

**Routing Diagram for Pre-Development - 2015.09.25**  
 Prepared by Woodard & Curran, Printed 9/25/2015  
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**Pre-Development - 2015.09.25**

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**Area Listing (all nodes)**

Area (acre)	CN	Description (subcatchment-numbers)
13.7	76	Woods/grass comb., Fair, HSG C (1S, 1Sa, 2S, 3S, 4S, 5S, 6S, 7S)
29.1	82	Woods/grass comb., Fair, HSG D (1Sa, 2S, 4S, 5S, 6S, 7S)
<b>42.8</b>	<b>80</b>	<b>TOTAL AREA</b>

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PRE  
Type III 24-hr 2-YR Rainfall=3.10"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=125,734 sf 0.00% Impervious Runoff Depth>0.98" Flow Length=694' Tc=23.5 min CN=76 Runoff=2.201 cfs 0.237 af
<b>Subcatchment 1Sa: Subcatchment 1a</b>	Runoff Area=37,129 sf 0.00% Impervious Runoff Depth>1.21" Flow Length=528' Tc=41.1 min CN=80 Runoff=0.632 cfs 0.086 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=329,260 sf 0.00% Impervious Runoff Depth>1.03" Flow Length=1,298' Tc=52.3 min CN=77 Runoff=4.150 cfs 0.646 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=0.8 ac 0.00% Impervious Runoff Depth>0.98" Flow Length=275' Tc=24.2 min CN=76 Runoff=0.603 cfs 0.066 af
<b>Subcatchment 4S: Subcatchment 4</b>	Runoff Area=2.6 ac 0.00% Impervious Runoff Depth>1.08" Flow Length=717' Tc=48.7 min CN=78 Runoff=1.575 cfs 0.235 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=12.1 ac 0.00% Impervious Runoff Depth>1.30" Flow Length=1,443' Tc=97.0 min CN=82 Runoff=5.889 cfs 1.312 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=11.1 ac 0.00% Impervious Runoff Depth>1.33" Flow Length=1,105' Tc=49.2 min CN=82 Runoff=8.285 cfs 1.229 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=4.9 ac 0.00% Impervious Runoff Depth>1.33" Flow Length=627' Tc=43.3 min CN=82 Runoff=3.921 cfs 0.544 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.07' Max Vel=0.66 fps Inflow=0.632 cfs 0.086 af n=0.100 L=550.0' S=0.0600 '/ Capacity=800.391 cfs Outflow=0.566 cfs 0.084 af
<b>Link 8L: SC1 Analysis Point</b>	Inflow=2.297 cfs 0.321 af Primary=2.297 cfs 0.321 af
<b>Link 9L: SC2 Analysis Point</b>	Inflow=4.150 cfs 0.646 af Primary=4.150 cfs 0.646 af
<b>Link 10L: SC3 Analysis Point</b>	Inflow=0.603 cfs 0.066 af Primary=0.603 cfs 0.066 af
<b>Link 11L: SC4 Analysis Point</b>	Inflow=1.575 cfs 0.235 af Primary=1.575 cfs 0.235 af
<b>Link 12L: SC5 Analysis Point</b>	Inflow=5.889 cfs 1.312 af Primary=5.889 cfs 1.312 af
<b>Link 13L: SC6 Analysis Point</b>	Inflow=8.285 cfs 1.229 af Primary=8.285 cfs 1.229 af
<b>Link 14L: SC7 Analysis Point</b>	Inflow=3.921 cfs 0.544 af Primary=3.921 cfs 0.544 af

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PRE

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

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**Link 15L: Canal Subtotal**

Inflow=17.521 cfs 3.385 af  
Primary=17.521 cfs 3.385 af

**Link 16L: Energy East Subtotal**

Inflow=5.691 cfs 0.967 af  
Primary=5.691 cfs 0.967 af

**Link 17L: Pre-Development Total**

Inflow=23.168 cfs 4.351 af  
Primary=23.168 cfs 4.351 af

**Total Runoff Area = 42.8 ac   Runoff Volume = 4.353 af   Average Runoff Depth = 1.22"**  
**100.00% Pervious = 42.8 ac   0.00% Impervious = 0.0 ac**

**Summary for Subcatchment 1S: Subcatchment 1**

Runoff = 2.201 cfs @ 12.35 hrs, Volume= 0.237 af, Depth> 0.98"

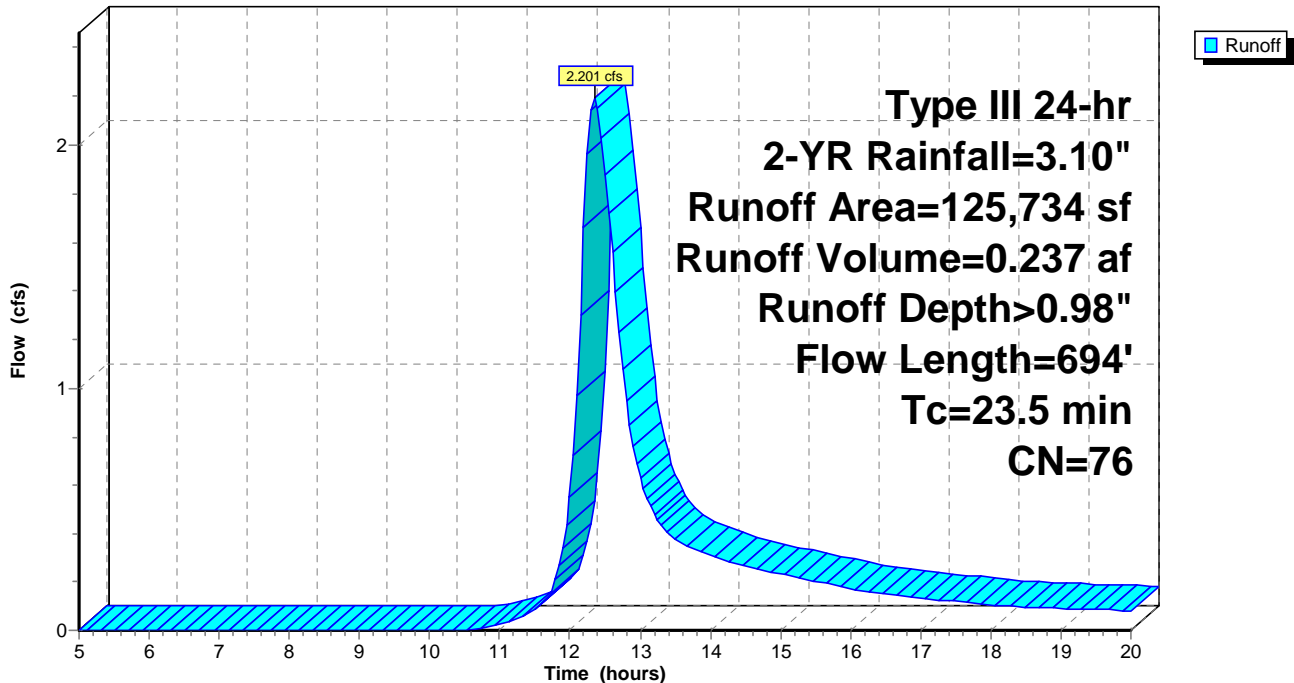
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
22,775	76	Woods/grass comb., Fair, HSG C
33,774	76	Woods/grass comb., Fair, HSG C
48,824	76	Woods/grass comb., Fair, HSG C
20,361	76	Woods/grass comb., Fair, HSG C
125,734	76	Weighted Average
125,734		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.5	100	0.0275	0.09		<b>Sheet Flow, Subcatchment 1 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.5	230	0.0967	1.55		<b>Shallow Concentrated Flow, Subcatchment 1 SCF</b> Woodland Kv= 5.0 fps
1.5	364	0.0632	4.16	10.81	<b>Channel Flow, Subcatchment 1 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
23.5	694	Total			

**Subcatchment 1S: Subcatchment 1**

Hydrograph



**Summary for Subcatchment 1Sa: Subcatchment 1a**

Runoff = 0.632 cfs @ 12.59 hrs, Volume= 0.086 af, Depth> 1.21"

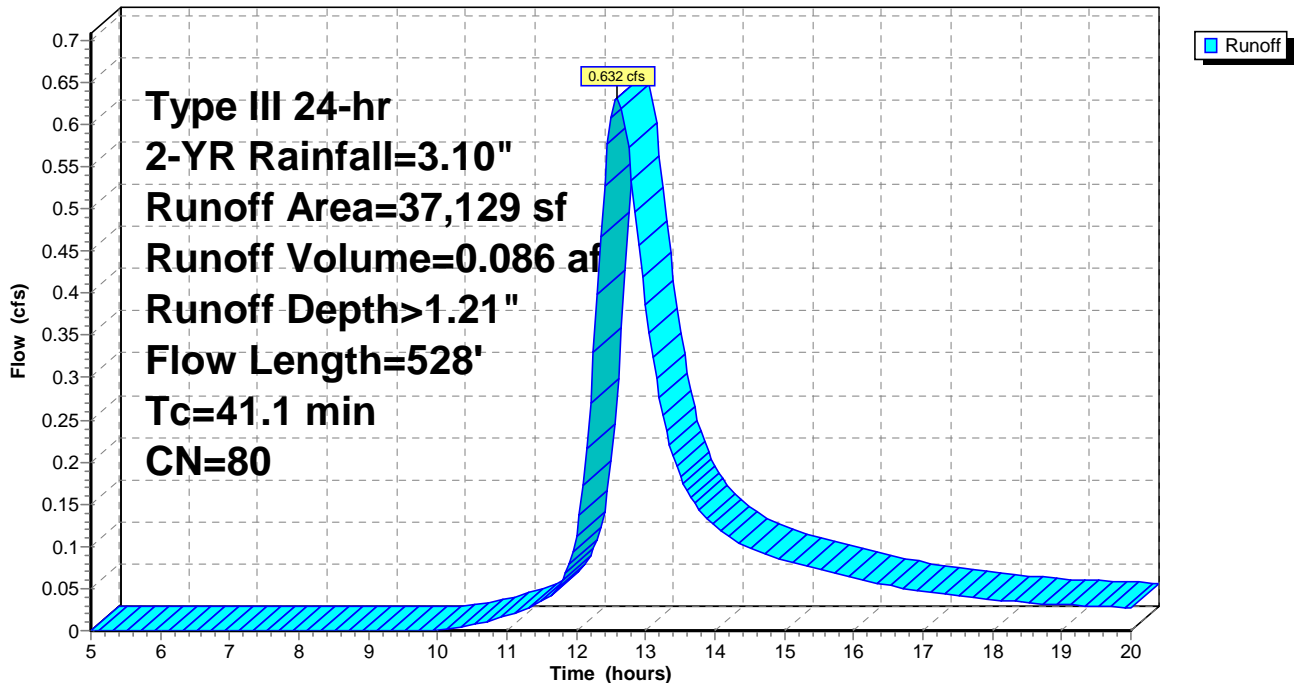
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
6,341	76	Woods/grass comb., Fair, HSG C
5,003	76	Woods/grass comb., Fair, HSG C
25,785	82	Woods/grass comb., Fair, HSG D
37,129	80	Weighted Average
37,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 1a Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 1a SCF</b> Woodland Kv= 5.0 fps
5.3	296	0.0304	0.93	39.59	<b>Trap/Vee/Rect Channel Flow, Subcatchment 1a CF</b> Bot.W=21.00' D=2.00' Z= 0.2 '/' Top.W=21.80' n= 0.400 Sheet flow: Woods+light brush
41.1	528	Total			

**Subcatchment 1Sa: Subcatchment 1a**

Hydrograph



**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 4.150 cfs @ 12.75 hrs, Volume= 0.646 af, Depth> 1.03"

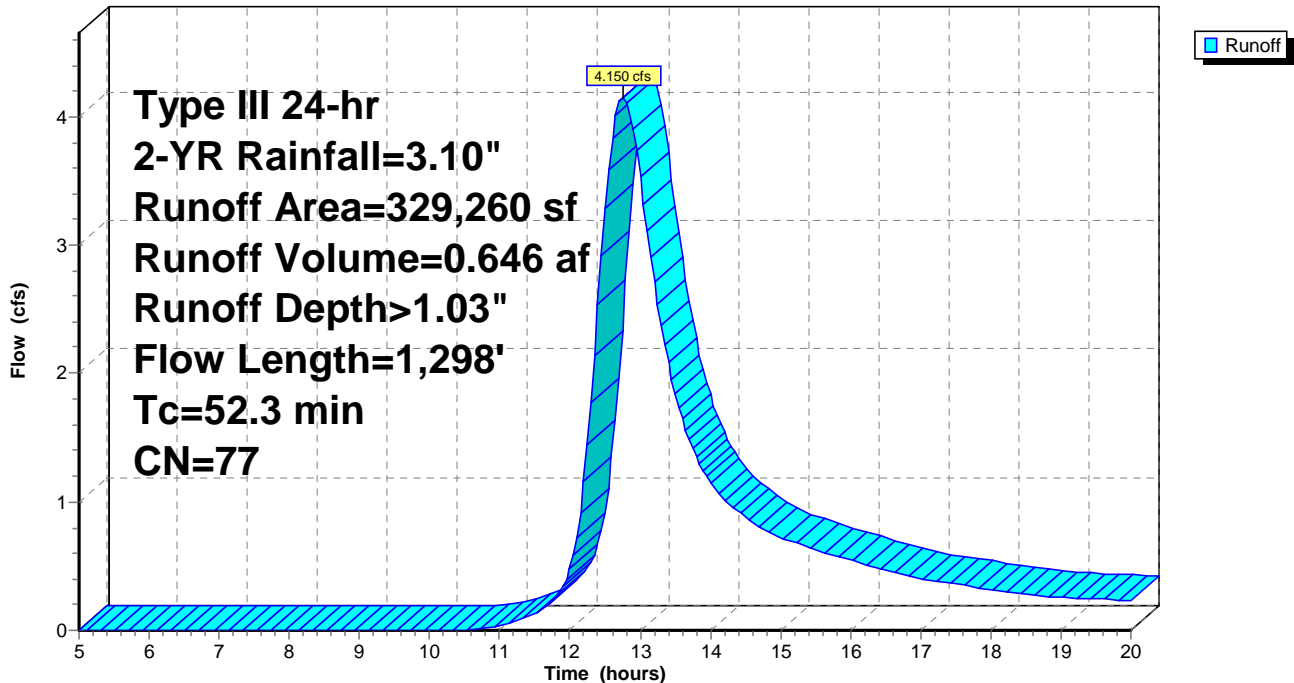
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
205,873	76	Woods/grass comb., Fair, HSG C
81,625	76	Woods/grass comb., Fair, HSG C
40,571	82	Woods/grass comb., Fair, HSG D
1,191	76	Woods/grass comb., Fair, HSG C
329,260	77	Weighted Average
329,260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6	100	0.0057	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.5	329	0.0091	0.48		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
4.2	869	0.0434	3.44	8.95	<b>Channel Flow, Subcatchment 2 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
52.3	1,298	Total			

**Subcatchment 2S: Subcatchment 2**

Hydrograph



**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 0.603 cfs @ 12.36 hrs, Volume= 0.066 af, Depth> 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

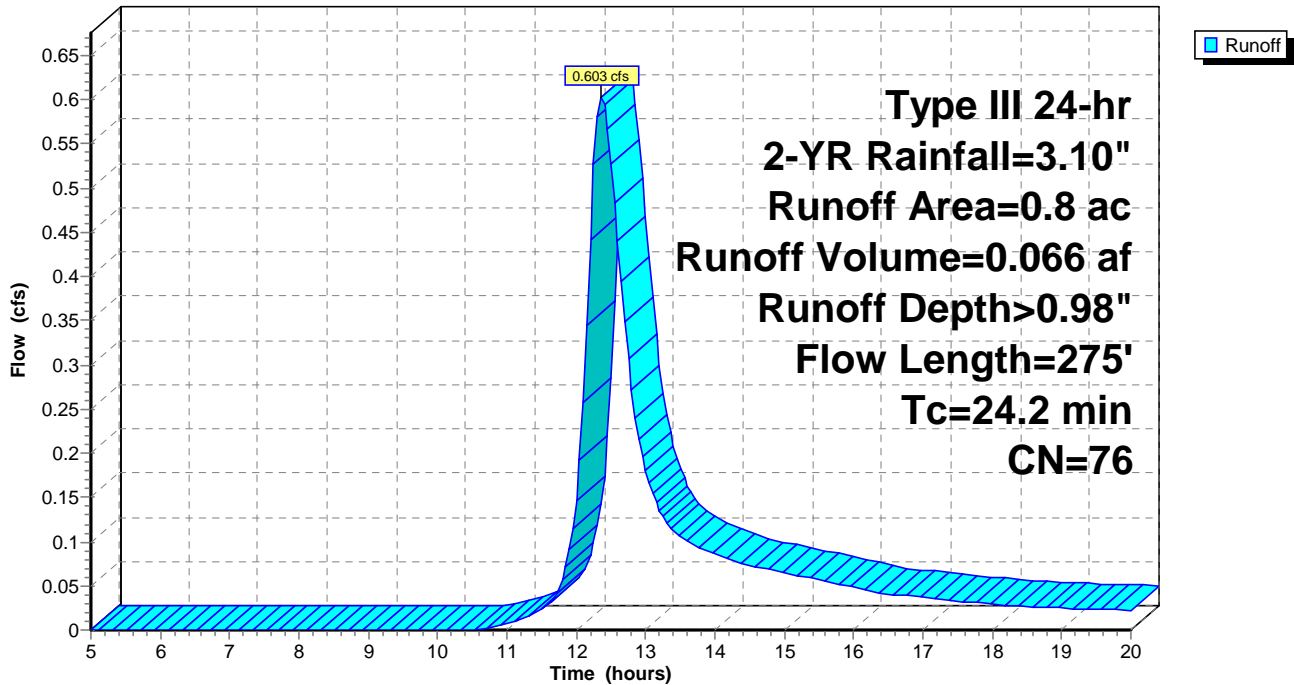
Area (ac)	CN	Description
0.8	76	Woods/grass comb., Fair, HSG C
0.8		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 3 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 3 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 3S: Subcatchment 3**

Hydrograph





### Summary for Subcatchment 4S: Subcatchment 4

Runoff = 1.575 cfs @ 12.70 hrs, Volume= 0.235 af, Depth> 1.08"

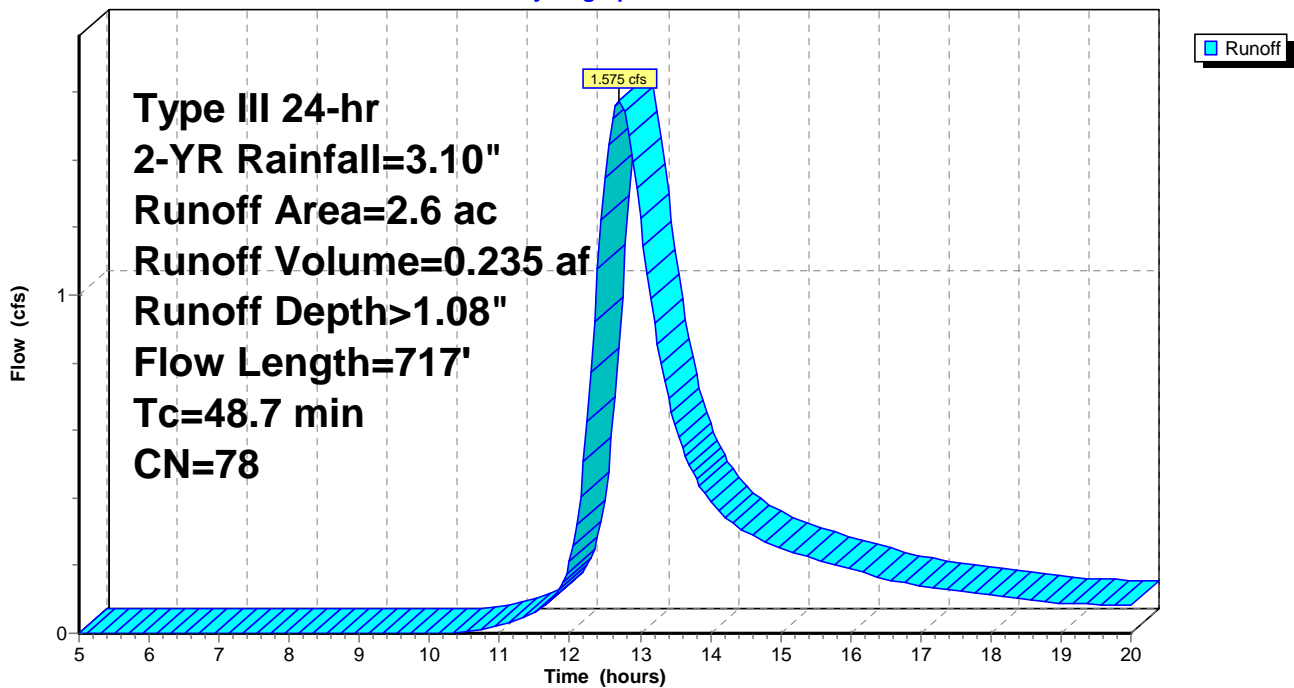
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (ac)	CN	Description
1.6	76	Woods/grass comb., Fair, HSG C
1.0	82	Woods/grass comb., Fair, HSG D
2.6	78	Weighted Average
2.6		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

### Subcatchment 4S: Subcatchment 4

Hydrograph



### Summary for Subcatchment 5S: Subcatchment 5

Runoff = 5.889 cfs @ 13.30 hrs, Volume= 1.312 af, Depth> 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

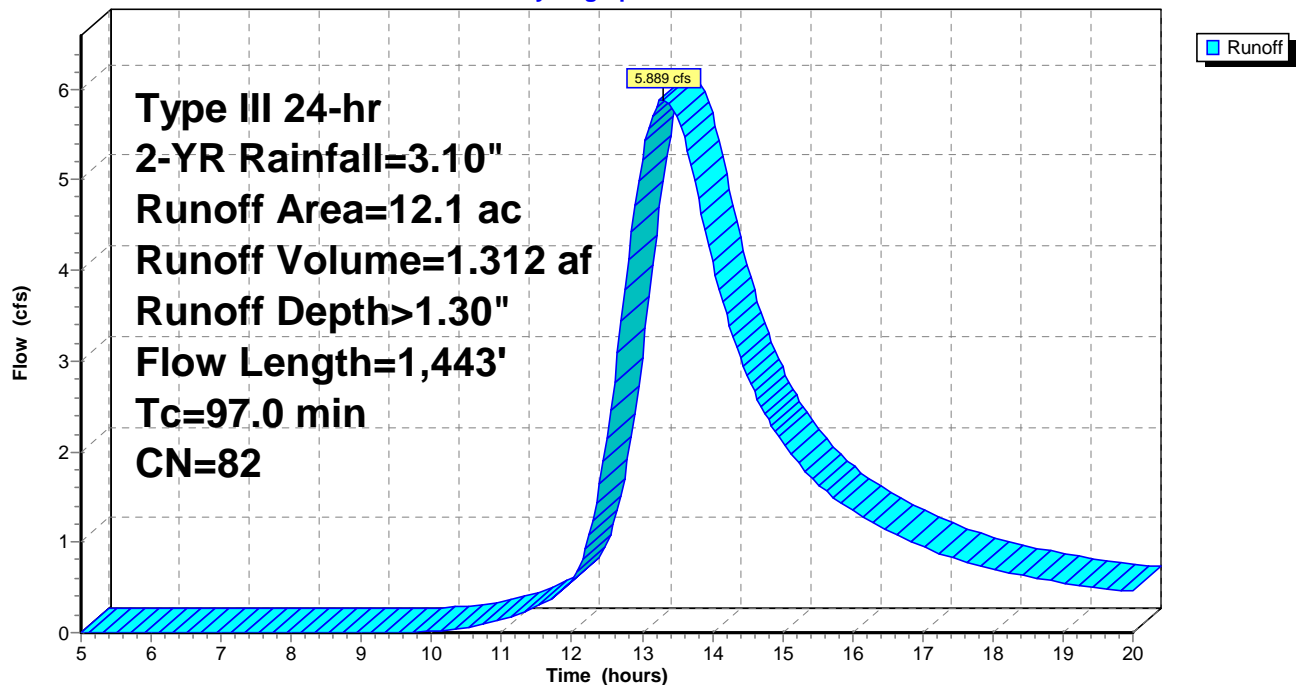
Area (ac)	CN	Description
0.7	76	Woods/grass comb., Fair, HSG C
0.1	76	Woods/grass comb., Fair, HSG C
11.3	82	Woods/grass comb., Fair, HSG D
12.1	82	Weighted Average
12.1		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 5 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
67.2	1,175	0.0034	0.29		<b>Shallow Concentrated Flow, Subcatchment 5 SCF</b> Woodland Kv= 5.0 fps
0.5	168	0.1131	5.56	14.46	<b>Channel Flow, Subcatchment 5 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
97.0	1,443	Total			

### Subcatchment 5S: Subcatchment 5

Hydrograph



**Summary for Subcatchment 6S: Subcatchment 6**

Runoff = 8.285 cfs @ 12.69 hrs, Volume= 1.229 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

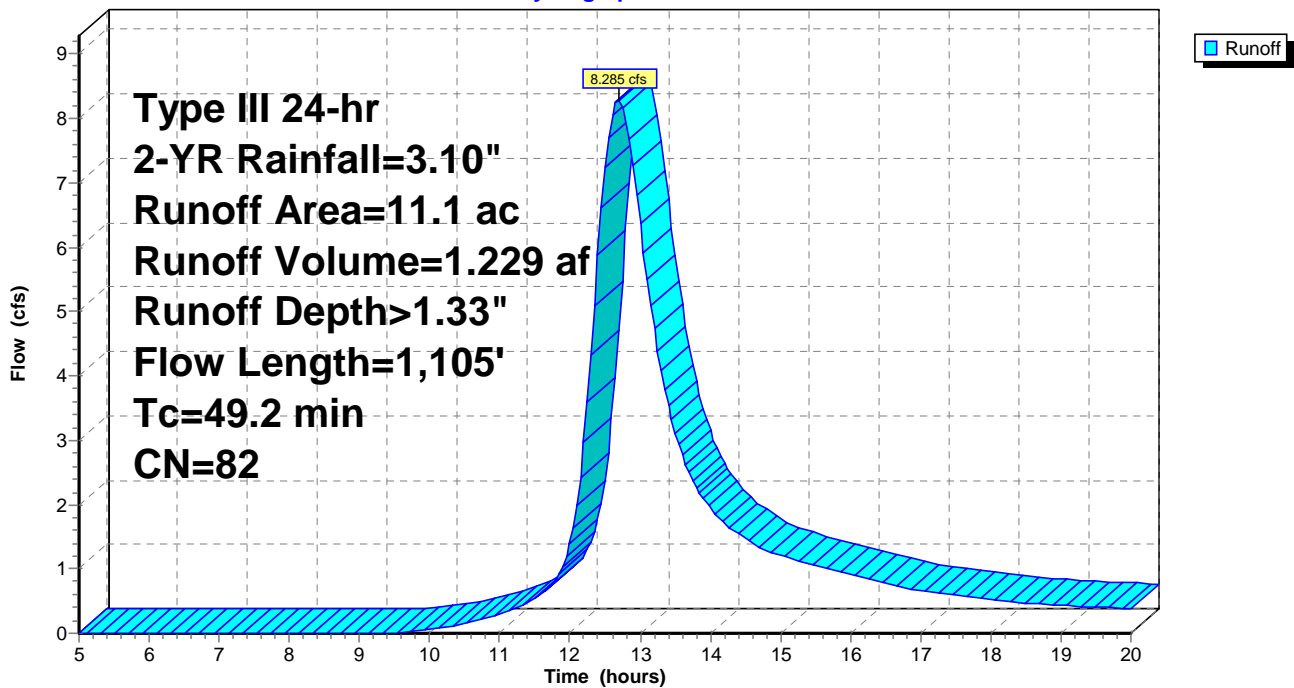
Area (ac)	CN	Description
0.6	76	Woods/grass comb., Fair, HSG C
10.5	82	Woods/grass comb., Fair, HSG D
11.1	82	Weighted Average
11.1		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 6 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
25.2	660	0.0076	0.44		<b>Shallow Concentrated Flow, Subcatchment 6 SCF</b> Woodland Kv= 5.0 fps
1.8	345	0.0355	3.11	8.10	<b>Channel Flow, Subcatchment 6 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds

49.2 1,105 Total

**Subcatchment 6S: Subcatchment 6**

Hydrograph



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

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**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 3.921 cfs @ 12.61 hrs, Volume= 0.544 af, Depth> 1.33"

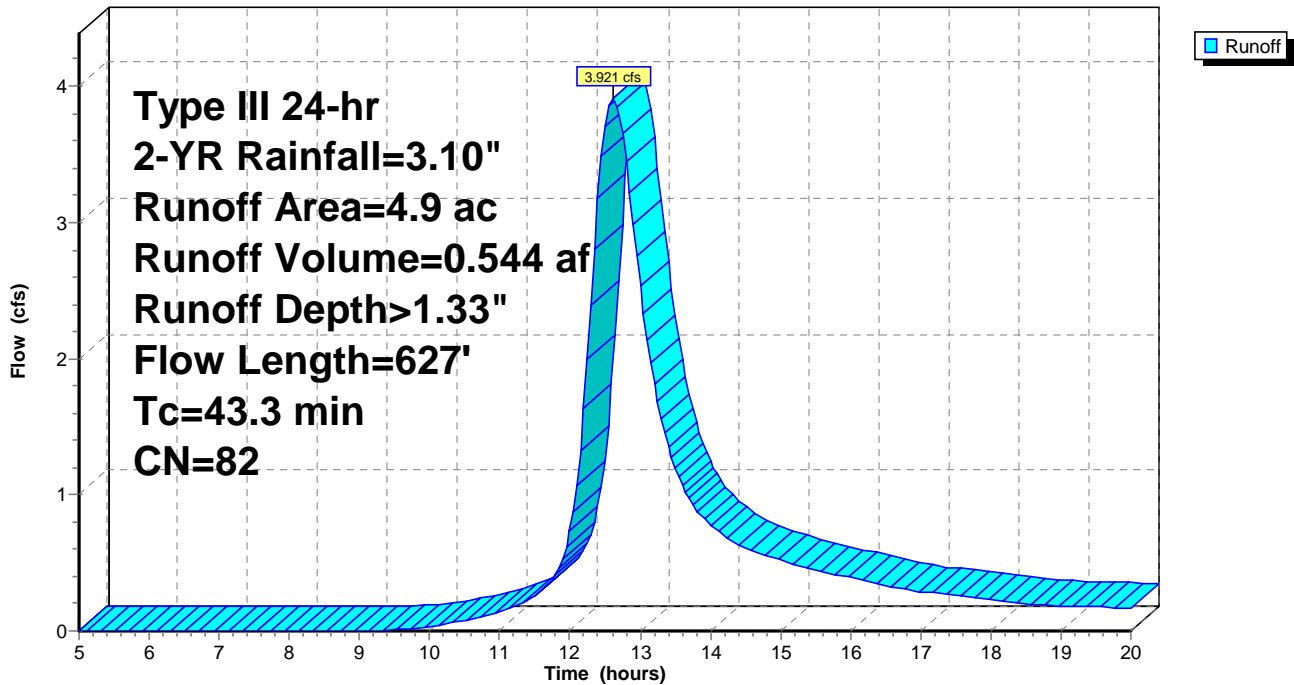
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (ac)	CN	Description
0.1	76	Woods/grass comb., Fair, HSG C
4.8	82	Woods/grass comb., Fair, HSG D
4.9	82	Weighted Average
4.9		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.8	100	0.0125	0.06		<b>Sheet Flow, Subcatchment 7 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
16.5	527	0.0114	0.53		<b>Shallow Concentrated Flow, Subcatchment 7 SCF</b>
					Woodland Kv= 5.0 fps
43.3	627	Total			

**Subcatchment 7S: Subcatchment 7**

Hydrograph



### Summary for Reach 63R: Channel to SP1

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth > 1.21" for 2-YR event  
 Inflow = 0.632 cfs @ 12.59 hrs, Volume= 0.086 af  
 Outflow = 0.566 cfs @ 12.99 hrs, Volume= 0.084 af, Atten= 10%, Lag= 24.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Max. Velocity= 0.66 fps, Min. Travel Time= 13.9 min  
 Avg. Velocity = 0.56 fps, Avg. Travel Time= 16.4 min

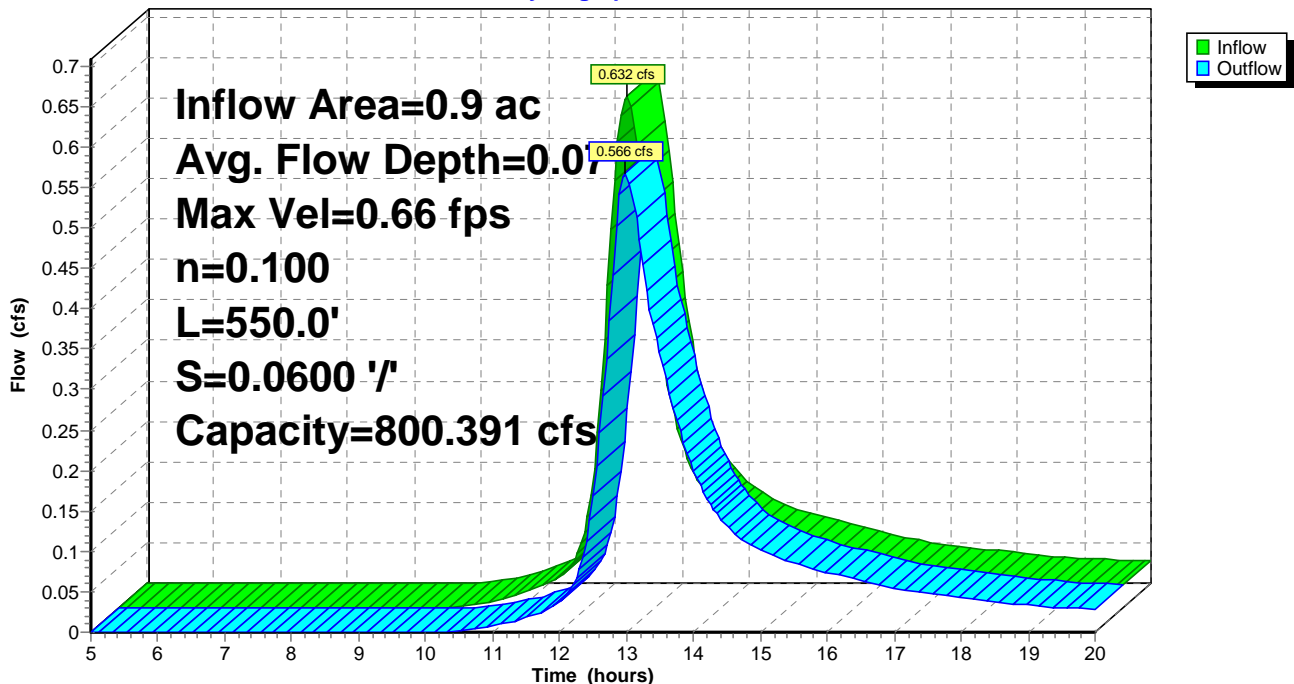
Peak Storage= 474 cf @ 12.76 hrs  
 Average Depth at Peak Storage= 0.07'  
 Bank-Full Depth= 6.00' Flow Area= 93.6 sf, Capacity= 800.391 cfs

12.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
 Side Slope Z-value= 0.6 ' / ' Top Width= 19.20'  
 Length= 550.0' Slope= 0.0600 ' / '  
 Inlet Invert= 58.00', Outlet Invert= 25.00'



### Reach 63R: Channel to SP1

Hydrograph



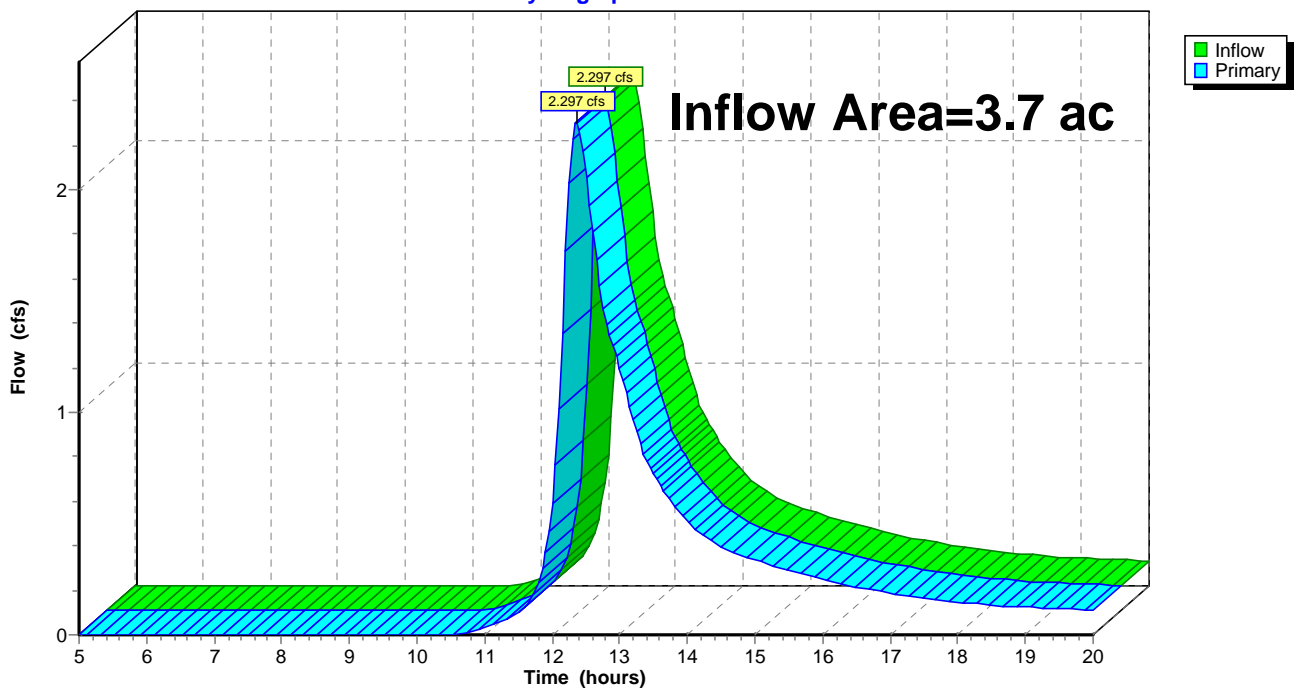
### Summary for Link 8L: SC1 Analysis Point

Inflow Area = 3.7 ac, 0.00% Impervious, Inflow Depth > 1.03" for 2-YR event  
Inflow = 2.297 cfs @ 12.36 hrs, Volume= 0.321 af  
Primary = 2.297 cfs @ 12.36 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 8L: SC1 Analysis Point

Hydrograph



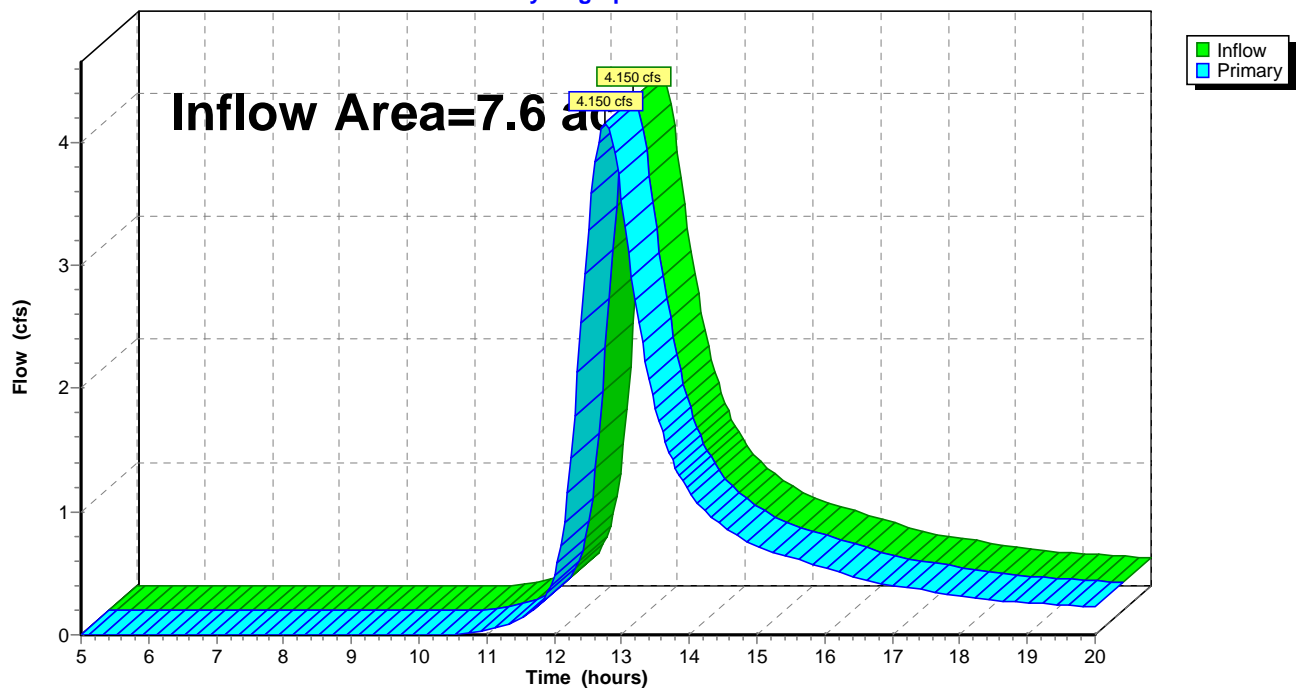
### Summary for Link 9L: SC2 Analysis Point

Inflow Area = 7.6 ac, 0.00% Impervious, Inflow Depth > 1.03" for 2-YR event  
Inflow = 4.150 cfs @ 12.75 hrs, Volume= 0.646 af  
Primary = 4.150 cfs @ 12.75 hrs, Volume= 0.646 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 9L: SC2 Analysis Point

Hydrograph



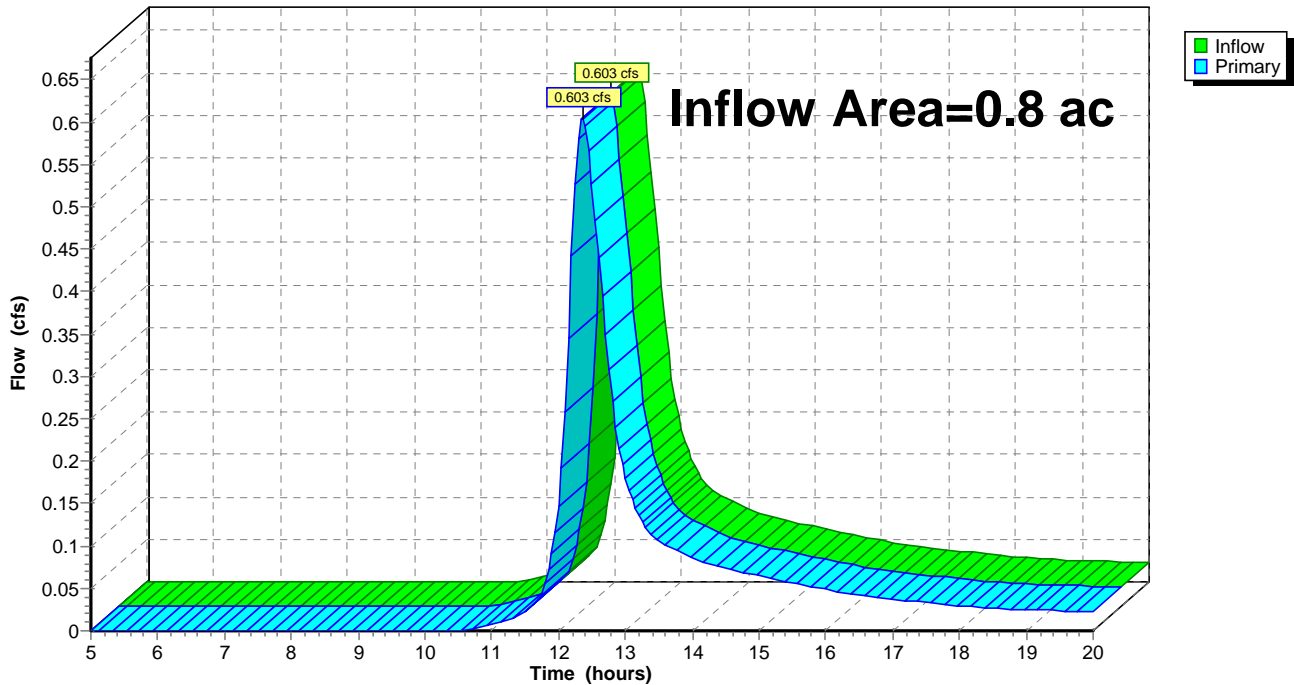
### Summary for Link 10L: SC3 Analysis Point

