Depth&gt; 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

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Area (sf)	CN	Description
16,932	98	Roofs, HSG A
4,544	98	Paved parking, HSG A
3,956	98	Unconnected pavement, HSG A
185,603	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
110,357	39	>75% Grass cover, Good, HSG A
24,197	98	Water Surface, HSG A
345,589	46	Weighted Average
295,960	37	85.64% Pervious Area
49,629	98	14.36% Impervious Area
3,956		7.97% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.7	165	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.2	416	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.9	601	Total			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 0.46 cfs @ 12.03 hrs, Volume= 0.038 af, Depth> 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,640	98	Roofs, HSG A
1,797	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
886	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,487	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,810	62	Weighted Average
5,373	39	60.99% Pervious Area
3,437	98	39.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.40		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.7	102	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	132	Total			

**12013 Post**

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**Summary for Reach Phase 1 Post: Phase 1 Post**

Inflow Area = 13.368 ac, 40.21% Impervious, Inflow Depth = 0.08" for 25-Year event  
Inflow = 3.62 cfs @ 12.11 hrs, Volume= 0.086 af  
Outflow = 3.62 cfs @ 12.11 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

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

**Summary for Reach Phase 2 Post: Phase 2 Post**

Inflow Area = 14.274 ac, 21.44% Impervious, Inflow Depth > 0.60" for 25-Year event  
Inflow = 5.92 cfs @ 12.12 hrs, Volume= 0.715 af  
Outflow = 5.92 cfs @ 12.12 hrs, Volume= 0.715 af, Atten= 0%, Lag= 0.0 min

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

**Summary for Reach Pond Post: Pond Post**

Inflow Area = 27.642 ac, 30.52% Impervious, Inflow Depth > 0.35" for 25-Year event  
Inflow = 9.52 cfs @ 12.11 hrs, Volume= 0.801 af  
Outflow = 9.52 cfs @ 12.11 hrs, Volume= 0.801 af, Atten= 0%, Lag= 0.0 min

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

**Summary for Reach Swale to Pond 2-2: Swale to Pond 2-2**

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 1.21" for 25-Year event  
Inflow = 0.85 cfs @ 12.02 hrs, Volume= 0.076 af  
Outflow = 0.83 cfs @ 12.04 hrs, Volume= 0.076 af, Atten= 3%, Lag= 1.2 min

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

Max. Velocity= 2.35 fps, Min. Travel Time= 1.2 min  
Avg. Velocity = 0.82 fps, Avg. Travel Time= 3.4 min

Peak Storage= 58 cf @ 12.04 hrs  
Average Depth at Peak Storage= 0.14'  
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 57.26 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.035 High grass  
Length= 165.0' Slope= 0.0727 '  
Inlet Invert= 50.00', Outlet Invert= 38.00'



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**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.435 ac, 74.23% Impervious, Inflow Depth > 3.99" for 25-Year event  
 Inflow = 1.94 cfs @ 12.01 hrs, Volume= 0.144 af  
 Outflow = 1.94 cfs @ 12.01 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.94 cfs @ 12.01 hrs, Volume= 0.144 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.87' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 43.50' S= 0.0267 ' / Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.86 cfs @ 12.01 hrs HW=45.85' TW=44.46' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 1.86 cfs @ 2.95 fps)

**Summary for Pond DMH P 1-7: DMH P1-7**

Inflow Area = 11.175 ac, 36.18% Impervious, Inflow Depth > 0.34" for 25-Year event  
 Inflow = 4.13 cfs @ 12.02 hrs, Volume= 0.321 af  
 Outflow = 4.13 cfs @ 12.02 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.13 cfs @ 12.02 hrs, Volume= 0.321 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.16' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.75'	<b>15.0" Round Culvert</b> L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.75' / 34.50' S= 0.0030 ' / Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.96 cfs @ 12.02 hrs HW=36.11' TW=33.71' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 3.96 cfs @ 3.69 fps)

**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.250 ac, 96.51% Impervious, Inflow Depth > 5.09" for 25-Year event  
 Inflow = 1.44 cfs @ 12.01 hrs, Volume= 0.106 af  
 Outflow = 1.44 cfs @ 12.01 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.44 cfs @ 12.01 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 58.99' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.35'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 58.35' / 57.50' S= 0.0283 '/' Cc= 0.900  
n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.38 cfs @ 12.01 hrs HW=58.97' TW=36.49' (Dynamic Tailwater)  
↑1=12" Culvert (Inlet Controls 1.38 cfs @ 2.68 fps)

**Summary for Pond DMH P1-10: DMH P1-10**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 2.83" for 25-Year event  
Inflow = 3.82 cfs @ 12.01 hrs, Volume= 0.304 af  
Outflow = 3.82 cfs @ 12.01 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.82 cfs @ 12.01 hrs, Volume= 0.304 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 41.75' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	40.70'	<b>15.0" Round Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 40.70' / 38.00' S= 0.0245 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.67 cfs @ 12.01 hrs HW=41.72' TW=39.15' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 3.67 cfs @ 3.43 fps)

**Summary for Pond DMH P1-11: DMH P1-11**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 2.83" for 25-Year event  
Inflow = 3.82 cfs @ 12.01 hrs, Volume= 0.304 af  
Outflow = 3.82 cfs @ 12.01 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.82 cfs @ 12.01 hrs, Volume= 0.304 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.41' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.90'	<b>12.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.90' / 40.80' S= 0.0404 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.67 cfs @ 12.01 hrs HW=44.34' TW=41.72' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 3.67 cfs @ 4.67 fps)

**Summary for Pond DMH P1-12: DMH P1-12**

Inflow Area = 0.766 ac, 25.16% Impervious, Inflow Depth > 1.53" for 25-Year event  
Inflow = 1.01 cfs @ 12.03 hrs, Volume= 0.097 af  
Outflow = 1.01 cfs @ 12.03 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.01 cfs @ 12.03 hrs, Volume= 0.097 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.52' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	<b>12.0" Round Culvert</b> L= 225.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.00' / 43.00' S= 0.0533 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.98 cfs @ 12.03 hrs HW=55.51' TW=44.29' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 0.98 cfs @ 2.43 fps)

**Summary for Pond DMH P1-13: DMH P1-13**

Inflow Area = 0.204 ac, 22.49% Impervious, Inflow Depth > 1.42" for 25-Year event  
 Inflow = 0.28 cfs @ 12.01 hrs, Volume= 0.024 af  
 Outflow = 0.28 cfs @ 12.01 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.28 cfs @ 12.01 hrs, Volume= 0.024 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.83' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.60'	<b>18.0" Round Culvert</b> L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.60' / 38.00' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=0.27 cfs @ 12.01 hrs HW=39.82' TW=36.89' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 0.27 cfs @ 1.61 fps)

**Summary for Pond DMH P1-3: DMH P1-3**

Inflow Area = 2.355 ac, 36.03% Impervious, Inflow Depth > 2.08" for 25-Year event  
 Inflow = 4.31 cfs @ 12.05 hrs, Volume= 0.408 af  
 Outflow = 4.31 cfs @ 12.05 hrs, Volume= 0.408 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.31 cfs @ 12.05 hrs, Volume= 0.408 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.55' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	43.40'	<b>15.0" Round Culvert</b> L= 142.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.40' / 36.60' S= 0.0479 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.30 cfs @ 12.05 hrs HW=44.55' TW=37.87' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 4.30 cfs @ 3.64 fps)

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**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 8.538 ac, 35.38% Impervious, Inflow Depth > 0.75" for 25-Year event  
 Inflow = 5.77 cfs @ 12.06 hrs, Volume= 0.533 af  
 Outflow = 5.77 cfs @ 12.06 hrs, Volume= 0.533 af, Atten= 0%, Lag= 0.0 min  
 Primary = 5.77 cfs @ 12.06 hrs, Volume= 0.533 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.88' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.50'	<b>18.0" Round Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.50' / 36.00' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=5.48 cfs @ 12.06 hrs HW=37.86' TW=37.08' (Dynamic Tailwater)  
 ↑1=Culvert (Outlet Controls 5.48 cfs @ 4.27 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.713 ac, 59.08% Impervious, Inflow Depth > 3.24" for 25-Year event  
 Inflow = 2.46 cfs @ 12.02 hrs, Volume= 0.192 af  
 Outflow = 2.46 cfs @ 12.02 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.46 cfs @ 12.02 hrs, Volume= 0.192 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.41' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.80'	<b>12.0" Round 15" Culvert</b> L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.80' / 35.55' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.73 cfs @ 12.02 hrs HW=37.09' TW=37.05' (Dynamic Tailwater)  
 ↑1=15" Culvert (Inlet Controls 0.73 cfs @ 0.93 fps)

**Summary for Pond DMH P1-6: DMH P1-6**

Inflow Area = 0.864 ac, 62.91% Impervious, Inflow Depth > 3.43" for 25-Year event  
 Inflow = 3.19 cfs @ 12.02 hrs, Volume= 0.247 af  
 Outflow = 3.19 cfs @ 12.02 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.19 cfs @ 12.02 hrs, Volume= 0.247 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 37.17' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.45'	<b>12.0" Round 12" Culvert</b> L= 116.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 35.45' / 34.85' S= 0.0052 '/' Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.83 cfs @ 12.02 hrs HW=37.04' TW=36.11' (Dynamic Tailwater)

↑1=12" Culvert (Outlet Controls 2.83 cfs @ 3.60 fps)

**Summary for Pond DMH P1-8: DMH P 1-8**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 4.36" for 25-Year event  
 Inflow = 5.59 cfs @ 12.03 hrs, Volume= 0.427 af  
 Outflow = 5.59 cfs @ 12.03 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.0 min  
 Primary = 5.59 cfs @ 12.03 hrs, Volume= 0.427 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.20' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.30'	<b>15.0" Round 15" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.30' / 35.75' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.73 cfs @ 12.03 hrs HW=38.73' TW=38.20' (Dynamic Tailwater)

↑1=15" Culvert (Outlet Controls 3.73 cfs @ 3.04 fps)

**Summary for Pond DMH P1-9: DMH P1-9**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 4.36" for 25-Year event  
 Inflow = 5.59 cfs @ 12.03 hrs, Volume= 0.427 af  
 Outflow = 5.59 cfs @ 12.03 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.0 min  
 Primary = 5.59 cfs @ 12.03 hrs, Volume= 0.427 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.34' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.65'	<b>15.0" Round Culvert</b> L= 144.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.65' / 35.00' S= 0.0045 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.90 cfs @ 12.03 hrs HW=38.20' TW=37.12' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 4.90 cfs @ 3.99 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.496 ac, 45.65% Impervious, Inflow Depth > 2.55" for 25-Year event  
 Inflow = 1.36 cfs @ 12.01 hrs, Volume= 0.105 af  
 Outflow = 1.36 cfs @ 12.01 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.36 cfs @ 12.01 hrs, Volume= 0.105 af

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

Peak Elev= 48.17' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 70.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 44.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.31 cfs @ 12.01 hrs HW=48.15' TW=38.61' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.31 cfs @ 2.42 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area =	2.921 ac, 24.27% Impervious, Inflow Depth > 0.81" for 25-Year event
Inflow =	2.30 cfs @ 12.02 hrs, Volume= 0.198 af
Outflow =	2.30 cfs @ 12.02 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min
Primary =	2.30 cfs @ 12.02 hrs, Volume= 0.198 af

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

Peak Elev= 49.45' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	<b>12.0" Round 12" Culvert</b> L= 64.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.60' / 47.15' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 12.02 hrs HW=48.98' TW=49.02' (Dynamic Tailwater)

↑1=12" Culvert ( Controls 0.00 cfs)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area =	3.393 ac, 32.52% Impervious, Inflow Depth > 1.32" for 25-Year event
Inflow =	4.62 cfs @ 12.02 hrs, Volume= 0.373 af
Outflow =	4.62 cfs @ 12.02 hrs, Volume= 0.373 af, Atten= 0%, Lag= 0.0 min
Primary =	4.62 cfs @ 12.02 hrs, Volume= 0.373 af

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

Peak Elev= 49.12' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	<b>12.0" Round 12" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 42.00' S= 0.0468 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=4.42 cfs @ 12.02 hrs HW=49.02' TW=38.64' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 4.42 cfs @ 5.63 fps)

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**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 1.21" for 25-Year event  
 Inflow = 0.85 cfs @ 12.02 hrs, Volume= 0.076 af  
 Outflow = 0.85 cfs @ 12.02 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.85 cfs @ 12.02 hrs, Volume= 0.076 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.67' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	<b>12.0" Round 12" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.20' / 51.20' S= 0.0300 ' / Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.82 cfs @ 12.02 hrs HW=54.66' TW=50.14' (Dynamic Tailwater)  
 ↑**1=12" Culvert** (Inlet Controls 0.82 cfs @ 2.31 fps)