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth > 0.98" for 2-YR event  
Inflow = 0.603 cfs @ 12.36 hrs, Volume= 0.066 af  
Primary = 0.603 cfs @ 12.36 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 10L: SC3 Analysis Point

Hydrograph





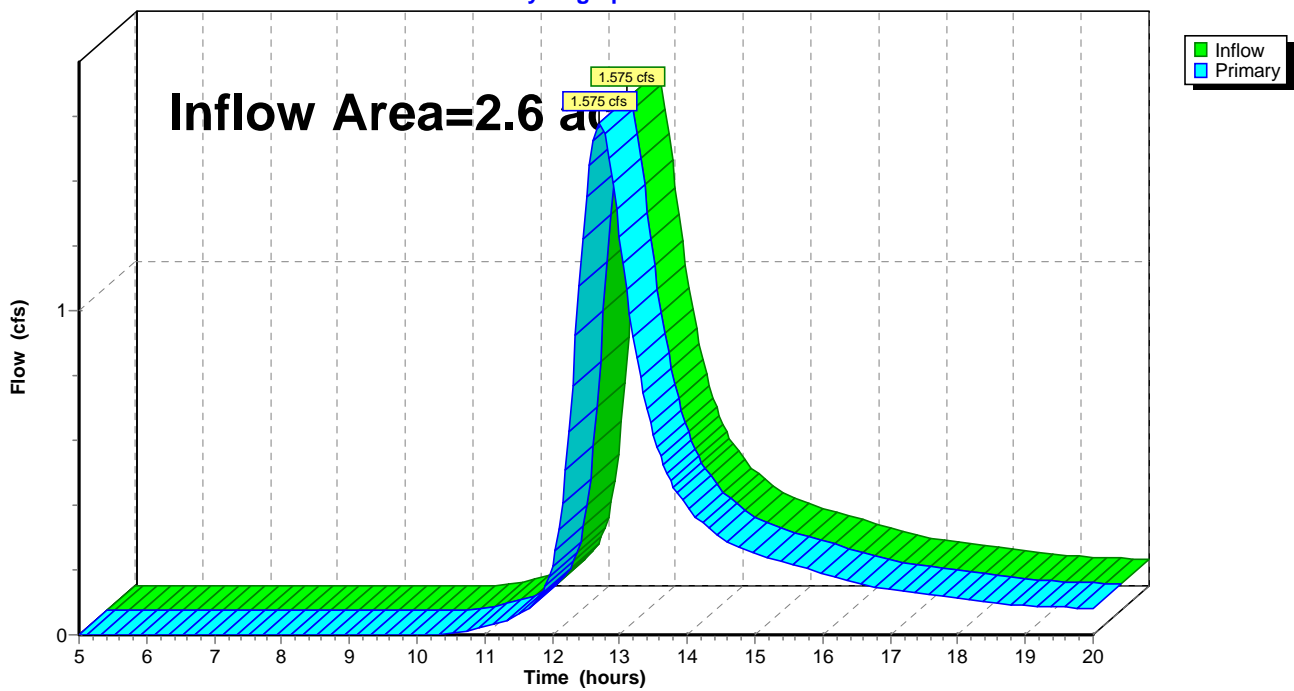
### Summary for Link 11L: SC4 Analysis Point

Inflow Area = 2.6 ac, 0.00% Impervious, Inflow Depth > 1.08" for 2-YR event  
Inflow = 1.575 cfs @ 12.70 hrs, Volume= 0.235 af  
Primary = 1.575 cfs @ 12.70 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 11L: SC4 Analysis Point

Hydrograph



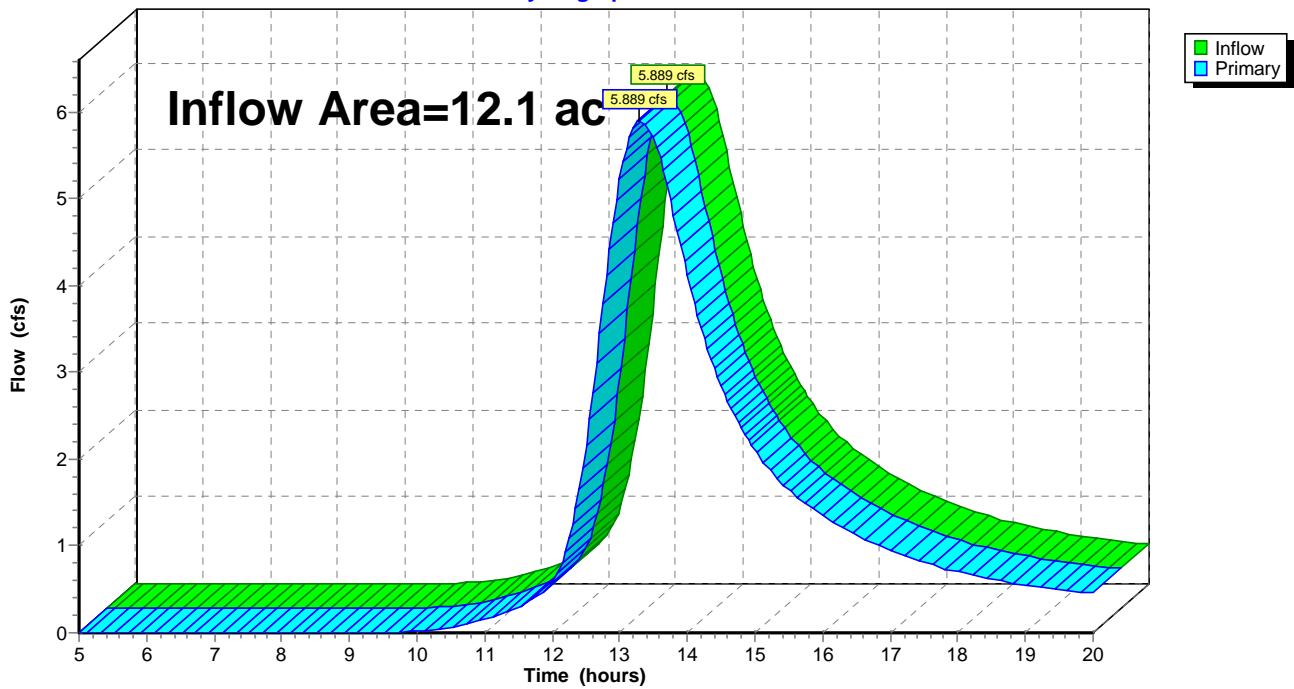
### Summary for Link 12L: SC5 Analysis Point

Inflow Area = 12.1 ac, 0.00% Impervious, Inflow Depth > 1.30" for 2-YR event  
Inflow = 5.889 cfs @ 13.30 hrs, Volume= 1.312 af  
Primary = 5.889 cfs @ 13.30 hrs, Volume= 1.312 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 12L: SC5 Analysis Point

Hydrograph



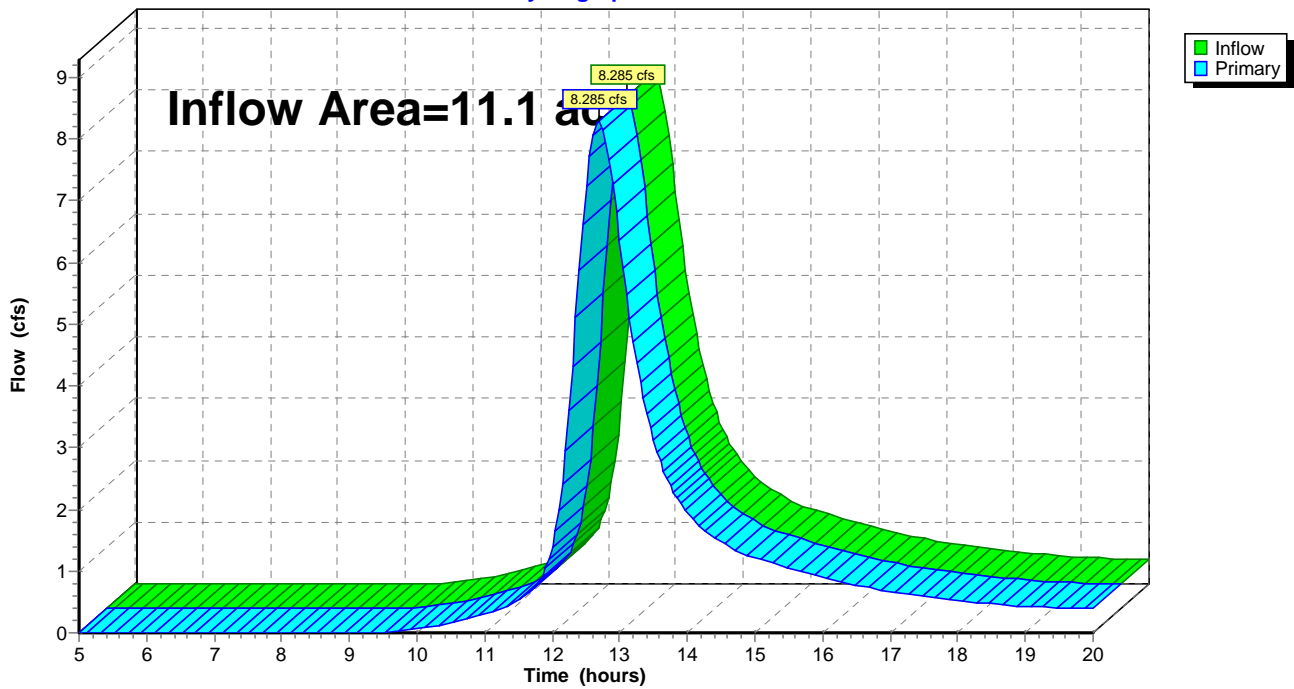
### Summary for Link 13L: SC6 Analysis Point

Inflow Area = 11.1 ac, 0.00% Impervious, Inflow Depth > 1.33" for 2-YR event  
Inflow = 8.285 cfs @ 12.69 hrs, Volume= 1.229 af  
Primary = 8.285 cfs @ 12.69 hrs, Volume= 1.229 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 13L: SC6 Analysis Point

Hydrograph



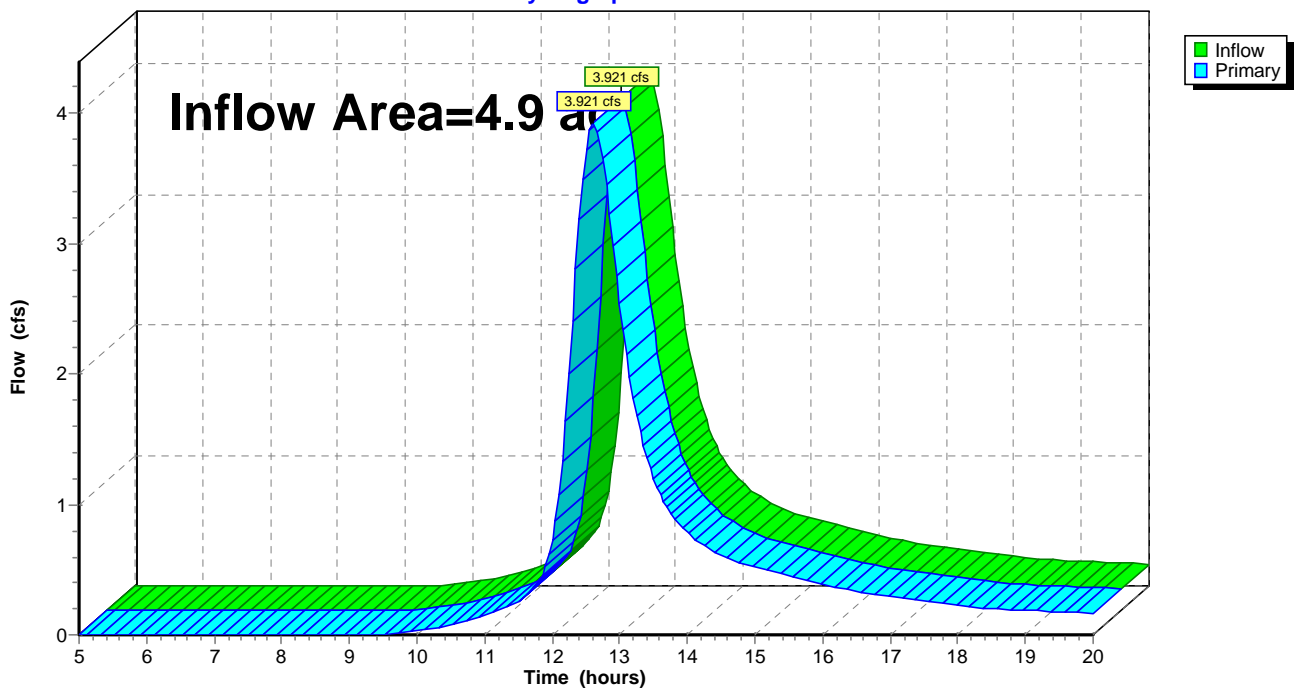
### Summary for Link 14L: SC7 Analysis Point

Inflow Area = 4.9 ac, 0.00% Impervious, Inflow Depth > 1.33" for 2-YR event  
Inflow = 3.921 cfs @ 12.61 hrs, Volume= 0.544 af  
Primary = 3.921 cfs @ 12.61 hrs, Volume= 0.544 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 14L: SC7 Analysis Point

Hydrograph



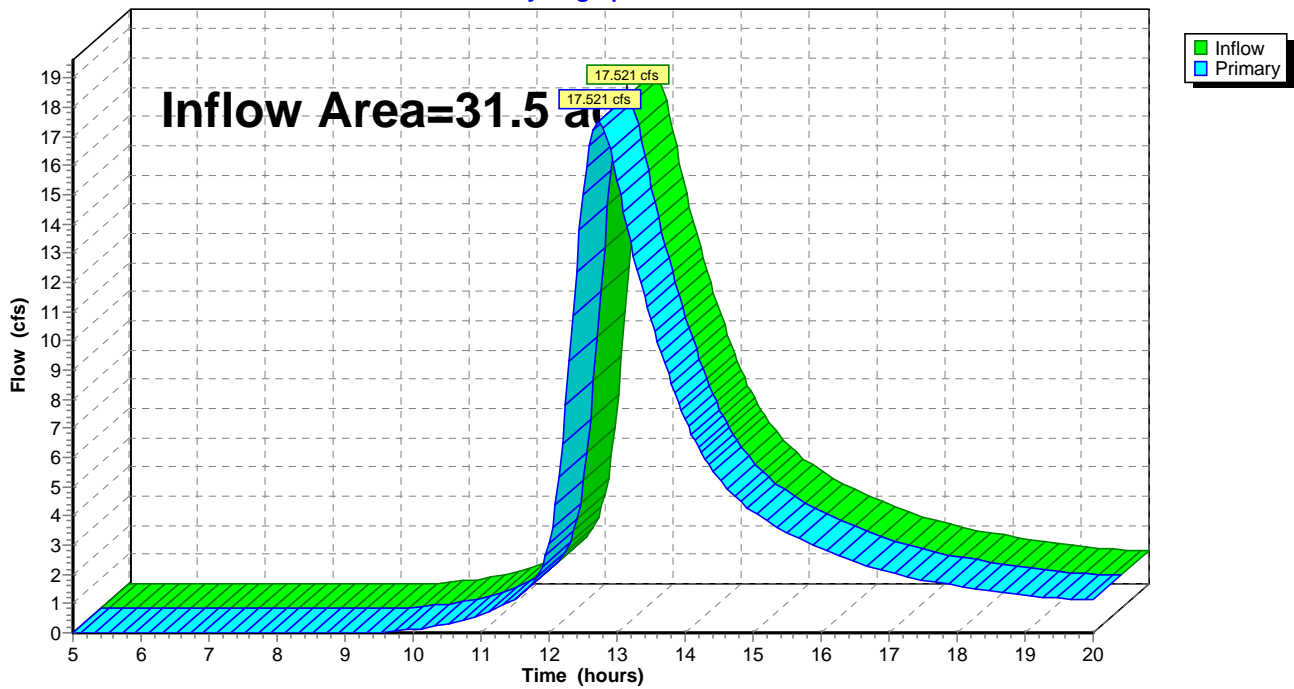
### Summary for Link 15L: Canal Subtotal

Inflow Area = 31.5 ac, 0.00% Impervious, Inflow Depth > 1.29" for 2-YR event  
Inflow = 17.521 cfs @ 12.74 hrs, Volume= 3.385 af  
Primary = 17.521 cfs @ 12.74 hrs, Volume= 3.385 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 15L: Canal Subtotal

Hydrograph



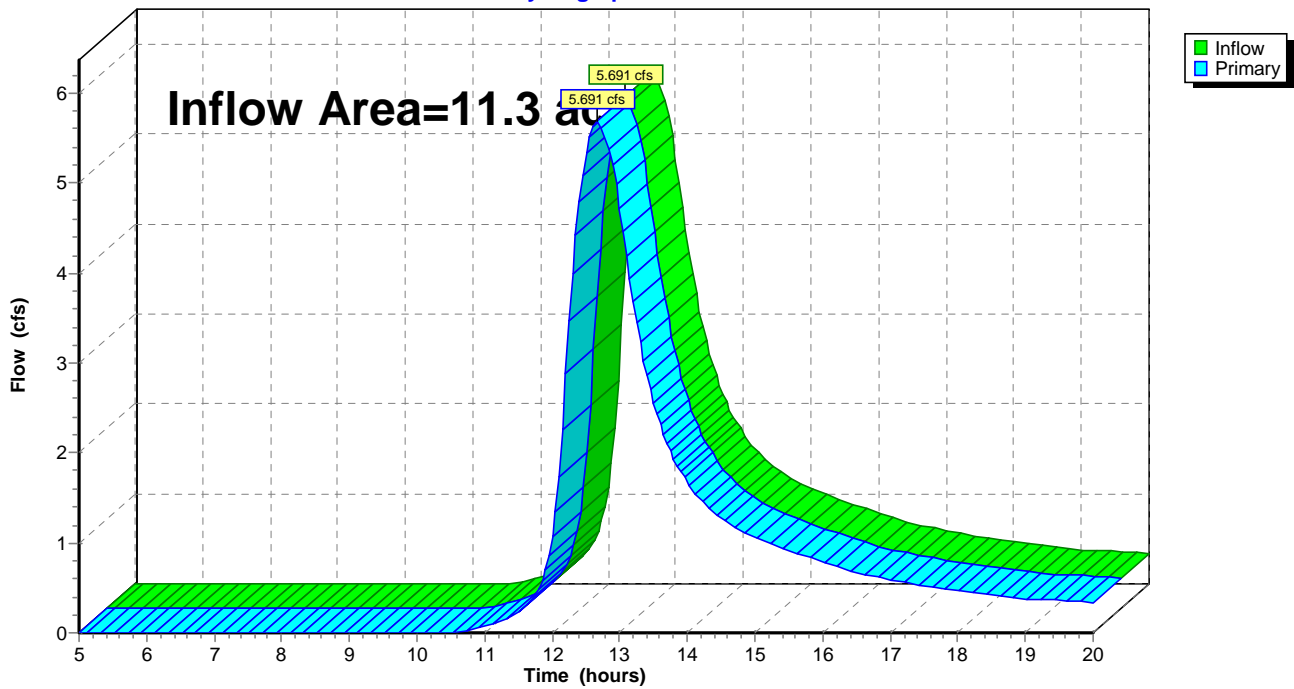
### Summary for Link 16L: Energy East Subtotal

Inflow Area = 11.3 ac, 0.00% Impervious, Inflow Depth > 1.03" for 2-YR event  
Inflow = 5.691 cfs @ 12.67 hrs, Volume= 0.967 af  
Primary = 5.691 cfs @ 12.67 hrs, Volume= 0.967 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 16L: Energy East Subtotal

Hydrograph



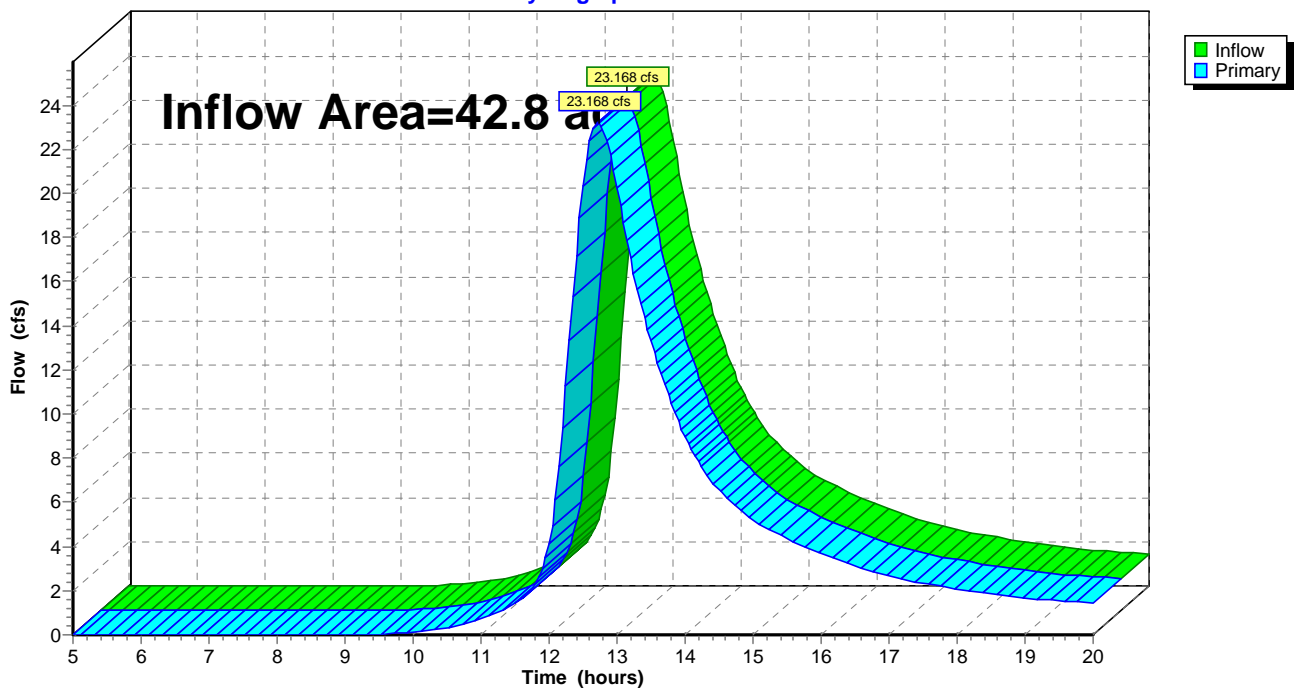
### Summary for Link 17L: Pre-Development Total

Inflow Area = 42.8 ac, 0.00% Impervious, Inflow Depth > 1.22" for 2-YR event  
Inflow = 23.168 cfs @ 12.72 hrs, Volume= 4.351 af  
Primary = 23.168 cfs @ 12.72 hrs, Volume= 4.351 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 17L: Pre-Development Total

Hydrograph



**Pre-Development - 2015.09.25**

Prepared by Woodard & Curran

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PRE  
Type III 24-hr 10-YR Rainfall=4.60"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=125,734 sf 0.00% Impervious Runoff Depth>2.04" Flow Length=694' Tc=23.5 min CN=76 Runoff=4.667 cfs 0.490 af
<b>Subcatchment 1Sa: Subcatchment 1a</b>	Runoff Area=37,129 sf 0.00% Impervious Runoff Depth>2.35" Flow Length=528' Tc=41.1 min CN=80 Runoff=1.236 cfs 0.167 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=329,260 sf 0.00% Impervious Runoff Depth>2.09" Flow Length=1,298' Tc=52.3 min CN=77 Runoff=8.619 cfs 1.318 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=0.8 ac 0.00% Impervious Runoff Depth>2.04" Flow Length=275' Tc=24.2 min CN=76 Runoff=1.279 cfs 0.136 af
<b>Subcatchment 4S: Subcatchment 4</b>	Runoff Area=2.6 ac 0.00% Impervious Runoff Depth>2.17" Flow Length=717' Tc=48.7 min CN=78 Runoff=3.200 cfs 0.471 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=12.1 ac 0.00% Impervious Runoff Depth>2.46" Flow Length=1,443' Tc=97.0 min CN=82 Runoff=11.189 cfs 2.485 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=11.1 ac 0.00% Impervious Runoff Depth>2.51" Flow Length=1,105' Tc=49.2 min CN=82 Runoff=15.626 cfs 2.322 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=4.9 ac 0.00% Impervious Runoff Depth>2.52" Flow Length=627' Tc=43.3 min CN=82 Runoff=7.382 cfs 1.027 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.11' Max Vel=0.85 fps Inflow=1.236 cfs 0.167 af n=0.100 L=550.0' S=0.0600 '/ Capacity=800.391 cfs Outflow=1.152 cfs 0.165 af
<b>Link 8L: SC1 Analysis Point</b>	Inflow=4.931 cfs 0.654 af Primary=4.931 cfs 0.654 af
<b>Link 9L: SC2 Analysis Point</b>	Inflow=8.619 cfs 1.318 af Primary=8.619 cfs 1.318 af
<b>Link 10L: SC3 Analysis Point</b>	Inflow=1.279 cfs 0.136 af Primary=1.279 cfs 0.136 af
<b>Link 11L: SC4 Analysis Point</b>	Inflow=3.200 cfs 0.471 af Primary=3.200 cfs 0.471 af
<b>Link 12L: SC5 Analysis Point</b>	Inflow=11.189 cfs 2.485 af Primary=11.189 cfs 2.485 af
<b>Link 13L: SC6 Analysis Point</b>	Inflow=15.626 cfs 2.322 af Primary=15.626 cfs 2.322 af
<b>Link 14L: SC7 Analysis Point</b>	Inflow=7.382 cfs 1.027 af Primary=7.382 cfs 1.027 af



**Pre-Development - 2015.09.25**

Prepared by Woodard & Curran

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PRE

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

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**Link 15L: Canal Subtotal**

Inflow=33.544 cfs 6.441 af  
Primary=33.544 cfs 6.441 af

**Link 16L: Energy East Subtotal**

Inflow=12.110 cfs 1.972 af  
Primary=12.110 cfs 1.972 af

**Link 17L: Pre-Development Total**

Inflow=45.544 cfs 8.413 af  
Primary=45.544 cfs 8.413 af

**Total Runoff Area = 42.8 ac   Runoff Volume = 8.415 af   Average Runoff Depth = 2.36"**  
**100.00% Pervious = 42.8 ac   0.00% Impervious = 0.0 ac**

### Summary for Subcatchment 1S: Subcatchment 1

Runoff = 4.667 cfs @ 12.33 hrs, Volume= 0.490 af, Depth> 2.04"

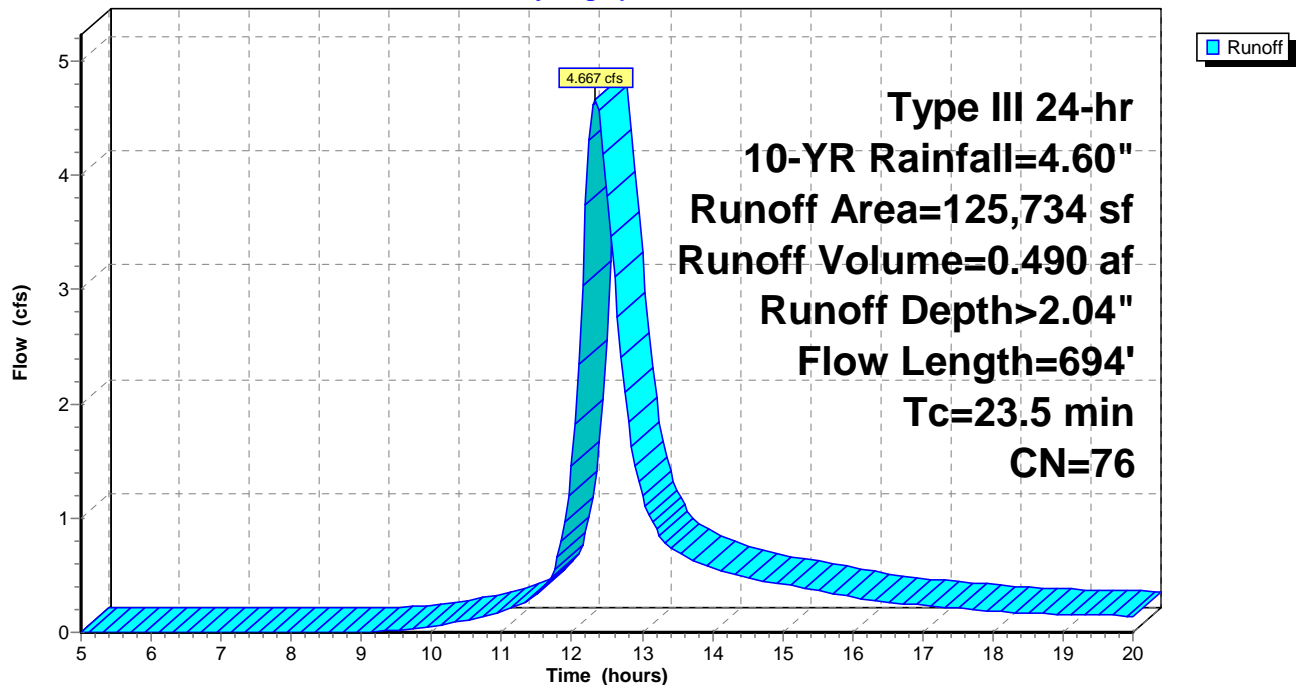
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
22,775	76	Woods/grass comb., Fair, HSG C
33,774	76	Woods/grass comb., Fair, HSG C
48,824	76	Woods/grass comb., Fair, HSG C
20,361	76	Woods/grass comb., Fair, HSG C
125,734	76	Weighted Average
125,734		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.5	100	0.0275	0.09		<b>Sheet Flow, Subcatchment 1 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.5	230	0.0967	1.55		<b>Shallow Concentrated Flow, Subcatchment 1 SCF</b> Woodland Kv= 5.0 fps
1.5	364	0.0632	4.16	10.81	<b>Channel Flow, Subcatchment 1 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
23.5	694	Total			

### Subcatchment 1S: Subcatchment 1

Hydrograph



### Summary for Subcatchment 1Sa: Subcatchment 1a

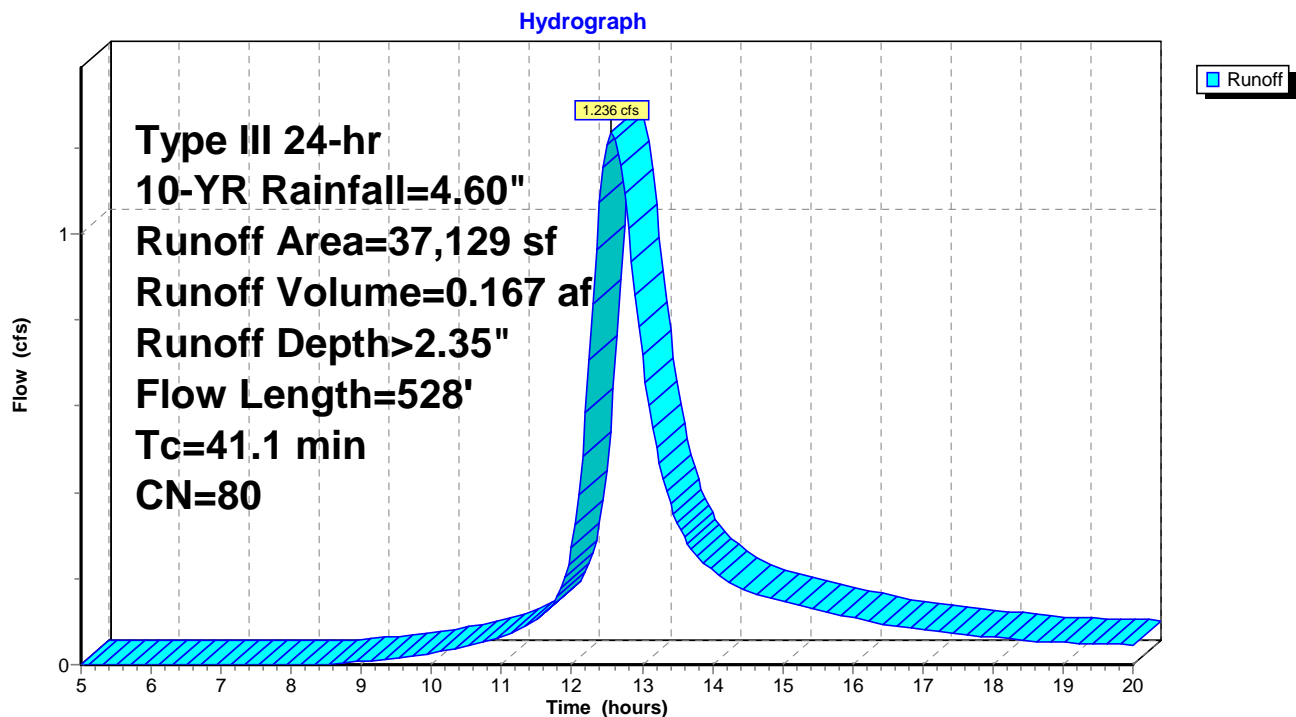
Runoff = 1.236 cfs @ 12.57 hrs, Volume= 0.167 af, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
6,341	76	Woods/grass comb., Fair, HSG C
5,003	76	Woods/grass comb., Fair, HSG C
25,785	82	Woods/grass comb., Fair, HSG D
37,129	80	Weighted Average
37,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 1a Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 1a SCF</b> Woodland Kv= 5.0 fps
5.3	296	0.0304	0.93	39.59	<b>Trap/Vee/Rect Channel Flow, Subcatchment 1a CF</b> Bot.W=21.00' D=2.00' Z= 0.2 ' / Top.W=21.80' n= 0.400 Sheet flow: Woods+light brush
41.1	528	Total			

### Subcatchment 1Sa: Subcatchment 1a



**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 8.619 cfs @ 12.73 hrs, Volume= 1.318 af, Depth> 2.09"

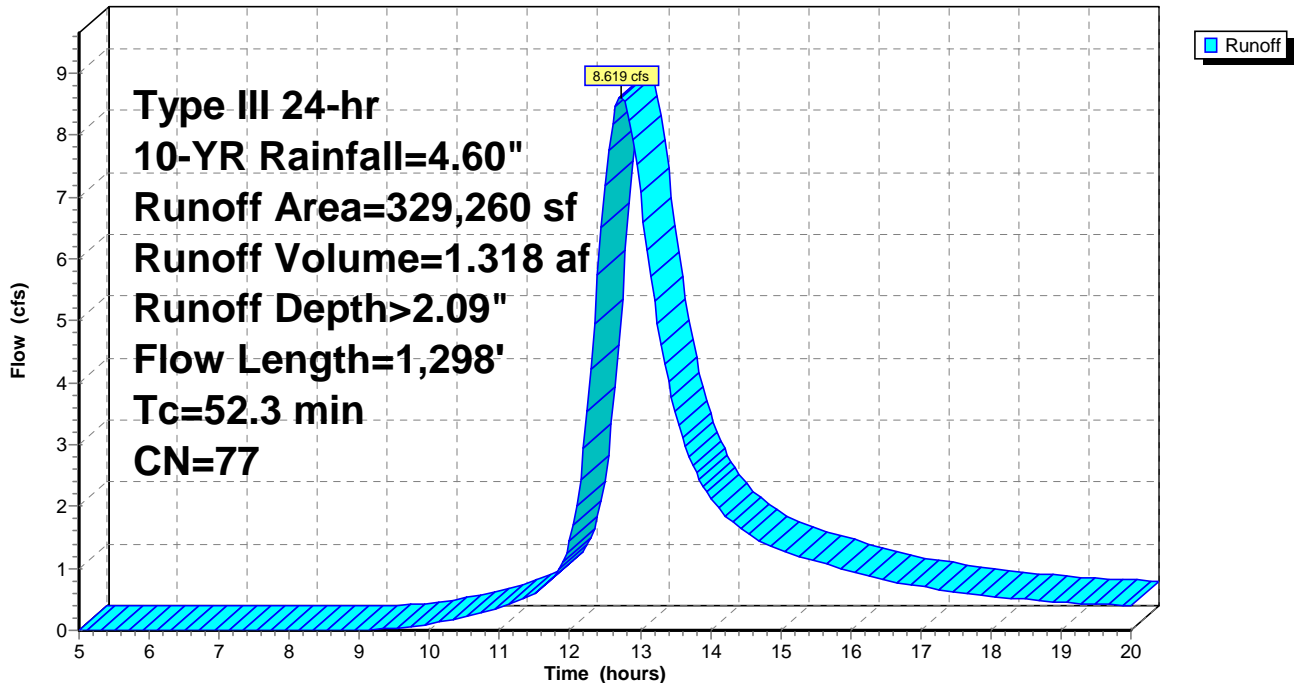
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
205,873	76	Woods/grass comb., Fair, HSG C
81,625	76	Woods/grass comb., Fair, HSG C
40,571	82	Woods/grass comb., Fair, HSG D
1,191	76	Woods/grass comb., Fair, HSG C
329,260	77	Weighted Average
329,260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6	100	0.0057	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.5	329	0.0091	0.48		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
4.2	869	0.0434	3.44	8.95	<b>Channel Flow, Subcatchment 2 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
52.3	1,298	Total			

**Subcatchment 2S: Subcatchment 2**

Hydrograph



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PRE  
Type III 24-hr 10-YR Rainfall=4.60"

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**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 1.279 cfs @ 12.35 hrs, Volume= 0.136 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

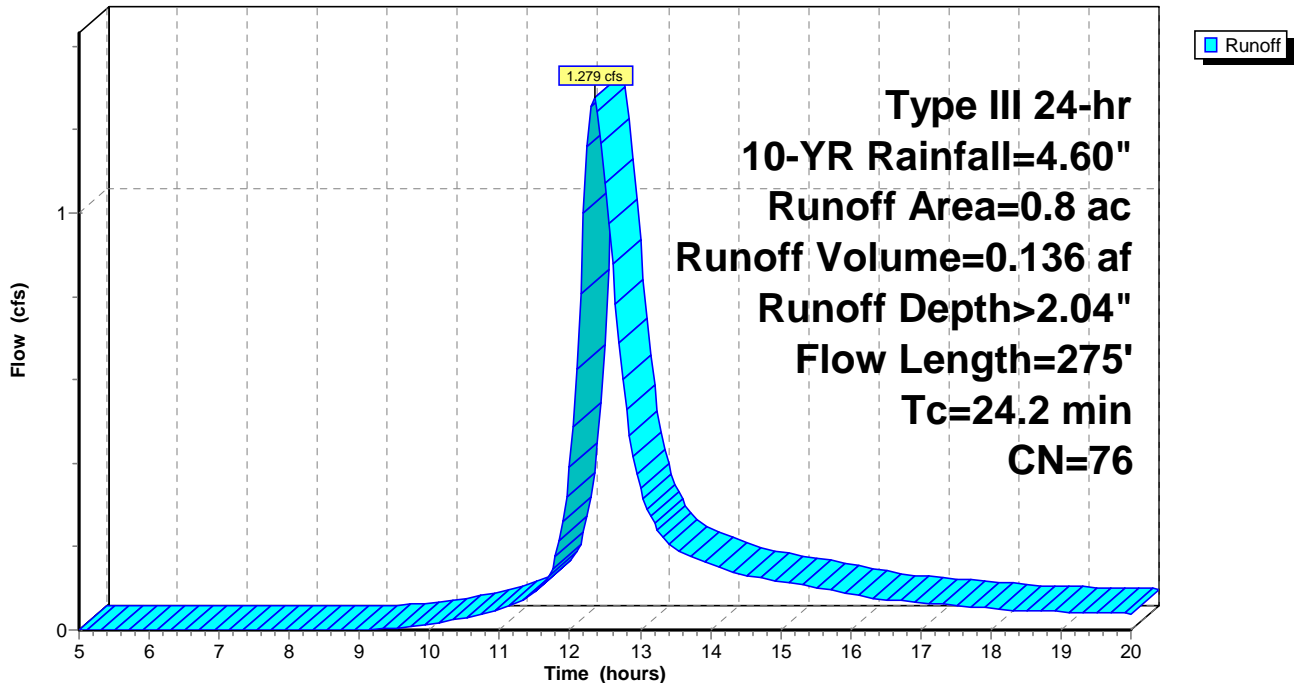
Area (ac)	CN	Description
0.8	76	Woods/grass comb., Fair, HSG C
0.8		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 3 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 3 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 3S: Subcatchment 3**

Hydrograph



### Summary for Subcatchment 4S: Subcatchment 4

Runoff = 3.200 cfs @ 12.68 hrs, Volume= 0.471 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

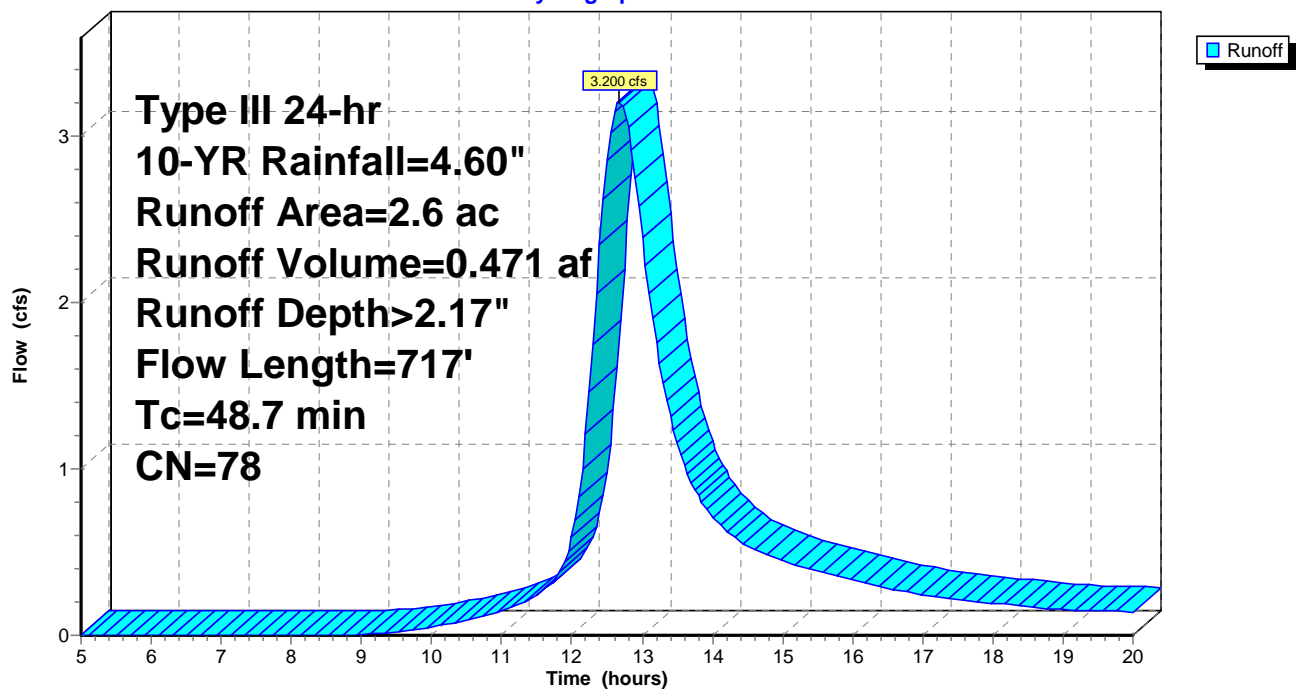
Area (ac)	CN	Description
1.6	76	Woods/grass comb., Fair, HSG C
1.0	82	Woods/grass comb., Fair, HSG D
2.6	78	Weighted Average
2.6		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

### Subcatchment 4S: Subcatchment 4

Hydrograph



### Summary for Subcatchment 5S: Subcatchment 5

Runoff = 11.189 cfs @ 13.27 hrs, Volume= 2.485 af, Depth> 2.46"

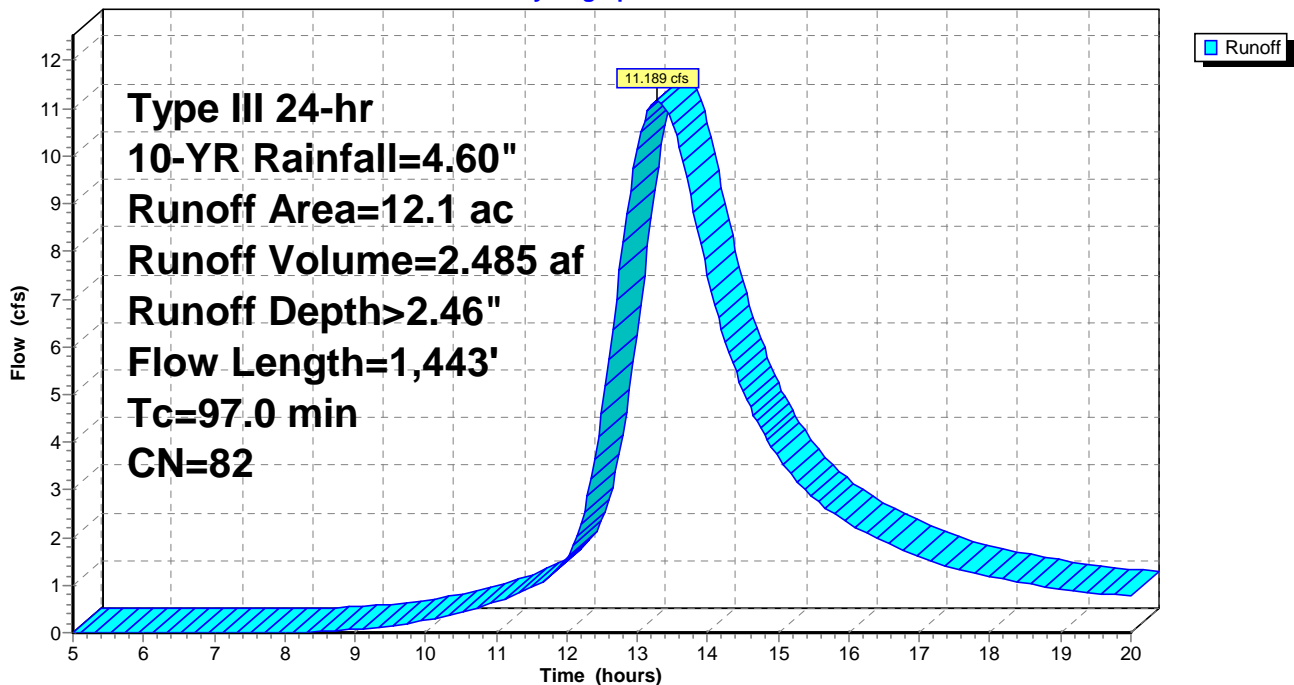
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (ac)	CN	Description
0.7	76	Woods/grass comb., Fair, HSG C
0.1	76	Woods/grass comb., Fair, HSG C
11.3	82	Woods/grass comb., Fair, HSG D
12.1	82	Weighted Average
12.1		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 5 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
67.2	1,175	0.0034	0.29		<b>Shallow Concentrated Flow, Subcatchment 5 SCF</b> Woodland Kv= 5.0 fps
0.5	168	0.1131	5.56	14.46	<b>Channel Flow, Subcatchment 5 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
97.0	1,443	Total			

### Subcatchment 5S: Subcatchment 5

Hydrograph



### Summary for Subcatchment 6S: Subcatchment 6

Runoff = 15.626 cfs @ 12.67 hrs, Volume= 2.322 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

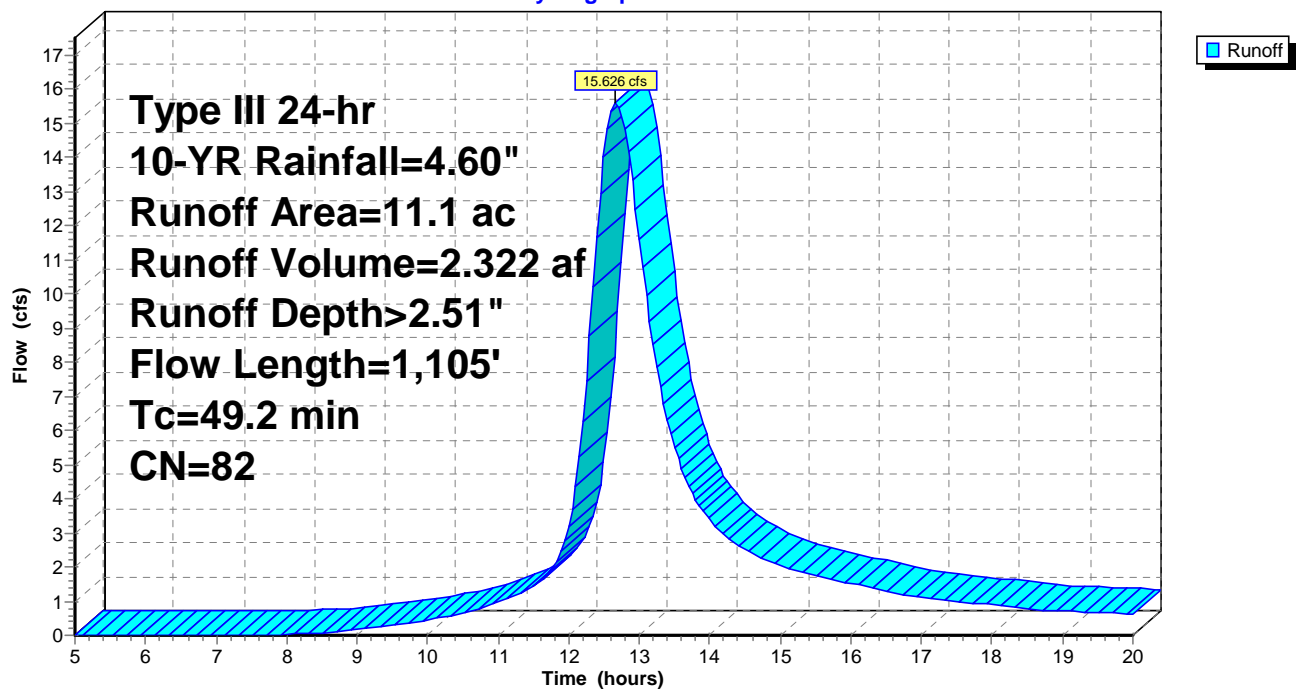
Area (ac)	CN	Description
0.6	76	Woods/grass comb., Fair, HSG C
10.5	82	Woods/grass comb., Fair, HSG D
11.1	82	Weighted Average
11.1		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 6 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
25.2	660	0.0076	0.44		<b>Shallow Concentrated Flow, Subcatchment 6 SCF</b> Woodland Kv= 5.0 fps
1.8	345	0.0355	3.11	8.10	<b>Channel Flow, Subcatchment 6 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
49.2	1,105	Total			

### Subcatchment 6S: Subcatchment 6

Hydrograph





**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 7.382 cfs @ 12.59 hrs, Volume= 1.027 af, Depth> 2.52"

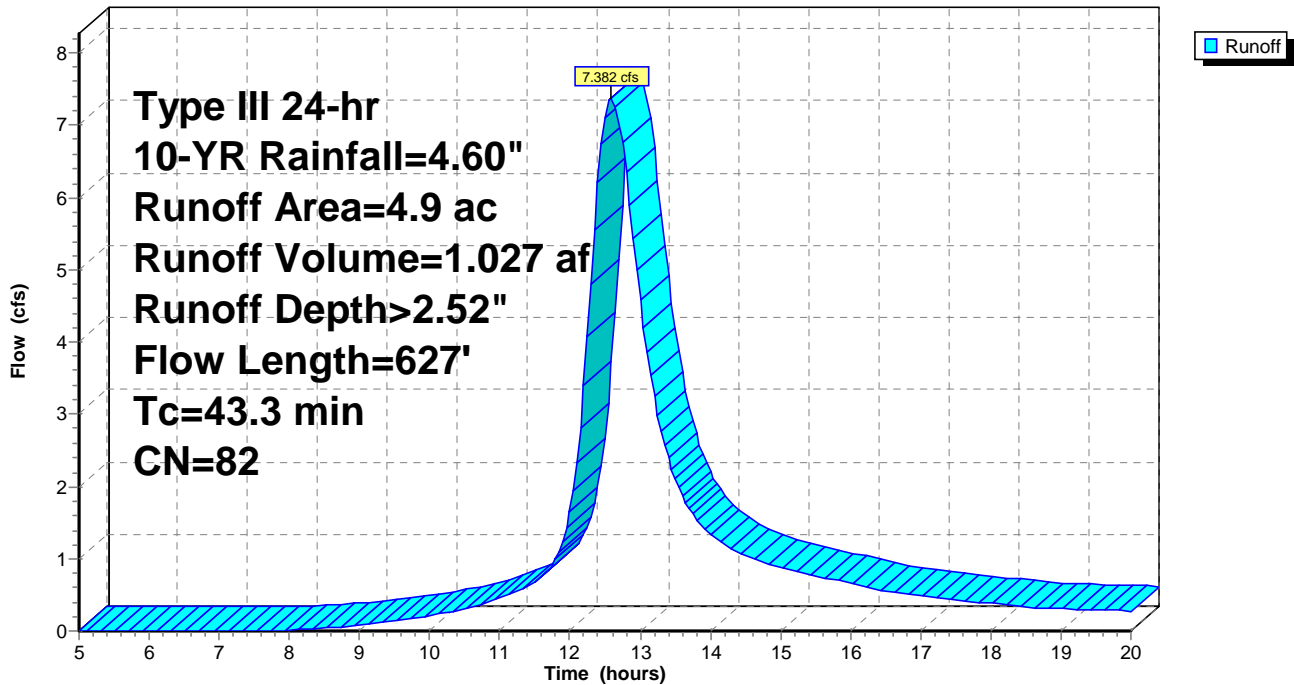
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (ac)	CN	Description
0.1	76	Woods/grass comb., Fair, HSG C
4.8	82	Woods/grass comb., Fair, HSG D
4.9	82	Weighted Average
4.9		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.8	100	0.0125	0.06		<b>Sheet Flow, Subcatchment 7 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
16.5	527	0.0114	0.53		<b>Shallow Concentrated Flow, Subcatchment 7 SCF</b>
					Woodland Kv= 5.0 fps
43.3	627	Total			

**Subcatchment 7S: Subcatchment 7**

Hydrograph



**Pre-Development - 2015.09.25**

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

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**Summary for Reach 63R: Channel to SP1**

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth > 2.35" for 10-YR event  
 Inflow = 1.236 cfs @ 12.57 hrs, Volume= 0.167 af  
 Outflow = 1.152 cfs @ 12.88 hrs, Volume= 0.165 af, Atten= 7%, Lag= 18.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Max. Velocity= 0.85 fps, Min. Travel Time= 10.7 min  
 Avg. Velocity = 0.57 fps, Avg. Travel Time= 16.0 min

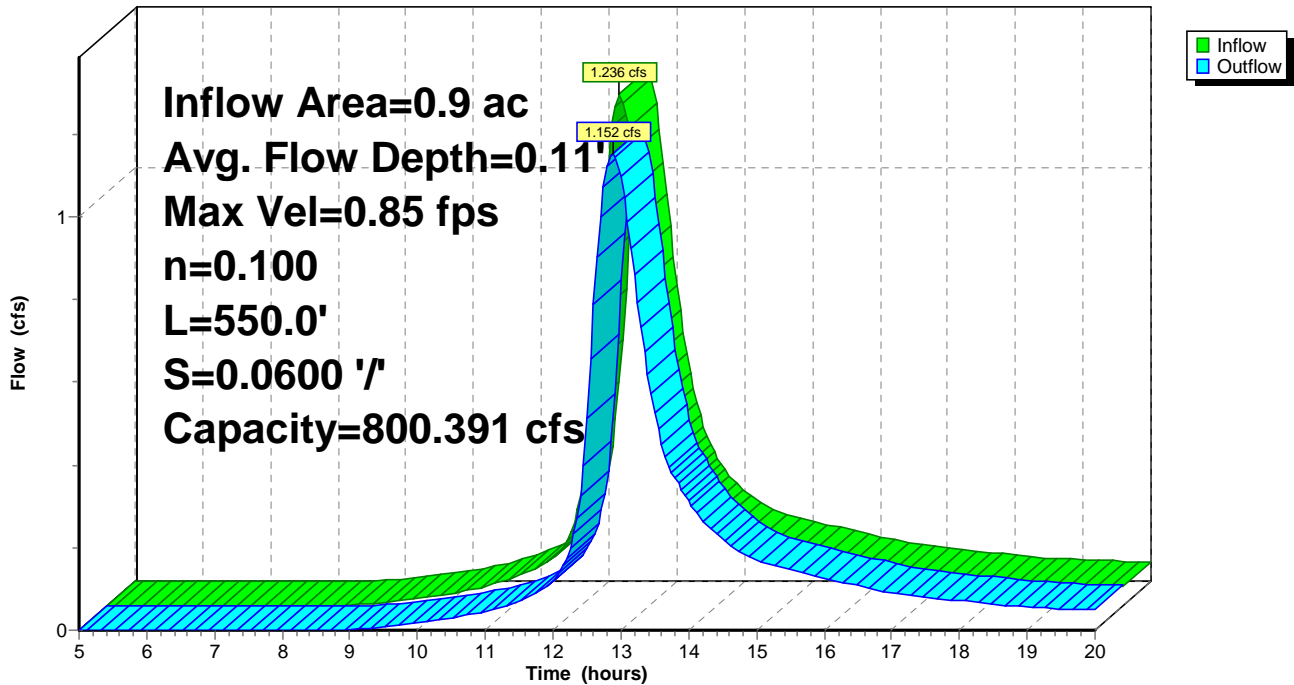
Peak Storage= 744 cf @ 12.70 hrs  
 Average Depth at Peak Storage= 0.11'  
 Bank-Full Depth= 6.00' Flow Area= 93.6 sf, Capacity= 800.391 cfs

12.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
 Side Slope Z-value= 0.6 '/' Top Width= 19.20'  
 Length= 550.0' Slope= 0.0600 '/'  
 Inlet Invert= 58.00', Outlet Invert= 25.00'



**Reach 63R: Channel to SP1**

Hydrograph



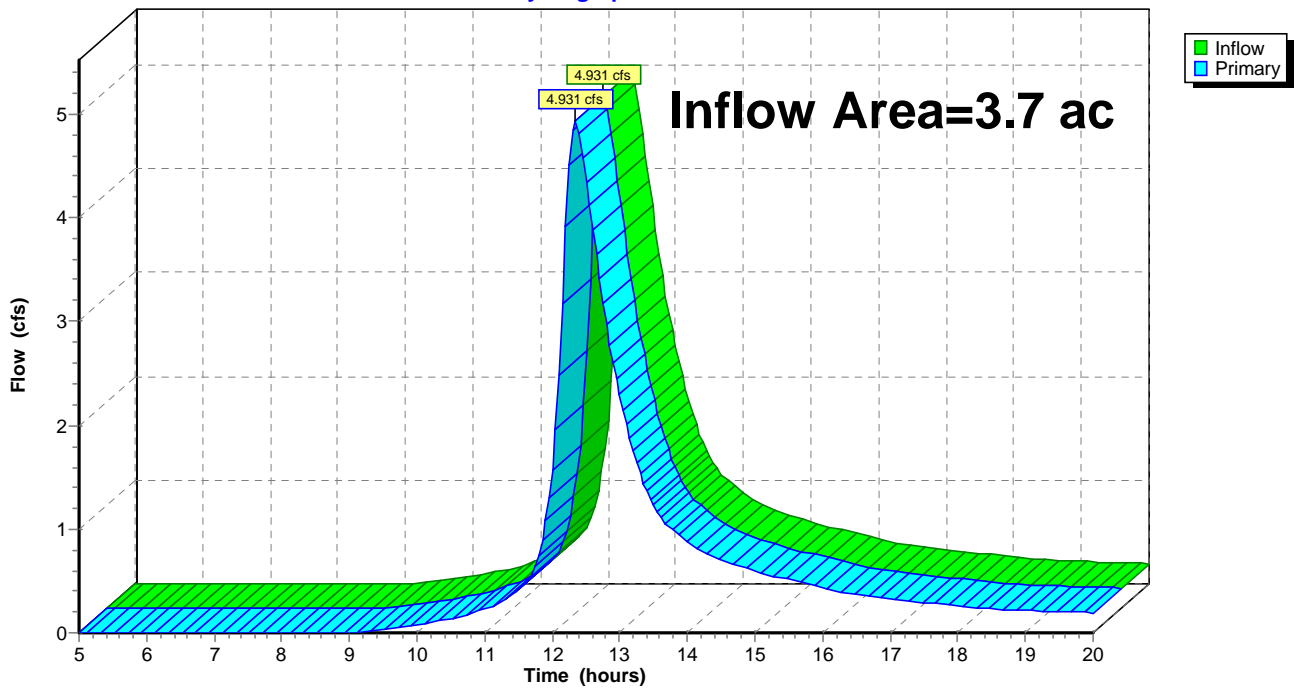
### Summary for Link 8L: SC1 Analysis Point

Inflow Area = 3.7 ac, 0.00% Impervious, Inflow Depth > 2.10" for 10-YR event  
Inflow = 4.931 cfs @ 12.35 hrs, Volume= 0.654 af  
Primary = 4.931 cfs @ 12.35 hrs, Volume= 0.654 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 8L: SC1 Analysis Point

Hydrograph



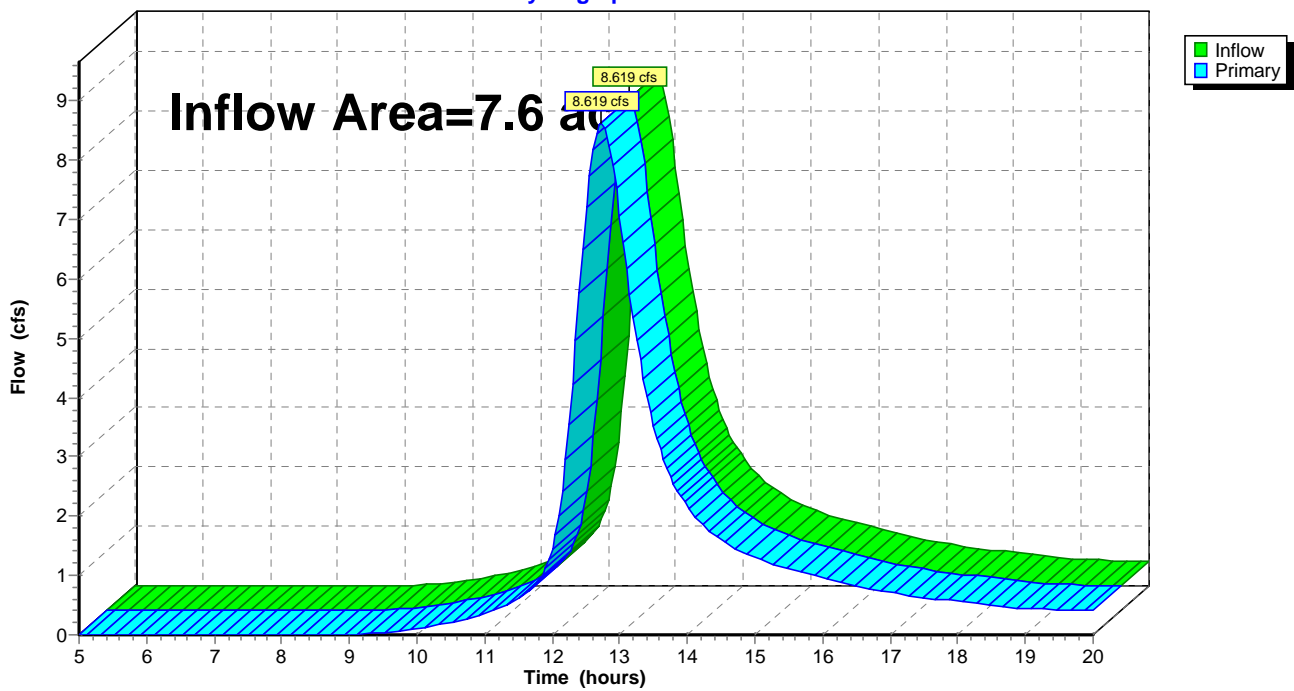
### Summary for Link 9L: SC2 Analysis Point

Inflow Area = 7.6 ac, 0.00% Impervious, Inflow Depth > 2.09" for 10-YR event  
Inflow = 8.619 cfs @ 12.73 hrs, Volume= 1.318 af  
Primary = 8.619 cfs @ 12.73 hrs, Volume= 1.318 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 9L: SC2 Analysis Point

Hydrograph



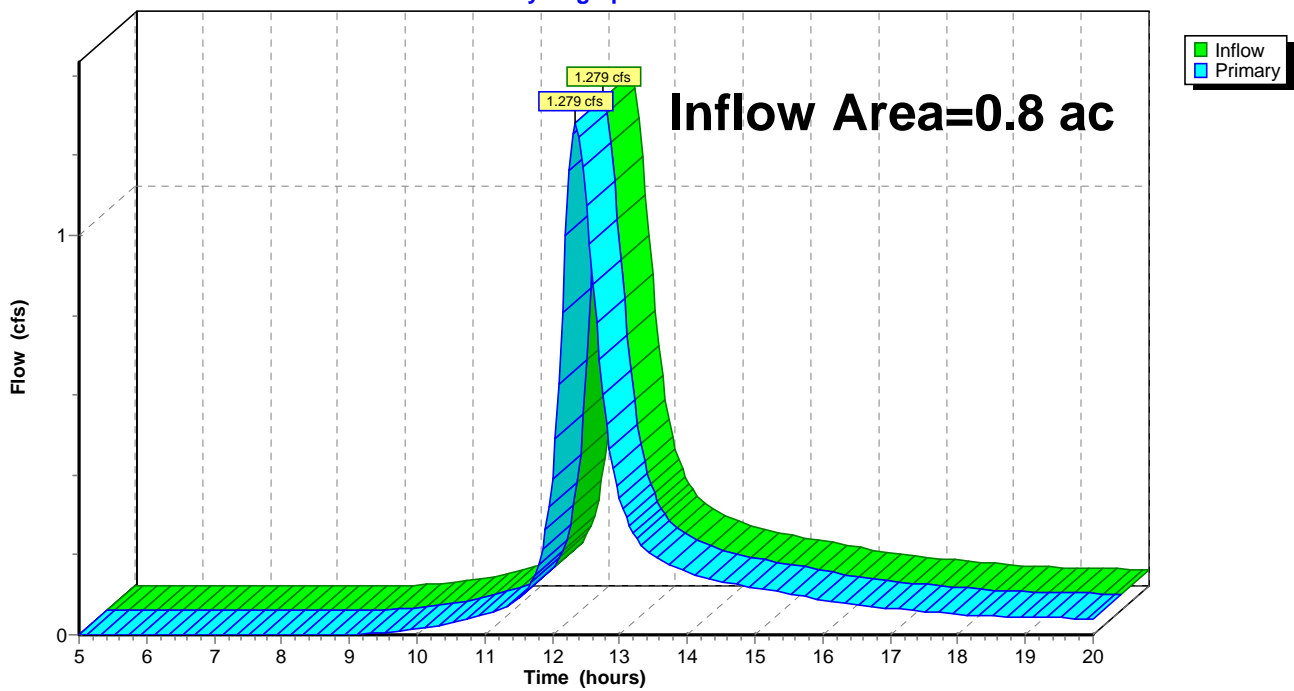
### Summary for Link 10L: SC3 Analysis Point

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth > 2.04" for 10-YR event  
Inflow = 1.279 cfs @ 12.35 hrs, Volume= 0.136 af  
Primary = 1.279 cfs @ 12.35 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 10L: SC3 Analysis Point

Hydrograph



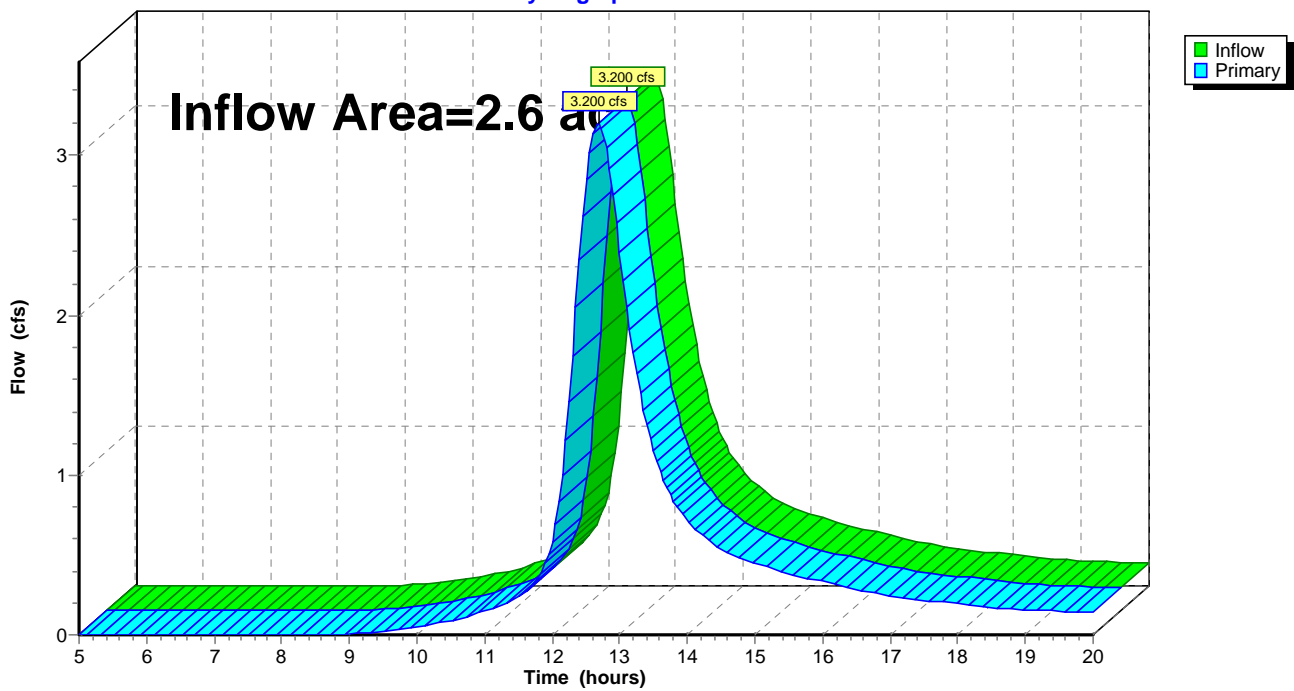
### Summary for Link 11L: SC4 Analysis Point

Inflow Area = 2.6 ac, 0.00% Impervious, Inflow Depth > 2.17" for 10-YR event  
Inflow = 3.200 cfs @ 12.68 hrs, Volume= 0.471 af  
Primary = 3.200 cfs @ 12.68 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 11L: SC4 Analysis Point

Hydrograph



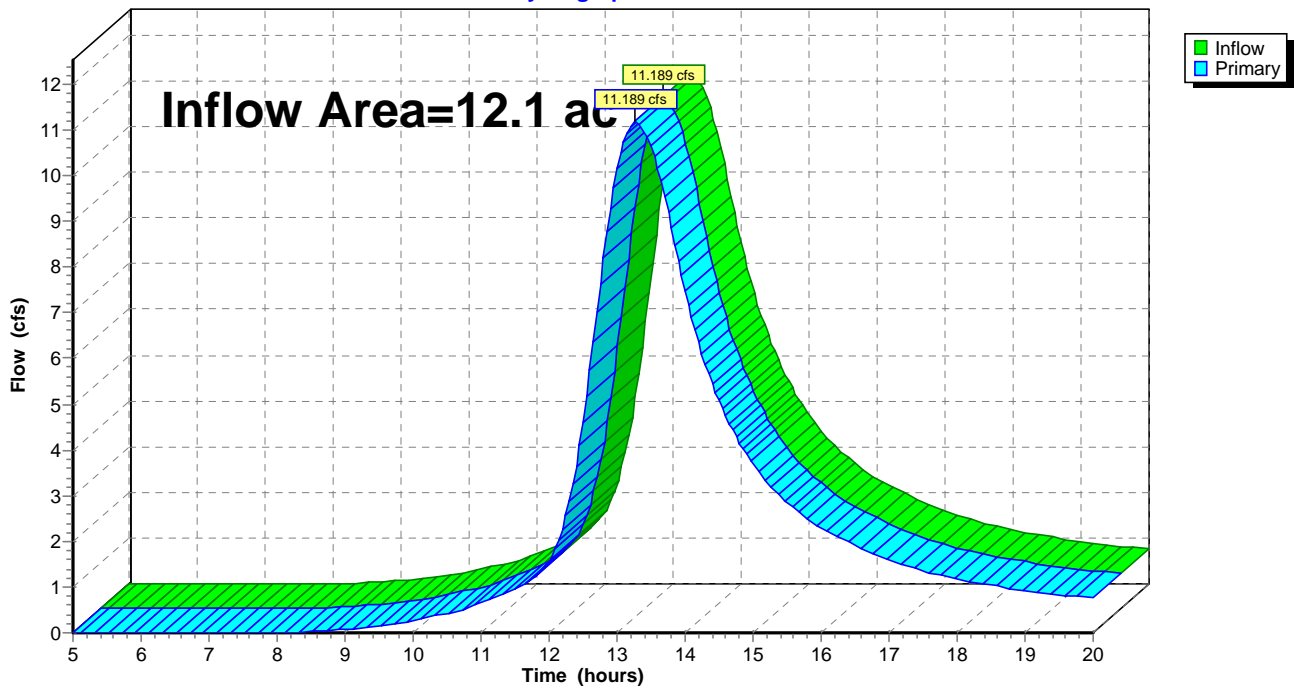
### Summary for Link 12L: SC5 Analysis Point

Inflow Area = 12.1 ac, 0.00% Impervious, Inflow Depth > 2.46" for 10-YR event  
Inflow = 11.189 cfs @ 13.27 hrs, Volume= 2.485 af  
Primary = 11.189 cfs @ 13.27 hrs, Volume= 2.485 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 12L: SC5 Analysis Point

Hydrograph



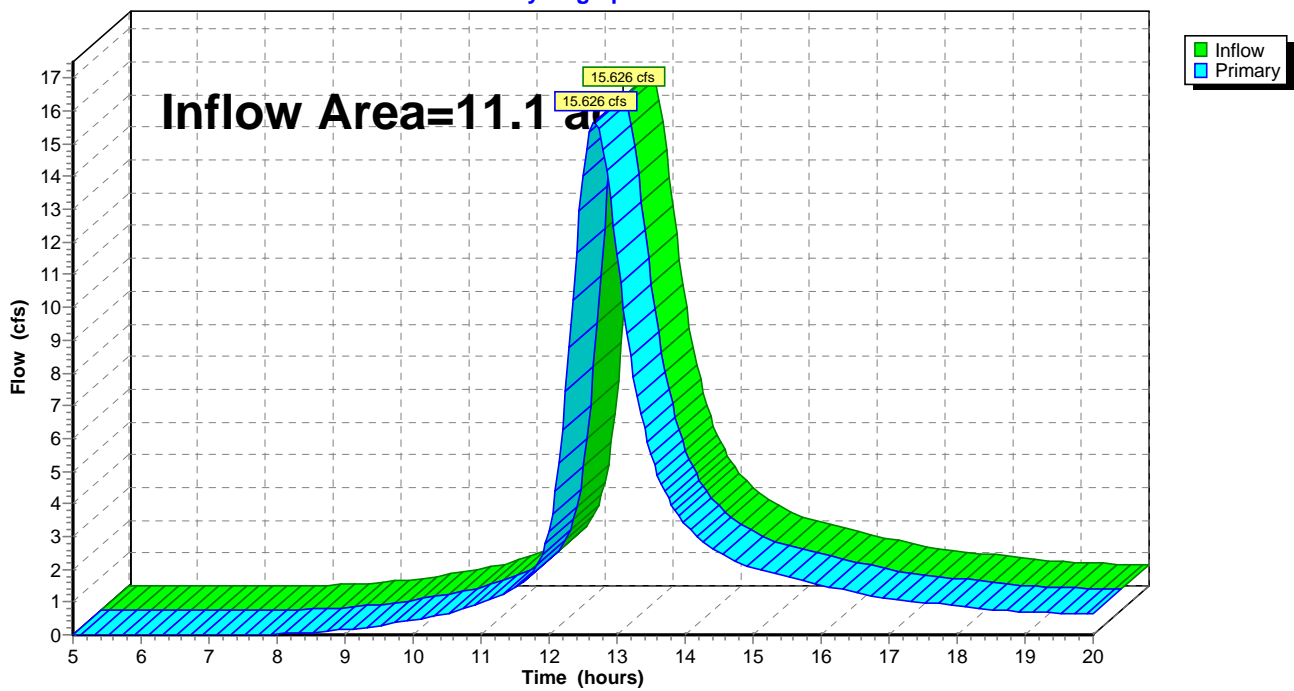
### Summary for Link 13L: SC6 Analysis Point

Inflow Area = 11.1 ac, 0.00% Impervious, Inflow Depth > 2.51" for 10-YR event  
Inflow = 15.626 cfs @ 12.67 hrs, Volume= 2.322 af  
Primary = 15.626 cfs @ 12.67 hrs, Volume= 2.322 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 13L: SC6 Analysis Point

Hydrograph





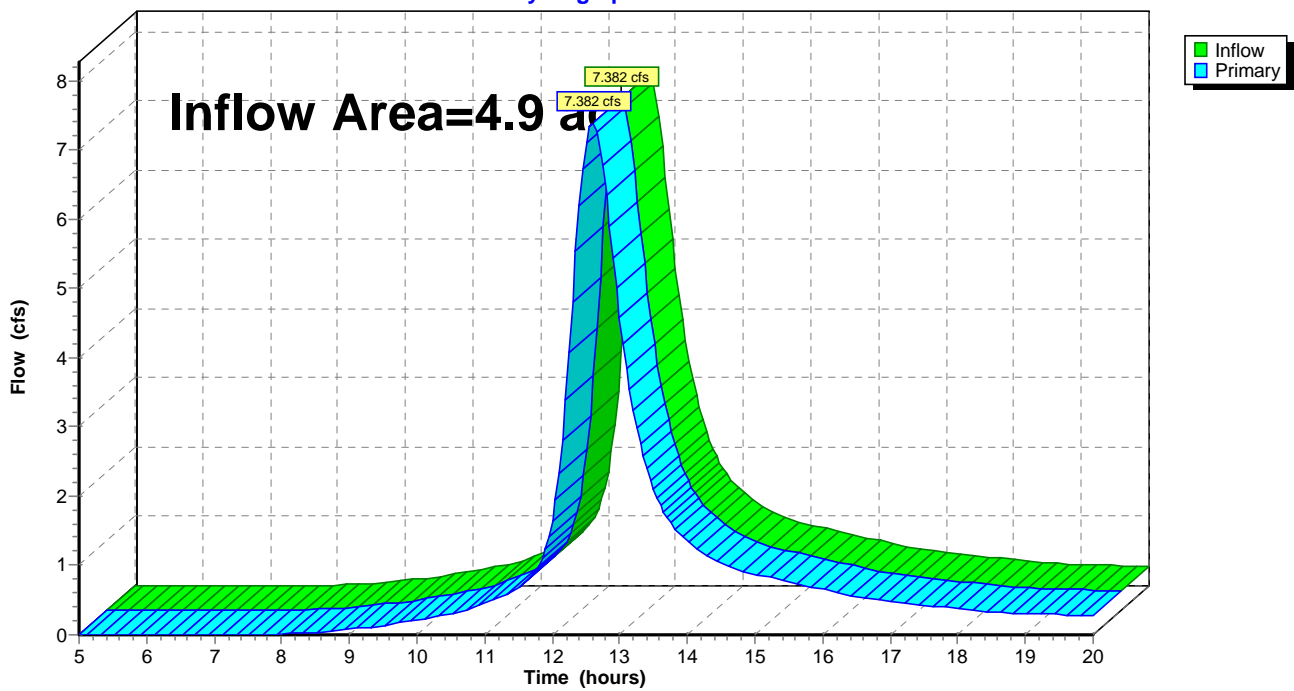
### Summary for Link 14L: SC7 Analysis Point

Inflow Area = 4.9 ac, 0.00% Impervious, Inflow Depth > 2.52" for 10-YR event  
Inflow = 7.382 cfs @ 12.59 hrs, Volume= 1.027 af  
Primary = 7.382 cfs @ 12.59 hrs, Volume= 1.027 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 14L: SC7 Analysis Point

Hydrograph



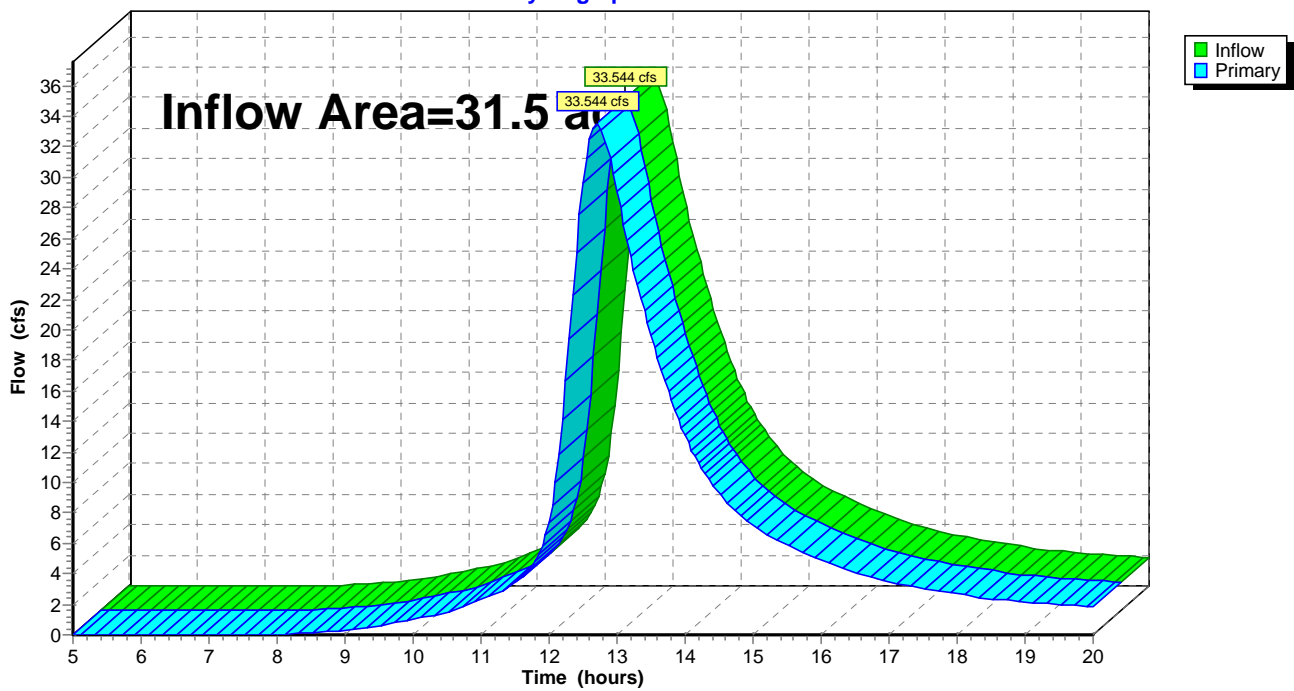
### Summary for Link 15L: Canal Subtotal

Inflow Area = 31.5 ac, 0.00% Impervious, Inflow Depth > 2.45" for 10-YR event  
Inflow = 33.544 cfs @ 12.71 hrs, Volume= 6.441 af  
Primary = 33.544 cfs @ 12.71 hrs, Volume= 6.441 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 15L: Canal Subtotal

Hydrograph



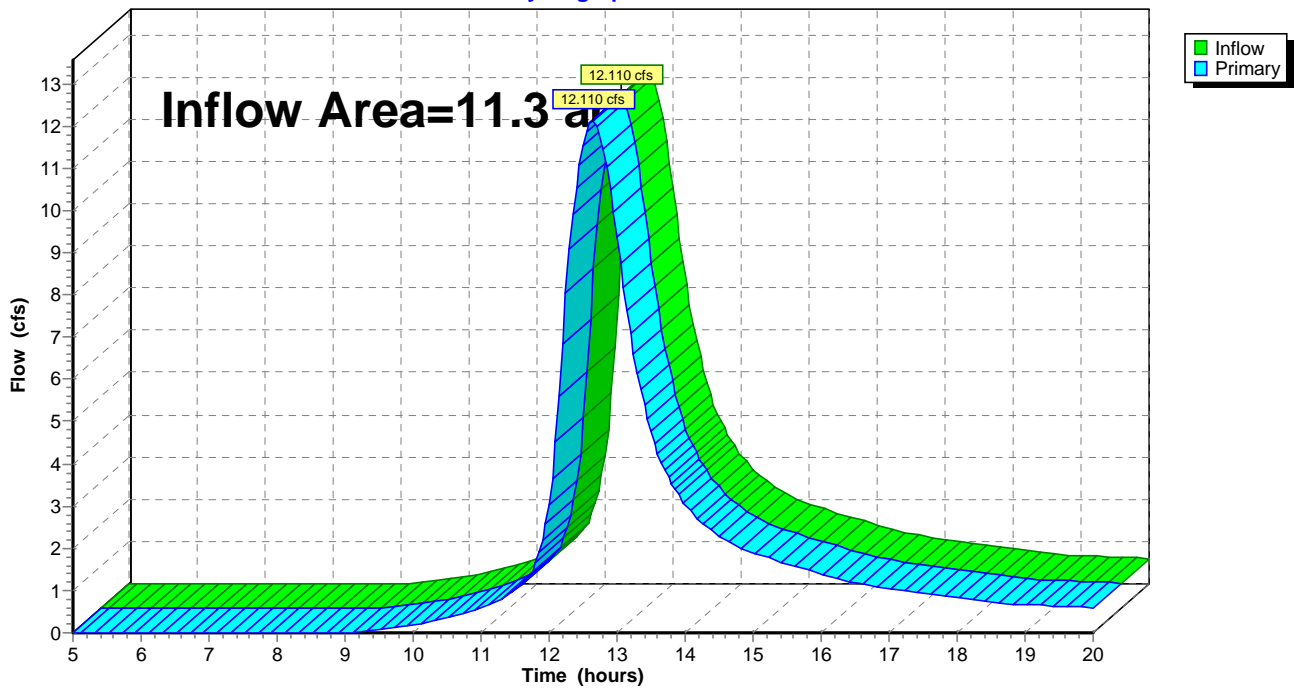
### Summary for Link 16L: Energy East Subtotal

Inflow Area = 11.3 ac, 0.00% Impervious, Inflow Depth > 2.09" for 10-YR event  
Inflow = 12.110 cfs @ 12.64 hrs, Volume= 1.972 af  
Primary = 12.110 cfs @ 12.64 hrs, Volume= 1.972 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 16L: Energy East Subtotal

Hydrograph



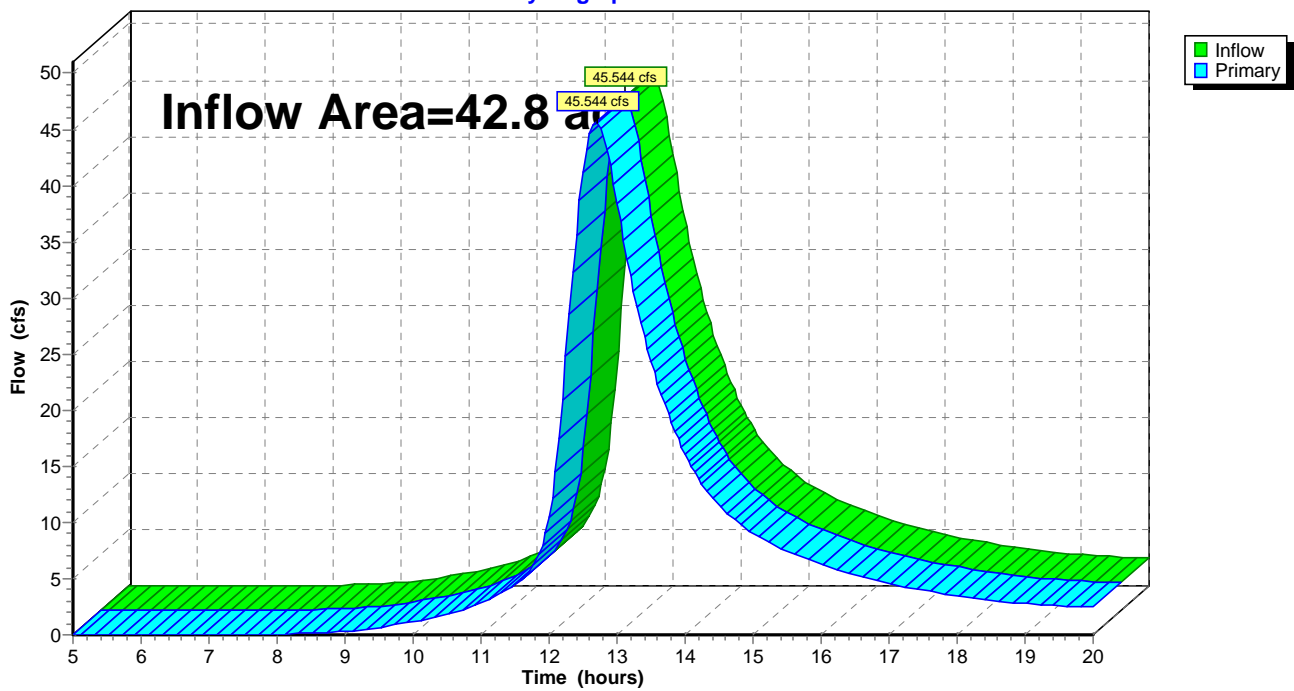
### Summary for Link 17L: Pre-Development Total