**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 5.848 ac, 32.31% Impervious, Inflow Depth > 0.70" for 25-Year event  
 Inflow = 5.88 cfs @ 12.10 hrs, Volume= 0.340 af  
 Outflow = 0.88 cfs @ 12.67 hrs, Volume= 0.341 af, Atten= 85%, Lag= 34.6 min  
 Discarded = 0.88 cfs @ 12.67 hrs, Volume= 0.341 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.41' @ 12.67 hrs Surf.Area= 4,593 sf Storage= 7,160 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 75.0 min ( 825.6 - 750.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	10,322 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,891	0	0
38.00	3,608	5,499	5,499
39.00	6,038	4,823	10,322

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

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**Discarded OutFlow** Max=0.88 cfs @ 12.67 hrs HW=38.40' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.88 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=36.50' (Dynamic Tailwater)

↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 10.003 ac, 33.37% Impervious, Inflow Depth > 0.84" for 25-Year event  
 Inflow = 7.57 cfs @ 12.05 hrs, Volume= 0.700 af  
 Outflow = 1.29 cfs @ 12.55 hrs, Volume= 0.700 af, Atten= 83%, Lag= 30.1 min  
 Discarded = 1.29 cfs @ 12.55 hrs, Volume= 0.700 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

Peak Elev= 37.72' @ 12.55 hrs Surf.Area= 6,740 sf Storage= 8,519 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 47.0 min ( 813.4 - 766.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	14,458 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	3,158	0	0
38.00	7,320	10,478	10,478
38.50	8,599	3,980	14,458

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=1.29 cfs @ 12.55 hrs HW=37.72' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.29 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=36.00' TW=34.75' (Dynamic Tailwater)

↑2=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 11.615 ac, 36.44% Impervious, Inflow Depth > 0.42" for 25-Year event  
 Inflow = 5.27 cfs @ 12.02 hrs, Volume= 0.410 af  
 Outflow = 0.79 cfs @ 12.49 hrs, Volume= 0.411 af, Atten= 85%, Lag= 28.3 min  
 Discarded = 0.79 cfs @ 12.49 hrs, Volume= 0.411 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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

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Peak Elev= 34.31' @ 12.49 hrs Surf.Area= 4,143 sf Storage= 4,738 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 35.6 min ( 788.3 - 752.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	12,888 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,114	0	0
36.00	5,478	12,888	12,888

Device	Routing	Invert	Outlet Devices
#1	Discarded	33.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
			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
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.79 cfs @ 12.49 hrs HW=34.31' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.79 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=33.00' TW=0.00' (Dynamic Tailwater)

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

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 1.753 ac, 65.22% Impervious, Inflow Depth > 3.54" for 25-Year event  
 Inflow = 6.66 cfs @ 12.02 hrs, Volume= 0.517 af  
 Outflow = 4.45 cfs @ 12.11 hrs, Volume= 0.517 af, Atten= 33%, Lag= 5.1 min  
 Discarded = 0.83 cfs @ 12.11 hrs, Volume= 0.432 af  
 Primary = 3.62 cfs @ 12.11 hrs, Volume= 0.086 af

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

Peak Elev= 37.28' @ 12.11 hrs Surf.Area= 4,349 sf Storage= 5,372 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 46.0 min ( 795.6 - 749.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	9,051 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	1,202	0	0
36.00	1,753	1,478	1,478
38.00	5,820	7,573	9,051

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Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.83 cfs @ 12.11 hrs HW=37.27' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.83 cfs)

**Primary OutFlow** Max=3.48 cfs @ 12.11 hrs HW=37.27' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 3.48 cfs @ 1.29 fps)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area = 4.871 ac, 30.50% Impervious, Inflow Depth > 1.80" for 25-Year event  
 Inflow = 6.99 cfs @ 12.03 hrs, Volume= 0.731 af  
 Outflow = 5.45 cfs @ 12.12 hrs, Volume= 0.731 af, Atten= 22%, Lag= 5.8 min  
 Discarded = 0.99 cfs @ 12.12 hrs, Volume= 0.582 af  
 Primary = 4.47 cfs @ 12.12 hrs, Volume= 0.148 af

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

Peak Elev= 39.31' @ 12.12 hrs Surf.Area= 5,151 sf Storage= 4,910 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 23.6 min ( 794.9 - 771.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	5,921 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,339	0	0
39.50	5,556	5,921	5,921

Device	Routing	Invert	Outlet Devices
#1	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.00'	<b>10.0' long x 2.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

**Discarded OutFlow** Max=0.98 cfs @ 12.12 hrs HW=39.30' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.98 cfs)

**Primary OutFlow** Max=4.33 cfs @ 12.12 hrs HW=39.30' TW=37.20' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 4.33 cfs @ 1.42 fps)

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**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.282 ac, 11.82% Impervious, Inflow Depth > 0.84" for 25-Year event  
 Inflow = 1.56 cfs @ 12.04 hrs, Volume= 0.160 af  
 Outflow = 0.40 cfs @ 12.45 hrs, Volume= 0.160 af, Atten= 75%, Lag= 24.7 min  
 Discarded = 0.40 cfs @ 12.45 hrs, Volume= 0.160 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.54' @ 12.45 hrs Surf.Area= 2,077 sf Storage= 1,034 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 11.2 min ( 819.7 - 808.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	9,380 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,727	0	0
52.00	3,014	4,741	4,741
53.00	6,264	4,639	9,380

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.40 cfs @ 12.45 hrs HW=50.54' (Free Discharge)  
 ↑**2=Exfiltration** (Exfiltration Controls 0.40 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.60' (Dynamic Tailwater)  
 ↑**1=Orifice/Grate** ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Pond 2-2**

Inflow Area = 5.854 ac, 30.00% Impervious, Inflow Depth > 1.44" for 25-Year event  
 Inflow = 7.57 cfs @ 12.03 hrs, Volume= 0.702 af  
 Outflow = 1.51 cfs @ 12.51 hrs, Volume= 0.702 af, Atten= 80%, Lag= 29.2 min  
 Discarded = 1.37 cfs @ 12.51 hrs, Volume= 0.699 af  
 Primary = 0.14 cfs @ 12.51 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.29' @ 12.51 hrs Surf.Area= 7,145 sf Storage= 7,775 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 34.3 min ( 795.7 - 761.3 )

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Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,302 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,933	0	0
40.00	8,369	13,302	13,302

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#3	Primary	39.25'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=1.37 cfs @ 12.51 hrs HW=39.29' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 1.37 cfs)

**Primary OutFlow** Max=0.14 cfs @ 12.51 hrs HW=39.29' TW=0.00' (Dynamic Tailwater)  
 ↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)  
 ↳ **3=Orifice/Grate** (Weir Controls 0.14 cfs @ 0.63 fps)

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

<b>SubcatchmentPost 1a: Post 1a</b>	Runoff Area=6,252 sf 95.59% Impervious Runoff Depth>6.21" Flow Length=239' Tc=1.0 min CN=95 Runoff=1.01 cfs 0.074 af
<b>SubcatchmentPost 1b: Post 1b</b>	Runoff Area=4,636 sf 97.76% Impervious Runoff Depth>6.33" Flow Length=290' Tc=1.3 min CN=97 Runoff=0.75 cfs 0.056 af
<b>SubcatchmentPost 1c: Post 1c</b>	Runoff Area=29,936 sf 42.27% Impervious Runoff Depth>3.07" Flow Length=239' Tc=1.3 min CN=63 Runoff=2.14 cfs 0.176 af
<b>SubcatchmentPost 1d: Post 1d</b>	Runoff Area=20,256 sf 10.24% Impervious Runoff Depth>1.16" Flow Length=200' Tc=18.1 min UI Adjusted CN=41 Runoff=0.27 cfs 0.045 af
<b>SubcatchmentPost 1e: Post 1e</b>	Runoff Area=23,349 sf 0.00% Impervious Runoff Depth>0.57" Flow Length=89' Tc=10.2 min CN=38 Runoff=0.13 cfs 0.025 af
<b>SubcatchmentPost 1f: Post 1f</b>	Runoff Area=82,367 sf 25.75% Impervious Runoff Depth>2.15" Flow Length=478' Tc=9.5 min CN=54 Runoff=3.08 cfs 0.339 af
<b>SubcatchmentPost 1g: Post 1g</b>	Runoff Area=15,897 sf 69.30% Impervious Runoff Depth>4.68" Flow Length=300' Tc=1.0 min CN=80 Runoff=1.87 cfs 0.142 af
<b>SubcatchmentPost 1h: Post 1h</b>	Runoff Area=83,632 sf 27.38% Impervious Runoff Depth>2.22" Flow Length=523' Tc=5.8 min UI Adjusted CN=51 Runoff=3.63 cfs 0.355 af
<b>SubcatchmentPost 1i: Post 1i</b>	Runoff Area=3,042 sf 100.00% Impervious Runoff Depth>6.46" Flow Length=266' Tc=1.0 min CN=98 Runoff=0.51 cfs 0.038 af
<b>SubcatchmentPost 1j: Post 1j</b>	Runoff Area=8,891 sf 22.49% Impervious Runoff Depth>1.96" Flow Length=124' Tc=0.9 min UI Adjusted CN=51 Runoff=0.37 cfs 0.033 af
<b>SubcatchmentPost 1k: Post 1k</b>	Runoff Area=31,689 sf 22.34% Impervious Runoff Depth>1.96" Flow Length=200' Tc=3.0 min CN=52 Runoff=1.29 cfs 0.119 af
<b>SubcatchmentPost 1l: Post 1l</b>	Runoff Area=14,607 sf 84.31% Impervious Runoff Depth>5.55" Flow Length=271' Tc=5.5 min CN=89 Runoff=1.84 cfs 0.155 af
<b>SubcatchmentPost 1m: Post 1m</b>	Runoff Area=54,912 sf 21.57% Impervious Runoff Depth>1.87" Flow Length=249' Tc=2.6 min UI Adjusted CN=50 Runoff=2.12 cfs 0.197 af
<b>SubcatchmentPost 1n: Post 1n</b>	Runoff Area=16,566 sf 42.96% Impervious Runoff Depth>3.15" Flow Length=236' Tc=1.2 min CN=64 Runoff=1.22 cfs 0.100 af
<b>SubcatchmentPost 1o: Post 1o</b>	Runoff Area=14,474 sf 77.53% Impervious Runoff Depth>5.16" Flow Length=191' Slope=0.0150 '/' Tc=1.8 min CN=85 Runoff=1.85 cfs 0.143 af
<b>SubcatchmentPost 1p: Post 1p</b>	Runoff Area=6,584 sf 80.95% Impervious Runoff Depth>5.36" Flow Length=127' Tc=0.7 min CN=87 Runoff=0.91 cfs 0.067 af

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<b>SubcatchmentPost 1q: Post 1q</b>	Runoff Area=4,608 sf 77.43% Impervious Runoff Depth>5.15" Flow Length=75' Tc=0.4 min CN=85 Runoff=0.62 cfs 0.045 af
<b>SubcatchmentPost 1r: Post 1r</b>	Runoff Area=6,804 sf 88.18% Impervious Runoff Depth>5.78" Flow Length=169' Tc=1.1 min CN=91 Runoff=1.01 cfs 0.075 af
<b>SubcatchmentPost 1s: Post 1s</b>	Runoff Area=12,365 sf 18.27% Impervious Runoff Depth>1.72" Flow Length=118' Tc=0.5 min CN=50 Runoff=0.43 cfs 0.041 af
<b>SubcatchmentPost 1t: Post 1t</b>	Runoff Area=24,013 sf 83.39% Impervious Runoff Depth>5.50" Flow Length=304' Tc=1.5 min CN=88 Runoff=3.31 cfs 0.253 af
<b>SubcatchmentPost 1u: Post 1u</b>	Runoff Area=27,102 sf 80.43% Impervious Runoff Depth>5.33" Flow Length=358' Tc=2.0 min CN=86 Runoff=3.60 cfs 0.276 af
<b>SubcatchmentPost 1v: Post 1v</b>	Runoff Area=10,841 sf 92.44% Impervious Runoff Depth>6.02" Flow Length=244' Tc=0.8 min CN=94 Runoff=1.70 cfs 0.125 af
<b>SubcatchmentPost 1w: Post 1w</b>	Runoff Area=12,069 sf 85.92% Impervious Runoff Depth>5.65" Flow Length=250' Tc=1.0 min CN=90 Runoff=1.75 cfs 0.130 af
<b>SubcatchmentPost 1x: Post 1x</b>	Runoff Area=28,013 sf 11.12% Impervious Runoff Depth>1.25" Flow Length=281' Tc=5.9 min CN=45 Runoff=0.55 cfs 0.067 af
<b>SubcatchmentPost 1y: Post 1y</b>	Runoff Area=5,336 sf 98.84% Impervious Runoff Depth>6.39" Flow Length=269' Tc=1.0 min CN=97 Runoff=0.89 cfs 0.065 af
<b>SubcatchmentPost 1z: Post 1z</b>	Runoff Area=25,257 sf 31.61% Impervious Runoff Depth>2.50" Flow Length=97' Tc=1.1 min CN=58 Runoff=1.41 cfs 0.121 af
<b>SubcatchmentPost 2a: Post 2a</b>	Runoff Area=5,548 sf 96.88% Impervious Runoff Depth>6.28" Flow Length=242' Slope=0.0800 '/' Tc=0.8 min CN=96 Runoff=0.91 cfs 0.067 af
<b>SubcatchmentPost 2b: Post 2b</b>	Runoff Area=3,935 sf 100.00% Impervious Runoff Depth>6.46" Flow Length=259' Slope=0.0800 '/' Tc=0.9 min CN=98 Runoff=0.66 cfs 0.049 af
<b>SubcatchmentPost 2c: Post 2c</b>	Runoff Area=20,579 sf 83.57% Impervious Runoff Depth>5.51" Flow Length=228' Slope=0.0200 '/' Tc=1.5 min CN=88 Runoff=2.84 cfs 0.217 af
<b>SubcatchmentPost 2d: Post 2d</b>	Runoff Area=19,582 sf 78.76% Impervious Runoff Depth>5.23" Flow Length=252' Tc=1.2 min CN=85 Runoff=2.59 cfs 0.196 af
<b>SubcatchmentPost 2e: Post 2e</b>	Runoff Area=8,242 sf 45.00% Impervious Runoff Depth>3.27" Flow Length=416' Tc=13.6 min CN=66 Runoff=0.46 cfs 0.051 af
<b>SubcatchmentPost 2f: Post 2f</b>	Runoff Area=87,061 sf 9.23% Impervious Runoff Depth>1.09" Flow Length=256' Tc=2.3 min UI Adjusted CN=42 Runoff=1.52 cfs 0.182 af
<b>SubcatchmentPost 2g: Post 2g</b>	Runoff Area=26,366 sf 6.30% Impervious Runoff Depth>0.93" Flow Length=296' Tc=2.5 min CN=41 Runoff=0.35 cfs 0.047 af