Inflow Area = 42.8 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10-YR event  
Inflow = 45.544 cfs @ 12.69 hrs, Volume= 8.413 af  
Primary = 45.544 cfs @ 12.69 hrs, Volume= 8.413 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 17L: Pre-Development Total

Hydrograph



**Pre-Development - 2015.09.25**

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PRE  
Type III 24-hr 25-YR Rainfall=5.80"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=125,734 sf 0.00% Impervious Runoff Depth>2.97" Flow Length=694' Tc=23.5 min CN=76 Runoff=6.816 cfs 0.715 af
<b>Subcatchment 1Sa: Subcatchment 1a</b>	Runoff Area=37,129 sf 0.00% Impervious Runoff Depth>3.34" Flow Length=528' Tc=41.1 min CN=80 Runoff=1.745 cfs 0.237 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=329,260 sf 0.00% Impervious Runoff Depth>3.04" Flow Length=1,298' Tc=52.3 min CN=77 Runoff=12.486 cfs 1.913 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=0.8 ac 0.00% Impervious Runoff Depth>2.97" Flow Length=275' Tc=24.2 min CN=76 Runoff=1.867 cfs 0.198 af
<b>Subcatchment 4S: Subcatchment 4</b>	Runoff Area=2.6 ac 0.00% Impervious Runoff Depth>3.13" Flow Length=717' Tc=48.7 min CN=78 Runoff=4.594 cfs 0.679 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=12.1 ac 0.00% Impervious Runoff Depth>3.46" Flow Length=1,443' Tc=97.0 min CN=82 Runoff=15.618 cfs 3.492 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=11.1 ac 0.00% Impervious Runoff Depth>3.52" Flow Length=1,105' Tc=49.2 min CN=82 Runoff=21.744 cfs 3.259 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=4.9 ac 0.00% Impervious Runoff Depth>3.53" Flow Length=627' Tc=43.3 min CN=82 Runoff=10.268 cfs 1.441 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.14' Max Vel=0.99 fps Inflow=1.745 cfs 0.237 af n=0.100 L=550.0' S=0.0600 '/' Capacity=800.391 cfs Outflow=1.672 cfs 0.235 af
<b>Link 8L: SC1 Analysis Point</b>	Inflow=7.280 cfs 0.950 af Primary=7.280 cfs 0.950 af
<b>Link 9L: SC2 Analysis Point</b>	Inflow=12.486 cfs 1.913 af Primary=12.486 cfs 1.913 af
<b>Link 10L: SC3 Analysis Point</b>	Inflow=1.867 cfs 0.198 af Primary=1.867 cfs 0.198 af
<b>Link 11L: SC4 Analysis Point</b>	Inflow=4.594 cfs 0.679 af Primary=4.594 cfs 0.679 af
<b>Link 12L: SC5 Analysis Point</b>	Inflow=15.618 cfs 3.492 af Primary=15.618 cfs 3.492 af
<b>Link 13L: SC6 Analysis Point</b>	Inflow=21.744 cfs 3.259 af Primary=21.744 cfs 3.259 af
<b>Link 14L: SC7 Analysis Point</b>	Inflow=10.268 cfs 1.441 af Primary=10.268 cfs 1.441 af

**Pre-Development - 2015.09.25**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Link 15L: Canal Subtotal**

Inflow=47.008 cfs 9.069 af  
Primary=47.008 cfs 9.069 af

**Link 16L: Energy East Subtotal**

Inflow=17.677 cfs 2.863 af  
Primary=17.677 cfs 2.863 af

**Link 17L: Pre-Development Total**

Inflow=64.504 cfs 11.932 af  
Primary=64.504 cfs 11.932 af

**Total Runoff Area = 42.8 ac   Runoff Volume = 11.934 af   Average Runoff Depth = 3.35"**  
**100.00% Pervious = 42.8 ac   0.00% Impervious = 0.0 ac**

**Pre-Development - 2015.09.25**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 1S: Subcatchment 1**

Runoff = 6.816 cfs @ 12.33 hrs, Volume= 0.715 af, Depth> 2.97"

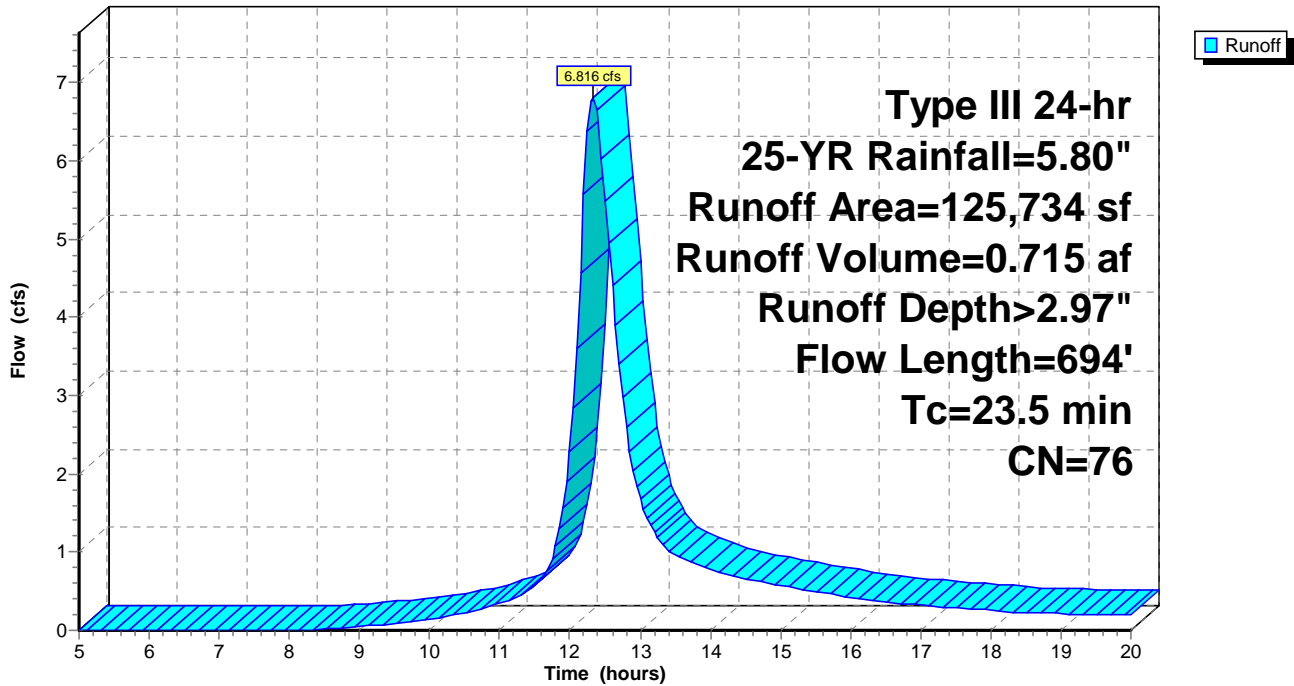
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
22,775	76	Woods/grass comb., Fair, HSG C
33,774	76	Woods/grass comb., Fair, HSG C
48,824	76	Woods/grass comb., Fair, HSG C
20,361	76	Woods/grass comb., Fair, HSG C
125,734	76	Weighted Average
125,734		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.5	100	0.0275	0.09		<b>Sheet Flow, Subcatchment 1 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.5	230	0.0967	1.55		<b>Shallow Concentrated Flow, Subcatchment 1 SCF</b> Woodland Kv= 5.0 fps
1.5	364	0.0632	4.16	10.81	<b>Channel Flow, Subcatchment 1 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
23.5	694	Total			

**Subcatchment 1S: Subcatchment 1**

Hydrograph



**Pre-Development - 2015.09.25**

Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 1Sa: Subcatchment 1a**

Runoff = 1.745 cfs @ 12.56 hrs, Volume= 0.237 af, Depth> 3.34"

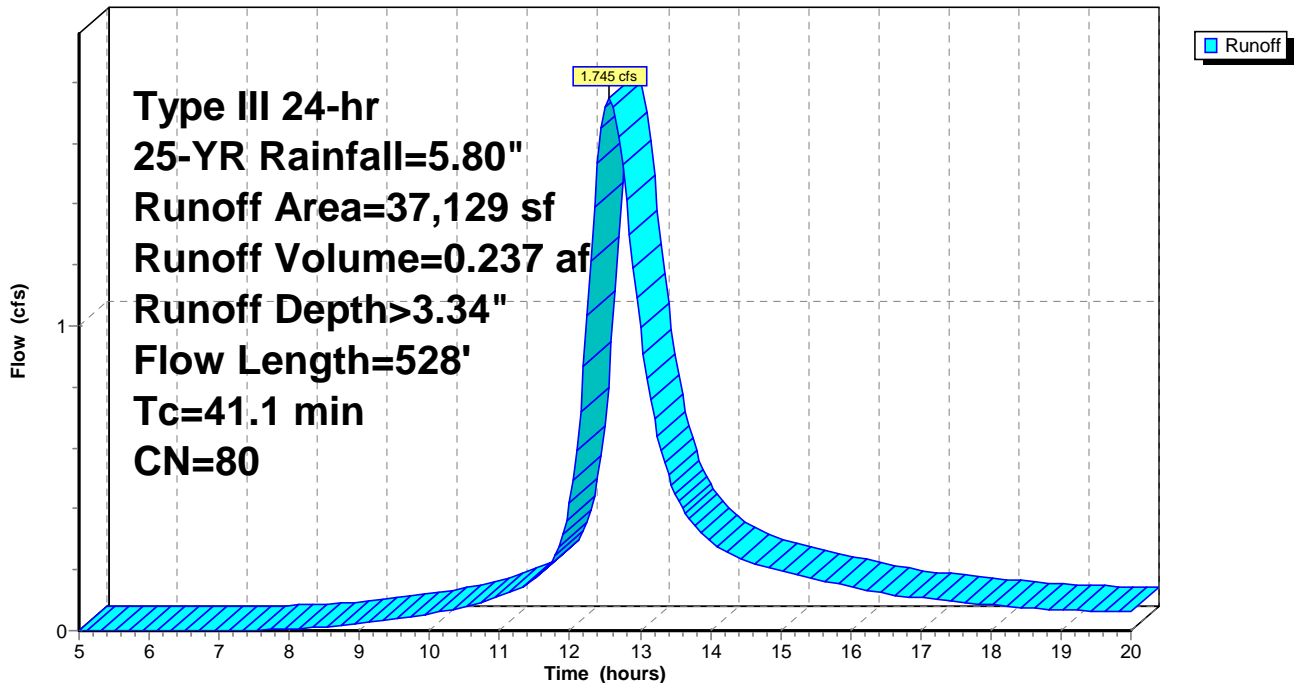
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
6,341	76	Woods/grass comb., Fair, HSG C
5,003	76	Woods/grass comb., Fair, HSG C
25,785	82	Woods/grass comb., Fair, HSG D
37,129	80	Weighted Average
37,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 1a Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 1a SCF</b> Woodland Kv= 5.0 fps
5.3	296	0.0304	0.93	39.59	<b>Trap/Vee/Rect Channel Flow, Subcatchment 1a CF</b> Bot.W=21.00' D=2.00' Z= 0.2 '/' Top.W=21.80' n= 0.400 Sheet flow: Woods+light brush
41.1	528	Total			

**Subcatchment 1Sa: Subcatchment 1a**

Hydrograph





**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 12.486 cfs @ 12.72 hrs, Volume= 1.913 af, Depth> 3.04"

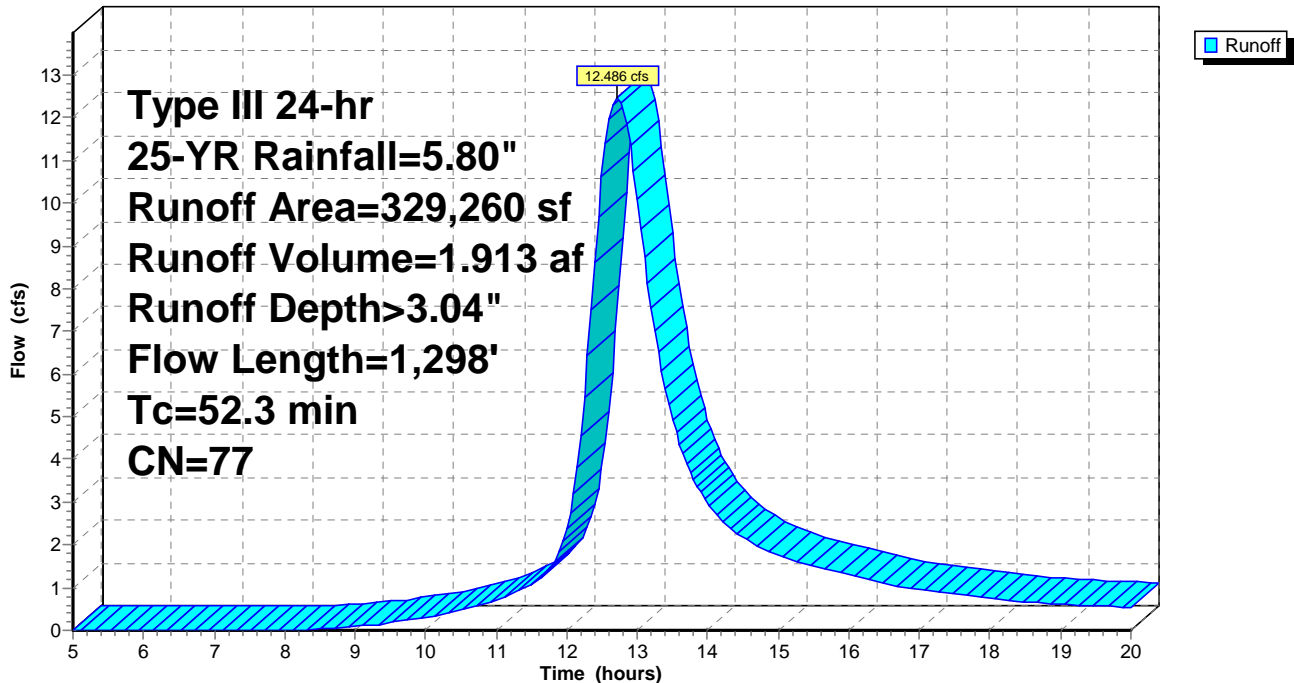
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
205,873	76	Woods/grass comb., Fair, HSG C
81,625	76	Woods/grass comb., Fair, HSG C
40,571	82	Woods/grass comb., Fair, HSG D
1,191	76	Woods/grass comb., Fair, HSG C
329,260	77	Weighted Average
329,260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6	100	0.0057	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.5	329	0.0091	0.48		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
4.2	869	0.0434	3.44	8.95	<b>Channel Flow, Subcatchment 2 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
52.3	1,298	Total			

**Subcatchment 2S: Subcatchment 2**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 1.867 cfs @ 12.34 hrs, Volume= 0.198 af, Depth> 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

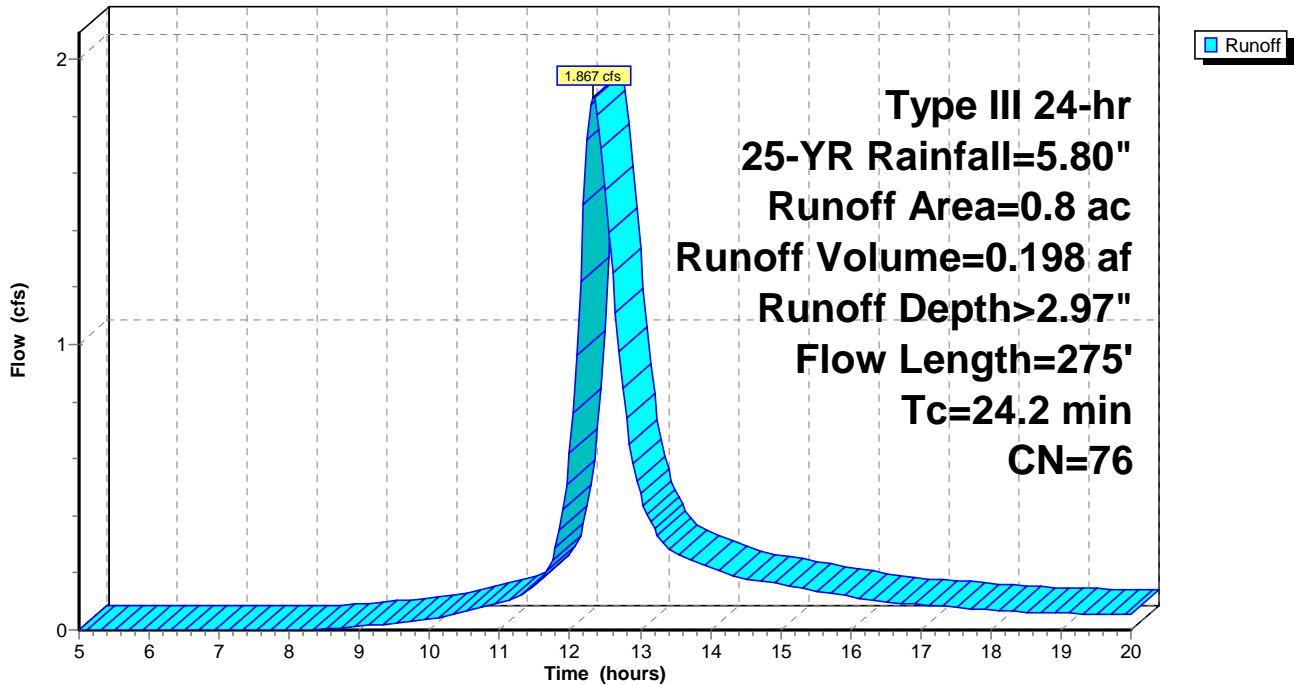
Area (ac)	CN	Description
0.8	76	Woods/grass comb., Fair, HSG C
0.8		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 3 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 3 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 3S: Subcatchment 3**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 4S: Subcatchment 4**

Runoff = 4.594 cfs @ 12.67 hrs, Volume= 0.679 af, Depth> 3.13"

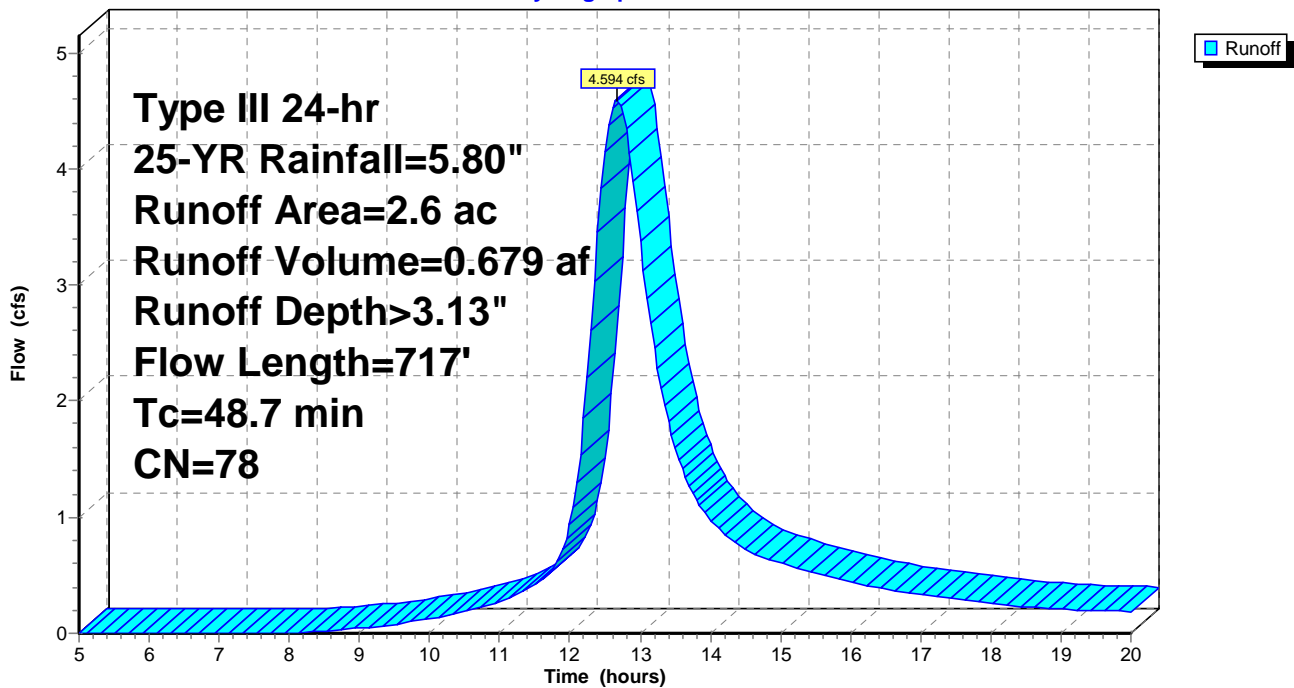
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (ac)	CN	Description
1.6	76	Woods/grass comb., Fair, HSG C
1.0	82	Woods/grass comb., Fair, HSG D
2.6	78	Weighted Average
2.6		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

**Subcatchment 4S: Subcatchment 4**

Hydrograph



### Summary for Subcatchment 5S: Subcatchment 5

Runoff = 15.618 cfs @ 13.26 hrs, Volume= 3.492 af, Depth> 3.46"

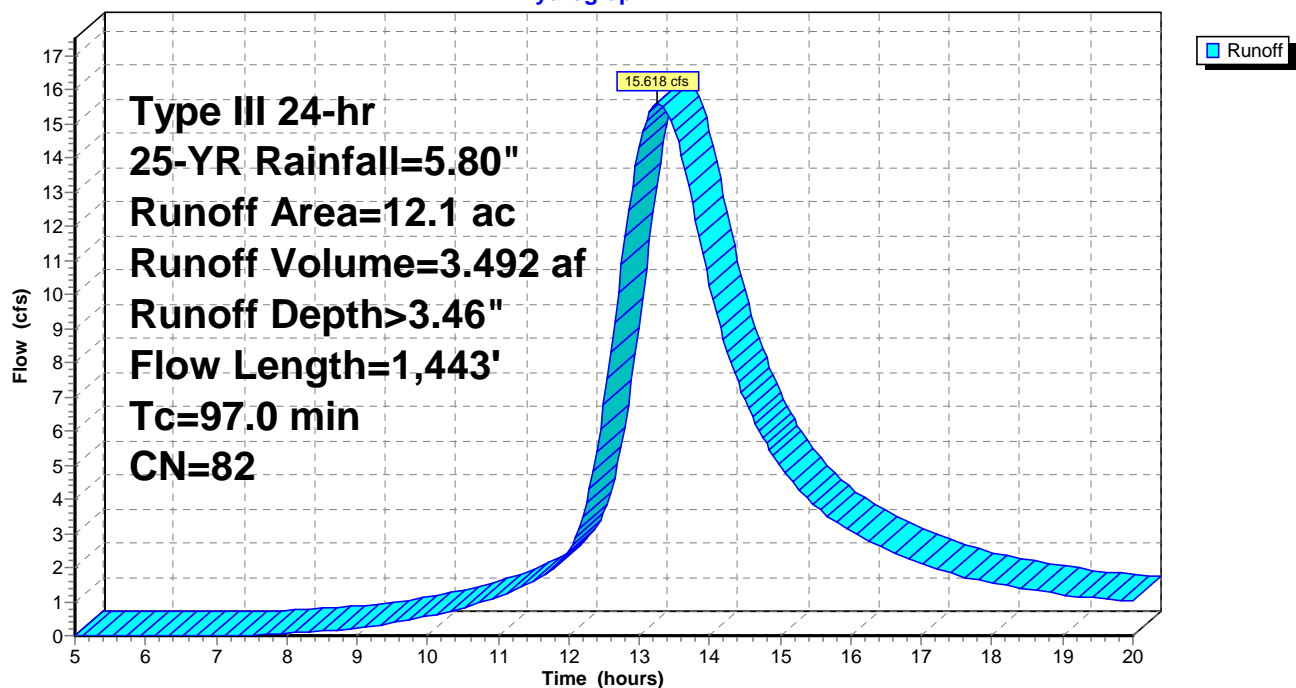
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (ac)	CN	Description
0.7	76	Woods/grass comb., Fair, HSG C
0.1	76	Woods/grass comb., Fair, HSG C
11.3	82	Woods/grass comb., Fair, HSG D
12.1	82	Weighted Average
12.1		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 5 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
67.2	1,175	0.0034	0.29		<b>Shallow Concentrated Flow, Subcatchment 5 SCF</b> Woodland Kv= 5.0 fps
0.5	168	0.1131	5.56	14.46	<b>Channel Flow, Subcatchment 5 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
97.0	1,443	Total			

### Subcatchment 5S: Subcatchment 5

Hydrograph



**Summary for Subcatchment 6S: Subcatchment 6**

Runoff = 21.744 cfs @ 12.66 hrs, Volume= 3.259 af, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

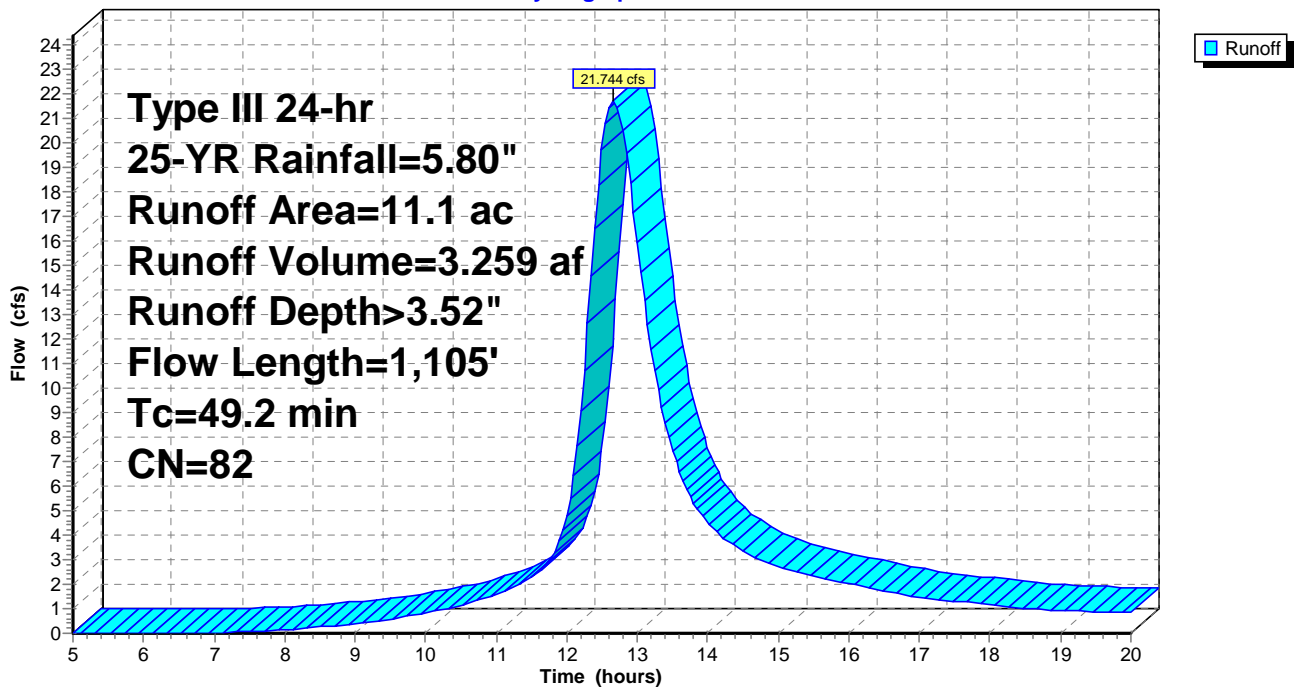
Area (ac)	CN	Description
0.6	76	Woods/grass comb., Fair, HSG C
10.5	82	Woods/grass comb., Fair, HSG D
11.1	82	Weighted Average
11.1		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 6 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
25.2	660	0.0076	0.44		<b>Shallow Concentrated Flow, Subcatchment 6 SCF</b> Woodland Kv= 5.0 fps
1.8	345	0.0355	3.11	8.10	<b>Channel Flow, Subcatchment 6 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds

49.2 1,105 Total

**Subcatchment 6S: Subcatchment 6**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 10.268 cfs @ 12.58 hrs, Volume= 1.441 af, Depth> 3.53"

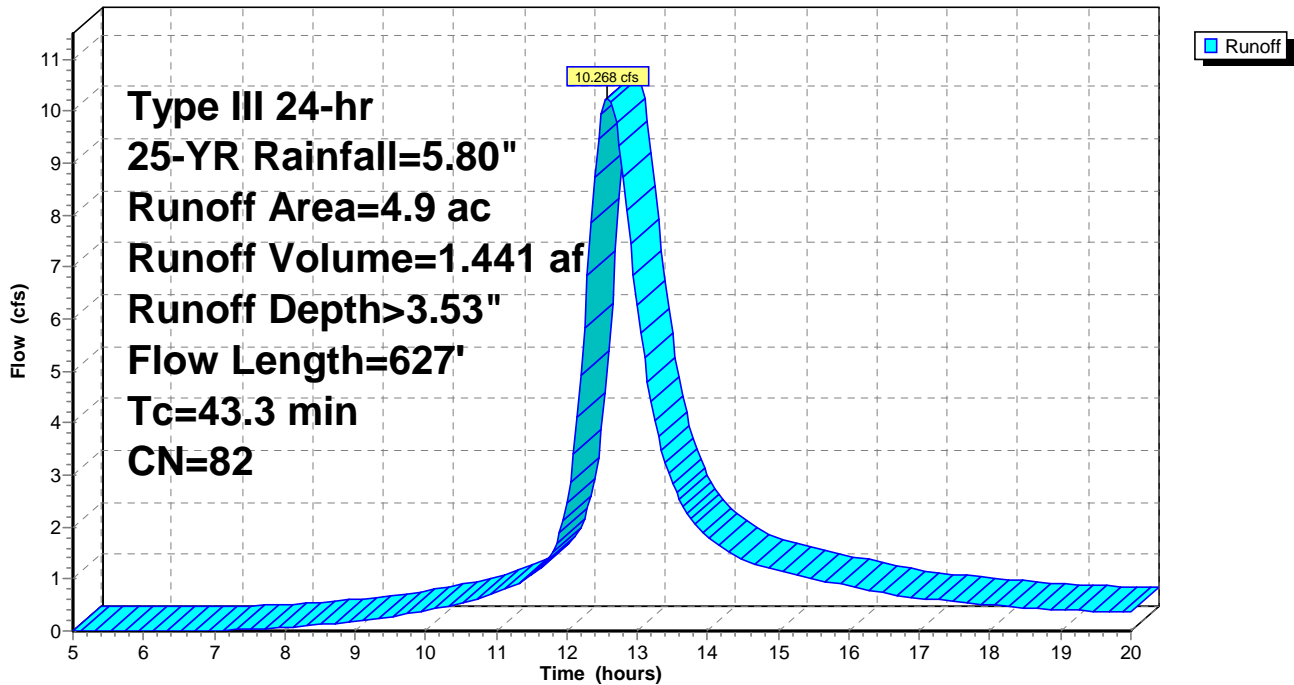
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (ac)	CN	Description
0.1	76	Woods/grass comb., Fair, HSG C
4.8	82	Woods/grass comb., Fair, HSG D
4.9	82	Weighted Average
4.9		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.8	100	0.0125	0.06		<b>Sheet Flow, Subcatchment 7 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
16.5	527	0.0114	0.53		<b>Shallow Concentrated Flow, Subcatchment 7 SCF</b>
					Woodland Kv= 5.0 fps
43.3	627	Total			

**Subcatchment 7S: Subcatchment 7**

Hydrograph



**Pre-Development - 2015.09.25**

Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Reach 63R: Channel to SP1**

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth > 3.34" for 25-YR event  
 Inflow = 1.745 cfs @ 12.56 hrs, Volume= 0.237 af  
 Outflow = 1.672 cfs @ 12.82 hrs, Volume= 0.235 af, Atten= 4%, Lag= 15.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Max. Velocity= 0.99 fps, Min. Travel Time= 9.3 min  
 Avg. Velocity = 0.58 fps, Avg. Travel Time= 15.7 min

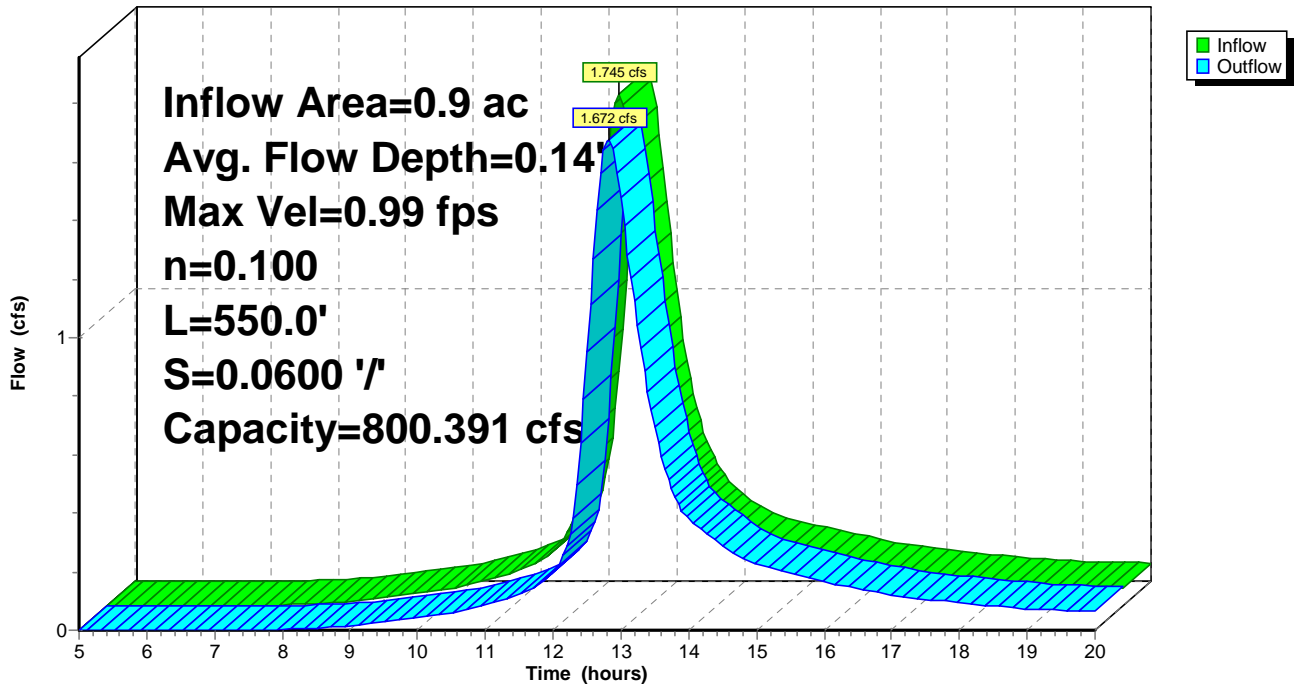
Peak Storage= 930 cf @ 12.66 hrs  
 Average Depth at Peak Storage= 0.14'  
 Bank-Full Depth= 6.00' Flow Area= 93.6 sf, Capacity= 800.391 cfs

12.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
 Side Slope Z-value= 0.6 '/' Top Width= 19.20'  
 Length= 550.0' Slope= 0.0600 '/'  
 Inlet Invert= 58.00', Outlet Invert= 25.00'



**Reach 63R: Channel to SP1**

Hydrograph



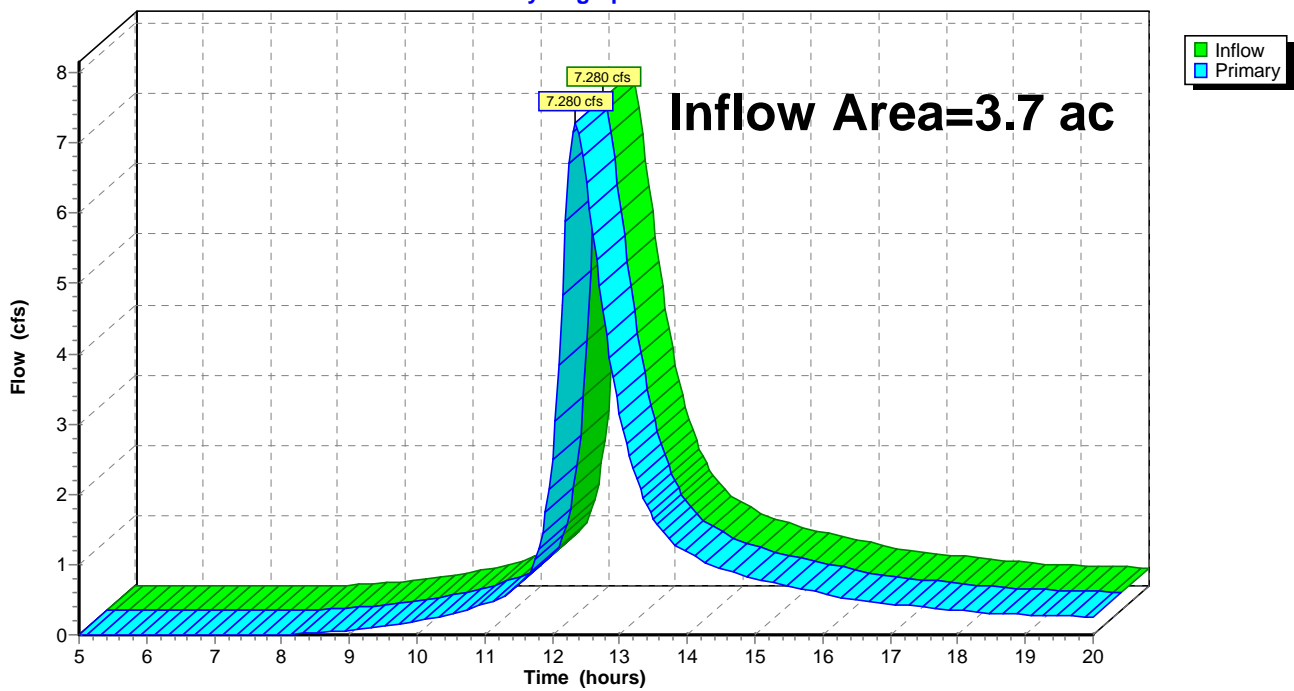
### Summary for Link 8L: SC1 Analysis Point

Inflow Area = 3.7 ac, 0.00% Impervious, Inflow Depth > 3.05" for 25-YR event  
Inflow = 7.280 cfs @ 12.35 hrs, Volume= 0.950 af  
Primary = 7.280 cfs @ 12.35 hrs, Volume= 0.950 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 8L: SC1 Analysis Point

Hydrograph





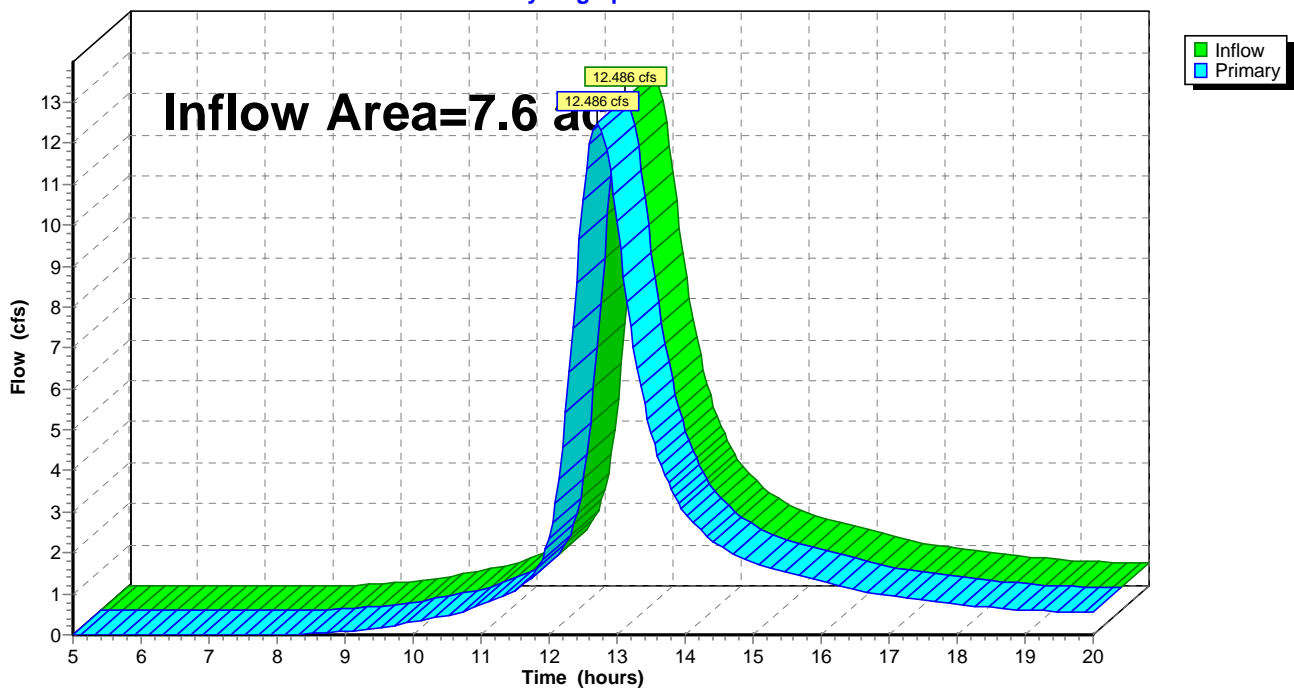
### Summary for Link 9L: SC2 Analysis Point

Inflow Area = 7.6 ac, 0.00% Impervious, Inflow Depth > 3.04" for 25-YR event  
Inflow = 12.486 cfs @ 12.72 hrs, Volume= 1.913 af  
Primary = 12.486 cfs @ 12.72 hrs, Volume= 1.913 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 9L: SC2 Analysis Point

Hydrograph



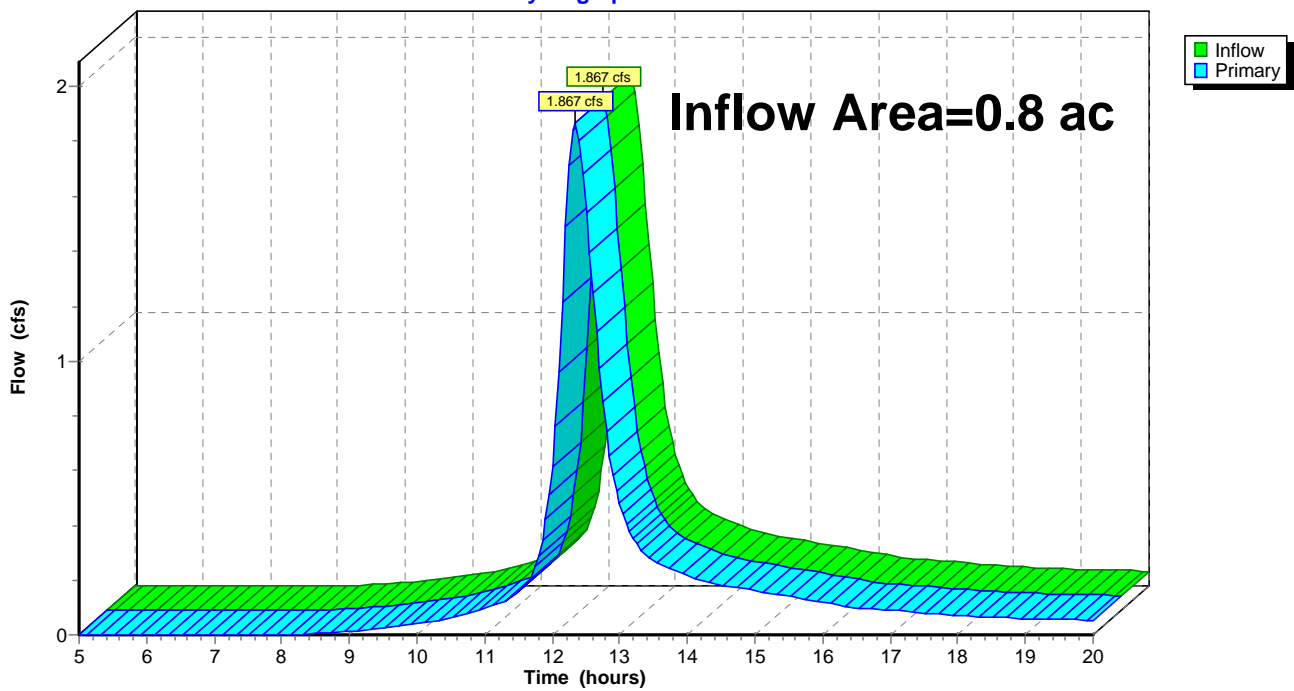
### Summary for Link 10L: SC3 Analysis Point

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth > 2.97" for 25-YR event  
Inflow = 1.867 cfs @ 12.34 hrs, Volume= 0.198 af  
Primary = 1.867 cfs @ 12.34 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 10L: SC3 Analysis Point

Hydrograph



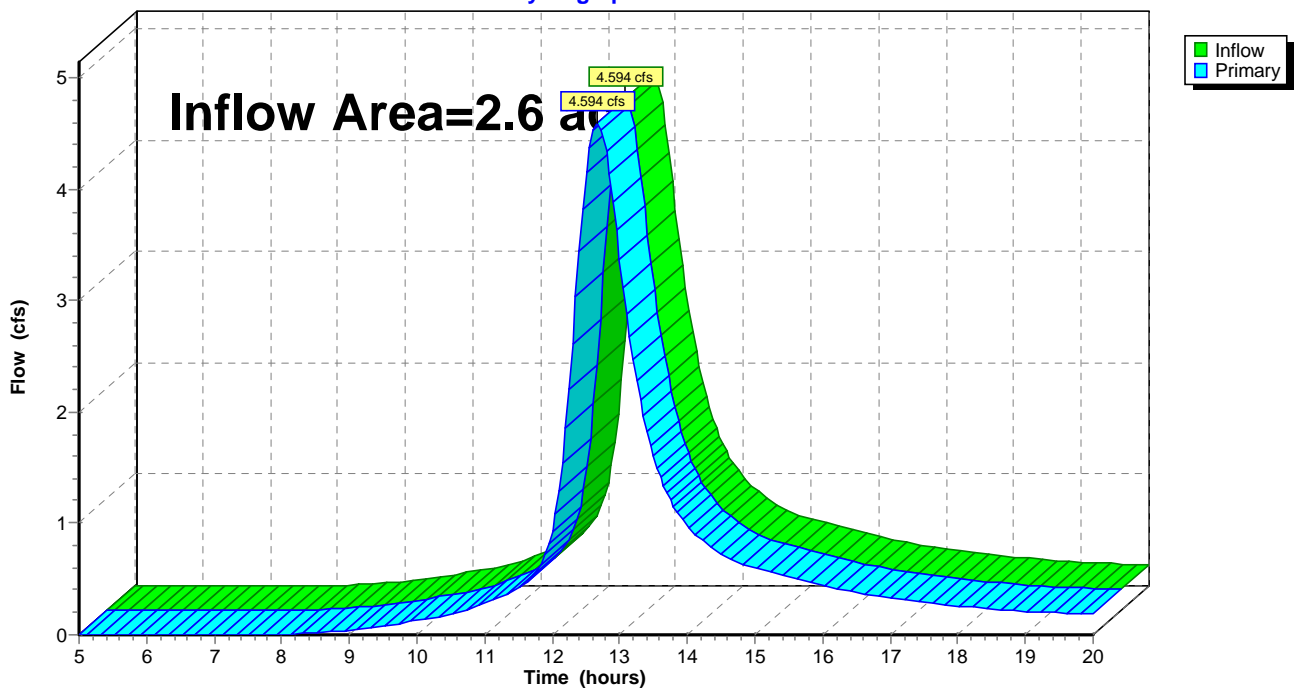
### Summary for Link 11L: SC4 Analysis Point

Inflow Area = 2.6 ac, 0.00% Impervious, Inflow Depth > 3.13" for 25-YR event  
Inflow = 4.594 cfs @ 12.67 hrs, Volume= 0.679 af  
Primary = 4.594 cfs @ 12.67 hrs, Volume= 0.679 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 11L: SC4 Analysis Point

Hydrograph



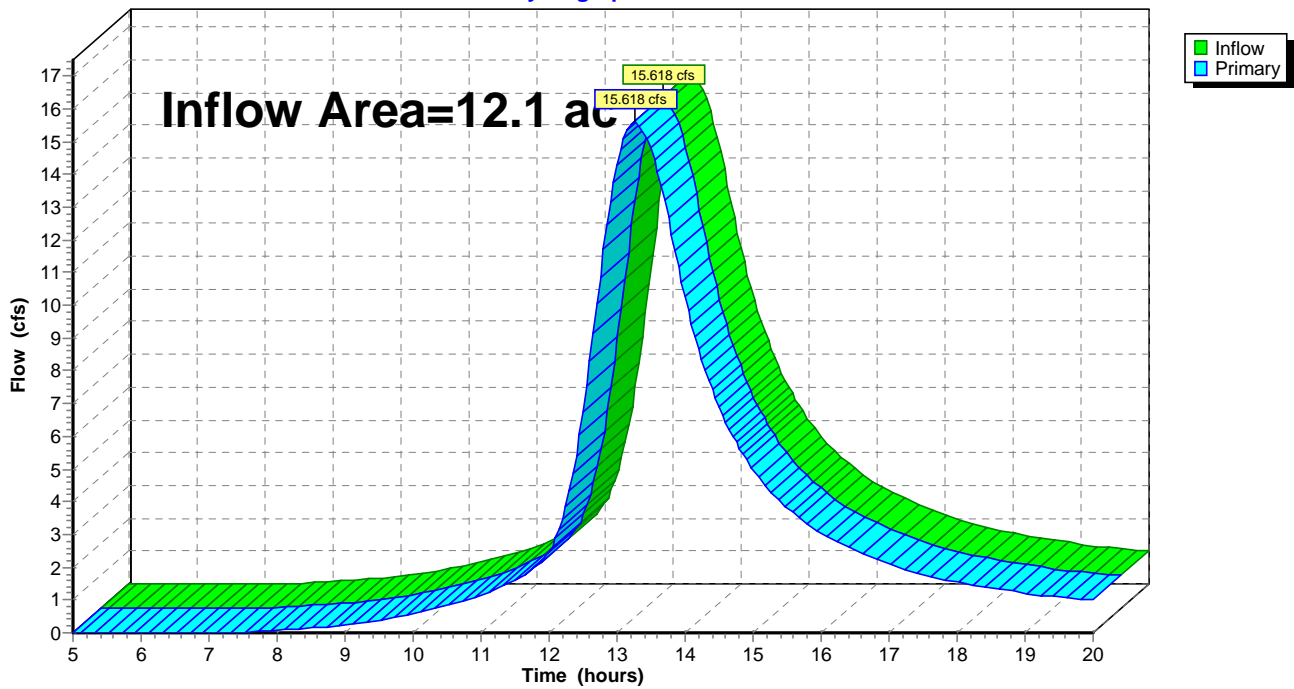
### Summary for Link 12L: SC5 Analysis Point

Inflow Area = 12.1 ac, 0.00% Impervious, Inflow Depth > 3.46" for 25-YR event  
Inflow = 15.618 cfs @ 13.26 hrs, Volume= 3.492 af  
Primary = 15.618 cfs @ 13.26 hrs, Volume= 3.492 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 12L: SC5 Analysis Point

Hydrograph



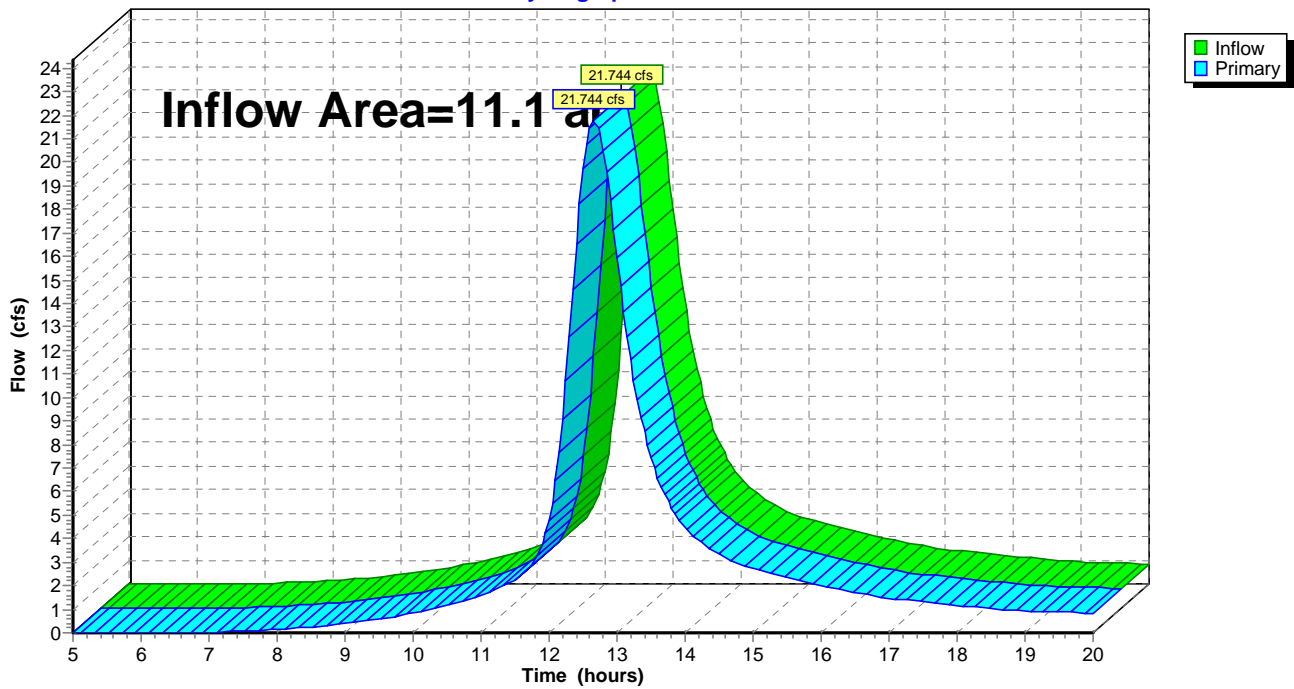
### Summary for Link 13L: SC6 Analysis Point

Inflow Area = 11.1 ac, 0.00% Impervious, Inflow Depth > 3.52" for 25-YR event  
Inflow = 21.744 cfs @ 12.66 hrs, Volume= 3.259 af  
Primary = 21.744 cfs @ 12.66 hrs, Volume= 3.259 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 13L: SC6 Analysis Point

Hydrograph



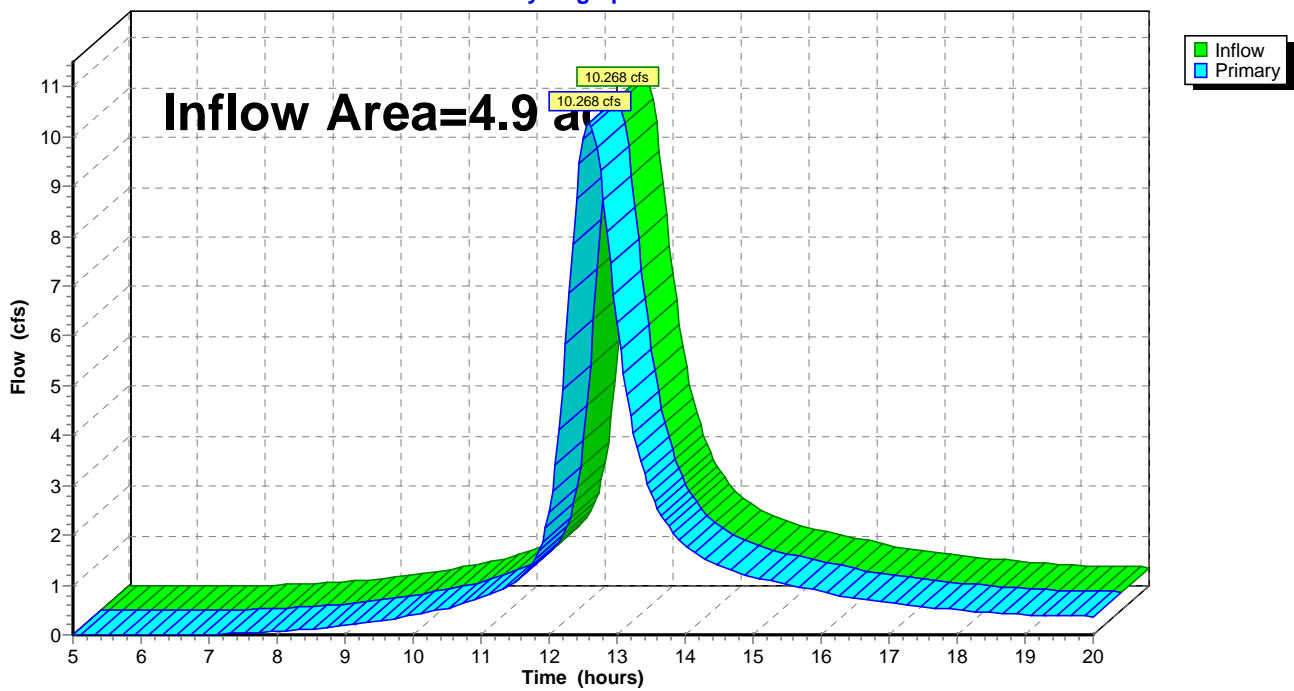
### Summary for Link 14L: SC7 Analysis Point

Inflow Area = 4.9 ac, 0.00% Impervious, Inflow Depth > 3.53" for 25-YR event  
Inflow = 10.268 cfs @ 12.58 hrs, Volume= 1.441 af  
Primary = 10.268 cfs @ 12.58 hrs, Volume= 1.441 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 14L: SC7 Analysis Point

Hydrograph



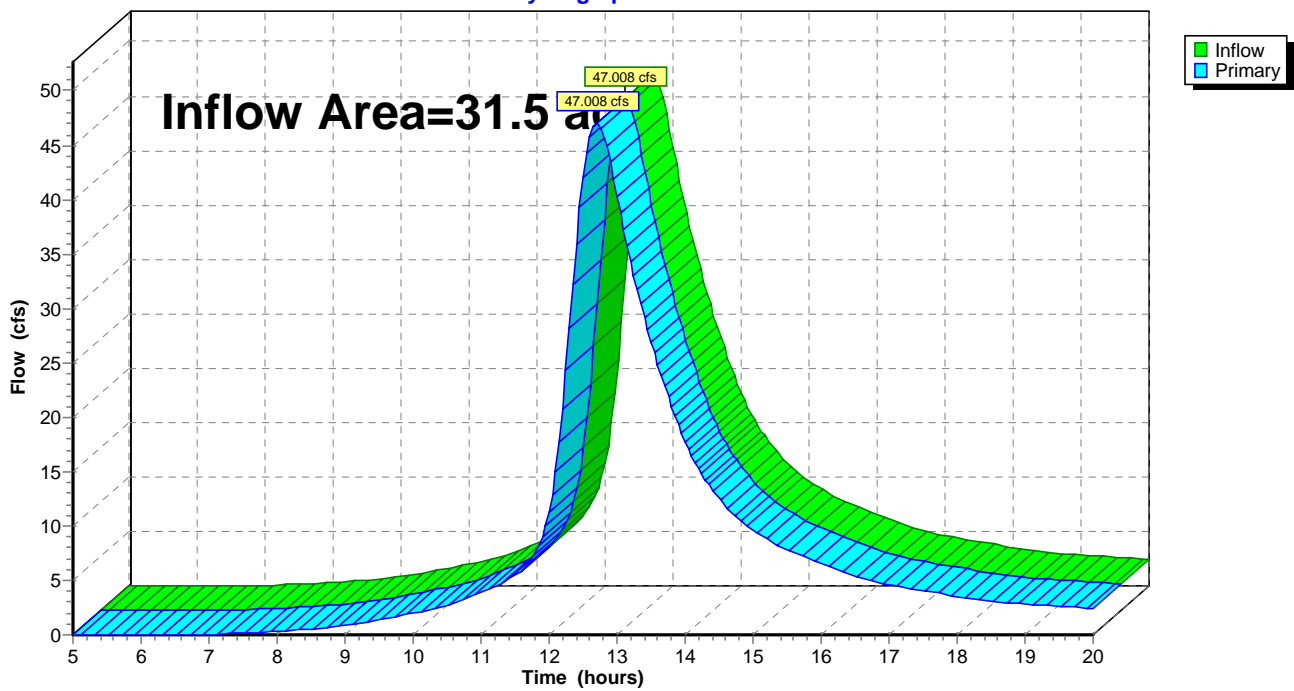
### Summary for Link 15L: Canal Subtotal

Inflow Area = 31.5 ac, 0.00% Impervious, Inflow Depth > 3.45" for 25-YR event  
Inflow = 47.008 cfs @ 12.70 hrs, Volume= 9.069 af  
Primary = 47.008 cfs @ 12.70 hrs, Volume= 9.069 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 15L: Canal Subtotal

Hydrograph



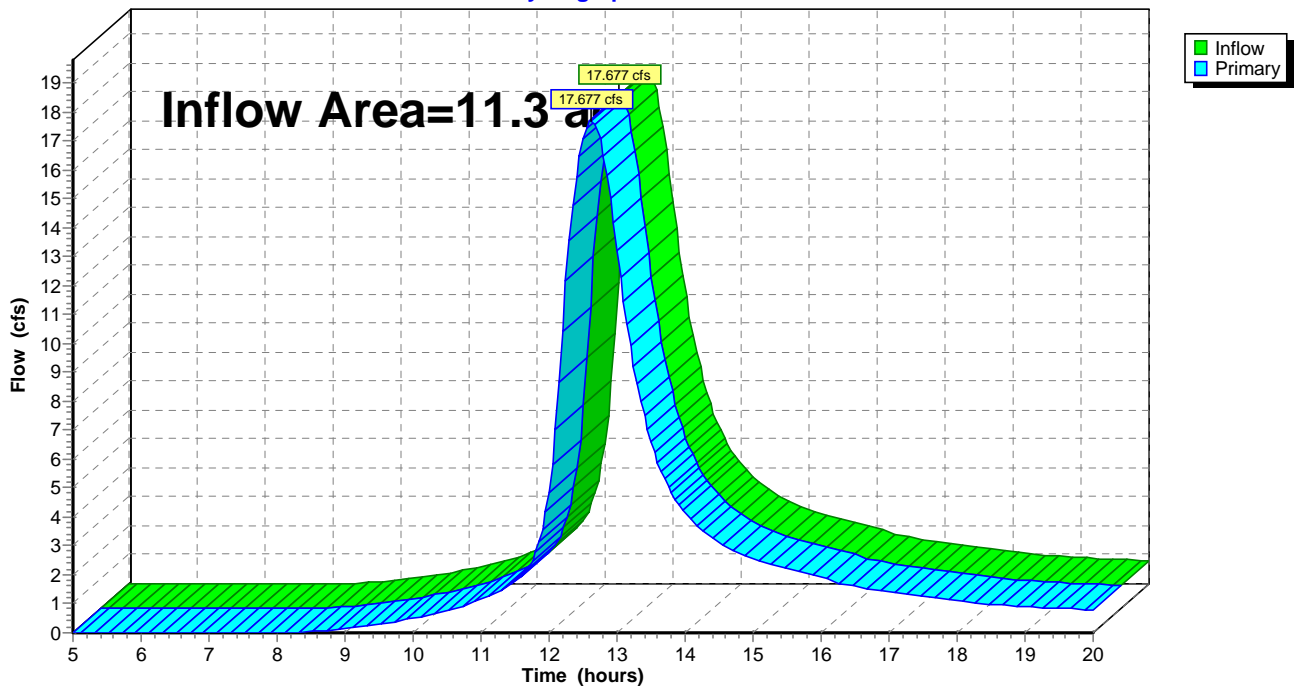
### Summary for Link 16L: Energy East Subtotal

Inflow Area = 11.3 ac, 0.00% Impervious, Inflow Depth > 3.04" for 25-YR event  
Inflow = 17.677 cfs @ 12.62 hrs, Volume= 2.863 af  
Primary = 17.677 cfs @ 12.62 hrs, Volume= 2.863 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 16L: Energy East Subtotal

Hydrograph





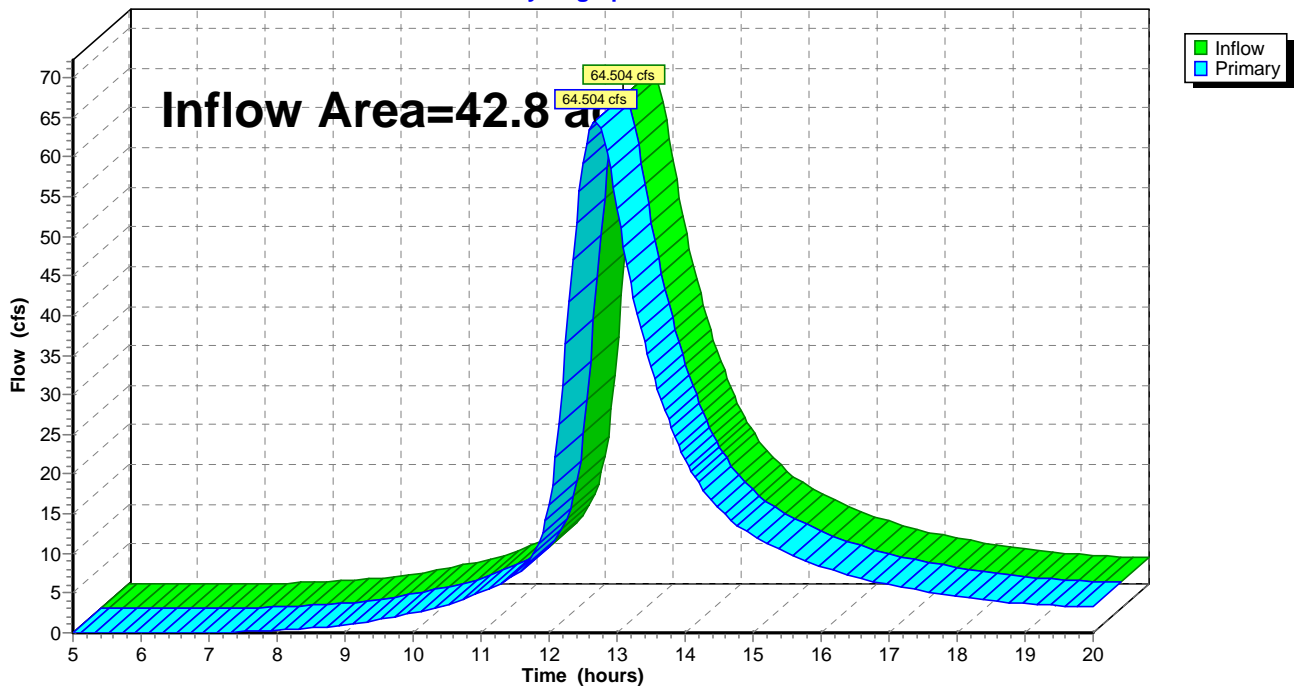
### Summary for Link 17L: Pre-Development Total

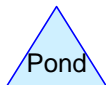
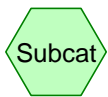
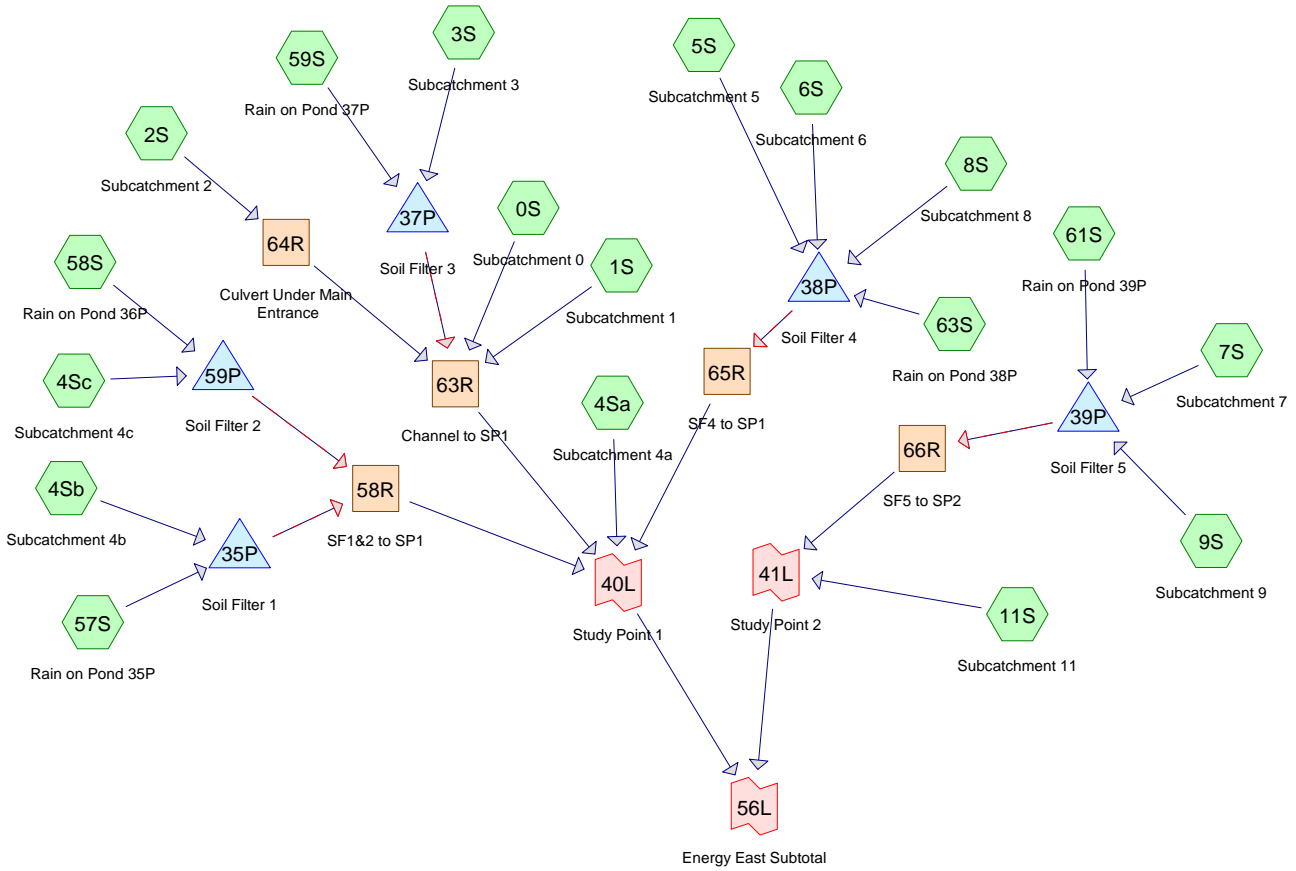
Inflow Area = 42.8 ac, 0.00% Impervious, Inflow Depth > 3.35" for 25-YR event  
Inflow = 64.504 cfs @ 12.68 hrs, Volume= 11.932 af  
Primary = 64.504 cfs @ 12.68 hrs, Volume= 11.932 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link 17L: Pre-Development Total

Hydrograph





**Routing Diagram for Post-Development - 2015.09.25 Energy East - Linked**

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**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.4	74	>75% Grass cover, Good, HSG C (0S, 1S, 3S, 6S, 7S, 8S, 9S)
1.8	98	Paved parking & roofs (0S, 1S, 3S, 5S, 6S, 7S, 8S, 9S)
0.1	98	Water Surface, 0% imp (57S, 58S, 59S, 61S, 63S)
7.9	76	Woods/grass comb., Fair, HSG C (2S, 4Sa, 4Sb, 4Sc, 11S)
0.6	82	Woods/grass comb., Fair, HSG D (2S)
<b>10.8</b>	<b>80</b>	<b>TOTAL AREA</b>

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 0S: Subcatchment 0</b>	Runoff Area=4,350 sf 80.48% Impervious Runoff Depth=0.45" Tc=5.0 min CN=93 Runoff=0.054 cfs 0.004 af
<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=14,847 sf 34.47% Impervious Runoff Depth=0.11" Tc=5.0 min CN=82 Runoff=0.024 cfs 0.003 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=37,951 sf 0.00% Impervious Runoff Depth=0.08" Flow Length=413' Tc=38.8 min CN=80 Runoff=0.021 cfs 0.006 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=10,834 sf 92.83% Impervious Runoff Depth=0.63" Tc=5.0 min CN=96 Runoff=0.190 cfs 0.013 af
<b>Subcatchment 4Sa: Subcatchment 4a</b>	Runoff Area=67,023 sf 0.00% Impervious Runoff Depth=0.04" Flow Length=484' Tc=12.3 min CN=76 Runoff=0.009 cfs 0.005 af
<b>Subcatchment 4Sb: Subcatchment 4b</b>	Runoff Area=9,222 sf 0.00% Impervious Runoff Depth=0.04" Tc=5.0 min CN=76 Runoff=0.001 cfs 0.001 af
<b>Subcatchment 4Sc: Subcatchment 4c</b>	Runoff Area=6,829 sf 0.00% Impervious Runoff Depth=0.04" Tc=5.0 min CN=76 Runoff=0.001 cfs 0.001 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=21,000 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.444 cfs 0.032 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=6,933 sf 83.40% Impervious Runoff Depth=0.50" Tc=5.0 min CN=94 Runoff=0.097 cfs 0.007 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=11,929 sf 95.81% Impervious Runoff Depth=0.71" Tc=5.0 min CN=97 Runoff=0.231 cfs 0.016 af
<b>Subcatchment 8S: Subcatchment 8</b>	Runoff Area=10,141 sf 93.52% Impervious Runoff Depth=0.63" Tc=5.0 min CN=96 Runoff=0.178 cfs 0.012 af
<b>Subcatchment 9S: Subcatchment 9</b>	Runoff Area=15,078 sf 73.53% Impervious Runoff Depth=0.40" Tc=5.0 min CN=92 Runoff=0.166 cfs 0.012 af
<b>Subcatchment 11S: Subcatchment 11</b>	Runoff Area=250,135 sf 0.00% Impervious Runoff Depth=0.04" Flow Length=1,133' Tc=34.6 min CN=76 Runoff=0.031 cfs 0.018 af
<b>Subcatchment 57S: Rain on Pond 35P</b>	Runoff Area=268 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.006 cfs 0.000 af
<b>Subcatchment 58S: Rain on Pond 36P</b>	Runoff Area=188 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.004 cfs 0.000 af
<b>Subcatchment 59S: Rain on Pond 37P</b>	Runoff Area=688 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.015 cfs 0.001 af

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<b>Subcatchment 61S: Rain on Pond 39P</b>	Runoff Area=1,498 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.032 cfs 0.002 af
<b>Subcatchment 63S: Rain on Pond 38P</b>	Runoff Area=1,998 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.042 cfs 0.003 af
<b>Reach 58R: SF1&amp;2 to SP1</b>	Avg. Flow Depth=0.00' Max Vel=0.18 fps Inflow=0.007 cfs 0.002 af n=0.100 L=253.0' S=0.0395 '/ Capacity=86.478 cfs Outflow=0.004 cfs 0.002 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.00' Max Vel=0.49 fps Inflow=0.082 cfs 0.027 af n=0.100 L=550.0' S=0.0600 '/ Capacity=1,688.432 cfs Outflow=0.046 cfs 0.027 af
<b>Reach 64R: Culvert Under Main</b>	Avg. Flow Depth=0.07' Max Vel=0.72 fps Inflow=0.021 cfs 0.006 af 15.0" Round Pipe n=0.012 L=100.0' S=0.0020 '/ Capacity=3.130 cfs Outflow=0.020 cfs 0.006 af
<b>Reach 65R: SF4 to SP1</b>	Avg. Flow Depth=0.01' Max Vel=0.56 fps Inflow=0.034 cfs 0.054 af n=0.100 L=350.0' S=0.0629 '/ Capacity=231.446 cfs Outflow=0.034 cfs 0.054 af
<b>Reach 66R: SF5 to SP2</b>	Avg. Flow Depth=0.00' Max Vel=0.39 fps Inflow=0.015 cfs 0.030 af n=0.100 L=850.0' S=0.0382 '/ Capacity=259.355 cfs Outflow=0.015 cfs 0.030 af
<b>Pond 35P: Soil Filter 1</b>	Peak Elev=40.01' Storage=2 cf Inflow=0.006 cfs 0.001 af Primary=0.004 cfs 0.001 af Secondary=0.000 cfs 0.000 af Outflow=0.004 cfs 0.001 af
<b>Pond 37P: Soil Filter 3</b>	Peak Elev=65.32' Storage=375 cf Inflow=0.204 cfs 0.014 af Primary=0.007 cfs 0.014 af Secondary=0.000 cfs 0.000 af Outflow=0.007 cfs 0.014 af
<b>Pond 38P: Soil Filter 4</b>	Peak Elev=61.40' Storage=1,258 cf Inflow=0.761 cfs 0.054 af Primary=0.034 cfs 0.054 af Secondary=0.000 cfs 0.000 af Outflow=0.034 cfs 0.054 af
<b>Pond 39P: Soil Filter 5</b>	Peak Elev=61.46' Storage=759 cf Inflow=0.428 cfs 0.030 af Primary=0.015 cfs 0.030 af Secondary=0.000 cfs 0.000 af Outflow=0.015 cfs 0.030 af
<b>Pond 59P: Soil Filter 2</b>	Peak Elev=41.01' Storage=1 cf Inflow=0.004 cfs 0.001 af Primary=0.003 cfs 0.001 af Secondary=0.000 cfs 0.000 af Outflow=0.003 cfs 0.001 af
<b>Link 40L: Study Point 1</b>	Inflow=0.091 cfs 0.088 af Primary=0.091 cfs 0.088 af
<b>Link 41L: Study Point 2</b>	Inflow=0.046 cfs 0.048 af Primary=0.046 cfs 0.048 af
<b>Link 56L: Energy East Subtotal</b>	Inflow=0.129 cfs 0.136 af Primary=0.129 cfs 0.136 af

**Total Runoff Area = 10.8 ac Runoff Volume = 0.136 af Average Runoff Depth = 0.15"**  
**83.55% Pervious = 9.0 ac 16.45% Impervious = 1.8 ac**

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**Summary for Subcatchment 0S: Subcatchment 0**

Runoff = 0.054 cfs @ 12.08 hrs, Volume= 0.004 af, Depth= 0.45"

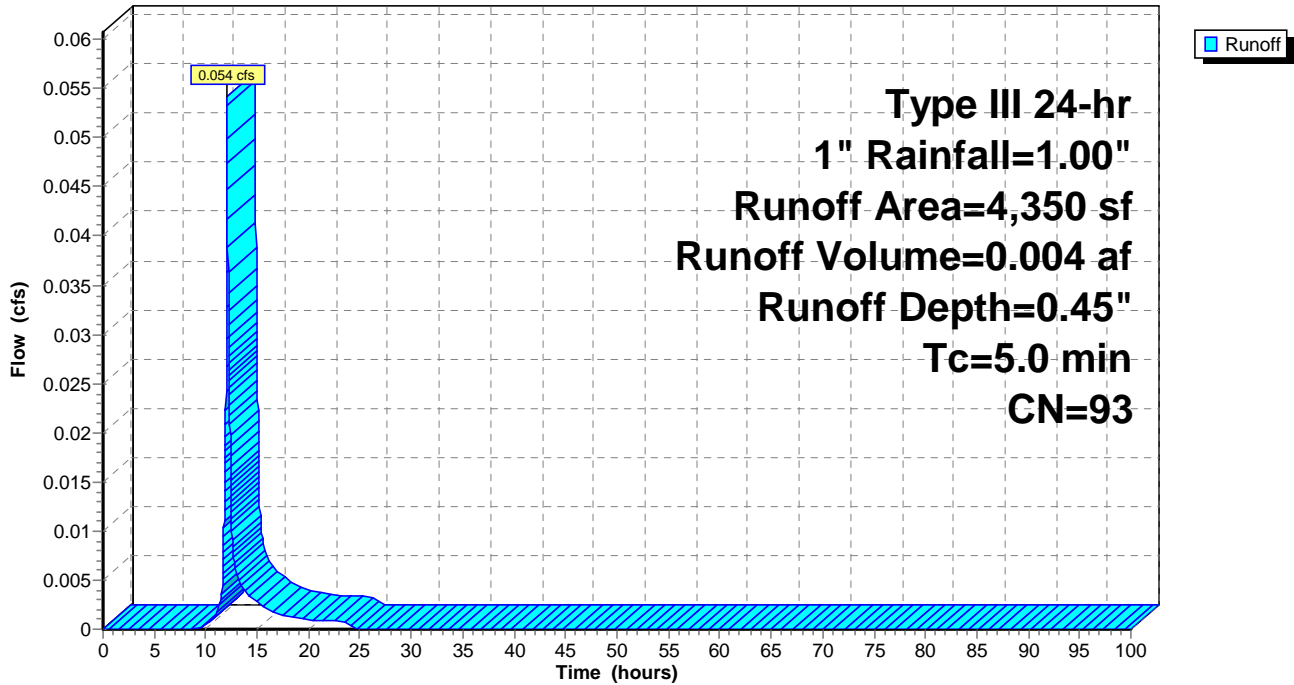
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
849	74	>75% Grass cover, Good, HSG C
3,501	98	Paved parking & roofs
4,350	93	Weighted Average
849		19.52% Pervious Area
3,501		80.48% Impervious Area

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

**Subcatchment 0S: Subcatchment 0**

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**Summary for Subcatchment 1S: Subcatchment 1**

Runoff = 0.024 cfs @ 12.12 hrs, Volume= 0.003 af, Depth= 0.11"

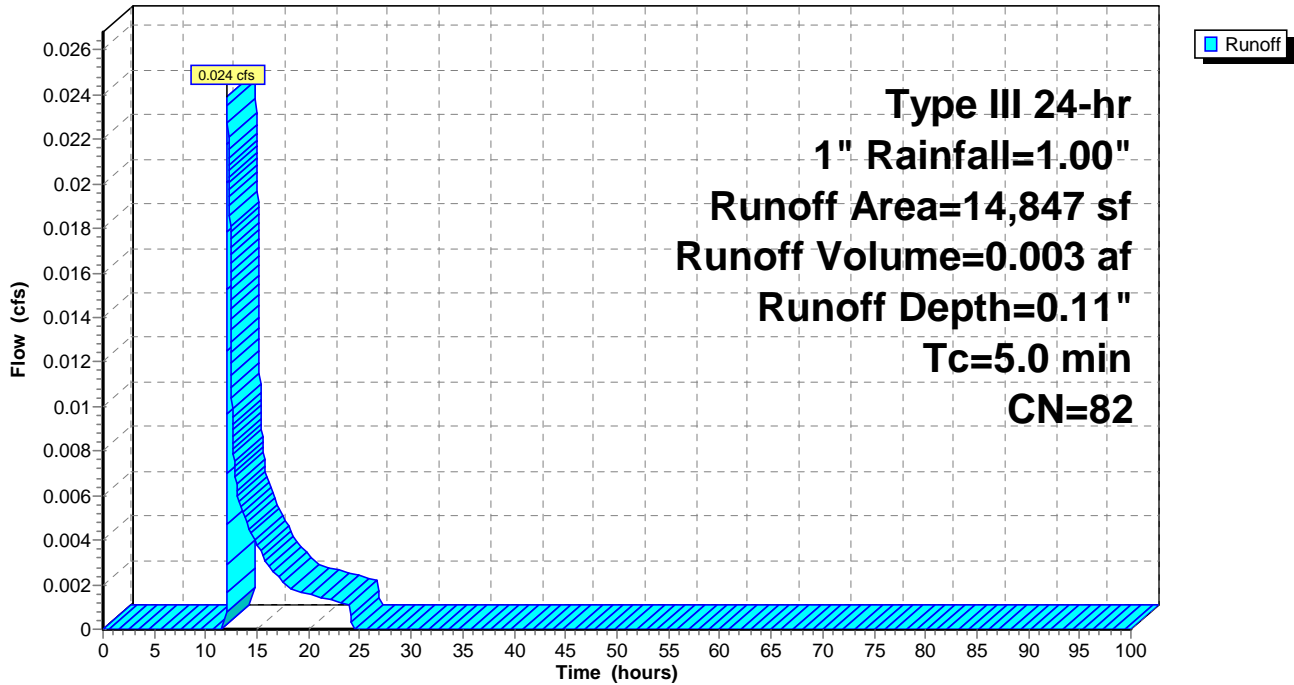
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
9,729	74	>75% Grass cover, Good, HSG C
5,118	98	Paved parking & roofs
14,847	82	Weighted Average
9,729		65.53% Pervious Area
5,118		34.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 1

**Subcatchment 1S: Subcatchment 1**

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 0.021 cfs @ 12.80 hrs, Volume= 0.006 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

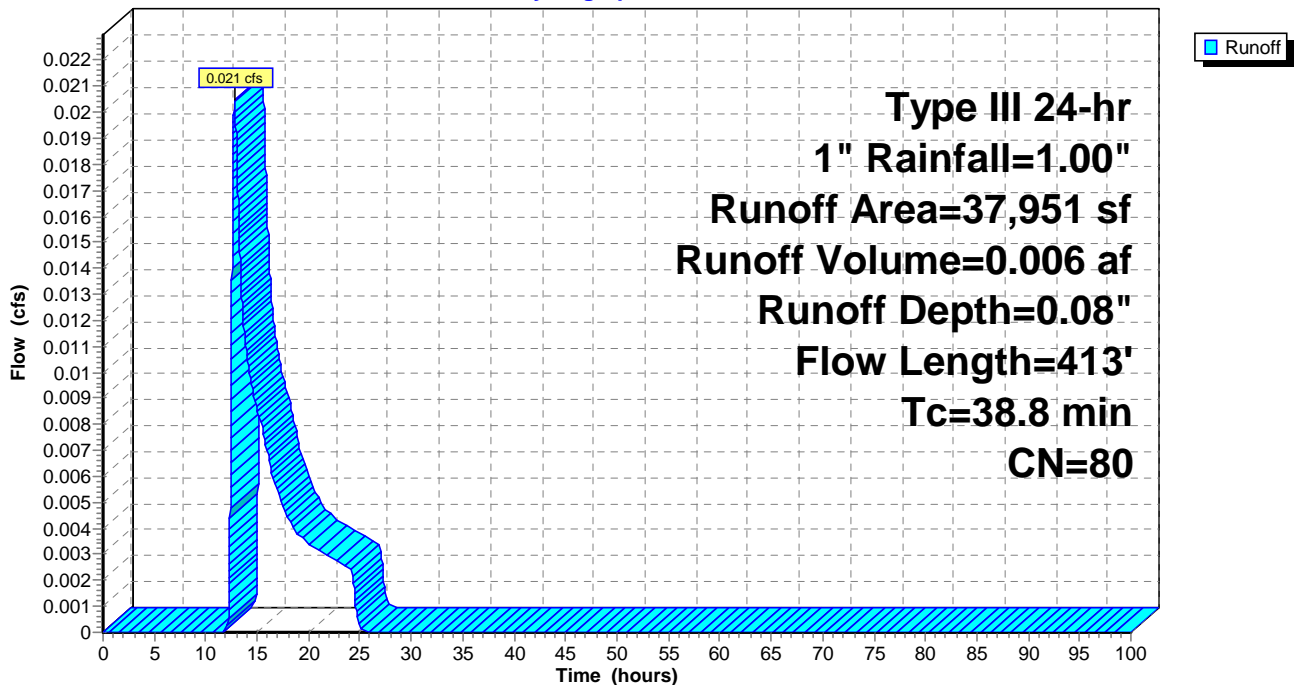
Area (sf)	CN	Description
27,420	82	Woods/grass comb., Fair, HSG D
10,531	76	Woods/grass comb., Fair, HSG C
37,951	80	Weighted Average
37,951		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
3.0	147	0.0272	0.82		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
0.0	34	0.1176	24.05	685.44	<b>Trap/Vee/Rect Channel Flow, Subcatchment 2 CF</b> Bot.W=3.50' D=3.00' Z= 2.0 '/' Top.W=15.50' n= 0.030 Earth, grassed & winding
38.8	413	Total			