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<b>Subcatchment Post 2h: Post 2h</b>	Runoff Area=6,563 sf 71.02% Impervious Runoff Depth>4.78" Flow Length=117' Slope=0.0600 '/' Tc=0.8 min CN=81 Runoff=0.80 cfs 0.060 af
<b>Subcatchment Post 2i: Post 2i</b>	Runoff Area=52,643 sf 23.27% Impervious Runoff Depth>2.01" Flow Length=424' Tc=9.2 min CN=53 Runoff=1.81 cfs 0.202 af
<b>Subcatchment Post 2j: Post 2j</b>	Runoff Area=12,114 sf 4.53% Impervious Runoff Depth>0.86" Flow Length=151' Slope=0.3300 '/' Tc=1.8 min CN=41 Runoff=0.14 cfs 0.020 af
<b>Subcatchment Post 2k: Post 2k</b>	Runoff Area=12,346 sf 30.07% Impervious Runoff Depth>2.41" Flow Length=227' Tc=3.6 min CN=57 Runoff=0.64 cfs 0.057 af
<b>Subcatchment Post 3a: Post 3a</b>	Runoff Area=21,228 sf 33.88% Impervious Runoff Depth>2.62" Flow Length=745' Slope=0.0500 '/' Tc=2.9 min CN=59 Runoff=1.24 cfs 0.106 af
<b>Subcatchment Post 3b: Post 3b</b>	Runoff Area=345,589 sf 14.36% Impervious Runoff Depth>1.39" Flow Length=601' Tc=9.9 min CN=46 Runoff=7.13 cfs 0.919 af
<b>Subcatchment Post 3c: Post 3c</b>	Runoff Area=8,810 sf 39.01% Impervious Runoff Depth>2.91" Flow Length=132' Tc=2.1 min CN=62 Runoff=0.59 cfs 0.049 af
<b>Reach Phase 1 Post: Phase 1 Post</b>	Inflow=5.82 cfs 0.181 af Outflow=5.82 cfs 0.181 af
<b>Reach Phase 2 Post: Phase 2 Post</b>	Inflow=8.04 cfs 1.101 af Outflow=8.04 cfs 1.101 af
<b>Reach Pond Post: Pond Post</b>	Inflow=13.22 cfs 1.281 af Outflow=13.22 cfs 1.281 af
<b>Reach Swale to Pond 2-2: Swale to</b>	Avg. Flow Depth=0.16' Max Vel=2.55 fps Inflow=1.08 cfs 0.107 af n=0.035 L=165.0' S=0.0727 '/' Capacity=57.26 cfs Outflow=1.07 cfs 0.107 af
<b>Pond DMH P 1-2: DMH 1-2</b>	Peak Elev=45.99' Inflow=2.38 cfs 0.180 af 12.0" Round Culvert n=0.012 L=60.0' S=0.0267 '/' Outflow=2.38 cfs 0.180 af
<b>Pond DMH P 1-7: DMH P1-7</b>	Peak Elev=36.61' Inflow=5.12 cfs 0.512 af 15.0" Round Culvert n=0.012 L=84.0' S=0.0030 '/' Outflow=5.12 cfs 0.512 af
<b>Pond DMH P1-1: DMH 1-1</b>	Peak Elev=59.07' Inflow=1.76 cfs 0.130 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0283 '/' Outflow=1.76 cfs 0.130 af
<b>Pond DMH P1-10: DMH P1-10</b>	Peak Elev=41.94' Inflow=4.68 cfs 0.388 af 15.0" Round Culvert n=0.012 L=110.0' S=0.0245 '/' Outflow=4.68 cfs 0.388 af
<b>Pond DMH P1-11: DMH P1-11</b>	Peak Elev=44.92' Inflow=4.68 cfs 0.388 af 12.0" Round Culvert n=0.012 L=52.0' S=0.0404 '/' Outflow=4.68 cfs 0.388 af
<b>Pond DMH P1-12: DMH P1-12</b>	Peak Elev=55.59' Inflow=1.25 cfs 0.132 af 12.0" Round Culvert n=0.012 L=225.0' S=0.0533 '/' Outflow=1.25 cfs 0.132 af

<b>Pond DMH P1-13: DMH P1-13</b>	Peak Elev=39.86'	Inflow=0.37 cfs	0.033 af
18.0" Round Culvert n=0.012 L=130.0' S=0.0123 '/'	Outflow=0.37 cfs	0.033 af	
<b>Pond DMH P1-3: DMH P1-3</b>	Peak Elev=44.86'	Inflow=5.40 cfs	0.535 af
15.0" Round Culvert n=0.012 L=142.0' S=0.0479 '/'	Outflow=5.40 cfs	0.535 af	
<b>Pond DMH P1-4: DMH P1-4</b>	Peak Elev=38.59'	Inflow=7.21 cfs	0.783 af
18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/'	Outflow=7.21 cfs	0.783 af	
<b>Pond DMH P1-5: DMH P1-5</b>	Peak Elev=38.51'	Inflow=3.06 cfs	0.243 af
12.0" Round Culvert n=0.012 L=50.0' S=0.0050 '/'	Outflow=3.06 cfs	0.243 af	
<b>Pond DMH P1-6: DMH P1-6</b>	Peak Elev=38.17'	Inflow=3.95 cfs	0.310 af
12.0" Round Culvert n=0.012 L=116.0' S=0.0052 '/'	Outflow=3.95 cfs	0.310 af	
<b>Pond DMH P1-8: DMH P 1-8</b>	Peak Elev=40.69'	Inflow=6.88 cfs	0.529 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/'	Outflow=6.88 cfs	0.529 af	
<b>Pond DMH P1-9: DMH P1-9</b>	Peak Elev=39.29'	Inflow=6.88 cfs	0.529 af
15.0" Round Culvert n=0.012 L=144.0' S=0.0045 '/'	Outflow=6.88 cfs	0.529 af	
<b>Pond DMH P2-1: DMH P2-1</b>	Peak Elev=48.26'	Inflow=1.68 cfs	0.135 af
12.0" Round Culvert n=0.012 L=70.0' S=0.0500 '/'	Outflow=1.68 cfs	0.135 af	
<b>Pond DMH P2-2: DMH P2-2</b>	Peak Elev=50.37'	Inflow=2.83 cfs	0.247 af
12.0" Round Culvert n=0.012 L=64.0' S=0.0070 '/'	Outflow=2.83 cfs	0.247 af	
<b>Pond DMH P2-3: DMH P2-3</b>	Peak Elev=49.87'	Inflow=5.67 cfs	0.464 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0468 '/'	Outflow=5.67 cfs	0.464 af	
<b>Pond DMH P2-4: DMH P2-4</b>	Peak Elev=54.74'	Inflow=1.08 cfs	0.107 af
12.0" Round Culvert n=0.012 L=100.0' S=0.0300 '/'	Outflow=1.08 cfs	0.107 af	
<b>Pond Pond 1-1: Pond 1-1</b>	Peak Elev=38.78'	Storage=9,069 cf	Inflow=8.94 cfs
Discarded=1.05 cfs	0.421 af	Primary=2.92 cfs	0.092 af
	Outflow=3.98 cfs	0.514 af	
<b>Pond Pond 1-2: Pond 1-2</b>	Peak Elev=38.28'	Storage=12,628 cf	Inflow=9.64 cfs
Discarded=1.54 cfs	0.905 af	Primary=2.91 cfs	0.108 af
	Outflow=4.44 cfs	1.013 af	
<b>Pond Pond 1-3: Pond 1-3</b>	Peak Elev=35.38'	Storage=9,638 cf	Inflow=6.56 cfs
Discarded=0.95 cfs	0.598 af	Primary=1.13 cfs	0.030 af
	Outflow=2.09 cfs	0.628 af	
<b>Pond Pond 1-4: Pond 1-4</b>	Peak Elev=37.37'	Storage=5,800 cf	Inflow=8.27 cfs
Discarded=0.87 cfs	0.499 af	Primary=5.82 cfs	0.151 af
	Outflow=6.69 cfs	0.649 af	
<b>Pond Pond 1-5: Pond 1-5</b>	Peak Elev=39.40'	Storage=5,354 cf	Inflow=8.64 cfs
Discarded=1.02 cfs	0.709 af	Primary=6.49 cfs	0.264 af
	Outflow=7.52 cfs	0.973 af	
<b>Pond Pond 2-1: Pond 2-1</b>	Peak Elev=50.99'	Storage=2,023 cf	Inflow=2.16 cfs
Discarded=0.45 cfs	0.239 af	Primary=0.00 cfs	0.000 af
	Outflow=0.45 cfs	0.239 af	

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**Pond Pond 2-2: Pond 2-2**

Peak Elev=39.48' Storage=9,165 cf Inflow=9.37 cfs 0.909 af  
Discarded=1.43 cfs 0.835 af Primary=2.13 cfs 0.075 af Outflow=3.56 cfs 0.909 af

**Total Runoff Area = 27.642 ac Runoff Volume = 5.487 af Average Runoff Depth = 2.38"**  
**69.48% Pervious = 19.206 ac 30.52% Impervious = 8.436 ac**

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**Summary for Subcatchment Post 1a: Post 1a**

Runoff = 1.01 cfs @ 12.01 hrs, Volume= 0.074 af, Depth&gt; 6.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,198	98	Paved parking, HSG A
738	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
276	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,252	95	Weighted Average
276	39	4.41% Pervious Area
5,976	98	95.59% Impervious Area
738		12.35% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.0200	1.03		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	214	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	239	Total			

**Summary for Subcatchment Post 1b: Post 1b**

Runoff = 0.75 cfs @ 12.02 hrs, Volume= 0.056 af, Depth&gt; 6.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,621	98	Paved parking, HSG A
911	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
104	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,636	97	Weighted Average
104	39	2.24% Pervious Area
4,532	98	97.76% Impervious Area
911		20.10% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	40	0.0200	1.13		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	290	Total			

**Summary for Subcatchment Post 1c: Post 1c**

Runoff = 2.14 cfs @ 12.02 hrs, Volume= 0.176 af, Depth&gt; 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
2,478	98	Roofs, HSG A
7,246	98	Paved parking, HSG A
2,929	98	Unconnected pavement, HSG A
6,383	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,900	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
29,936	63	Weighted Average
17,283	38	57.73% Pervious Area
12,653	98	42.27% Impervious Area
2,929		23.15% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	58	0.2500	2.50		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.6	161	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.3	239	Total			

**Summary for Subcatchment Post 1d: Post 1d**

Runoff = 0.27 cfs @ 12.29 hrs, Volume= 0.045 af, Depth&gt; 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Adj	Description
464	98	98	Roofs, HSG A
103	98	98	Paved parking, HSG A
1,507	98	98	Unconnected pavement, HSG A
9,452	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
8,730	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
20,256	44	41	Weighted Average, UI Adjusted
18,182	37	37	89.76% Pervious Area
2,074	98	98	10.24% Impervious Area
1,507			72.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	100	0.0400	0.10		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	30	0.0300	0.87		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
1.0	70	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
18.1	200	Total			

**Summary for Subcatchment Post 1e: Post 1e**

Runoff = 0.13 cfs @ 12.38 hrs, Volume= 0.025 af, Depth> 0.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
11,230	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
12,119	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
23,349	38	Weighted Average
23,349	38	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	66	0.0600	0.11		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	23	0.3000	3.83		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
10.2	89	Total			

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**Summary for Subcatchment Post 1f: Post 1f**

Runoff = 3.08 cfs @ 12.14 hrs, Volume= 0.339 af, Depth&gt; 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
20,047	98	Roofs, HSG A
1,165	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
61,155	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
82,367	54	Weighted Average
61,155	39	74.25% Pervious Area
21,212	98	25.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	85	0.3300	0.34		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
5.4	393	0.0300	1.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.5	478	Total			

**Summary for Subcatchment Post 1g: Post 1g**

Runoff = 1.87 cfs @ 12.01 hrs, Volume= 0.142 af, Depth&gt; 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
3,873	98	Roofs, HSG A
7,143	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,881	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
15,897	80	Weighted Average
4,881	39	30.70% Pervious Area
11,016	98	69.30% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.2500	3.24		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	250	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	300	Total			

**Summary for Subcatchment Post 1h: Post 1h**

Runoff = 3.63 cfs @ 12.09 hrs, Volume= 0.355 af, Depth&gt; 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
10,621	98	98	Roofs, HSG A
853	98	98	Paved parking, HSG A
11,421	98	98	Unconnected pavement, HSG A
12,848	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
47,889	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
83,632	55	51	Weighted Average, UI Adjusted
60,737	38	38	72.62% Pervious Area
22,895	98	98	27.38% Impervious Area
11,421			49.88% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0400	1.29		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.3	443	0.0400	1.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.8	523	Total			

**Summary for Subcatchment Post 1i: Post 1i**

Runoff = 0.51 cfs @ 12.01 hrs, Volume= 0.038 af, Depth&gt; 6.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,042	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,042	98	Weighted Average
3,042	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	246	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	266	Total			

**Summary for Subcatchment Post 1j: Post 1j**

Runoff = 0.37 cfs @ 12.02 hrs, Volume= 0.033 af, Depth> 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
1,317	98	98	Roofs, HSG A
308	98	98	Paved parking, HSG A
375	98	98	Unconnected pavement, HSG A
243	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
6,648	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
8,891	52	51	Weighted Average, UI Adjusted
6,891	39	39	77.51% Pervious Area
2,000	98	98	22.49% Impervious Area
375			18.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.5	90	0.2000	3.13		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.2	24	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.9	124	Total			

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**Summary for Subcatchment Post 1k: Post 1k**

Runoff = 1.29 cfs @ 12.06 hrs, Volume= 0.119 af, Depth&gt; 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
7,078	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
24,611	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
31,689	52	Weighted Average
24,611	39	77.66% Pervious Area
7,078	98	22.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	35	0.4000	3.64		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.8	165	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.0	200	Total			

**Summary for Subcatchment Post 1l: Post 1l**

Runoff = 1.84 cfs @ 12.08 hrs, Volume= 0.155 af, Depth&gt; 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
4,807	98	Roofs, HSG A
7,508	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
2,292	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,607	89	Weighted Average
2,292	39	15.69% Pervious Area
12,315	98	84.31% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	60	0.0500	0.22		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.9	211	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.5	271	Total			

**Summary for Subcatchment Post 1m: Post 1m**

Runoff = 2.12 cfs @ 12.05 hrs, Volume= 0.197 af, Depth&gt; 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
8,658	98	98	Roofs, HSG A
256	98	98	Paved parking, HSG A
2,928	98	98	Unconnected pavement, HSG A
11,179	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,891	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
54,912	51	50	Weighted Average, UI Adjusted
43,070	38	38	78.43% Pervious Area
11,842	98	98	21.57% Impervious Area
2,928			24.73% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.9	130	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	109	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.6	249	Total			

**Summary for Subcatchment Post 1n: Post 1n**

Runoff = 1.22 cfs @ 12.02 hrs, Volume= 0.100 af, Depth&gt; 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
3,763	98	Roofs, HSG A
3,354	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
9,449	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
16,566	64	Weighted Average
9,449	39	57.04% Pervious Area
7,117	98	42.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	216	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	236	Total			

**Summary for Subcatchment Post 1o: Post 1o**

Runoff = 1.85 cfs @ 12.03 hrs, Volume= 0.143 af, Depth> 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
3,247	98	Roofs, HSG A
7,974	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,253	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
14,474	85	Weighted Average
3,253	39	22.47% Pervious Area
11,221	98	77.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0150	1.09		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	131	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	191	Total			

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**Summary for Subcatchment Post 1p: Post 1p**

Runoff = 0.91 cfs @ 12.01 hrs, Volume= 0.067 af, Depth&gt; 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,438	98	Roofs, HSG A
3,892	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,254	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,584	87	Weighted Average
1,254	39	19.05% Pervious Area
5,330	98	80.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.4	107	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	127	Total			

**Summary for Subcatchment Post 1q: Post 1q**

Runoff = 0.62 cfs @ 12.01 hrs, Volume= 0.045 af, Depth&gt; 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,363	98	Roofs, HSG A
2,205	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,040	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
4,608	85	Weighted Average
1,040	39	22.57% Pervious Area
3,568	98	77.43% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	55	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.4	75	Total			

**Summary for Subcatchment Post 1r: Post 1r**

Runoff = 1.01 cfs @ 12.01 hrs, Volume= 0.075 af, Depth&gt; 5.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
520	98	Roofs, HSG A
5,480	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
804	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,804	91	Weighted Average
804	39	11.82% Pervious Area
6,000	98	88.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	149	0.0150	2.49		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.1	169	Total			

**Summary for Subcatchment Post 1s: Post 1s**

Runoff = 0.43 cfs @ 12.02 hrs, Volume= 0.041 af, Depth&gt; 1.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
1,915	98	Roofs, HSG A
344	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
10,106	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,365	50	Weighted Average
10,106	39	81.73% Pervious Area
2,259	98	18.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.4000	3.74		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	78	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.5	118	Total			

**Summary for Subcatchment Post 1t: Post 1t**

Runoff = 3.31 cfs @ 12.02 hrs, Volume= 0.253 af, Depth&gt; 5.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,398	98	Roofs, HSG A
14,627	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,988	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
24,013	88	Weighted Average
3,988	39	16.61% Pervious Area
20,025	98	83.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	284	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	304	Total			

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**Summary for Subcatchment Post 1u: Post 1u**

Runoff = 3.60 cfs @ 12.03 hrs, Volume= 0.276 af, Depth&gt; 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
8,747	98	Roofs, HSG A
13,050	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
5,305	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
27,102	86	Weighted Average
5,305	39	19.57% Pervious Area
21,797	98	80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.8	308	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.0	358	Total			

**Summary for Subcatchment Post 1v: Post 1v**

Runoff = 1.70 cfs @ 12.01 hrs, Volume= 0.125 af, Depth&gt; 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
3,517	98	Roofs, HSG A
6,504	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
820	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
10,841	94	Weighted Average
820	39	7.56% Pervious Area
10,021	98	92.44% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	30	0.4000	3.53		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.1	30	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.6	184	0.0600	4.97		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	244	Total			

**Summary for Subcatchment Post 1w: Post 1w**

Runoff = 1.75 cfs @ 12.01 hrs, Volume= 0.130 af, Depth> 5.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
3,296	98	Roofs, HSG A
7,074	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,699	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,069	90	Weighted Average
1,699	39	14.08% Pervious Area
10,370	98	85.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	230	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	250	Total			

**Summary for Subcatchment Post 1x: Post 1x**

Runoff = 0.55 cfs @ 12.11 hrs, Volume= 0.067 af, Depth> 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
0	98	Roofs, HSG A
3,116	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
8,382	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
16,515	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
28,013	45	Weighted Average
24,897	38	88.88% Pervious Area
3,116	98	11.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.2500	0.19		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.6	221	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
5.9	281	Total			

**Summary for Subcatchment Post 1y: Post 1y**

Runoff = 0.89 cfs @ 12.01 hrs, Volume= 0.065 af, Depth> 6.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,040	98	Roofs, HSG A
4,234	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
62	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,336	97	Weighted Average
62	39	1.16% Pervious Area
5,274	98	98.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	249	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.0	269	Total			

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**Summary for Subcatchment Post 1z: Post 1z**

Runoff = 1.41 cfs @ 12.02 hrs, Volume= 0.121 af, Depth&gt; 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
7,216	98	Roofs, HSG A
768	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
17,273	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
25,257	58	Weighted Average
17,273	39	68.39% Pervious Area
7,984	98	31.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	70	0.0200	1.26		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.2	27	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.1	97	Total			

**Summary for Subcatchment Post 2a: Post 2a**

Runoff = 0.91 cfs @ 12.01 hrs, Volume= 0.067 af, Depth&gt; 6.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,014	98	Roofs, HSG A
4,022	98	Paved parking, HSG A
339	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
173	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
5,548	96	Weighted Average
173	39	3.12% Pervious Area
5,375	98	96.88% Impervious Area
339		6.31% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.6	222	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	242	Total			

**Summary for Subcatchment Post 2b: Post 2b**

Runoff = 0.66 cfs @ 12.01 hrs, Volume= 0.049 af, Depth&gt; 6.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
0	98	Roofs, HSG A
3,880	98	Paved parking, HSG A
55	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
0	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
3,935	98	Weighted Average
3,935	98	100.00% Impervious Area
55		1.40% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0800	1.71		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.7	239	0.0800	5.74		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.9	259	Total			

**Summary for Subcatchment Post 2c: Post 2c**

Runoff = 2.84 cfs @ 12.02 hrs, Volume= 0.217 af, Depth&gt; 5.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
5,680	98	Roofs, HSG A
11,517	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
3,382	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
20,579	88	Weighted Average
3,382	39	16.43% Pervious Area
17,197	98	83.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.2	208	0.0200	2.87		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.5	228	Total			

**Summary for Subcatchment Post 2d: Post 2d**

Runoff = 2.59 cfs @ 12.02 hrs, Volume= 0.196 af, Depth> 5.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
4,913	98	Roofs, HSG A
10,510	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,159	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
19,582	85	Weighted Average
4,159	39	21.24% Pervious Area
15,423	98	78.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0600	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.0	232	0.0400	4.06		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
1.2	252	Total			

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**Summary for Subcatchment Post 2e: Post 2e**

Runoff = 0.46 cfs @ 12.19 hrs, Volume= 0.051 af, Depth&gt; 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,444	98	Roofs, HSG A
2,265	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,533	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,242	66	Weighted Average
4,533	39	55.00% Pervious Area
3,709	98	45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	80	0.0200	0.16		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.10"
0.2	36	0.2500	3.50		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
5.1	300	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.6	416	Total			

**Summary for Subcatchment Post 2f: Post 2f**

Runoff = 1.52 cfs @ 12.05 hrs, Volume= 0.182 af, Depth&gt; 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
6,321	98	98	Roofs, HSG A
27	98	98	Paved parking, HSG A
1,685	98	98	Unconnected pavement, HSG A
47,632	36	36	Woods, Fair, HSG A
0	48		Brush, Poor, HSG A
31,396	39	39	>75% Grass cover, Good, HSG A
0	98		Water Surface, HSG A
87,061	43	42	Weighted Average, UI Adjusted
79,028	37	37	90.77% Pervious Area
8,033	98	98	9.23% Impervious Area
1,685			20.98% Unconnected

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	32	0.0200	1.08		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.9	59	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.9	165	0.4000	3.16		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.3	256	Total			

**Summary for Subcatchment Post 2g: Post 2g**

Runoff = 0.35 cfs @ 12.06 hrs, Volume= 0.047 af, Depth&gt; 0.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,182	98	Roofs, HSG A
357	98	Paved parking, HSG A
121	98	Unconnected pavement, HSG A
13,159	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
11,547	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
26,366	41	Weighted Average
24,706	37	93.70% Pervious Area
1,660	98	6.30% Impervious Area
121		7.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	41	0.0800	1.97		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.2	255	0.1500	1.94		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
2.5	296	Total			

**Summary for Subcatchment Post 2h: Post 2h**

Runoff = 0.80 cfs @ 12.01 hrs, Volume= 0.060 af, Depth&gt; 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

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Area (sf)	CN	Description
1,807	98	Roofs, HSG A
2,854	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
1,902	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
6,563	81	Weighted Average
1,902	39	28.98% Pervious Area
4,661	98	71.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0600	1.83		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
0.3	67	0.0600	3.94		<b>Shallow Concentrated Flow,</b> Unpaved Kv= 16.1 fps
0.8	117	Total			

**Summary for Subcatchment Post 2i: Post 2i**

Runoff = 1.81 cfs @ 12.14 hrs, Volume= 0.202 af, Depth> 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
11,373	98	Roofs, HSG A
877	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
40,393	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
52,643	53	Weighted Average
40,393	39	76.73% Pervious Area
12,250	98	23.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.4000	0.25		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
0.1	28	0.4000	4.43		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.5	296	0.0800	1.98		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.2	424	Total			

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**Summary for Subcatchment Post 2j: Post 2j**

Runoff = 0.14 cfs @ 12.06 hrs, Volume= 0.020 af, Depth&gt; 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
459	98	Roofs, HSG A
90	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
4,518	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
7,047	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,114	41	Weighted Average
11,565	38	95.47% Pervious Area
549	98	4.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	20	0.3300	0.26		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.10"
0.5	131	0.3300	4.02		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.8	151	Total			