**Subcatchment 2S: Subcatchment 2**

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 0.190 cfs @ 12.07 hrs, Volume= 0.013 af, Depth= 0.63"

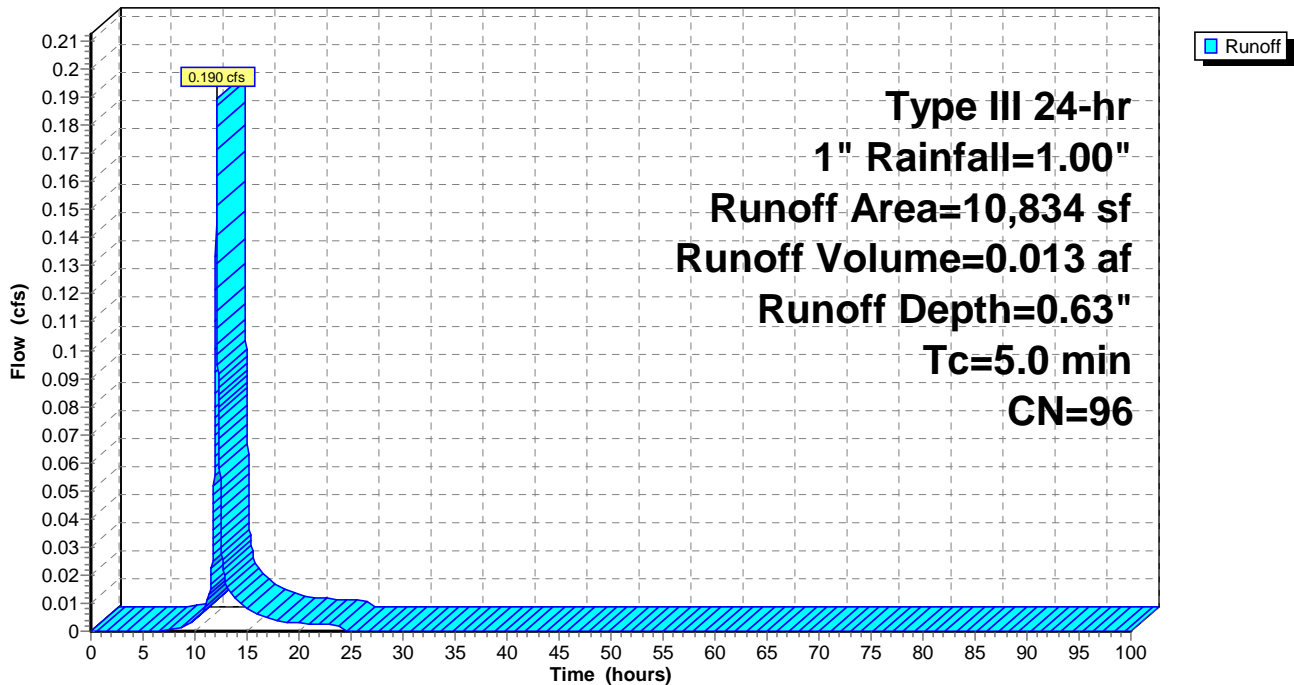
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
777	74	>75% Grass cover, Good, HSG C
10,057	98	Paved parking & roofs
10,834	96	Weighted Average
777		7.17% Pervious Area
10,057		92.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 3

**Subcatchment 3S: Subcatchment 3**

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 4Sa: Subcatchment 4a**

Runoff = 0.009 cfs @ 12.59 hrs, Volume= 0.005 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

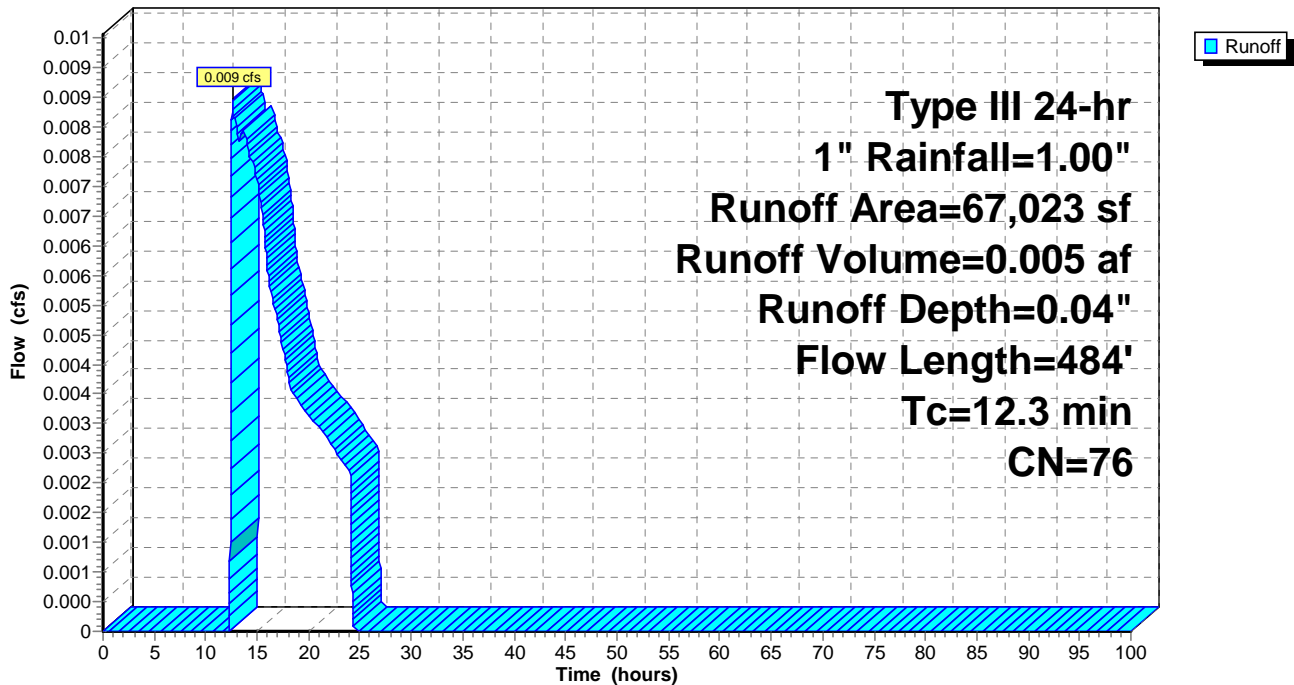
Area (sf)	CN	Description
67,023	76	Woods/grass comb., Fair, HSG C
67,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1500	0.17		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
1.5	297	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
12.3	484	Total			

**Subcatchment 4Sa: Subcatchment 4a**

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 4Sb: Subcatchment 4b**

Runoff = 0.001 cfs @ 12.47 hrs, Volume= 0.001 af, Depth= 0.04"

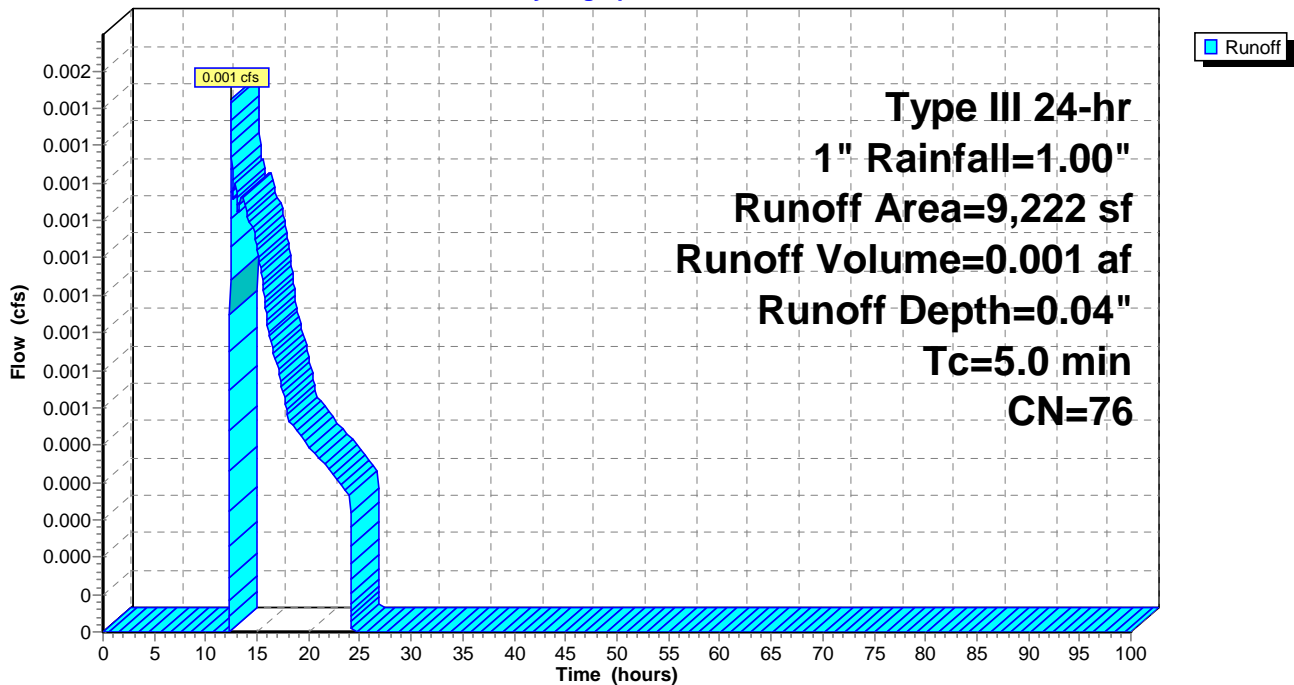
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
9,222	76	Woods/grass comb., Fair, HSG C
9,222		100.00% Pervious Area

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

**Subcatchment 4Sb: Subcatchment 4b**

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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Subcatchment 4Sc: Subcatchment 4c

Runoff = 0.001 cfs @ 12.47 hrs, Volume= 0.001 af, Depth= 0.04"

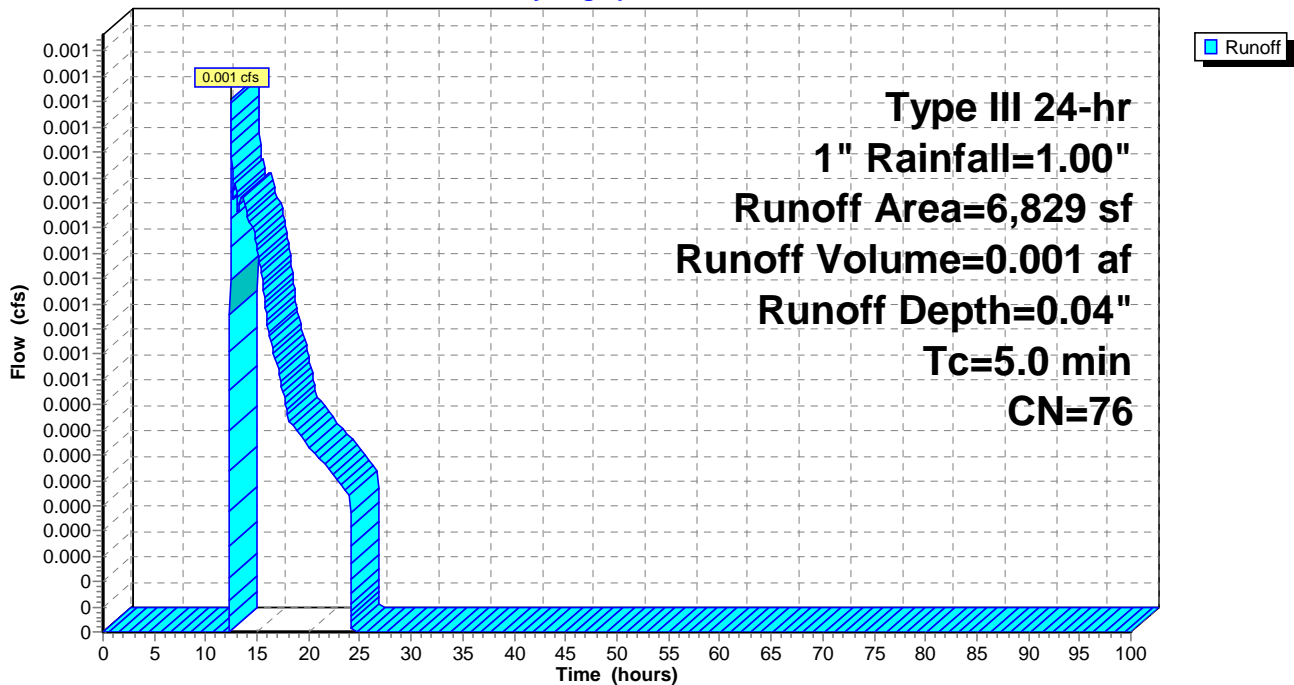
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
6,829	76	Woods/grass comb., Fair, HSG C
6,829		100.00% Pervious Area

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

## Subcatchment 4Sc: Subcatchment 4c

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Subcatchment 5S: Subcatchment 5

Runoff = 0.444 cfs @ 12.07 hrs, Volume= 0.032 af, Depth= 0.79"

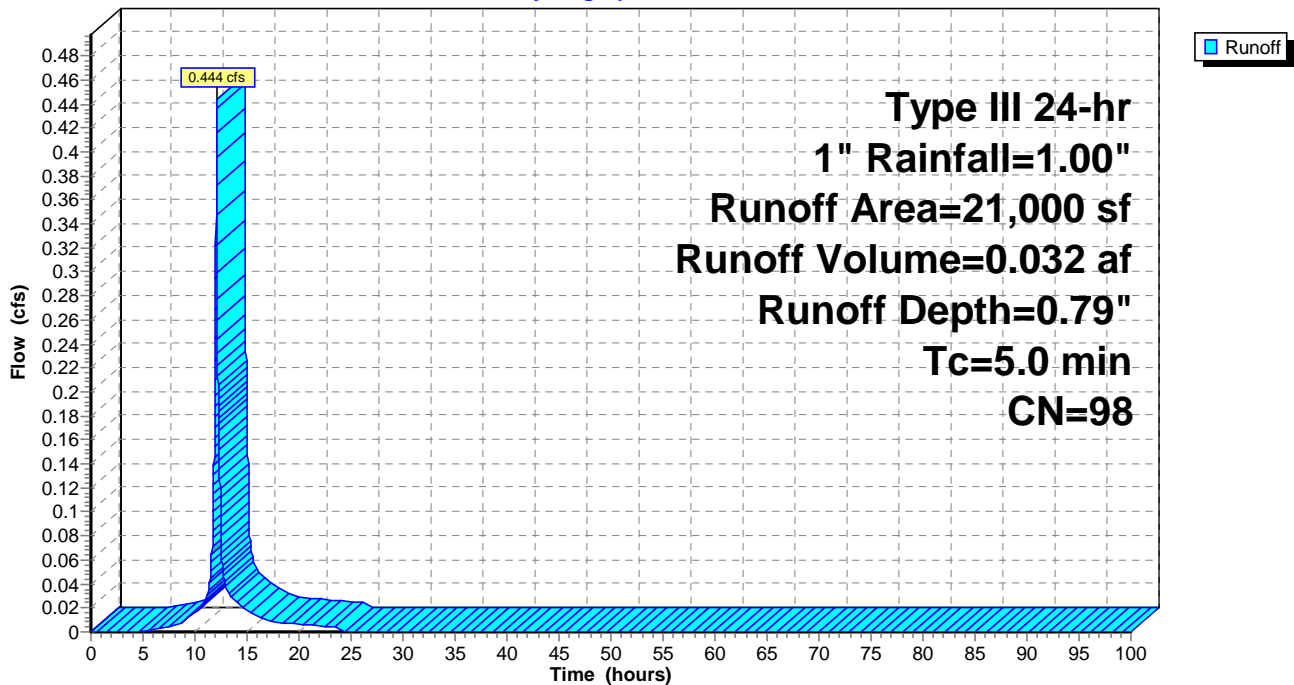
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
21,000	98	Paved parking & roofs
21,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 5

## Subcatchment 5S: Subcatchment 5

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 6S: Subcatchment 6**

Runoff = 0.097 cfs @ 12.08 hrs, Volume= 0.007 af, Depth= 0.50"

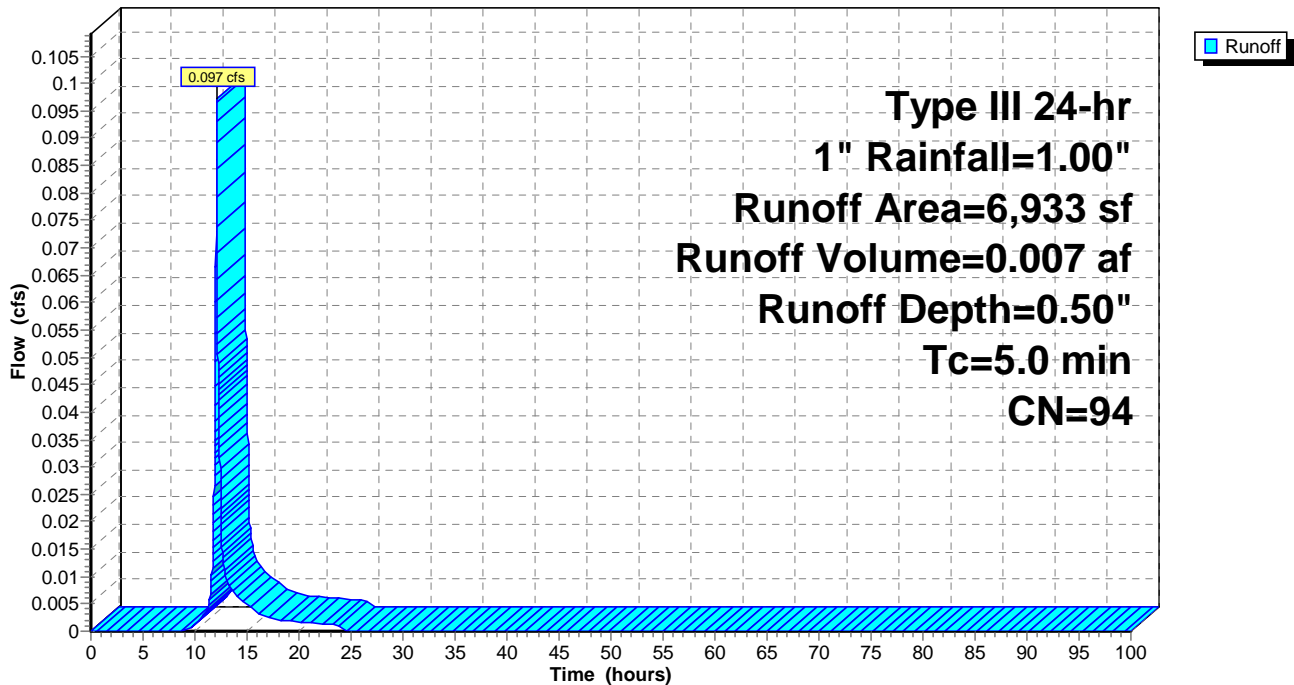
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
1,151	74	>75% Grass cover, Good, HSG C
5,782	98	Paved parking & roofs
6,933	94	Weighted Average
1,151		16.60% Pervious Area
5,782		83.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 6

**Subcatchment 6S: Subcatchment 6**

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 0.231 cfs @ 12.07 hrs, Volume= 0.016 af, Depth= 0.71"

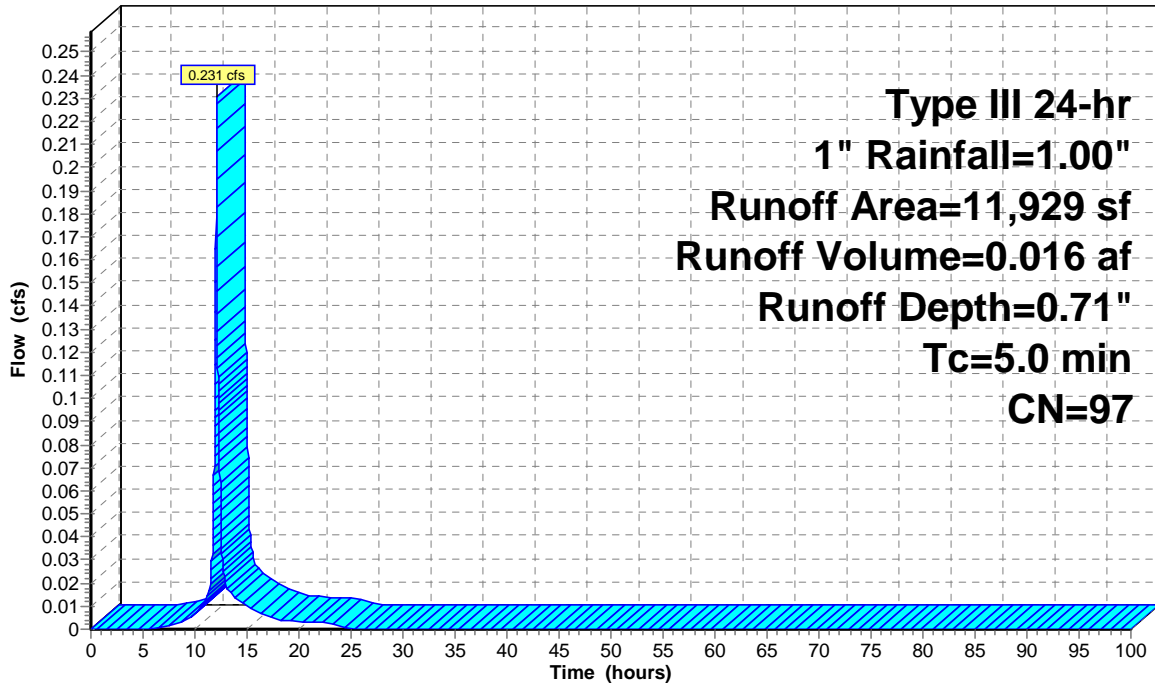
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
500	74	>75% Grass cover, Good, HSG C
11,429	98	Paved parking & roofs
11,929	97	Weighted Average
500		4.19% Pervious Area
11,429		95.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 7

**Subcatchment 7S: Subcatchment 7**

Hydrograph



Runoff

**Type III 24-hr  
1" Rainfall=1.00"**  
**Runoff Area=11,929 sf**  
**Runoff Volume=0.016 af**  
**Runoff Depth=0.71"**  
**Tc=5.0 min**  
**CN=97**

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 8S: Subcatchment 8**

Runoff = 0.178 cfs @ 12.07 hrs, Volume= 0.012 af, Depth= 0.63"

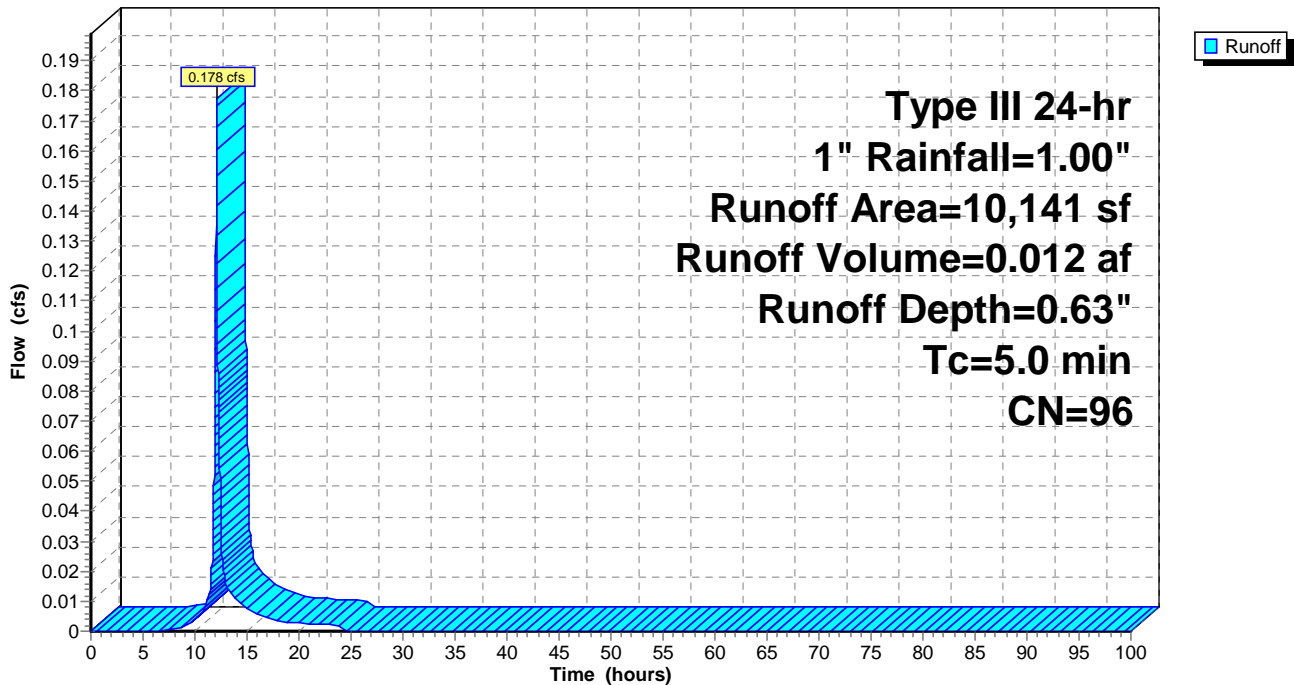
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
657	74	>75% Grass cover, Good, HSG C
9,484	98	Paved parking & roofs
10,141	96	Weighted Average
657		6.48% Pervious Area
9,484		93.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 8

**Subcatchment 8S: Subcatchment 8**

Hydrograph





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**Summary for Subcatchment 9S: Subcatchment 9**

Runoff = 0.166 cfs @ 12.08 hrs, Volume= 0.012 af, Depth= 0.40"

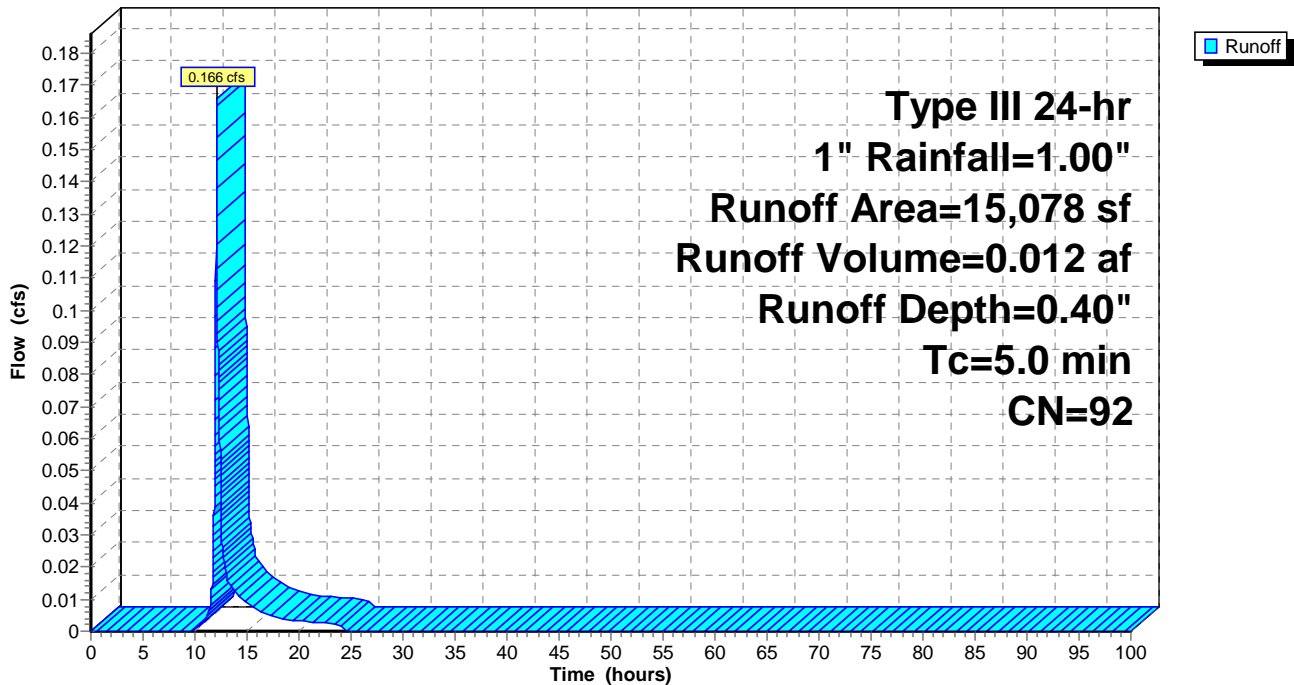
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
3,991	74	>75% Grass cover, Good, HSG C
11,087	98	Paved parking & roofs
15,078	92	Weighted Average
3,991		26.47% Pervious Area
11,087		73.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 9

**Subcatchment 9S: Subcatchment 9**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 11S: Subcatchment 11**

Runoff = 0.031 cfs @ 13.95 hrs, Volume= 0.018 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

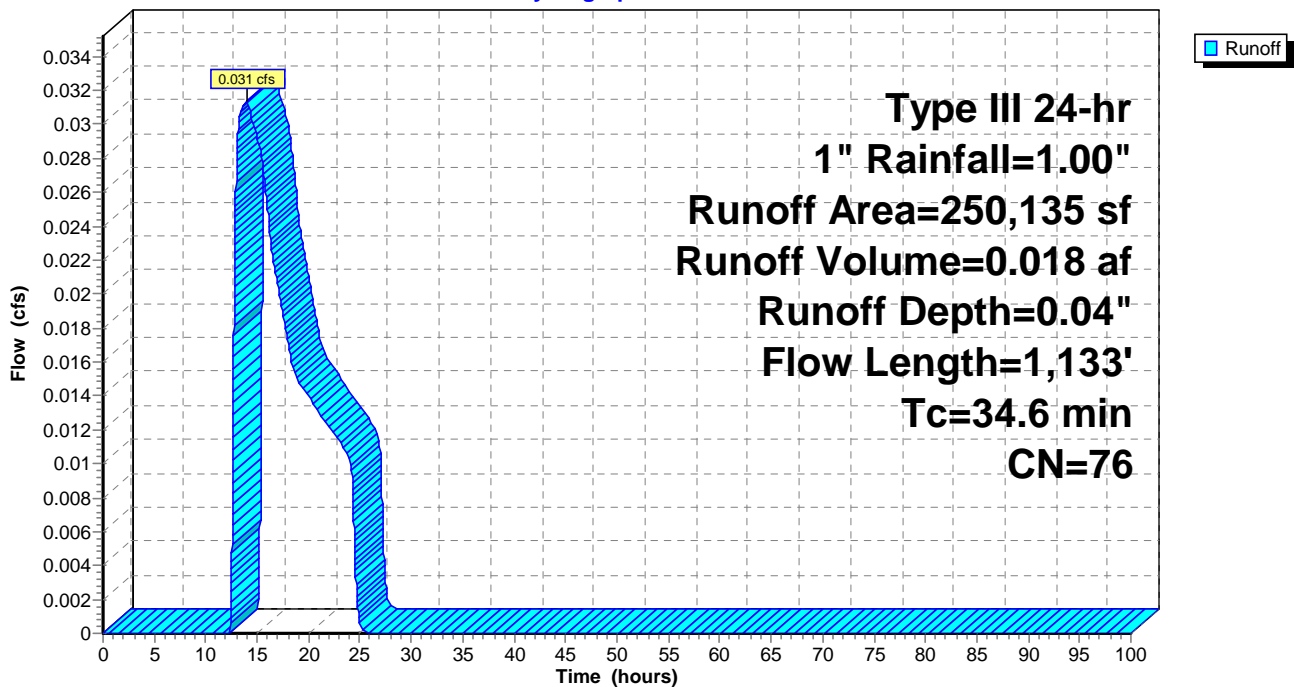
Area (sf)	CN	Description
250,135	76	Woods/grass comb., Fair, HSG C
250,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 11 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.5	203	0.0150	0.61		<b>Shallow Concentrated Flow, Subcatchment 11 SCF</b> Woodland Kv= 5.0 fps
4.2	830	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 11 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
34.6	1,133	Total			

**Subcatchment 11S: Subcatchment 11**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Subcatchment 57S: Rain on Pond 35P

Runoff = 0.006 cfs @ 12.07 hrs, Volume= 0.000 af, Depth= 0.79"

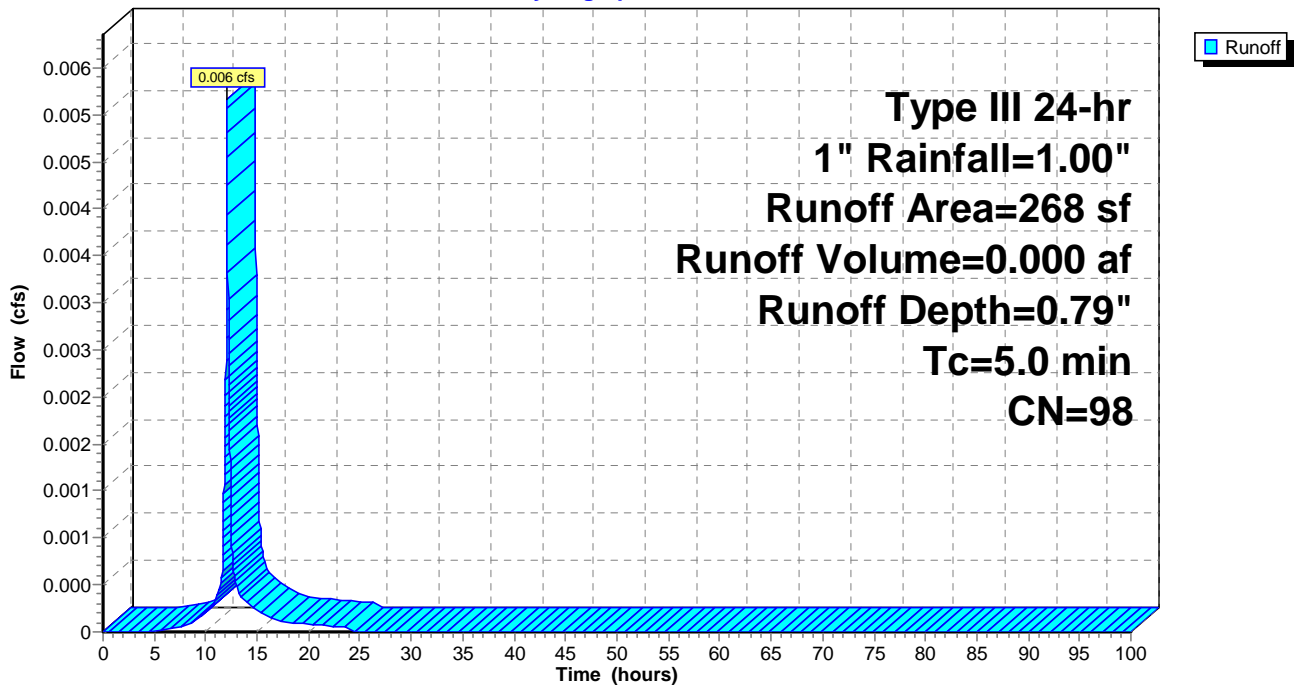
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
268	98	Water Surface, 0% imp
268		100.00% Pervious Area

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

## Subcatchment 57S: Rain on Pond 35P

Hydrograph



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## Summary for Subcatchment 58S: Rain on Pond 36P

Runoff = 0.004 cfs @ 12.07 hrs, Volume= 0.000 af, Depth= 0.79"

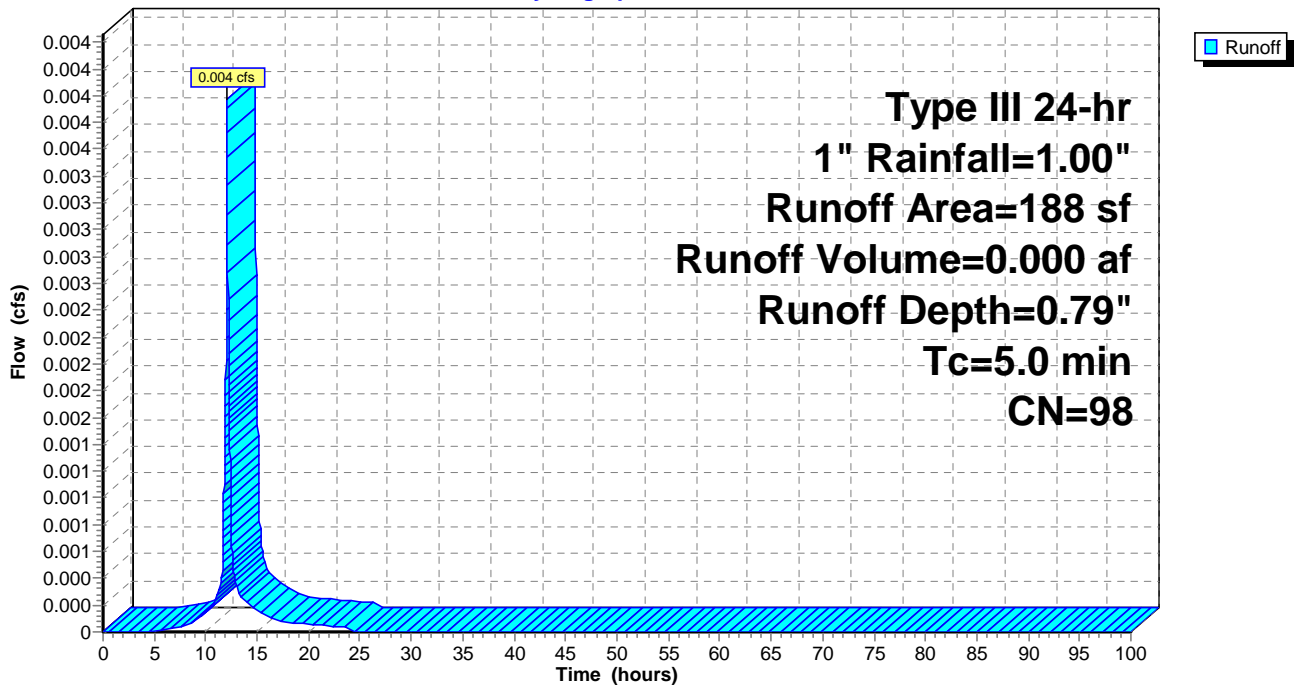
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
188	98	Water Surface, 0% imp
188		100.00% Pervious Area

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

## Subcatchment 58S: Rain on Pond 36P

Hydrograph



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## Summary for Subcatchment 59S: Rain on Pond 37P

Runoff = 0.015 cfs @ 12.07 hrs, Volume= 0.001 af, Depth= 0.79"

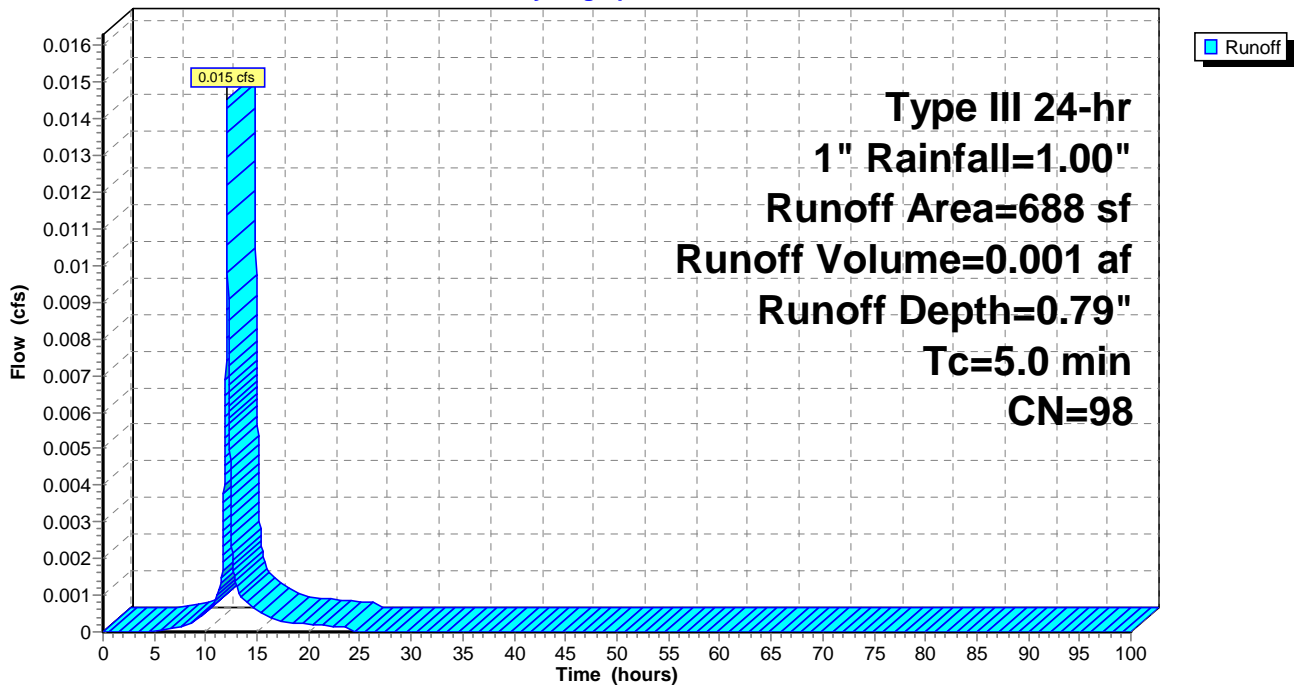
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
688	98	Water Surface, 0% imp
688		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

## Subcatchment 59S: Rain on Pond 37P

Hydrograph



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**Summary for Subcatchment 61S: Rain on Pond 39P**

Runoff = 0.032 cfs @ 12.07 hrs, Volume= 0.002 af, Depth= 0.79"

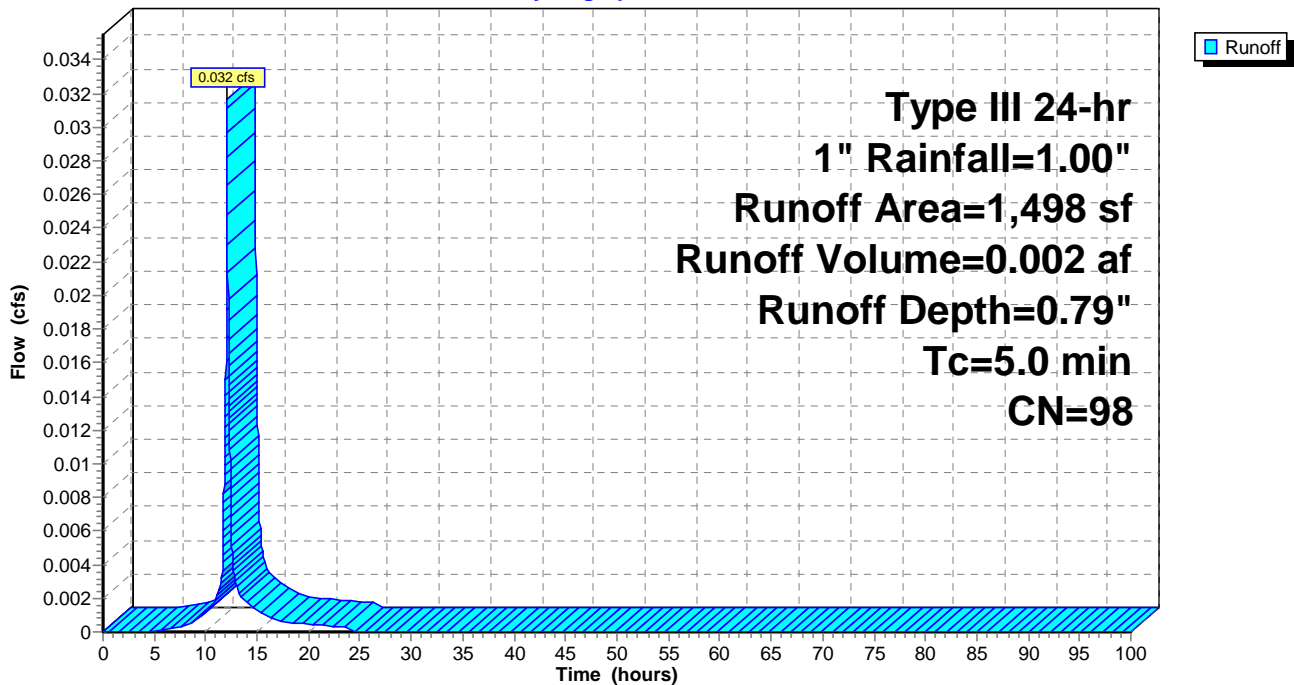
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
1,498	98	Water Surface, 0% imp
1,498		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 61S: Rain on Pond 39P**

Hydrograph



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**Summary for Subcatchment 63S: Rain on Pond 38P**

Runoff = 0.042 cfs @ 12.07 hrs, Volume= 0.003 af, Depth= 0.79"

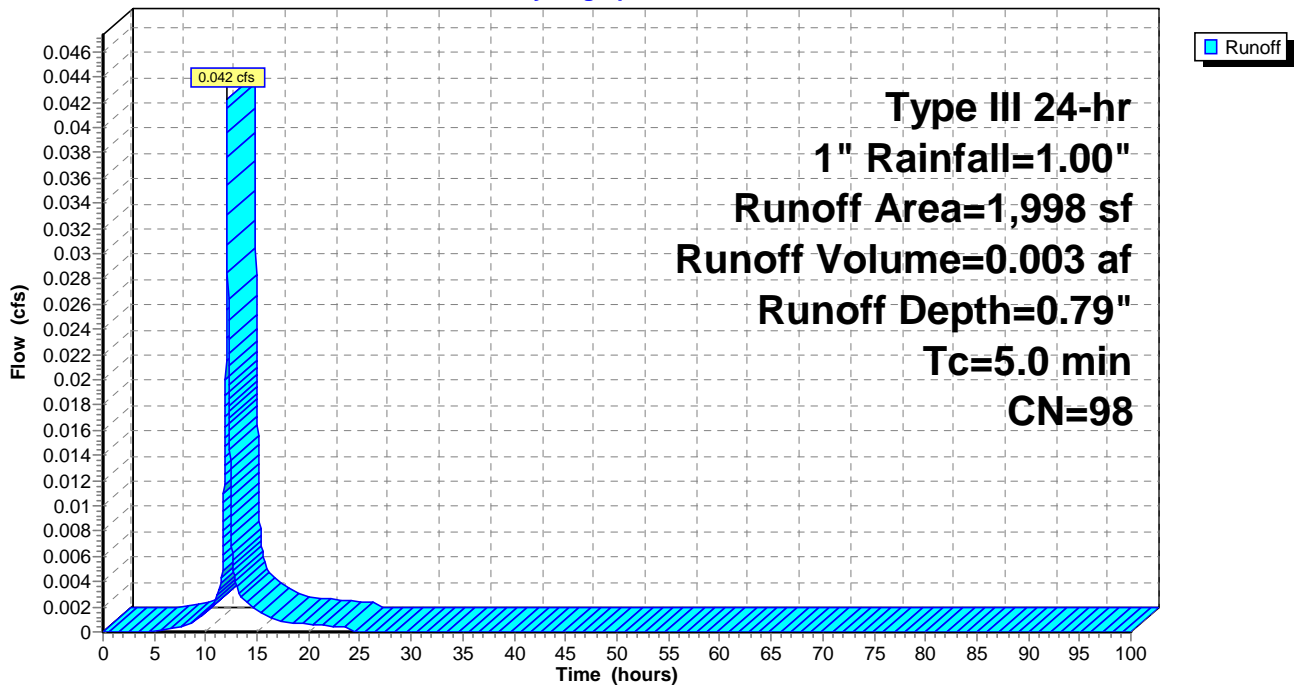
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
1,998	98	Water Surface, 0% imp
1,998		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 38P**

Hydrograph



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## Summary for Reach 58R: SF1&2 to SP1

Inflow Area = 0.4 ac, 0.00% Impervious, Inflow Depth = 0.06" for 1" event  
Inflow = 0.007 cfs @ 12.14 hrs, Volume= 0.002 af  
Outflow = 0.004 cfs @ 12.56 hrs, Volume= 0.002 af, Atten= 37%, Lag= 25.2 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.18 fps, Min. Travel Time= 23.5 min  
Avg. Velocity = 0.18 fps, Avg. Travel Time= 23.5 min

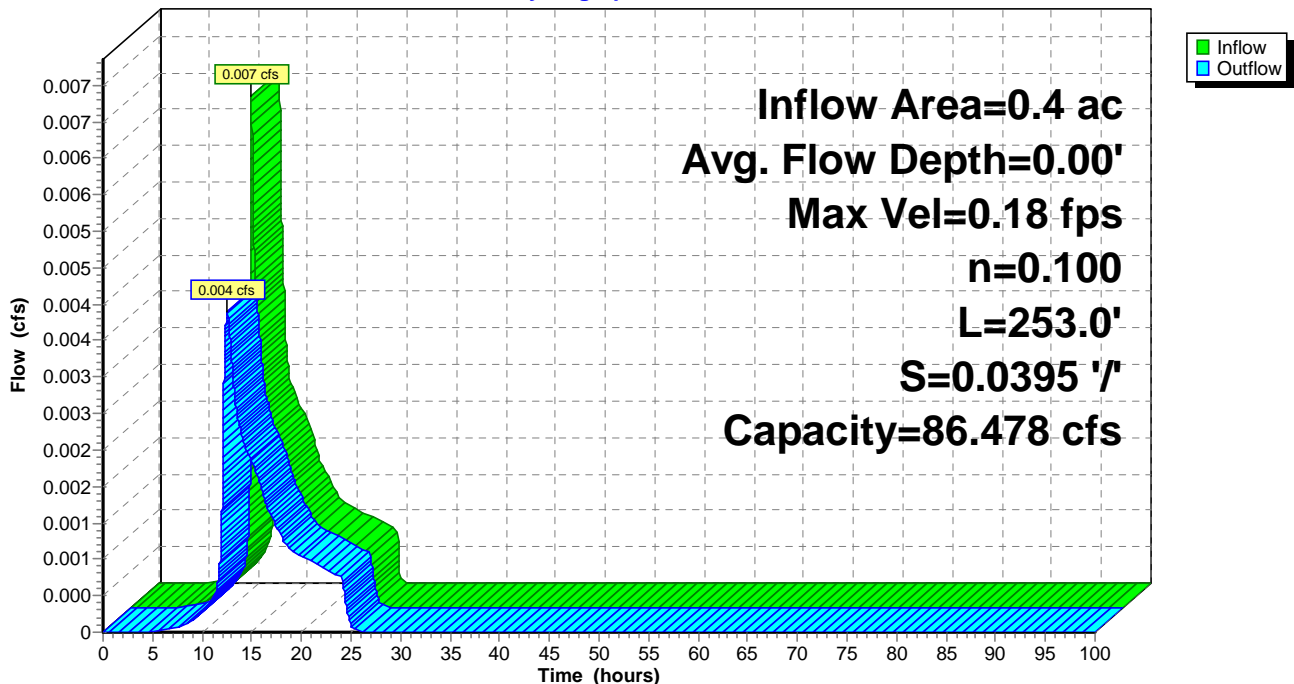
Peak Storage= 6 cf @ 12.56 hrs  
Average Depth at Peak Storage= 0.00'  
Bank-Full Depth= 1.50' Flow Area= 24.8 sf, Capacity= 86.478 cfs

15.00' x 1.50' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 1.0 ' / ' Top Width= 18.00'  
Length= 253.0' Slope= 0.0395 ' / '  
Inlet Invert= 36.00', Outlet Invert= 26.00'



## Reach 58R: SF1&2 to SP1

### Hydrograph





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## Summary for Reach 63R: Channel to SP1

Inflow Area = 1.6 ac, 27.20% Impervious, Inflow Depth = 0.21" for 1" event  
Inflow = 0.082 cfs @ 12.09 hrs, Volume= 0.027 af  
Outflow = 0.046 cfs @ 12.40 hrs, Volume= 0.027 af, Atten= 44%, Lag= 18.7 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.49 fps, Min. Travel Time= 18.6 min

Avg. Velocity = 0.49 fps, Avg. Travel Time= 18.6 min

Peak Storage= 51 cf @ 12.40 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 5.00' Flow Area= 200.0 sf, Capacity= 1,688.432 cfs

25.00' x 5.00' deep channel, n= 0.100 Earth, dense brush, high stage

Side Slope Z-value= 3.0 '/' Top Width= 55.00'

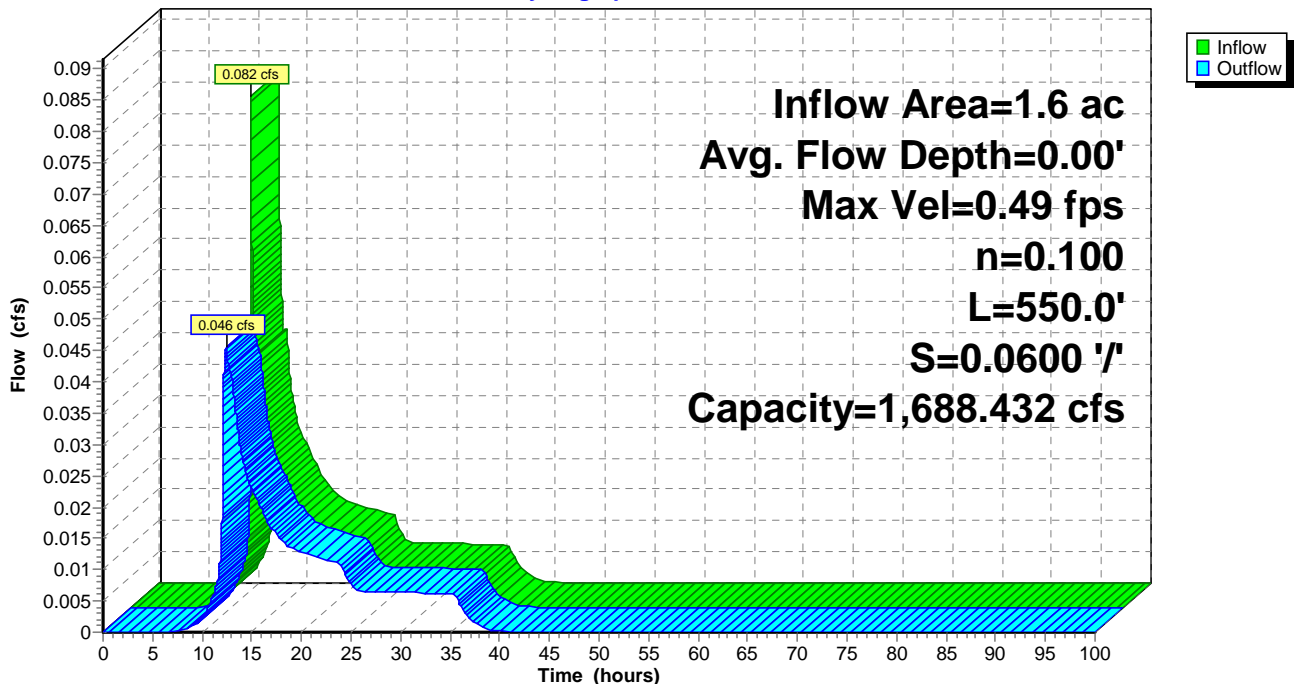
Length= 550.0' Slope= 0.0600 '/'

Inlet Invert= 58.00', Outlet Invert= 25.00'



## Reach 63R: Channel to SP1

### Hydrograph



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## Summary for Reach 64R: Culvert Under Main Entrance

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth = 0.08" for 1" event  
Inflow = 0.021 cfs @ 12.80 hrs, Volume= 0.006 af  
Outflow = 0.020 cfs @ 12.83 hrs, Volume= 0.006 af, Atten= 0%, Lag= 1.7 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.72 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 0.45 fps, Avg. Travel Time= 3.7 min

Peak Storage= 3 cf @ 12.83 hrs

Average Depth at Peak Storage= 0.07'

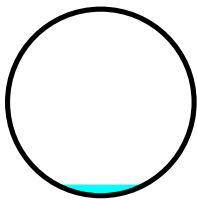
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 3.130 cfs

15.0" Round Pipe

n= 0.012 Concrete pipe, finished

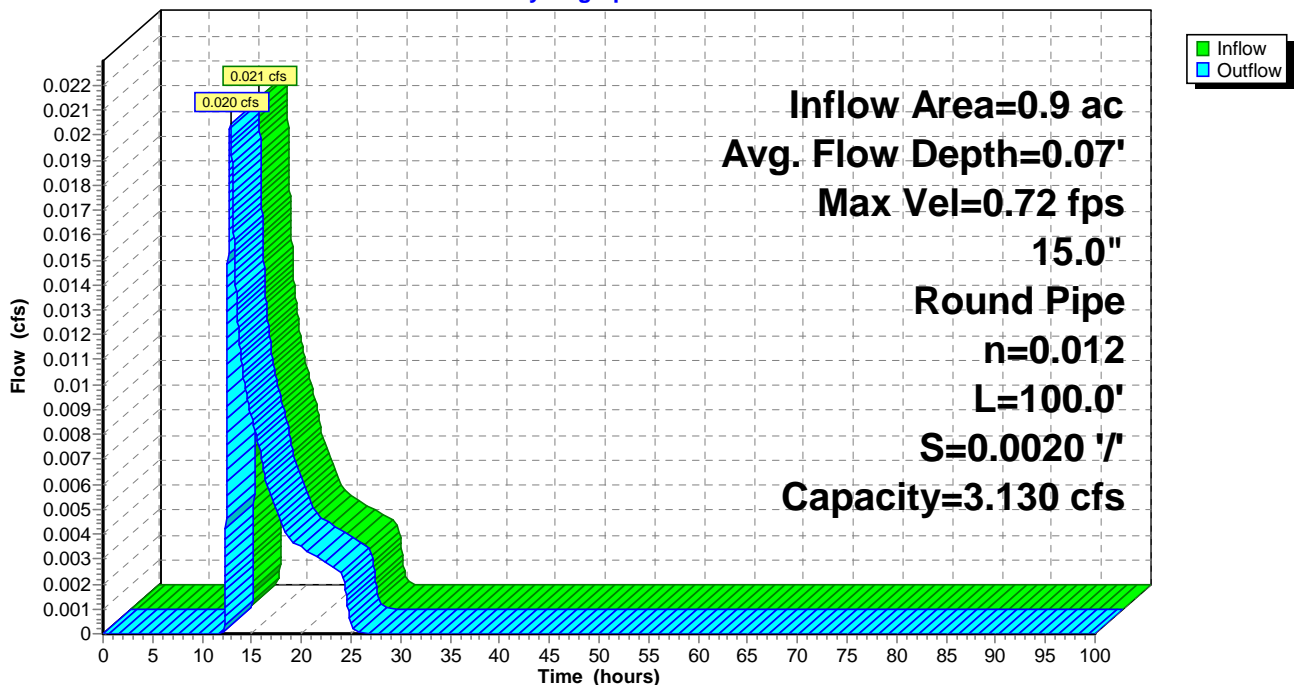
Length= 100.0' Slope= 0.0020 '/'

Inlet Invert= 59.00', Outlet Invert= 58.80'



## Reach 64R: Culvert Under Main Entrance

Hydrograph



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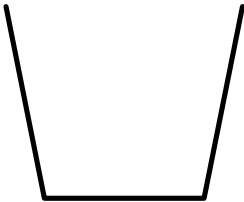
## Summary for Reach 65R: SF4 to SP1

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth = 0.70" for 1" event  
Inflow = 0.034 cfs @ 14.85 hrs, Volume= 0.054 af  
Outflow = 0.034 cfs @ 15.02 hrs, Volume= 0.054 af, Atten= 0%, Lag= 10.4 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.56 fps, Min. Travel Time= 10.4 min  
Avg. Velocity = 0.56 fps, Avg. Travel Time= 10.4 min

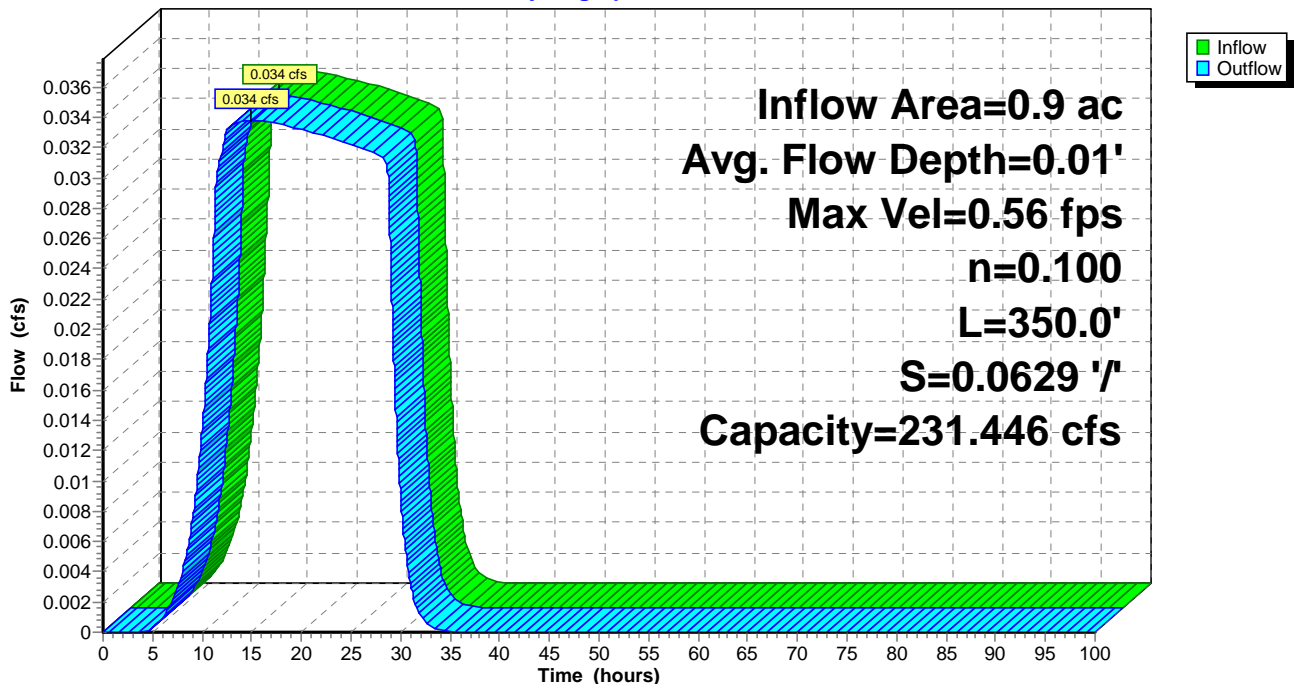
Peak Storage= 21 cf @ 15.02 hrs  
Average Depth at Peak Storage= 0.01'  
Bank-Full Depth= 6.00' Flow Area= 37.2 sf, Capacity= 231.446 cfs

5.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 0.2 ' / ' Top Width= 7.40'  
Length= 350.0' Slope= 0.0629 ' / '  
Inlet Invert= 47.00', Outlet Invert= 25.00'



## Reach 65R: SF4 to SP1

### Hydrograph



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## Summary for Reach 66R: SF5 to SP2

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth = 0.55" for 1" event  
Inflow = 0.015 cfs @ 15.85 hrs, Volume= 0.030 af  
Outflow = 0.015 cfs @ 16.62 hrs, Volume= 0.030 af, Atten= 0%, Lag= 46.2 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.39 fps, Min. Travel Time= 36.2 min  
Avg. Velocity = 0.39 fps, Avg. Travel Time= 36.2 min

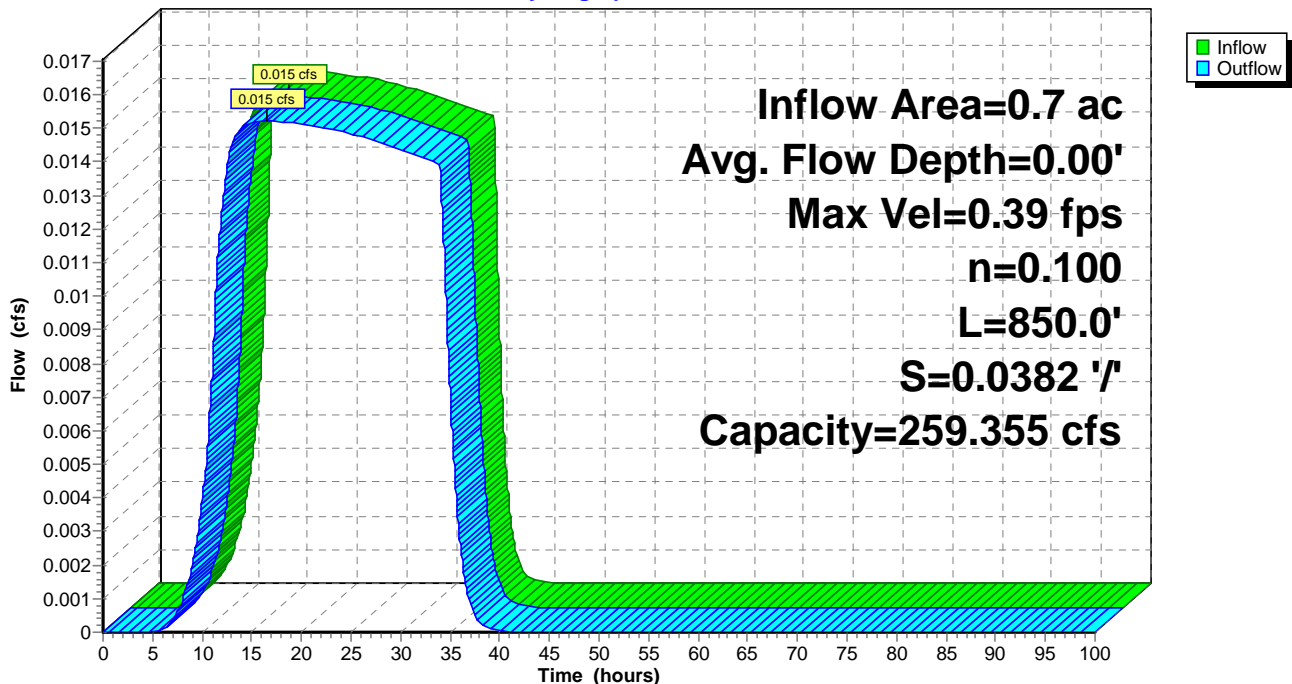
Peak Storage= 33 cf @ 16.62 hrs  
Average Depth at Peak Storage= 0.00'  
Bank-Full Depth= 5.00' Flow Area= 47.5 sf, Capacity= 259.355 cfs

8.00' x 5.00' deep channel, n= 0.100  
Side Slope Z-value= 0.3 '/ Top Width= 11.00'  
Length= 850.0' Slope= 0.0382 '/  
Inlet Invert= 57.50', Outlet Invert= 25.00'



## Reach 66R: SF5 to SP2

### Hydrograph



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**Summary for Pond 35P: Soil Filter 1**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 0.06" for 1" event  
 Inflow = 0.006 cfs @ 12.07 hrs, Volume= 0.001 af  
 Outflow = 0.004 cfs @ 12.14 hrs, Volume= 0.001 af, Atten= 27%, Lag= 4.1 min  
 Primary = 0.004 cfs @ 12.14 hrs, Volume= 0.001 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 40.01' @ 12.14 hrs Surf.Area= 270 sf Storage= 2 cf

Plug-Flow detention time= 7.4 min calculated for 0.001 af (100% of inflow)  
 Center-of-Mass det. time= 7.4 min ( 935.7 - 928.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	40.00'	1,421 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
40.00	268	0	0
41.00	491	380	380
41.50	618	277	657
42.00	761	345	1,002
42.50	917	420	1,421

Device	Routing	Invert	Outlet Devices
#1	Primary	37.84'	<b>4.0" Round Culvert</b> L= 29.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 37.84' / 37.00' S= 0.0290 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	37.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	40.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	41.80'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	42.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.015 cfs @ 12.14 hrs HW=40.01' (Free Discharge)

- ↑ 1=Culvert (Passes 0.015 cfs of 0.469 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.015 cfs of 0.038 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.015 cfs)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=40.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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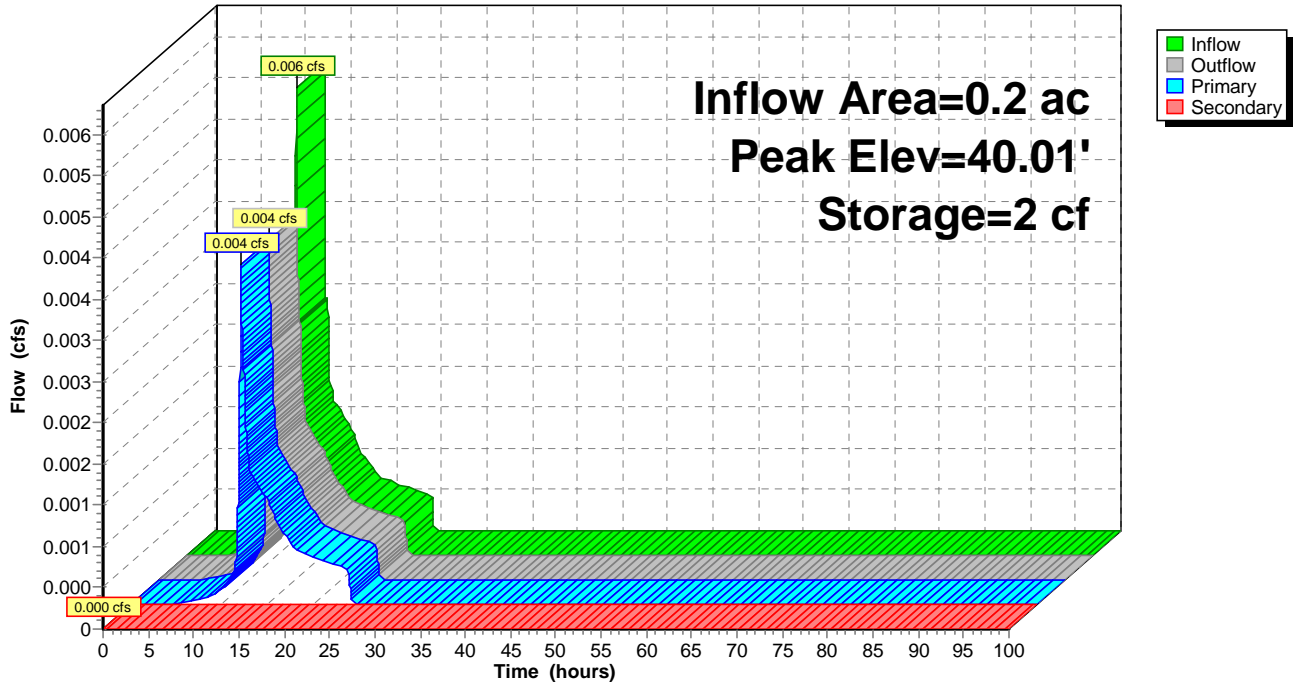
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Type III 24-hr 1" Rainfall=1.00"

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**Pond 35P: Soil Filter 1**

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**Summary for Pond 37P: Soil Filter 3**

Inflow Area = 0.3 ac, 87.29% Impervious, Inflow Depth = 0.64" for 1" event  
 Inflow = 0.204 cfs @ 12.07 hrs, Volume= 0.014 af  
 Outflow = 0.007 cfs @ 15.91 hrs, Volume= 0.014 af, Atten= 97%, Lag= 230.4 min  
 Primary = 0.007 cfs @ 15.91 hrs, Volume= 0.014 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

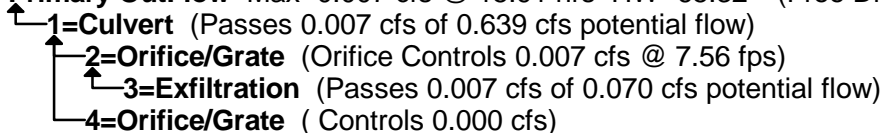
Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.32' @ 15.91 hrs Surf.Area= 1,254 sf Storage= 375 cf

Plug-Flow detention time= 579.7 min calculated for 0.014 af (100% of inflow)  
 Center-of-Mass det. time= 579.7 min ( 1,391.0 - 811.3 )

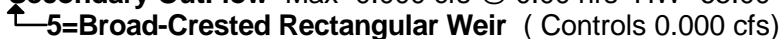
Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	5,079 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	1,078	0	0
66.00	1,626	1,352	1,352
66.50	1,925	888	2,240
67.00	2,657	1,146	3,385
67.60	2,988	1,693	5,079

Device	Routing	Invert	Outlet Devices
#1	Primary	62.84'	<b>4.0" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 62.84' / 61.00' S= 0.0460 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	62.84'	<b>0.4" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	65.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	67.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	67.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.007 cfs @ 15.91 hrs HW=65.32' (Free Discharge)



**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=65.00' (Free Discharge)



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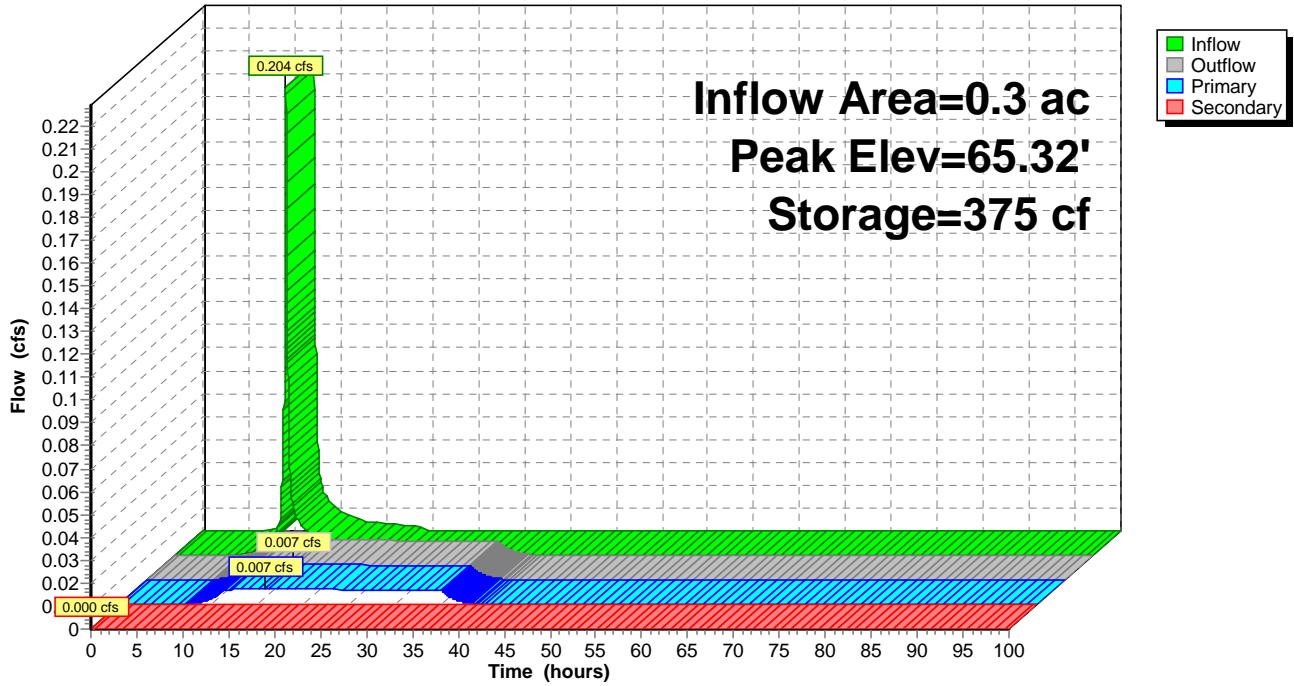
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**Pond 37P: Soil Filter 3**

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**Summary for Pond 38P: Soil Filter 4**

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth = 0.70" for 1" event  
 Inflow = 0.761 cfs @ 12.07 hrs, Volume= 0.054 af  
 Outflow = 0.034 cfs @ 14.85 hrs, Volume= 0.054 af, Atten= 96%, Lag= 166.4 min  
 Primary = 0.034 cfs @ 14.85 hrs, Volume= 0.054 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 61.40' @ 14.85 hrs Surf.Area= 3,339 sf Storage= 1,258 cf

Plug-Flow detention time= 372.8 min calculated for 0.054 af (100% of inflow)  
 Center-of-Mass det. time= 372.9 min ( 1,171.4 - 798.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	18,006 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	2,993	0	0
62.00	3,864	3,429	3,429
62.50	4,321	2,046	5,475
63.00	4,823	2,286	7,761
64.00	6,970	5,897	13,657
64.60	7,527	4,349	18,006

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>4.0" Round Culvert</b> L= 65.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 48.00' S= 0.1668 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	58.84'	<b>0.9" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	64.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	64.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.034 cfs @ 14.85 hrs HW=61.40' (Free Discharge)

- ↑ 1=Culvert (Passes 0.034 cfs of 0.650 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.034 cfs @ 7.64 fps)
- ↑ 3=Exfiltration (Passes 0.034 cfs of 0.186 cfs potential flow)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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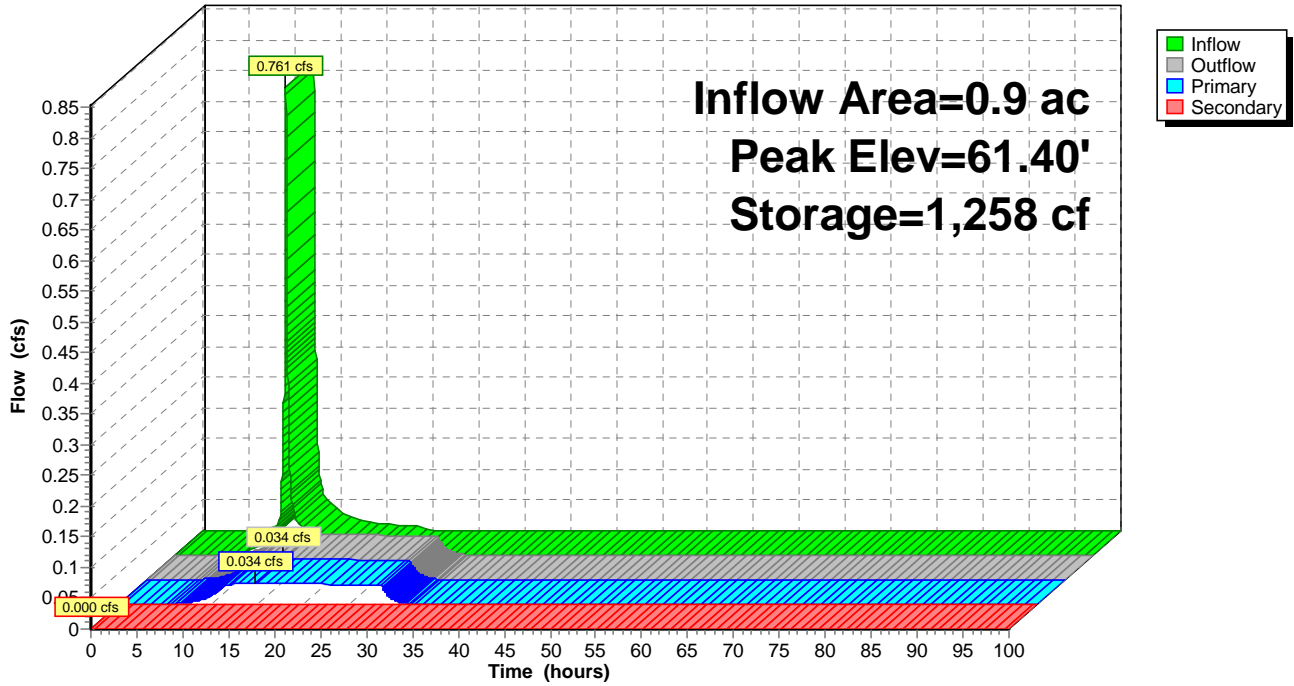
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**Pond 38P: Soil Filter 4**

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**Summary for Pond 39P: Soil Filter 5**

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth = 0.55" for 1" event  
 Inflow = 0.428 cfs @ 12.07 hrs, Volume= 0.030 af  
 Outflow = 0.015 cfs @ 15.85 hrs, Volume= 0.030 af, Atten= 96%, Lag= 226.4 min  
 Primary = 0.015 cfs @ 15.85 hrs, Volume= 0.030 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

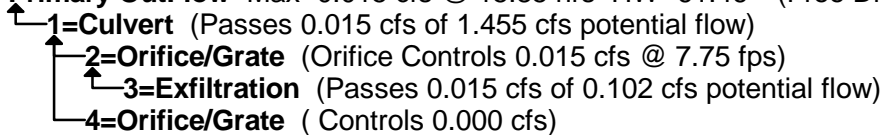
Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 61.46' @ 15.85 hrs Surf.Area= 1,820 sf Storage= 759 cf

Plug-Flow detention time= 512.0 min calculated for 0.030 af (100% of inflow)  
 Center-of-Mass det. time= 511.9 min ( 1,330.2 - 818.3 )

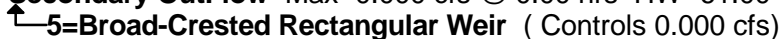
Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	6,897 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	1,498	0	0
62.00	2,202	1,850	1,850
62.50	2,561	1,191	3,041
63.00	3,239	1,450	4,491
63.70	3,636	2,406	6,897

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>6.0" Round Culvert</b> L= 21.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 58.00' S= 0.0400 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Device 1	58.84'	<b>0.6" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	63.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.00'	<b>20.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.015 cfs @ 15.85 hrs HW=61.46' (Free Discharge)



**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.00' (Free Discharge)



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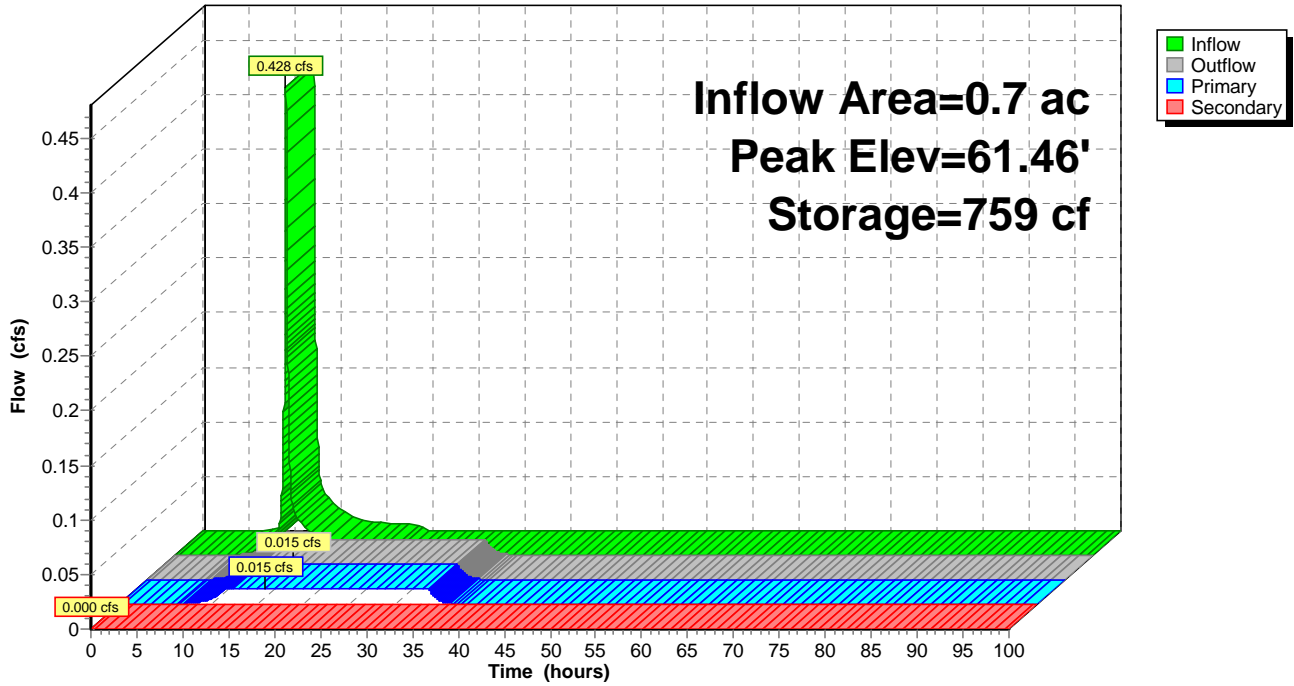
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**Pond 39P: Soil Filter 5**

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**Summary for Pond 59P: Soil Filter 2**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 0.06" for 1" event  
 Inflow = 0.004 cfs @ 12.07 hrs, Volume= 0.001 af  
 Outflow = 0.003 cfs @ 12.14 hrs, Volume= 0.001 af, Atten= 27%, Lag= 4.1 min  
 Primary = 0.003 cfs @ 12.14 hrs, Volume= 0.001 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 41.01' @ 12.14 hrs Surf.Area= 189 sf Storage= 1 cf

Plug-Flow detention time= 7.4 min calculated for 0.001 af (100% of inflow)  
 Center-of-Mass det. time= 7.4 min ( 938.6 - 931.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,121 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	188	0	0
42.00	377	283	283
42.50	491	217	500
43.00	618	277	777
43.50	760	345	1,121

Device	Routing	Invert	Outlet Devices
#1	Primary	38.84'	<b>4.0" Round Culvert</b> L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 38.84' / 38.00' S= 0.0263 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	38.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	41.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	42.70'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	43.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.011 cfs @ 12.14 hrs HW=41.01' (Free Discharge)

- ↑ 1=Culvert (Passes 0.011 cfs of 0.469 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.011 cfs of 0.038 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.011 cfs)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=41.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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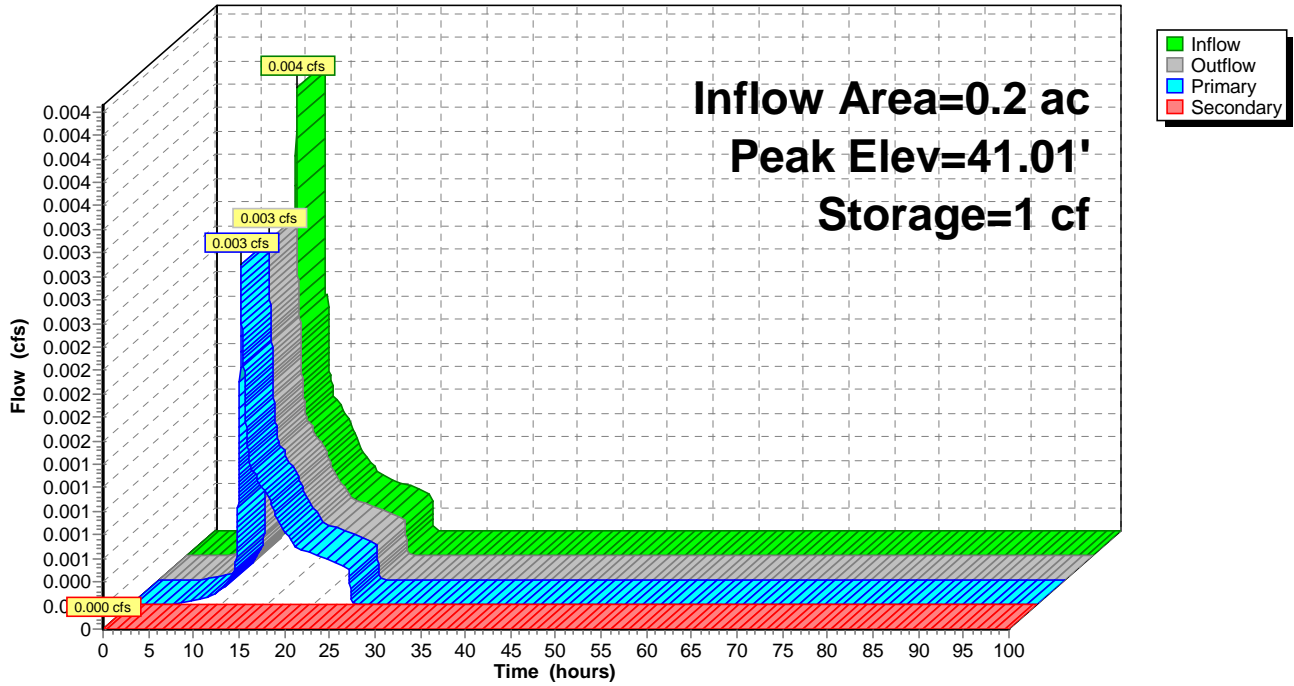
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**Pond 59P: Soil Filter 2**