**Summary for Subcatchment Post 2k: Post 2k**

Runoff = 0.64 cfs @ 12.06 hrs, Volume= 0.057 af, Depth&gt; 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
3,713	98	Roofs, HSG A
0	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
0	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
8,633	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
12,346	57	Weighted Average
8,633	39	69.93% Pervious Area
3,713	98	30.07% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.4000	3.25		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
3.5	207	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.6	227	Total			

**Summary for Subcatchment Post 3a: Post 3a**

Runoff = 1.24 cfs @ 12.05 hrs, Volume= 0.106 af, Depth&gt; 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
0	98	Roofs, HSG A
0	98	Paved parking, HSG A
7,192	98	Unconnected pavement, HSG A
769	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
13,267	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
21,228	59	Weighted Average
14,036	39	66.12% Pervious Area
7,192	98	33.88% Impervious Area
7,192		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0500	1.42		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
2.7	725	0.0500	4.54		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
2.9	745	Total			

**Summary for Subcatchment Post 3b: Post 3b**

Runoff = 7.13 cfs @ 12.15 hrs, Volume= 0.919 af, Depth&gt; 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
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Area (sf)	CN	Description
16,932	98	Roofs, HSG A
4,544	98	Paved parking, HSG A
3,956	98	Unconnected pavement, HSG A
185,603	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
110,357	39	>75% Grass cover, Good, HSG A
24,197	98	Water Surface, HSG A
345,589	46	Weighted Average
295,960	37	85.64% Pervious Area
49,629	98	14.36% Impervious Area
3,956		7.97% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	20	0.3300	0.17		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.10"
1.7	165	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.2	416	0.0500	1.12		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.9	601	Total			

**Summary for Subcatchment Post 3c: Post 3c**

Runoff = 0.59 cfs @ 12.04 hrs, Volume= 0.049 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
1,640	98	Roofs, HSG A
1,797	98	Paved parking, HSG A
0	98	Unconnected pavement, HSG A
886	36	Woods, Fair, HSG A
0	48	Brush, Poor, HSG A
4,487	39	>75% Grass cover, Good, HSG A
0	98	Water Surface, HSG A
8,810	62	Weighted Average
5,373	39	60.99% Pervious Area
3,437	98	39.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0400	1.40		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.10"
1.7	102	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	132	Total			

Summary for Reach Phase 1 Post: Phase 1 Post

Inflow Area = 13.368 ac, 40.21% Impervious, Inflow Depth = 0.16" for 100-Year event
Inflow = 5.82 cfs @ 12.08 hrs, Volume= 0.181 af
Outflow = 5.82 cfs @ 12.08 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach Phase 2 Post: Phase 2 Post

Inflow Area = 14.274 ac, 21.44% Impervious, Inflow Depth > 0.93" for 100-Year event
Inflow = 8.04 cfs @ 12.19 hrs, Volume= 1.101 af
Outflow = 8.04 cfs @ 12.19 hrs, Volume= 1.101 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach Pond Post: Pond Post

Inflow Area = 27.642 ac, 30.52% Impervious, Inflow Depth > 0.56" for 100-Year event
Inflow = 13.22 cfs @ 12.11 hrs, Volume= 1.281 af
Outflow = 13.22 cfs @ 12.11 hrs, Volume= 1.281 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach Swale to Pond 2-2: Swale to Pond 2-2

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 1.70" for 100-Year event
Inflow = 1.08 cfs @ 12.02 hrs, Volume= 0.107 af
Outflow = 1.07 cfs @ 12.04 hrs, Volume= 0.107 af, Atten= 1%, Lag= 1.1 min

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

Max. Velocity= 2.55 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 3.1 min

Peak Storage= 69 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 57.26 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.035 High grass
Length= 165.0' Slope= 0.0727 '/'
Inlet Invert= 50.00', Outlet Invert= 38.00'



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**Summary for Pond DMH P 1-2: DMH 1-2**

Inflow Area = 0.435 ac, 74.23% Impervious, Inflow Depth > 4.97" for 100-Year event  
 Inflow = 2.38 cfs @ 12.01 hrs, Volume= 0.180 af  
 Outflow = 2.38 cfs @ 12.01 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.38 cfs @ 12.01 hrs, Volume= 0.180 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 45.99' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	<b>12.0" Round 12" Culvert</b> L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 43.50' S= 0.0267 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.29 cfs @ 12.01 hrs HW=45.97' TW=44.68' (Dynamic Tailwater)  
 ↑1=12" Culvert (Inlet Controls 2.29 cfs @ 3.17 fps)

**Summary for Pond DMH P 1-7: DMH P1-7**

Inflow Area = 11.175 ac, 36.18% Impervious, Inflow Depth > 0.55" for 100-Year event  
 Inflow = 5.12 cfs @ 12.02 hrs, Volume= 0.512 af  
 Outflow = 5.12 cfs @ 12.02 hrs, Volume= 0.512 af, Atten= 0%, Lag= 0.0 min  
 Primary = 5.12 cfs @ 12.02 hrs, Volume= 0.512 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 36.61' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	34.75'	<b>15.0" Round Culvert</b> L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.75' / 34.50' S= 0.0030 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.89 cfs @ 12.02 hrs HW=36.53' TW=33.94' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 4.89 cfs @ 3.99 fps)

**Summary for Pond DMH P1-1: DMH 1-1**

Inflow Area = 0.250 ac, 96.51% Impervious, Inflow Depth > 6.26" for 100-Year event  
 Inflow = 1.76 cfs @ 12.01 hrs, Volume= 0.130 af  
 Outflow = 1.76 cfs @ 12.01 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.76 cfs @ 12.01 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 59.07' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.35'	<b>12.0" Round 12" Culvert</b> L= 30.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 58.35' / 57.50' S= 0.0283 '/ Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.68 cfs @ 12.01 hrs HW=59.05' TW=36.89' (Dynamic Tailwater)

↑1=12" Culvert (Inlet Controls 1.68 cfs @ 2.85 fps)

**Summary for Pond DMH P1-10: DMH P1-10**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 3.60" for 100-Year event  
 Inflow = 4.68 cfs @ 12.02 hrs, Volume= 0.388 af  
 Outflow = 4.68 cfs @ 12.02 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.68 cfs @ 12.02 hrs, Volume= 0.388 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 41.94' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	40.70'	<b>15.0" Round Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 40.70' / 38.00' S= 0.0245 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.50 cfs @ 12.02 hrs HW=41.90' TW=39.31' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 4.50 cfs @ 3.72 fps)

**Summary for Pond DMH P1-11: DMH P1-11**

Inflow Area = 1.292 ac, 51.16% Impervious, Inflow Depth > 3.60" for 100-Year event  
 Inflow = 4.68 cfs @ 12.02 hrs, Volume= 0.388 af  
 Outflow = 4.68 cfs @ 12.02 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.68 cfs @ 12.02 hrs, Volume= 0.388 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 44.92' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.90'	<b>12.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.90' / 40.80' S= 0.0404 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=4.49 cfs @ 12.02 hrs HW=44.81' TW=41.90' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 4.49 cfs @ 5.71 fps)

**Summary for Pond DMH P1-12: DMH P1-12**

Inflow Area = 0.766 ac, 25.16% Impervious, Inflow Depth > 2.07" for 100-Year event  
 Inflow = 1.25 cfs @ 12.04 hrs, Volume= 0.132 af  
 Outflow = 1.25 cfs @ 12.04 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.25 cfs @ 12.04 hrs, Volume= 0.132 af

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

Peak Elev= 55.59' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	<b>12.0" Round Culvert</b> L= 225.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.00' / 43.00' S= 0.0533 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.22 cfs @ 12.04 hrs HW=55.58' TW=44.71' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 1.22 cfs @ 2.59 fps)

**Summary for Pond DMH P1-13: DMH P1-13**

Inflow Area =	0.204 ac, 22.49% Impervious, Inflow Depth > 1.96" for 100-Year event
Inflow =	0.37 cfs @ 12.02 hrs, Volume= 0.033 af
Outflow =	0.37 cfs @ 12.02 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary =	0.37 cfs @ 12.02 hrs, Volume= 0.033 af

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

Peak Elev= 39.86' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	39.60'	<b>18.0" Round Culvert</b> L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.60' / 38.00' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=0.35 cfs @ 12.02 hrs HW=39.86' TW=37.18' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 0.35 cfs @ 1.73 fps)

**Summary for Pond DMH P1-3: DMH P1-3**

Inflow Area =	2.355 ac, 36.03% Impervious, Inflow Depth > 2.73" for 100-Year event
Inflow =	5.40 cfs @ 12.06 hrs, Volume= 0.535 af
Outflow =	5.40 cfs @ 12.06 hrs, Volume= 0.535 af, Atten= 0%, Lag= 0.0 min
Primary =	5.40 cfs @ 12.06 hrs, Volume= 0.535 af

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

Peak Elev= 44.86' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	43.40'	<b>15.0" Round Culvert</b> L= 142.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.40' / 36.60' S= 0.0479 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=5.32 cfs @ 12.06 hrs HW=44.84' TW=38.12' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 5.32 cfs @ 4.34 fps)

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**Summary for Pond DMH P1-4: DMH P1-4**

Inflow Area = 8.538 ac, 35.38% Impervious, Inflow Depth > 1.10" for 100-Year event  
 Inflow = 7.21 cfs @ 12.06 hrs, Volume= 0.783 af  
 Outflow = 7.21 cfs @ 12.06 hrs, Volume= 0.783 af, Atten= 0%, Lag= 0.0 min  
 Primary = 7.21 cfs @ 12.06 hrs, Volume= 0.783 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.59' @ 12.42 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.50'	<b>18.0" Round Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.50' / 36.00' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

**Primary OutFlow** Max=6.47 cfs @ 12.06 hrs HW=38.12' TW=37.38' (Dynamic Tailwater)  
 ↑1=Culvert (Outlet Controls 6.47 cfs @ 4.21 fps)

**Summary for Pond DMH P1-5: DMH P1-5**

Inflow Area = 0.713 ac, 59.08% Impervious, Inflow Depth > 4.09" for 100-Year event  
 Inflow = 3.06 cfs @ 12.03 hrs, Volume= 0.243 af  
 Outflow = 3.06 cfs @ 12.03 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.06 cfs @ 12.03 hrs, Volume= 0.243 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.51' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.80'	<b>12.0" Round 15" Culvert</b> L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.80' / 35.55' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 12.03 hrs HW=37.73' TW=37.90' (Dynamic Tailwater)  
 ↑1=15" Culvert ( Controls 0.00 cfs)

**Summary for Pond DMH P1-6: DMH P1-6**

Inflow Area = 0.864 ac, 62.91% Impervious, Inflow Depth > 4.31" for 100-Year event  
 Inflow = 3.95 cfs @ 12.02 hrs, Volume= 0.310 af  
 Outflow = 3.95 cfs @ 12.02 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.95 cfs @ 12.02 hrs, Volume= 0.310 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.17' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.45'	<b>12.0" Round 12" Culvert</b> L= 116.0' CPP, square edge headwall, Ke= 0.500

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Inlet / Outlet Invert= 35.45' / 34.85' S= 0.0052 '/' Cc= 0.900  
 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.37 cfs @ 12.02 hrs HW=37.85' TW=36.53' (Dynamic Tailwater)

↑1=12" Culvert (Outlet Controls 3.37 cfs @ 4.29 fps)

**Summary for Pond DMH P1-8: DMH P 1-8**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 5.41" for 100-Year event  
 Inflow = 6.88 cfs @ 12.03 hrs, Volume= 0.529 af  
 Outflow = 6.88 cfs @ 12.03 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min  
 Primary = 6.88 cfs @ 12.03 hrs, Volume= 0.529 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 40.69' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	36.30'	<b>15.0" Round 15" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 36.30' / 35.75' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=5.01 cfs @ 12.03 hrs HW=40.08' TW=39.13' (Dynamic Tailwater)

↑1=15" Culvert (Outlet Controls 5.01 cfs @ 4.08 fps)

**Summary for Pond DMH P1-9: DMH P1-9**

Inflow Area = 1.173 ac, 81.82% Impervious, Inflow Depth > 5.41" for 100-Year event  
 Inflow = 6.88 cfs @ 12.03 hrs, Volume= 0.529 af  
 Outflow = 6.88 cfs @ 12.03 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min  
 Primary = 6.88 cfs @ 12.03 hrs, Volume= 0.529 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.29' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.65'	<b>15.0" Round Culvert</b> L= 144.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.65' / 35.00' S= 0.0045 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

**Primary OutFlow** Max=6.35 cfs @ 12.03 hrs HW=39.13' TW=37.31' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 6.35 cfs @ 5.17 fps)

**Summary for Pond DMH P2-1: DMH P2-1**

Inflow Area = 0.496 ac, 45.65% Impervious, Inflow Depth > 3.27" for 100-Year event  
 Inflow = 1.68 cfs @ 12.01 hrs, Volume= 0.135 af  
 Outflow = 1.68 cfs @ 12.01 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.68 cfs @ 12.01 hrs, Volume= 0.135 af

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 48.26' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	<b>12.0" Round 12" Culvert</b> L= 70.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.50' / 44.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.61 cfs @ 12.01 hrs HW=48.24' TW=38.81' (Dynamic Tailwater)  
↑1=12" Culvert (Inlet Controls 1.61 cfs @ 2.59 fps)

**Summary for Pond DMH P2-2: DMH P2-2**

Inflow Area = 2.921 ac, 24.27% Impervious, Inflow Depth > 1.02" for 100-Year event  
 Inflow = 2.83 cfs @ 12.02 hrs, Volume= 0.247 af  
 Outflow = 2.83 cfs @ 12.02 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.83 cfs @ 12.02 hrs, Volume= 0.247 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.37' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	<b>12.0" Round 12" Culvert</b> L= 64.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.60' / 47.15' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 12.02 hrs HW=49.63' TW=49.71' (Dynamic Tailwater)  
↑1=12" Culvert ( Controls 0.00 cfs)

**Summary for Pond DMH P2-3: DMH P2-3**

Inflow Area = 3.393 ac, 32.52% Impervious, Inflow Depth > 1.64" for 100-Year event  
 Inflow = 5.67 cfs @ 12.02 hrs, Volume= 0.464 af  
 Outflow = 5.67 cfs @ 12.02 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.0 min  
 Primary = 5.67 cfs @ 12.02 hrs, Volume= 0.464 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.87' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	<b>12.0" Round 12" Culvert</b> L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 42.00' S= 0.0468 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.43 cfs @ 12.02 hrs HW=49.71' TW=38.84' (Dynamic Tailwater)  
↑1=12" Culvert (Inlet Controls 5.43 cfs @ 6.91 fps)

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**Summary for Pond DMH P2-4: DMH P2-4**

Inflow Area = 0.756 ac, 19.20% Impervious, Inflow Depth > 1.70" for 100-Year event  
 Inflow = 1.08 cfs @ 12.02 hrs, Volume= 0.107 af  
 Outflow = 1.08 cfs @ 12.02 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.08 cfs @ 12.02 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 54.74' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	<b>12.0" Round 12" Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.20' / 51.20' S= 0.0300 ' / Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.03 cfs @ 12.02 hrs HW=54.73' TW=50.15' (Dynamic Tailwater)  
 ↑**1=12" Culvert** (Inlet Controls 1.03 cfs @ 2.47 fps)

**Summary for Pond Pond 1-1: Pond 1-1**

Inflow Area = 5.848 ac, 32.31% Impervious, Inflow Depth > 1.05" for 100-Year event  
 Inflow = 8.94 cfs @ 12.07 hrs, Volume= 0.513 af  
 Outflow = 3.98 cfs @ 12.41 hrs, Volume= 0.514 af, Atten= 55%, Lag= 20.1 min  
 Discarded = 1.05 cfs @ 12.42 hrs, Volume= 0.421 af  
 Primary = 2.92 cfs @ 12.41 hrs, Volume= 0.092 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 38.78' @ 12.42 hrs Surf.Area= 5,511 sf Storage= 9,069 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 68.3 min ( 820.1 - 751.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	10,322 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,891	0	0
38.00	3,608	5,499	5,499
39.00	6,038	4,823	10,322

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

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**Discarded OutFlow** Max=1.05 cfs @ 12.42 hrs HW=38.78' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.05 cfs)

**Primary OutFlow** Max=2.75 cfs @ 12.41 hrs HW=38.78' TW=38.58' (Dynamic Tailwater)

↑2=Orifice/Grate (Weir Controls 2.75 cfs @ 1.64 fps)

**Summary for Pond Pond 1-2: Pond 1-2**

Inflow Area = 10.003 ac, 33.37% Impervious, Inflow Depth > 1.22" for 100-Year event  
 Inflow = 9.64 cfs @ 12.06 hrs, Volume= 1.013 af  
 Outflow = 4.44 cfs @ 12.52 hrs, Volume= 1.013 af, Atten= 54%, Lag= 27.9 min  
 Discarded = 1.54 cfs @ 12.52 hrs, Volume= 0.905 af  
 Primary = 2.91 cfs @ 12.52 hrs, Volume= 0.108 af

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

Peak Elev= 38.28' @ 12.52 hrs Surf.Area= 8,036 sf Storage= 12,628 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 55.2 min ( 825.0 - 769.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	14,458 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	3,158	0	0
38.00	7,320	10,478	10,478
38.50	8,599	3,980	14,458

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	38.00'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=1.54 cfs @ 12.52 hrs HW=38.28' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.54 cfs)

**Primary OutFlow** Max=2.87 cfs @ 12.52 hrs HW=38.28' TW=36.00' (Dynamic Tailwater)

↑2=Orifice/Grate (Weir Controls 2.87 cfs @ 1.72 fps)

**Summary for Pond Pond 1-3: Pond 1-3**

Inflow Area = 11.615 ac, 36.44% Impervious, Inflow Depth > 0.65" for 100-Year event  
 Inflow = 6.56 cfs @ 12.02 hrs, Volume= 0.628 af  
 Outflow = 2.09 cfs @ 12.81 hrs, Volume= 0.628 af, Atten= 68%, Lag= 47.2 min  
 Discarded = 0.95 cfs @ 12.81 hrs, Volume= 0.598 af  
 Primary = 1.13 cfs @ 12.81 hrs, Volume= 0.030 af

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

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Peak Elev= 35.38' @ 12.81 hrs Surf.Area= 4,989 sf Storage= 9,638 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 69.0 min ( 823.6 - 754.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	12,888 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,114	0	0
36.00	5,478	12,888	12,888

Device	Routing	Invert	Outlet Devices
#1	Discarded	33.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	35.25'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

**Discarded OutFlow** Max=0.95 cfs @ 12.81 hrs HW=35.38' (Free Discharge)  
↑**1=Exfiltration** (Exfiltration Controls 0.95 cfs)

**Primary OutFlow** Max=1.12 cfs @ 12.81 hrs HW=35.38' TW=0.00' (Dynamic Tailwater)  
↑**2=Broad-Crested Rectangular Weir**(Weir Controls 1.12 cfs @ 0.87 fps)

**Summary for Pond Pond 1-4: Pond 1-4**

Inflow Area = 1.753 ac, 65.22% Impervious, Inflow Depth > 4.44" for 100-Year event  
Inflow = 8.27 cfs @ 12.03 hrs, Volume= 0.649 af  
Outflow = 6.69 cfs @ 12.08 hrs, Volume= 0.649 af, Atten= 19%, Lag= 3.2 min  
Discarded = 0.87 cfs @ 12.08 hrs, Volume= 0.499 af  
Primary = 5.82 cfs @ 12.08 hrs, Volume= 0.151 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 37.37' @ 12.08 hrs Surf.Area= 4,545 sf Storage= 5,800 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 44.8 min ( 794.3 - 749.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	9,051 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	1,202	0	0
36.00	1,753	1,478	1,478
38.00	5,820	7,573	9,051

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Device	Routing	Invert	Outlet Devices
#1	Discarded	35.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	37.00'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

**Discarded OutFlow** Max=0.87 cfs @ 12.08 hrs HW=37.37' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.87 cfs)

**Primary OutFlow** Max=5.64 cfs @ 12.08 hrs HW=37.37' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 5.64 cfs @ 1.54 fps)

**Summary for Pond Pond 1-5: Pond 1-5**

Inflow Area =	4.871 ac, 30.50% Impervious, Inflow Depth > 2.40"	for 100-Year event
Inflow =	8.64 cfs @ 12.03 hrs, Volume=	0.973 af
Outflow =	7.52 cfs @ 12.11 hrs, Volume=	0.973 af, Atten= 13%, Lag= 4.5 min
Discarded =	1.02 cfs @ 12.11 hrs, Volume=	0.709 af
Primary =	6.49 cfs @ 12.11 hrs, Volume=	0.264 af

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

Peak Elev= 39.40' @ 12.11 hrs Surf.Area= 5,332 sf Storage= 5,354 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 24.8 min ( 802.7 - 777.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	5,921 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,339	0	0
39.50	5,556	5,921	5,921

Device	Routing	Invert	Outlet Devices
#1	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#2	Primary	39.00'	<b>10.0' long x 2.0' breadth Broad-Crested Rectangular Weir</b>
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			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

**Discarded OutFlow** Max=1.02 cfs @ 12.11 hrs HW=39.39' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.02 cfs)

**Primary OutFlow** Max=6.43 cfs @ 12.11 hrs HW=39.39' TW=37.74' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 6.43 cfs @ 1.64 fps)

**Summary for Pond Pond 2-1: Pond 2-1**

Inflow Area = 2.282 ac, 11.82% Impervious, Inflow Depth > 1.26" for 100-Year event  
 Inflow = 2.16 cfs @ 12.06 hrs, Volume= 0.239 af  
 Outflow = 0.45 cfs @ 12.57 hrs, Volume= 0.239 af, Atten= 79%, Lag= 31.1 min  
 Discarded = 0.45 cfs @ 12.57 hrs, Volume= 0.239 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 50.99' @ 12.57 hrs Surf.Area= 2,363 sf Storage= 2,023 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 28.1 min ( 849.3 - 821.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	9,380 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,727	0	0
52.00	3,014	4,741	4,741
53.00	6,264	4,639	9,380

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>18.0" x 18.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Discarded	50.00'	<b>8.270 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.45 cfs @ 12.57 hrs HW=50.99' (Free Discharge)  
 ↑2=Exfiltration (Exfiltration Controls 0.45 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=47.60' (Dynamic Tailwater)  
 ↑1=Orifice/Grate ( Controls 0.00 cfs)

**Summary for Pond Pond 2-2: Pond 2-2**

Inflow Area = 5.854 ac, 30.00% Impervious, Inflow Depth > 1.86" for 100-Year event  
 Inflow = 9.37 cfs @ 12.03 hrs, Volume= 0.909 af  
 Outflow = 3.56 cfs @ 12.36 hrs, Volume= 0.909 af, Atten= 62%, Lag= 20.0 min  
 Discarded = 1.43 cfs @ 12.36 hrs, Volume= 0.835 af  
 Primary = 2.13 cfs @ 12.36 hrs, Volume= 0.075 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 39.48' @ 12.36 hrs Surf.Area= 7,472 sf Storage= 9,165 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 35.1 min ( 800.2 - 765.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,302 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,933	0	0
40.00	8,369	13,302	13,302

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	<b>10.0' long x 3.0' breadth Broad-Crested Rectangular Weir</b> 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	38.00'	<b>8.270 in/hr Exfiltration over Surface area</b>
#3	Primary	39.25'	<b>18.0" x 18.0" Horiz. Orifice/Grate C= 0.600</b> Limited to weir flow at low heads

**Discarded OutFlow** Max=1.43 cfs @ 12.36 hrs HW=39.48' (Free Discharge)

↳ **2=Exfiltration** (Exfiltration Controls 1.43 cfs)

**Primary OutFlow** Max=2.11 cfs @ 12.36 hrs HW=39.48' TW=0.00' (Dynamic Tailwater)

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

↳ **3=Orifice/Grate** (Weir Controls 2.11 cfs @ 1.56 fps)



## **APPENDIX C**

### Stormwater Checklist and Treatment Calculations

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts



Project 12013  
 By SPM  
 Date 5/23/2016

The Village at Bailey's Pond  
 Basin Sizing Analysis

Watershed	Bottom Elev	Bottom Area	Top Elev	Top Area	Storage CF	Overflow Elev	WQ Storage CF	Ponding Depth	100-yr Elevation	Freeboard
Pond 1-1	36.00	2,122	39.50	6,038	14,280	38.50	10,200.00	2.50	38.97	0.53
Pond 1-2	36.00	3,158	39.00	7,232	15,585	38.00	10,390.00	2.00	38.25	0.75
Pond 1-3	33.00	3,114	36.00	5,478	12,888	35.50	10,740.00	2.50	35.35	0.65
Pond 1-4	35.00	1,202	38.00	5,820	10,533	37.00	7,022.00	2.00	37.37	0.63
Pond 1-5	38.00	2,339	39.50	5,556	5,921	39.00	3,947.50	1.00	39.50	-
Pond 2-1	50.00	1,727	52.00	3,014	4,741	51.50	3,555.75	1.50	50.99	1.01
Pond 2-2	38.00	4,933	40.00	8,369	13,302	39.25	8,313.75	1.25	39.48	0.52
							54,169.00			

Village at Bailey's Pond  
 Rip Rap Outlet Protection Sizing  
 Project: 12013  
 Date: 6/14/2016  
 By: SPM

Subcatchment	Outlet	TW	Q (25-yr) (CFS)	Do(ft)	W1 (ft)	W2 (ft)	L(ft)	D50 (in)
	FES 1-1	0.1	5.77	1.5	4.5	19.62	15.12	5
	FES 1-2*	0.1	10.5	1.5	4.5	23.40	18.90	11
	FES 1-3	0.1	4.13	1.25	3.75	16.46	12.71	4
	FES 1-4	0.1	0.82	1	3	10.98	7.98	1
	FES 1-5	0.1	5.59	1.25	3.75	17.87	14.12	6
	FES 1-6	0.1	3.82	1.25	3.75	16.17	12.42	3
	Wall							
	Penetration 1-1	0.1	1.44	0.75	2.25	9.80	7.55	2
(Not Req'd)	Wall							
	Penetration 1-2	0.1	0.1	0.75	2.25	4.41	5.41	0
	Wall							
	Penetration 1-3	0.1	1.72	0.75	2.25	10.25	8.00	2
(Not Req'd)	Wall							
	Penetration 1-4	0.1	0.1	0.75	2.25	4.41	5.41	0
(Not Req'd)	Wall							
	Penetration 1-5	0.1	0.1	0.75	2.25	4.41	5.41	0
	FES 2-1	0.1	1.36	1	3	11.63	8.63	1
	FES 2-2	0.1	4.62	1	3	15.54	12.54	5
	FES 2-3	0.1	0.85	1	3	11.02	8.02	1
(Not Req'd)	FES 2-4	0.1	0.1	1	3	5.85	7.12	0
(Not Req'd)	FES 2-5	0.1	0.49	1	3	10.59	7.59	0
(Not Req'd)	FES 2-6	0.1	0.83	1.5	4.5	15.66	11.16	0

\*Presumed flow added based on existing off-site culvert flowing full

Formulas:

L  $L=1.8Q/Do^{1.5} + 7Do$  (when TW < Do/2)  
 $L=3Q/Do^{1.5} + 7Do$  (when TW > Do/2)

W1  $W=3Do$

W2  $W=3Do + L$  (when TW < Do/2)  
 $W=3Do + 0.4L$  (when TW > Do/2)

D50  $D50=(.02Q^{.13})/(TW*Do)$

Project 12013 The Village at Bailey's Pond  
 By SPM Storwater Treatment Calculations  
 Date 6/14/2016

Project	By	Date	Water Qaul Volume											
			Total Area	Roof	Existing			Open(A)			Water	1" x Imperv	Treatment	Volume provided
			Impervious	Impervious	Impervious	Woods (A)	Brush	Open(A)	Water	Volume Required	Volume Provided	45% Filter Strip	80% Infiltration	3,555.75
<b>Small Pod</b>														
<b>Pond 2-1</b>														
Post 2f	87061	6321	27	1685	47632	0	0	31396	0	2	2	45% Filter Strip	80% Infiltration	3,555.75
Post 2k	12346	3713	0	0	0	0	0	8633	0	-	-			
<b>Pond 2-2</b>														
Post 2a	5548	1014	4022	339	0	0	173	0	0	335	335	25% Deep Sum CB	80% Infiltration	
Post 2b	3935	0	3880	55	0	0	0	0	0	323	323			
Post 2c	20579	5680	11517	0	0	0	3382	0	0	960	960			
Post 2d	19582	4913	10510	0	0	0	4159	0	0	876	876			
Post 2e	8242	1444	2265	0	0	0	4533	0	0	189	189			
Post 2g	26366	1182	357	121	13159	0	11547	0	0	30	30			
Post 2h	6563	1807	2854	0	0	0	1902	0	0	238	238			
Post 2i	52643	11373	877	0	0	0	40393	0	0	73	73			
Post 2j	12114	459	90	0	4518	0	7047	0	0	8	8			8,313.75
<b>Large Pod</b>														
<b>Pond 1-1</b>														
Post 1k	31689	7078	0	0	0	0	24611	0	0	-	-	25% Deep Sum CB	80% Infiltration	
Post 1a	6252	1040	4198	738	0	0	276	0	0	350	350			
Post 1b	4636	0	3621	911	0	0	104	0	0	302	302			
<b>Pond 1-5</b>														
Post 1c	29936	2478	7246	2929	6383	0	10900	0	0	604	604	25% Deep Sum CB	80% Infiltration	10,200.00
Post 1d	20256	464	103	1507	9452	0	8730	0	0	9	9			
Post 1e	23349	0	0	0	11230	0	12119	0	0	-	-			
Post 1f	82367	20047	1165	0	0	0	6155	0	0	97	97			
Post 1v	10841	3517	6504	0	0	0	820	0	0	542	542			
Post 1w	12069	3296	7074	0	0	0	1699	0	0	590	590			
Post 1x	28013	0	3116	0	8382	0	16515	0	0	260	260			
Post 1y	5336	1040	4234	0	0	0	62	0	0	353	353			3,947.50
<b>Pond 1-3</b>														
Post 1q	4608	1363	2205	0	0	0	1040	0	0	184	184	25% Deep Sum CB	80% Infiltration	
Post 1n	16566	3763	3354	0	0	0	9449	0	0	280	280			
Post 1o	14474	3247	7974	0	0	0	3253	0	0	665	665			
Post 1p	6584	1438	3892	0	0	0	1254	0	0	324	324			
Post 3c	8810	1640	1797	0	886	0	4487	0	0	150	150			
Post 1s	12365	1915	344	0	0	0	10106	0	0	29	29			
Post 1r	6804	520	5480	0	0	0	804	0	0	457	457			10,740.00
<b>Pond 1-4</b>														
Post 1z	25257	7216	768	0	0	0	17273	0	0	64	64	25% Deep Sum CB	80% Infiltration w/pretreatment	
Post 1u	27102	8747	13050	0	0	0	5305	0	0	1,088	1,088			
Post 1t	24013	5398	14627	0	0	0	3988	0	0	1,219	1,219			7,022.00
<b>Pond 1-2</b>														
Post 1h	83632	10621	853	11421	12848	0	47889	0	0	71	71	25% Deep Sum CB	80% Infiltration	
Post 1i	3042	0	3042	0	0	0	0	0	0	254	254			
Post 1j	8891	1317	308	375	243	0	6648	0	0	26	26			
Post 1l	14607	4807	7508	0	0	0	2292	0	0	626	626			
Post 1m	54912	8658	256	2928	11179	0	31891	0	0	21	21			10,390.00



# Checklist for Stormwater Report

## A. Introduction

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



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

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.<sup>1</sup> This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8<sup>2</sup>
- Operation and Maintenance Plan required by Standard 9

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

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

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

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

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



# Checklist for Stormwater Report

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## B. Stormwater Checklist and Certification

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

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

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

---

### Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature

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Signature and Date

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## Checklist

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

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



# Checklist for Stormwater Report

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## Checklist (continued)

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

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

### Standard 1: No New Untreated Discharges

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



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 2: Peak Rate Attenuation

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

### Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
  - Static
  - Simple Dynamic
  - Dynamic Field<sup>1</sup>
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
  - Site is comprised solely of C and D soils and/or bedrock at the land surface
  - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
  - Solid Waste Landfill pursuant to 310 CMR 19.000
  - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

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



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 3: Recharge (continued)

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

### Standard 4: Water Quality

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

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



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 4: Water Quality (continued)

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

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

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

### Standard 6: Critical Areas

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



# Checklist for Stormwater Report

---

## Checklist (continued)

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

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

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

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

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



# Checklist for Stormwater Report

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## Checklist (continued)

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

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

### Standard 9: Operation and Maintenance Plan

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

### Standard 10: Prohibition of Illicit Discharges

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



**APPENDIX D**

Pollution Prevention and  
Stormwater Operation and Maintenance Plan

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts



**Pollution Prevention and  
Stormwater Operation and Maintenance Plan**

**For**

**THE VILLAGE AT BAILEY'S POND**

**Route 150/Summit Avenue  
Amesbury, Massachusetts**

Prepared by:



**P.O. Box 1123  
Newburyport, Massachusetts  
(978) 312-3120**

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Appendix A: Stormwater System O&M Inspection Report

## 1.0 INTRODUCTION

This Pollution Prevention and Operation and Maintenance (O&M) Plan has been prepared to implement procedures for the Village at Bailey's Pond (Project) which will minimize the potential for stormwater pollution and adverse impacts to resource areas subject to protection under the Massachusetts Wetlands Protections Act and City of Amesbury Wetlands Bylaw. This plan has been prepared to identify pollution prevention measures which are implemented as part of daily operations as well as O&M practices and procedures for stormwater Best Management Practices (BMPs).

The Project encompasses approximately 24 acres located around portions of Bailey's Pond. Wetlands resource areas associated with Bailey's Pond include bordering vegetated wetlands (BVW), flood plain, riverfront area and the pond itself. A plan showing the configuration of the Project stormwater systems and wetlands resource areas is provided on Sheets C-301 and C-302, Grading, Drainage & Erosion Control Plan. Inspection forms for Stormwater BMPs are enclosed in Appendix A.

### 1.1 Roles and Responsibilities

#### Owner

Village at Bailey's Pond Condominium (Association)

#### Implementation

Village at Bailey's Pond Condominium (Association)

This plan shall be maintained by the Association and distributed to all residents, homeowners and outside contractors on an annual basis.

## **2.0 POLLUTION PREVENTION**

The following section presents methods and procedures implemented by the Project as part of daily operations to minimize potential stormwater pollution. The procedures presented below have been developed to be practical to implement and sufficiently protective of nearby resource areas and the environment in general.

### **2.1 Equipment and Material Storage**

Seasonal equipment is not to be permanently stored on-site. This equipment is generally limited to snow plows, lawn mowers and other miscellaneous equipment used by the personnel or companies conducting routine maintenance at the Project. Equipment used at the Project shall be generally clean and free of oil leaks and/or hazardous material which could potentially impact storm water quality.

Supplies such as sand, grass seed, fertilizers, and other materials which may be affected by weather or become airborne shall not be stored on site unless they are stored indoors.

### **2.2 Fuel Storage**

There is no proposed fuel storage at the Project. Any fueling on site of maintenance equipment shall be conducted on paved areas at least 100' away from any resource area.

### **2.3 Trash and Recyclables Collection**

Trash and recyclables will be picked up from the Project on a routine basis by an outside, licensed hauler. Trash and recyclable containers shall be kept under cover until they are brought by the homeowner to the curb side for pickup. Trash and recyclable containers may not be brought to the curbside more than 24 hours prior to the scheduled pickup.

### **2.4 General Housekeeping**

Cleanup to remove accumulated trash and debris shall be performed on both an as-needed and scheduled basis. Routine cleanup activities include the following:

#### **2.4.1 Trash and Debris Pickup**

Trash and debris pickup shall be performed continuously as needed. Landscape and maintenance contractors shall be responsible for removing litter from the grounds. Residents and guests are prohibited from littering and are encouraged to pickup miscellaneous debris which they may encounter.

#### **2.4.2 Sweeping**

Sweeping of roadways and parking areas shall be performed on an annual basis during the early spring to remove salt and sand applied to these surfaces during the winter months. Should the need arise; selected areas of the Project may be swept more frequently. Sweeping will be performed by an outside contractor using suitable equipment. Recovered sweepings shall be disposed with other yard waste off-site in accordance with all applicable state, local and federal laws.

### 2.4.3 Spring and Fall Cleanup

Spring and fall cleanups shall be performed once per year following snow melt and tree defoliation, respectively. The majority of the spring and fall cleanup efforts shall focus on landscaped and lawn areas throughout the Project. Yard waste, including leaves, grass cuttings, nuisance vegetation, branches, stumps, rocks, etc., shall be disposed of off-site in accordance with all applicable state, local and federal laws.

### 2.5 Snow Plowing/Deicing

Snow and ice removal operations shall be performed on an as-needed basis. Snow from driveways, parking areas and walkways shall be plowed to the sides of the paved surfaces in accordance with customary snow plowing procedures. Snow shall be plowed away from wetlands resource areas. Snow stockpiles shall be located beyond wetlands buffer zones to the greatest extent practicable and in designated locations throughout the Project. Snow banks or piles may be removed from parking lots or other critical areas as needed. Snow which may be removed in this manner shall be disposed of off-site in accordance with applicable state, local and federal laws. Snow shall not be dumped or pushed into the pond or resource areas.

Deicing operations consist of applying sand or salt to walkways and other paved surfaces as needed for vehicle and pedestrian safety. Salt shall be applied at the minimal acceptable rates to provide safe vehicle and pedestrian safety and shall not be applied to areas of the Project which are within wetlands resource areas or associated buffer zones.

### 2.6 Landscape Maintenance

Lawn and landscape areas shall be regularly maintained by a qualified landscape contractor. The landscape contractor shall be responsible for the maintenance and upkeep of the stormwater Basins including by not limited to replacement of dead or dying vegetation, removal of sediment and replacement of mulch.

The use of fertilizers, pesticides, and herbicides shall be minimized and in not case shall they be used within 100' of a wetland resource area.

### 3.0 OPERATION AND MAINTENANCE

An outside contractor shall inspect the stormwater management systems on a routine basis. Refer to the Grading, Drainage & Erosion Control Plans (Plans) for drainage structure locations. Inspection and maintenance shall be performed as follows:

#### 3.1 Catch Basins and Manholes

Catch basins and manholes shall be inspected for accumulation of silt, sediment, or debris on a semi-annual basis. Cleaning will be performed at least once per year or more frequently if the sediment level rises 2 feet above the bottom of the sump. Removed sediment will be disposed off site by a qualified waste disposal contractor in accordance with local, state and federal regulations.

#### 3.2 Stormwater Basins

Stormwater basins consist of sedimentation and infiltration basins. The basins will be inspected for sediment and debris accumulation on regular basis. Vegetation will also be inspected and mowed or replaced as needed. The maintenance schedule for stormwater basins is as follows:

<b>Activity</b>	<b>Time of Year</b>	<b>Frequency</b>
Inspect and Remove Trash	Year round	Biannually
Mulch	Spring	Biannually
Mow	Fall	Annually
Replace Dead Vegetation	Spring	Annually
Prune	Spring	Annually
Repair areas of erosion and revegetate	Spring	As necessary, but not less than once a year.
Remove sediment from forebay	Spring	Annually
Remove sediment from grass swale	Spring	Annually
Inspect basin to ensure it is operating as designed	Summer	First few months after construction and semi-annually thereafter
Check drywell	Spring	Annually
Remove sediment from basin and drywell	Spring	As necessary

#### 3.3 Record Keeping

The Association shall complete the Stormwater System Inspection Report (Appendix A) as part of routine inspections. Copies of completed reports shall be kept for at least 5 years. Receipts of

catch basin cleaning and other O&M activities which require contracted services shall also kept on file for a minimum of 5 years.

#### 3.4 Pet Waste

Owners and guests will be responsible for clean up and disposal of pet waste on the site.

#### 3.5 Steep Slopes

Steep slopes shall be inspected annually for signs of erosion of slope instability. Any signs of erosion shall be immediately repaired by sodding or reseeding and the installation of erosion control matting such as just mat. Slopes steeper than 2:1 shall not be mowed more than once per year and shall be mowed with the use of a boom mounted mower from positioned at the bottom of the slope.

**APPENDIX A**

Stormwater System O&M Inspection Report

The Village at Bailey's Pond

## **STORMWATER MANAGEMENT OPERATIONS AND MAINTENANCE PLAN**

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts

The following Stormwater Management Operation and Maintenance (O&M) Plan has been prepared to operate and maintain the stormwater management system for the Village at Bailey's Pond. The condominium association and not the City of Amesbury shall be responsible for maintenance of all BMP's and drainage structures on-site.

**Owner/Operator:** The Village at Bailey's Pond Condominium Association

### **Inspection and Maintenance Schedule**

Facility personnel will inspect the stormwater management system on a routine basis not less than once per month for the first 6 months of operation and annually thereafter. Refer to Sheets C-301 and C-302, Grading, Drainage & Erosion Control Plan, for drainage structure locations. Inspection and maintenance shall be performed as follows:

1. Catchbasins and Manholes shall be inspected for accumulation of silt, sediment, or debris on a semi-annual basis. Cleaning will be performed whenever the sediment level rises to within 1 foot of the invert elevation of the outlet pipe. Removed sediment will be disposed off site by a qualified waste disposal contractor in accordance with state and federal regulations.
2. Landscaped Areas shall be inspected and maintained on a regular basis. Areas which may be subject to erosion will be stabilized and reseeded immediately. These operations will be performed as part of ongoing routine grounds maintenance operations.
3. Infiltration Areas shall be visually inspected monthly and voids in soil or stone shall be repaired. Vegetation shall be inspected monthly for disease or pest problems. If treatment is warranted, use the least toxic approach. Promptly replace any vegetation that is beyond treatment. Infiltration areas shall be mowed at least four times a year as required.
4. Drain outfalls shall be inspected annually. Any signs of erosion shall be promptly repaired. Level spreaders and berm outlets shall be inspected for erosion and for good vegetated growth. Rip-rap aprons shall be inspected to ensure the aprons are in good order with no erosion. Rip-rap shall be repaired or replaced as required.

## Stormwater System Inspection Report

General Information			
<b>Location:</b> Village at Bailey's Pond			
<b>Date of Inspection</b>		<b>Start/End Time</b>	
<b>Inspector's Name(s)</b>			
<b>Inspector's Title(s)</b>			
<b>Inspector's Contact Information</b>			
<b>Purpose of Inspection</b>			
Weather Information			
<b>Has it rained since the last inspection?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Weather at time of this inspection?</b>			

### Site-Specific Stormwater Devices

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
1		<input type="checkbox"/> Yes <input type="checkbox"/> No		
2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
3		<input type="checkbox"/> Yes <input type="checkbox"/> No		
4		<input type="checkbox"/> Yes <input type="checkbox"/> No		
5		<input type="checkbox"/> Yes <input type="checkbox"/> No		
6		<input type="checkbox"/> Yes <input type="checkbox"/> No		
7		<input type="checkbox"/> Yes <input type="checkbox"/> No		
8		<input type="checkbox"/> Yes <input type="checkbox"/> No		
9		<input type="checkbox"/> Yes <input type="checkbox"/> No		

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
10		<input type="checkbox"/> Yes <input type="checkbox"/> No		

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
11		<input type="checkbox"/> Yes <input type="checkbox"/> No		
12		<input type="checkbox"/> Yes <input type="checkbox"/> No		
13		<input type="checkbox"/> Yes <input type="checkbox"/> No		
14		<input type="checkbox"/> Yes <input type="checkbox"/> No		
15		<input type="checkbox"/> Yes <input type="checkbox"/> No		
16		<input type="checkbox"/> Yes <input type="checkbox"/> No		
17		<input type="checkbox"/> Yes <input type="checkbox"/> No		
18		<input type="checkbox"/> Yes <input type="checkbox"/> No		
19		<input type="checkbox"/> Yes <input type="checkbox"/> No		
20		<input type="checkbox"/> Yes <input type="checkbox"/> No		
21		<input type="checkbox"/> Yes <input type="checkbox"/> No		
22		<input type="checkbox"/> Yes <input type="checkbox"/> No		
23		<input type="checkbox"/> Yes <input type="checkbox"/> No		
24		<input type="checkbox"/> Yes <input type="checkbox"/> No		
25		<input type="checkbox"/> Yes <input type="checkbox"/> No		
26		<input type="checkbox"/> Yes <input type="checkbox"/> No		

	Description	Installed and Operating Properly?	Corrective Action Needed	Date for Corrective Action/Responsible Person
27		<input type="checkbox"/> Yes <input type="checkbox"/> No		
28		<input type="checkbox"/> Yes <input type="checkbox"/> No		
29		<input type="checkbox"/> Yes <input type="checkbox"/> No		
30		<input type="checkbox"/> Yes <input type="checkbox"/> No		

**Overall Site Issues**

	Description		Corrective Action	Date for Corrective Action/Responsible Person
1	Are all slopes properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2	Are natural resource areas (e.g., streams, wetlands, etc.) being subjected to erosion?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3	Are discharge points free of sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

**Certification Statement:**

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## **APPENDIX E**

### Soils Information

Village at Bailey's Pond  
Route 150 and Summit Avenue  
Amesbury, Massachusetts













On-Site Review

Deep Hole Number 04-6 Date 11/16/04 Time \_\_\_\_\_ Weather Cloudy  
 Location (identify on site plan) \_\_\_\_\_  
 Land Use Res. Slope (%) \_\_\_\_\_ Surface Stones \_\_\_\_\_  
 Vegetation Grass  
 Landform Kame Terrace  
 Position on landscape (sketch on the back) \_\_\_\_\_  
 Distances from:  
 Open Water Body >100 feet Drainage way >50 feet  
 Possible Wet Area >100 feet Property Line >50 feet  
 Drinking Water Well >110 feet Other \_\_\_\_\_

**DEEP OBSERVATION HOLE LOG**

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, %Gravel)
0" - 14"	Fill	FSL	2.5 Y 4/2		Friable 10 % Gravel
14" - 54"	Fill	LS	10 YR 4/4		Friable, 15% gravel Coarse to medium
54" - 60"	Ab	FSL	10 YR 2/2		Friable
60" - 68"	B	SL	10 YR 4/6		Friable
68" - 104"	C	FLS	2.5 Y 5/4	Dominant @ 78"	Friable massive
				7.5 YR 5/8	

Receiving Layers C Design Class I  
 Parent Material (geologic) Ice contact outwash Depth to Bedrock: \_\_\_\_\_  
 Depth to Groundwater: \_\_\_\_\_ Standing Water in the Hole: None Weeping from Pit Face: No weeping  
 Estimated Seasonal High Ground Water: 78"











On-Site Review

Deep Hole Number 04-12 Date 11/16/04 Time \_\_\_\_\_ Weather Cloudy  
Location (identify on site plan) \_\_\_\_\_  
Land Use Res. Slope (%) 2 Surface Stones \_\_\_\_\_  
Vegetation Wooded  
Landform Kame Terrace  
Position on landscape (sketch on the back) \_\_\_\_\_  
Distances from:  
Open Water Body >100 feet Drainage way > 50 feet  
Possible Wet Area > 50 feet Property Line > 50 feet  
Drinking Water Well >100 feet Other \_\_\_\_\_

**DEEP OBSERVATION HOLE LOG**

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, %Gravel)
0" - 32"	Fill	SL	2.5 Y 4/4		Friable 10% gravel
32" - 38"	Ab	FSL	10 YR 2/2		Friable
38" - 48"	B	FSL	10 YR 4/4	Faint @22" 7.5 YR 5/8 2.5 Y 6/2	Friable
48" - 64"	C1	FSL	2.5 Y 5/4		Friable
64" - 92"	C2	VFSL	2.5 Y 5/1		Massive

Receiving Layers C1, C2 Design Class II

Parent Material (geologic) Ice contact outwash Depth to Bedrock: \_\_\_\_\_

Depth to Groundwater: Standing Water in the Hole: 89" Weeping from Pit Face: 84"

Estimated Seasonal High Ground Water: 22"













On-Site Review

Deep Hole Number 04-19 Date 11/17/04 Time \_\_\_\_\_ Weather Sunny  
 Location (identify on site plan) \_\_\_\_\_  
 Land Use Res. Slope (%) \_\_\_\_\_ Surface Stones Few  
 Vegetation Brush  
 Landform Kame Terrace  
 Position on landscape (sketch on the back) \_\_\_\_\_  
 Distances from:  
 Open Water Body >200 feet Drainage way >30 feet  
 Possible Wet Area >100 feet Property Line >50 feet  
 Drinking Water Well >100 feet Other \_\_\_\_\_

**DEEP OBSERVATION HOLE LOG**

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, %Gravel)
No top soil					
0" - 26"	C1	S	2.5 Y 5/6		Loose Medium
26" - 38"	C2	S	2.5 Y 5/4		Friable Medium
38" - 164"	C3	S	2.5 Y 6/4	@10"	Firm
				7.5 YR 5/8	Fine
				2.5 Y 6/2	
				@58" restrictive fine sand layer firm 4" thick 2.5 Y 5/4	

Sealing Layers C1, C2, C3 Design Class I  
 Parent Material (geologic) Ice contact outwash Depth to Bedrock: \_\_\_\_\_  
 Depth to Groundwater: Standing Water in the Hole: 160 Weeping from Pit Face: 152"  
 Estimated Seasonal High Ground Water: \_\_\_\_\_









Location Address or Lot No. Corner of Rte.150 and Summit Avenue, Amesbury

Job #04142

COMMONWEALTH OF MASSACHUSETTS  
Amesbury, Massachusetts

Percolation Test*			
Date:	11/17/2004	Time:	
Observation Hole#		04-18	04-19
Depth of Perc		24" + 18"	24" + 16"
Start Pre-soak		N/A	N/A
End Pre-soak		N/A	N/A
Time at 12"		0:00:00	0:00:00
Time at 9"		0:00:50	0:03:05
Time at 6"		0:02:00	0:07:40
Time (9"-6)		1 Min: 10 sec	4 Min:35 sec
Rate Min./Inch		<1 min/inch	<2 min/inch

\* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed  Site Failed

Performed By: M. Tessier

Witnessed By: \_\_\_\_\_

Comments: \_\_\_\_\_

Location Address or Lot No. Corner of Rte. 150 and Summit Avenue, Amesbury

Job #04142

COMMONWEALTH OF MASSACHUSETTS  
Amesbury, Massachusetts

Percolation Test*				
Date:	11/16/2004		Time:	
Observation Hole#	04-1	04-7	04-9	04-13
Depth of Perc	30" + 18"	28" + 18"	24" + 18"	24" + 16"
Start Pre-soak	N/A	N/A	N/A	N/A
End Pre-soak	N/A	N/A	N/A	N/A
Time at 12"	7:45	9:29:00	9:58:45	12:40:15
Time at 9"	7:45:30	9:29:40	9:59:40	12:42:18
Time at 6"	7:46:10	9:30:24	10:00:45	12:44:20
Time (9"-6")	40 SEC			
Rate Min./Inch	<1 MIN/inch	<1 min/inch	<1 min/inch	<2 min/in

\* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed  Site Failed

Performed By: M. Tessier

Witnessed By: \_\_\_\_\_

Comments: \_\_\_\_\_