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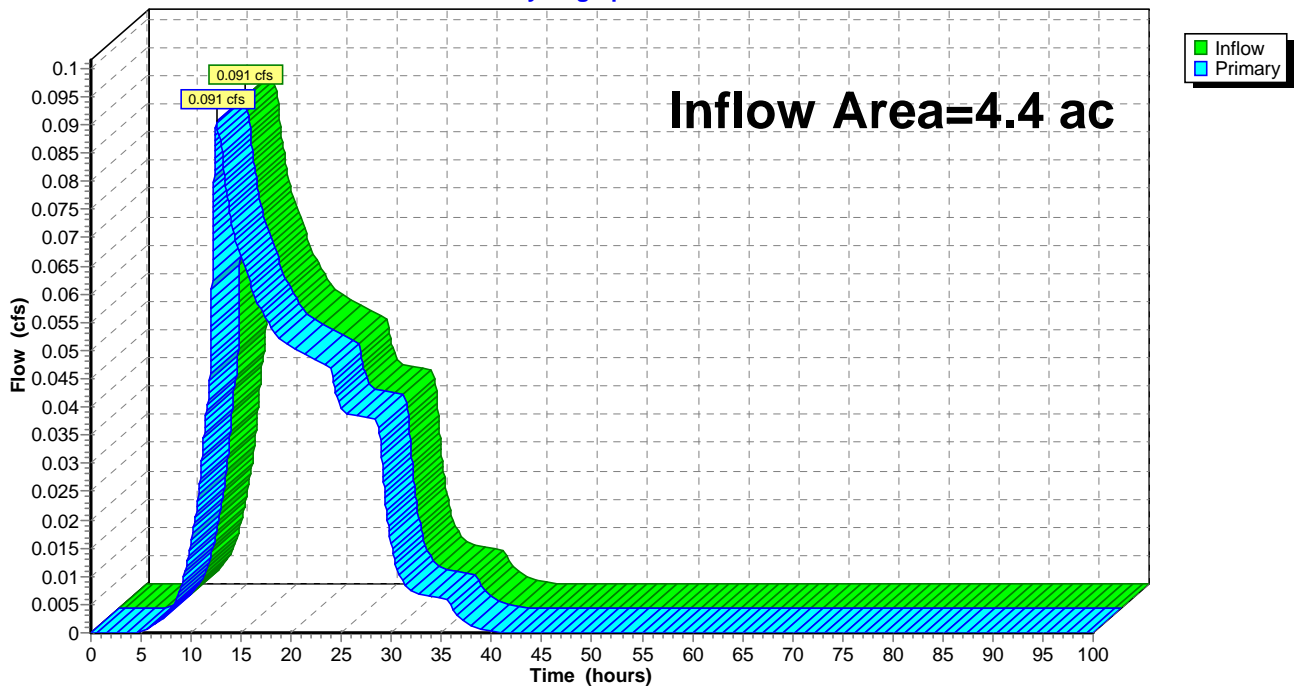
## Summary for Link 40L: Study Point 1

Inflow Area = 4.4 ac, 28.58% Impervious, Inflow Depth = 0.24" for 1" event  
Inflow = 0.091 cfs @ 12.54 hrs, Volume= 0.088 af  
Primary = 0.091 cfs @ 12.54 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

## Link 40L: Study Point 1

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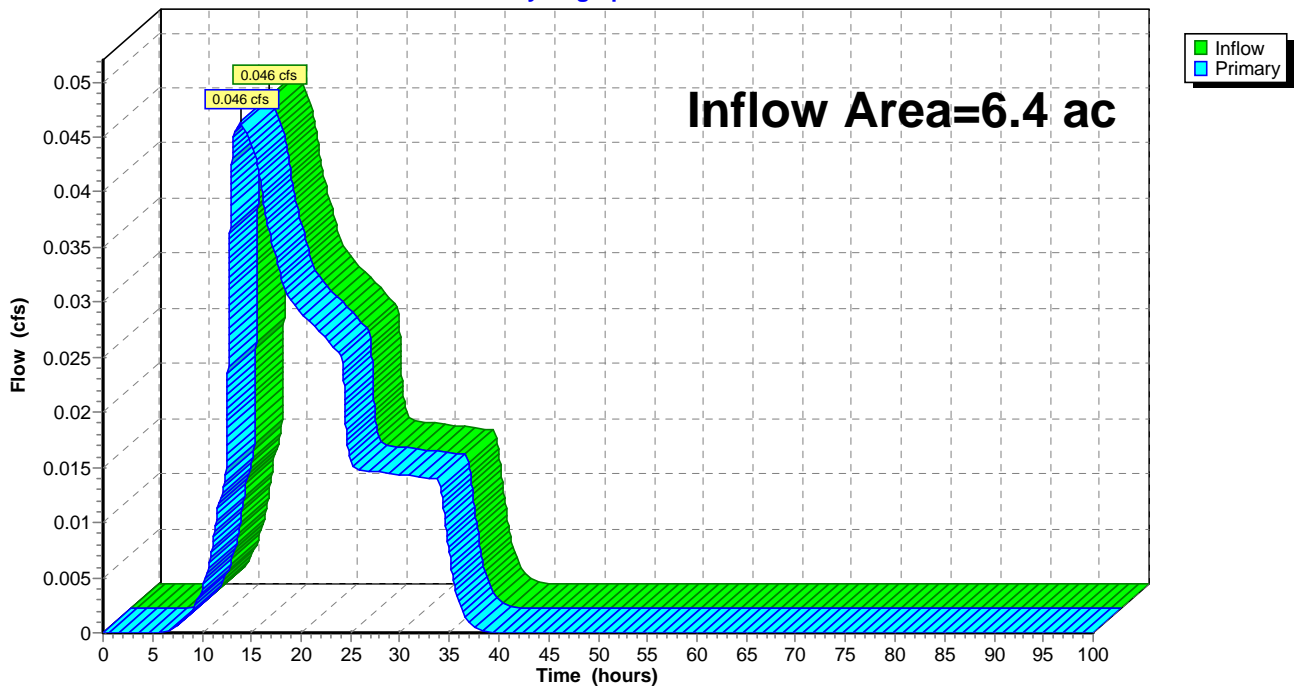
## Summary for Link 41L: Study Point 2

Inflow Area = 6.4 ac, 8.08% Impervious, Inflow Depth = 0.09" for 1" event  
Inflow = 0.046 cfs @ 13.96 hrs, Volume= 0.048 af  
Primary = 0.046 cfs @ 13.96 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

## Link 41L: Study Point 2

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Type III 24-hr 1" Rainfall=1.00"

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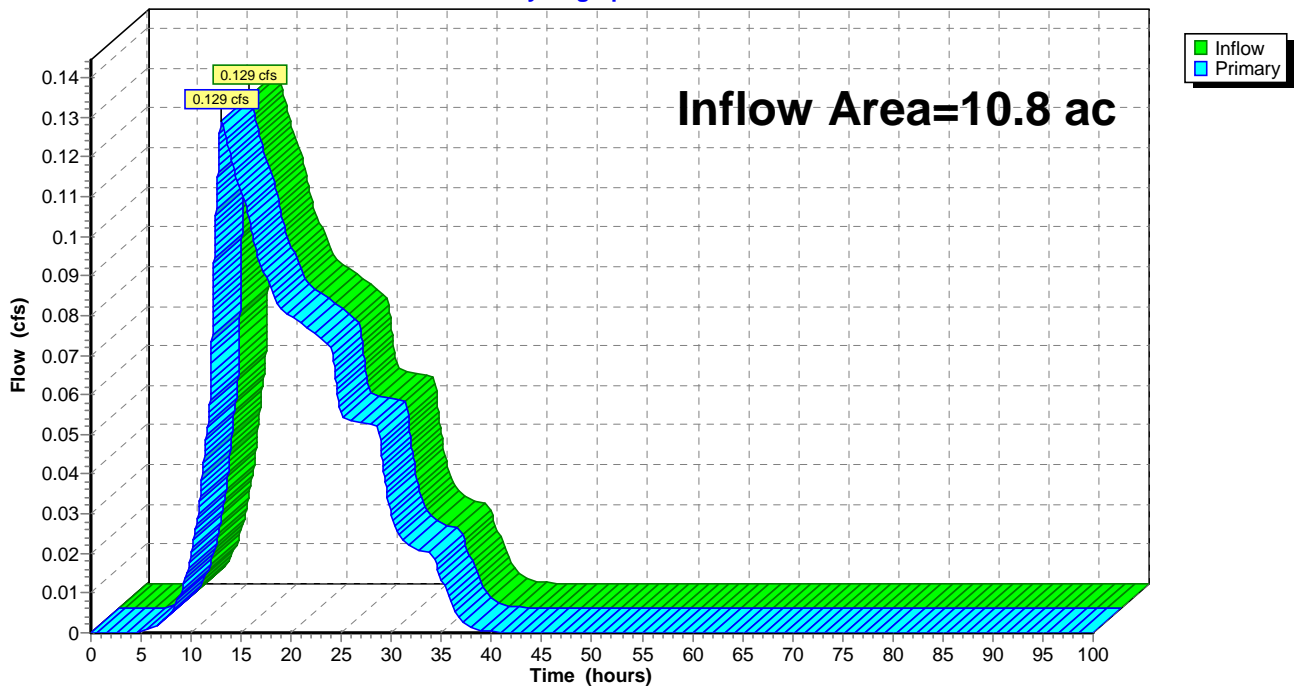
## Summary for Link 56L: Energy East Subtotal

Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth = 0.15" for 1" event  
Inflow = 0.129 cfs @ 13.03 hrs, Volume= 0.136 af  
Primary = 0.129 cfs @ 13.03 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

## Link 56L: Energy East Subtotal

Hydrograph



**Post-Development - 2015.09.25 Energy East - Linked**

POST - ENERGY EAST LINK  
Type III 24-hr 2-YR Rainfall=3.10"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 0S: Subcatchment 0</b>	Runoff Area=4,350 sf 80.48% Impervious Runoff Depth=2.35" Tc=5.0 min CN=93 Runoff=0.277 cfs 0.020 af
<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=14,847 sf 34.47% Impervious Runoff Depth=1.46" Tc=5.0 min CN=82 Runoff=0.601 cfs 0.041 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=37,951 sf 0.00% Impervious Runoff Depth=1.33" Flow Length=413' Tc=38.8 min CN=80 Runoff=0.668 cfs 0.096 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=10,834 sf 92.83% Impervious Runoff Depth=2.65" Tc=5.0 min CN=96 Runoff=0.747 cfs 0.055 af
<b>Subcatchment 4Sa: Subcatchment 4a</b>	Runoff Area=67,023 sf 0.00% Impervious Runoff Depth=1.08" Flow Length=484' Tc=12.3 min CN=76 Runoff=1.520 cfs 0.139 af
<b>Subcatchment 4Sb: Subcatchment 4b</b>	Runoff Area=9,222 sf 0.00% Impervious Runoff Depth=1.08" Tc=5.0 min CN=76 Runoff=0.268 cfs 0.019 af
<b>Subcatchment 4Sc: Subcatchment 4c</b>	Runoff Area=6,829 sf 0.00% Impervious Runoff Depth=1.08" Tc=5.0 min CN=76 Runoff=0.198 cfs 0.014 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=21,000 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=1.502 cfs 0.115 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=6,933 sf 83.40% Impervious Runoff Depth=2.45" Tc=5.0 min CN=94 Runoff=0.454 cfs 0.032 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=11,929 sf 95.81% Impervious Runoff Depth=2.76" Tc=5.0 min CN=97 Runoff=0.839 cfs 0.063 af
<b>Subcatchment 8S: Subcatchment 8</b>	Runoff Area=10,141 sf 93.52% Impervious Runoff Depth=2.65" Tc=5.0 min CN=96 Runoff=0.699 cfs 0.051 af
<b>Subcatchment 9S: Subcatchment 9</b>	Runoff Area=15,078 sf 73.53% Impervious Runoff Depth=2.26" Tc=5.0 min CN=92 Runoff=0.928 cfs 0.065 af
<b>Subcatchment 11S: Subcatchment 11</b>	Runoff Area=250,135 sf 0.00% Impervious Runoff Depth=1.08" Flow Length=1,133' Tc=34.6 min CN=76 Runoff=3.696 cfs 0.518 af
<b>Subcatchment 57S: Rain on Pond 35P</b>	Runoff Area=268 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.019 cfs 0.001 af
<b>Subcatchment 58S: Rain on Pond 36P</b>	Runoff Area=188 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.013 cfs 0.001 af
<b>Subcatchment 59S: Rain on Pond 37P</b>	Runoff Area=688 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.049 cfs 0.004 af

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

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<b>Subcatchment 61S: Rain on Pond 39P</b>	Runoff Area=1,498 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.107 cfs 0.008 af
<b>Subcatchment 63S: Rain on Pond 38P</b>	Runoff Area=1,998 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.143 cfs 0.011 af
<b>Reach 58R: SF1&amp;2 to SP1</b>	Avg. Flow Depth=0.02' Max Vel=0.19 fps Inflow=0.047 cfs 0.036 af n=0.100 L=253.0' S=0.0395 '/' Capacity=86.478 cfs Outflow=0.047 cfs 0.036 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.06' Max Vel=0.56 fps Inflow=1.047 cfs 0.213 af n=0.100 L=550.0' S=0.0600 '/' Capacity=1,688.432 cfs Outflow=0.808 cfs 0.213 af
<b>Reach 64R: Culvert Under Main</b>	Avg. Flow Depth=0.39' Max Vel=2.03 fps Inflow=0.668 cfs 0.096 af 15.0" Round Pipe n=0.012 L=100.0' S=0.0020 '/' Capacity=3.130 cfs Outflow=0.667 cfs 0.096 af
<b>Reach 65R: SF4 to SP1</b>	Avg. Flow Depth=0.01' Max Vel=0.56 fps Inflow=0.042 cfs 0.210 af n=0.100 L=350.0' S=0.0629 '/' Capacity=231.446 cfs Outflow=0.042 cfs 0.210 af
<b>Reach 66R: SF5 to SP2</b>	Avg. Flow Depth=0.01' Max Vel=0.39 fps Inflow=0.050 cfs 0.136 af n=0.100 L=850.0' S=0.0382 '/' Capacity=259.355 cfs Outflow=0.041 cfs 0.136 af
<b>Pond 35P: Soil Filter 1</b>	Peak Elev=40.94' Storage=352 cf Inflow=0.287 cfs 0.021 af Primary=0.027 cfs 0.021 af Secondary=0.000 cfs 0.000 af Outflow=0.027 cfs 0.021 af
<b>Pond 37P: Soil Filter 3</b>	Peak Elev=66.41' Storage=2,069 cf Inflow=0.796 cfs 0.059 af Primary=0.008 cfs 0.056 af Secondary=0.000 cfs 0.000 af Outflow=0.008 cfs 0.056 af
<b>Pond 38P: Soil Filter 4</b>	Peak Elev=62.78' Storage=6,725 cf Inflow=2.798 cfs 0.210 af Primary=0.042 cfs 0.210 af Secondary=0.000 cfs 0.000 af Outflow=0.042 cfs 0.210 af
<b>Pond 39P: Soil Filter 5</b>	Peak Elev=63.00' Storage=4,498 cf Inflow=1.875 cfs 0.136 af Primary=0.027 cfs 0.131 af Secondary=0.023 cfs 0.005 af Outflow=0.050 cfs 0.136 af
<b>Pond 59P: Soil Filter 2</b>	Peak Elev=41.93' Storage=258 cf Inflow=0.212 cfs 0.015 af Primary=0.020 cfs 0.015 af Secondary=0.000 cfs 0.000 af Outflow=0.020 cfs 0.015 af
<b>Link 40L: Study Point 1</b>	Inflow=2.142 cfs 0.598 af Primary=2.142 cfs 0.598 af
<b>Link 41L: Study Point 2</b>	Inflow=3.713 cfs 0.654 af Primary=3.713 cfs 0.654 af
<b>Link 56L: Energy East Subtotal</b>	Inflow=5.318 cfs 1.252 af Primary=5.318 cfs 1.252 af

**Total Runoff Area = 10.8 ac Runoff Volume = 1.255 af Average Runoff Depth = 1.39"**  
**83.55% Pervious = 9.0 ac 16.45% Impervious = 1.8 ac**

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

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**Summary for Subcatchment 0S: Subcatchment 0**

Runoff = 0.277 cfs @ 12.07 hrs, Volume= 0.020 af, Depth= 2.35"

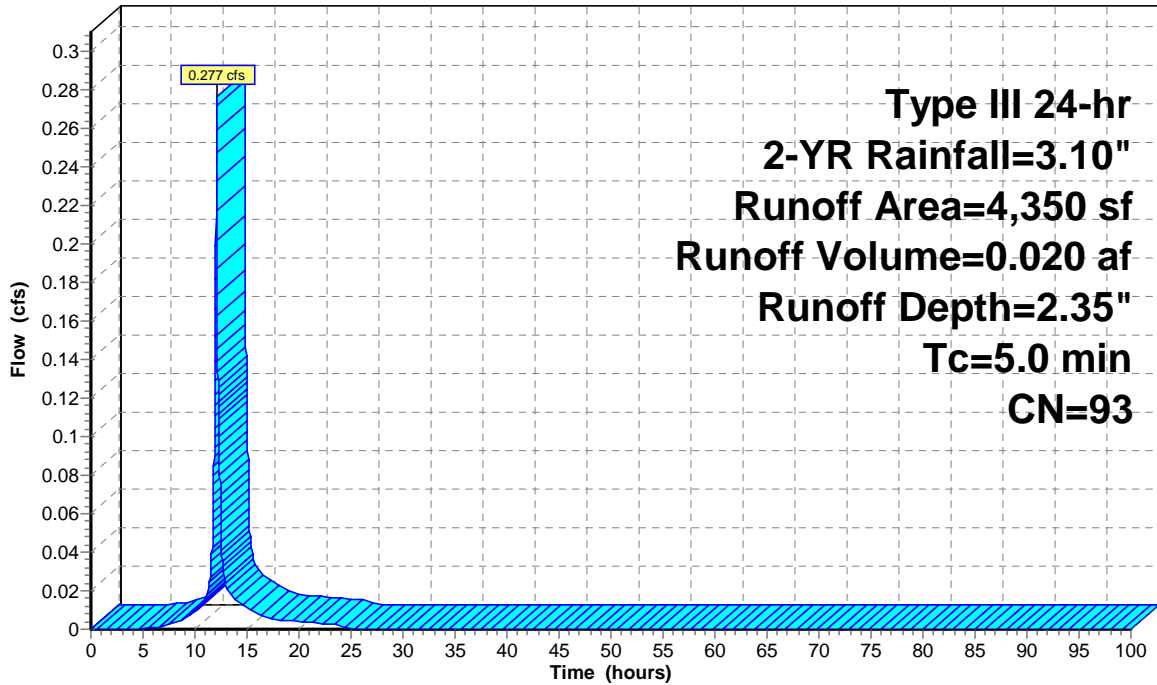
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
849	74	>75% Grass cover, Good, HSG C
3,501	98	Paved parking & roofs
4,350	93	Weighted Average
849		19.52% Pervious Area
3,501		80.48% Impervious Area

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

**Subcatchment 0S: Subcatchment 0**

Hydrograph



**Type III 24-hr  
2-YR Rainfall=3.10"  
Runoff Area=4,350 sf  
Runoff Volume=0.020 af  
Runoff Depth=2.35"  
Tc=5.0 min  
CN=93**

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

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**Summary for Subcatchment 1S: Subcatchment 1**

Runoff = 0.601 cfs @ 12.08 hrs, Volume= 0.041 af, Depth= 1.46"

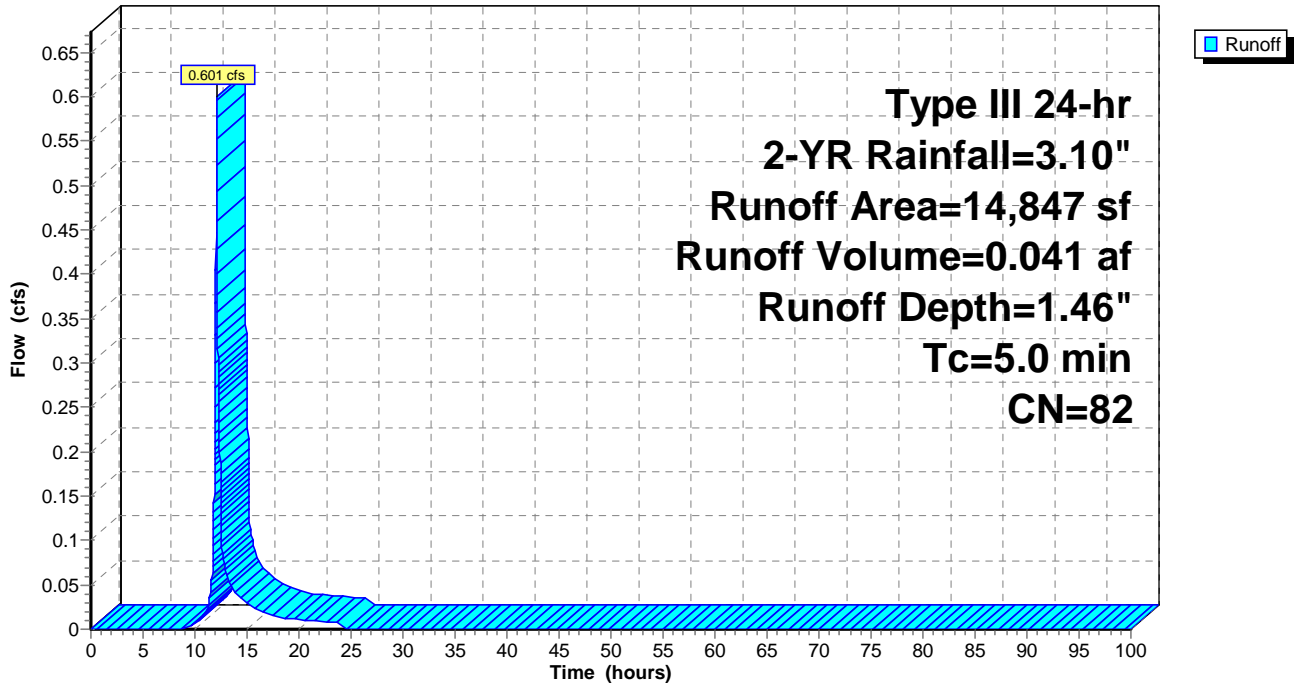
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
9,729	74	>75% Grass cover, Good, HSG C
5,118	98	Paved parking & roofs
14,847	82	Weighted Average
9,729		65.53% Pervious Area
5,118		34.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 1

**Subcatchment 1S: Subcatchment 1**

Hydrograph



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

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**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 0.668 cfs @ 12.55 hrs, Volume= 0.096 af, Depth= 1.33"

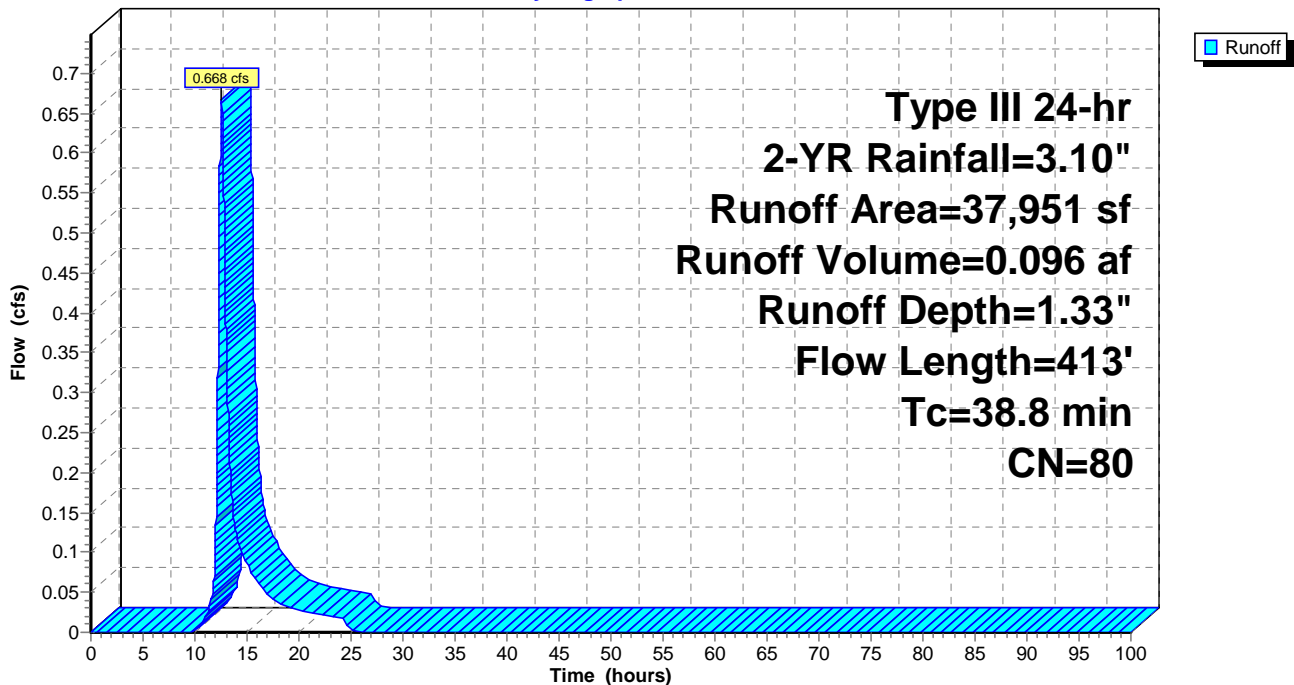
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
27,420	82	Woods/grass comb., Fair, HSG D
10,531	76	Woods/grass comb., Fair, HSG C
37,951	80	Weighted Average
37,951		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
3.0	147	0.0272	0.82		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
0.0	34	0.1176	24.05	685.44	<b>Trap/Vee/Rect Channel Flow, Subcatchment 2 CF</b> Bot.W=3.50' D=3.00' Z= 2.0 '/' Top.W=15.50' n= 0.030 Earth, grassed & winding
38.8	413	Total			

**Subcatchment 2S: Subcatchment 2**

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**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 0.747 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 2.65"

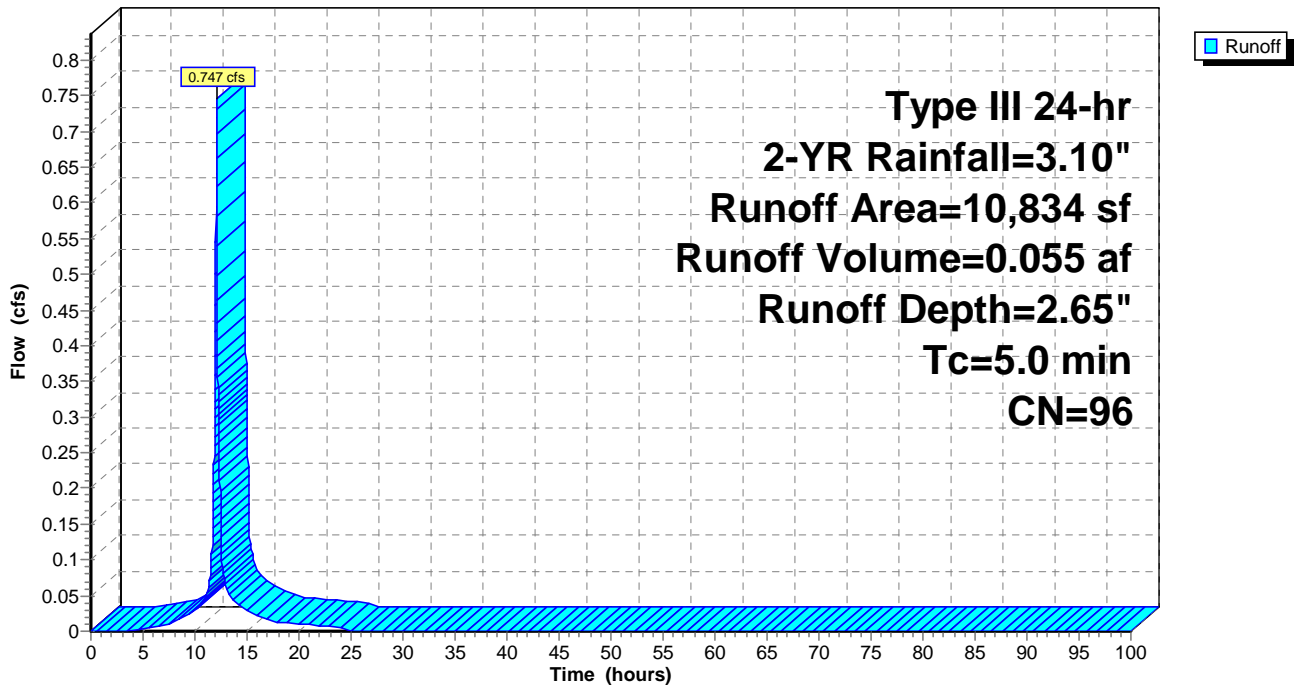
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
777	74	>75% Grass cover, Good, HSG C
10,057	98	Paved parking & roofs
10,834	96	Weighted Average
777		7.17% Pervious Area
10,057		92.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 3

**Subcatchment 3S: Subcatchment 3**

Hydrograph



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

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**Summary for Subcatchment 4Sa: Subcatchment 4a**

Runoff = 1.520 cfs @ 12.18 hrs, Volume= 0.139 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

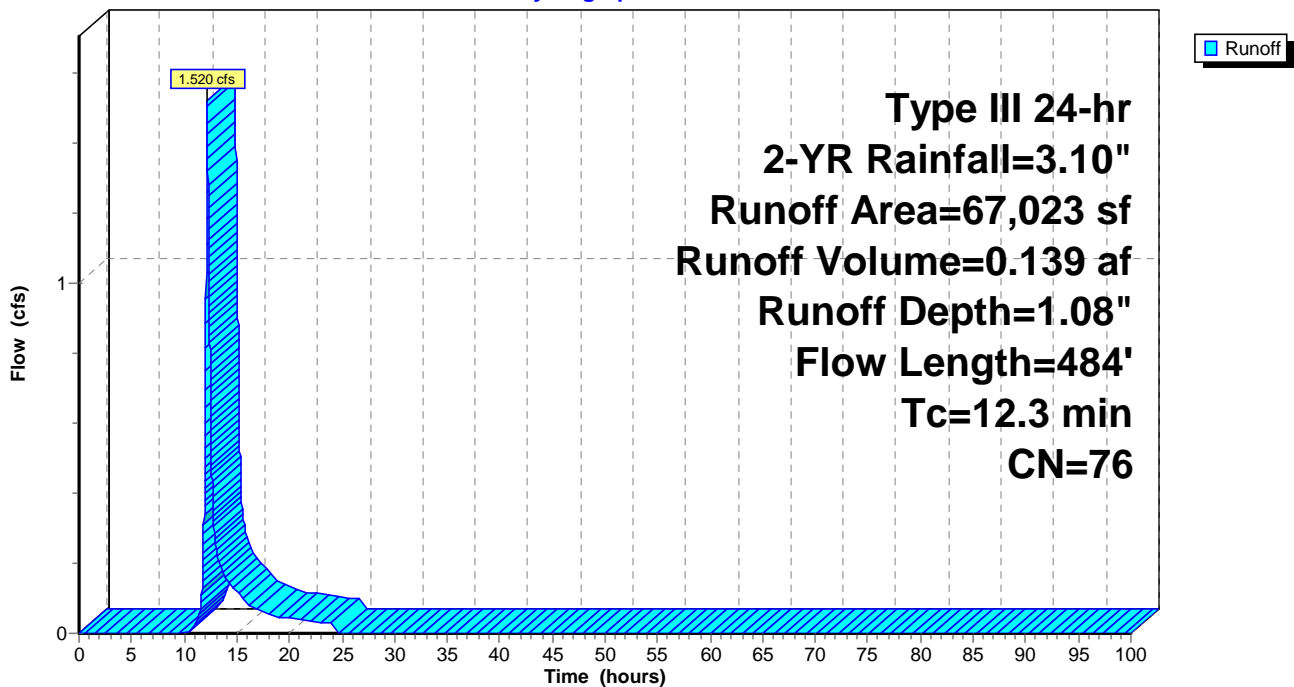
Area (sf)	CN	Description
67,023	76	Woods/grass comb., Fair, HSG C
67,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1500	0.17		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
1.5	297	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
12.3	484	Total			

**Subcatchment 4Sa: Subcatchment 4a**

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**Summary for Subcatchment 4Sb: Subcatchment 4b**

Runoff = 0.268 cfs @ 12.08 hrs, Volume= 0.019 af, Depth= 1.08"

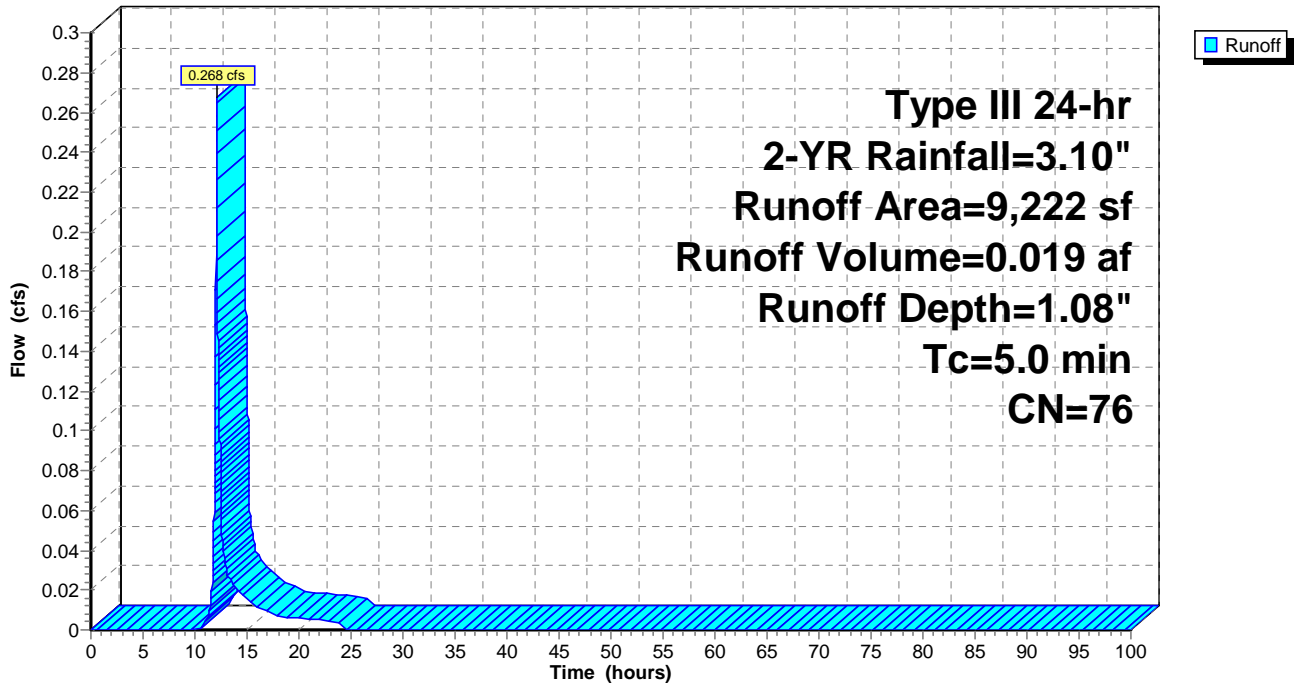
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
9,222	76	Woods/grass comb., Fair, HSG C
9,222		100.00% Pervious Area

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

**Subcatchment 4Sb: Subcatchment 4b**

Hydrograph



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

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**Summary for Subcatchment 4Sc: Subcatchment 4c**

Runoff = 0.198 cfs @ 12.08 hrs, Volume= 0.014 af, Depth= 1.08"

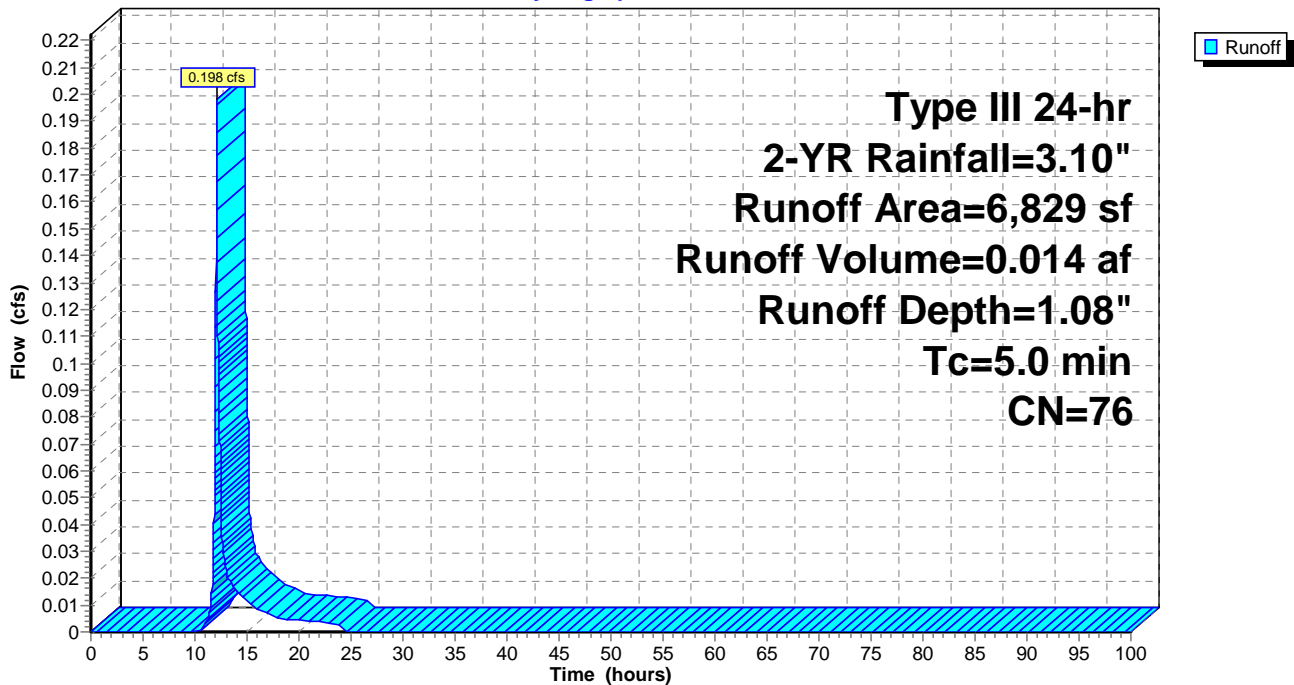
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
6,829	76	Woods/grass comb., Fair, HSG C
6,829		100.00% Pervious Area

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

**Subcatchment 4Sc: Subcatchment 4c**

Hydrograph



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

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**Summary for Subcatchment 5S: Subcatchment 5**

Runoff = 1.502 cfs @ 12.07 hrs, Volume= 0.115 af, Depth= 2.87"

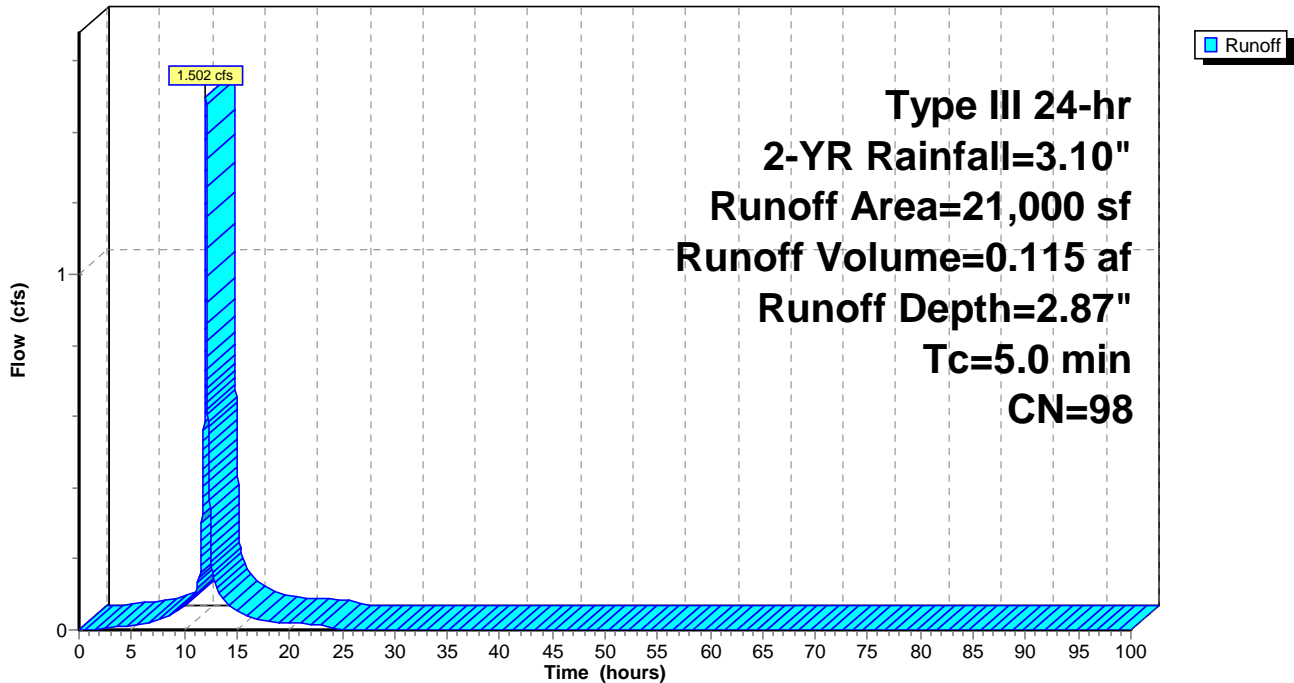
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
21,000	98	Paved parking & roofs
21,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 5

**Subcatchment 5S: Subcatchment 5**

Hydrograph



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

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**Summary for Subcatchment 6S: Subcatchment 6**

Runoff = 0.454 cfs @ 12.07 hrs, Volume= 0.032 af, Depth= 2.45"

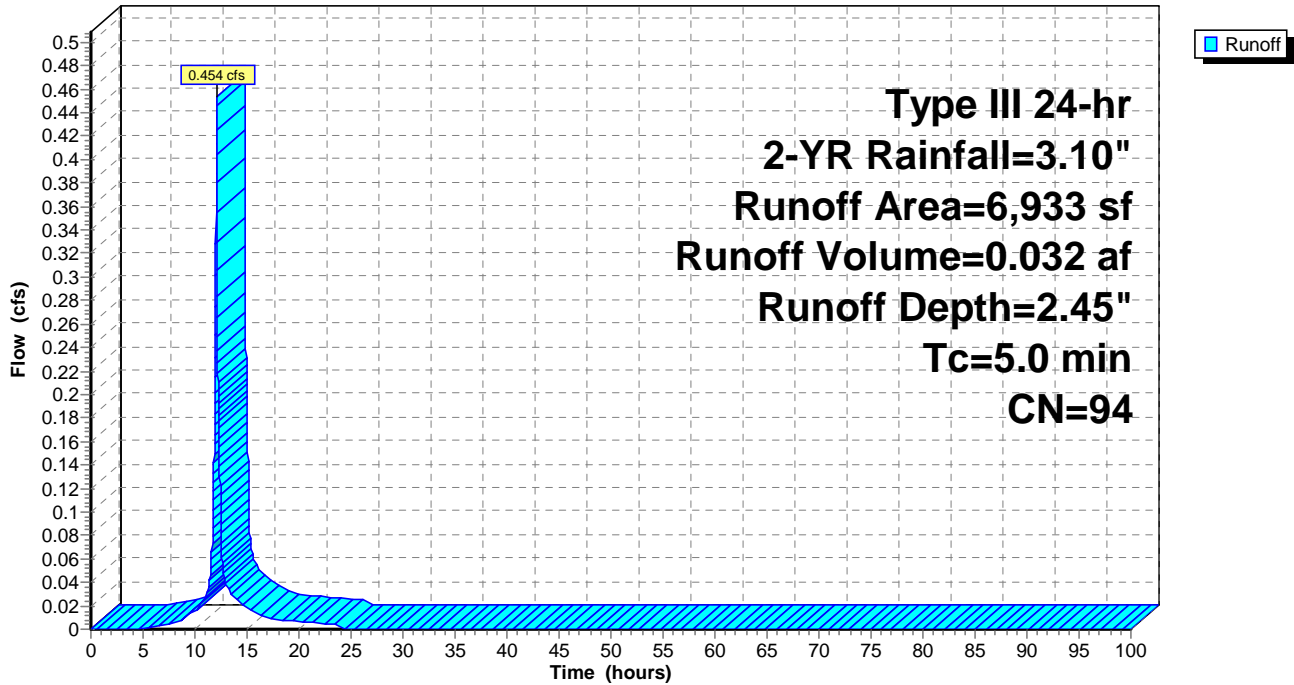
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,151	74	>75% Grass cover, Good, HSG C
5,782	98	Paved parking & roofs
6,933	94	Weighted Average
1,151		16.60% Pervious Area
5,782		83.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 6

**Subcatchment 6S: Subcatchment 6**

Hydrograph



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

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**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 0.839 cfs @ 12.07 hrs, Volume= 0.063 af, Depth= 2.76"

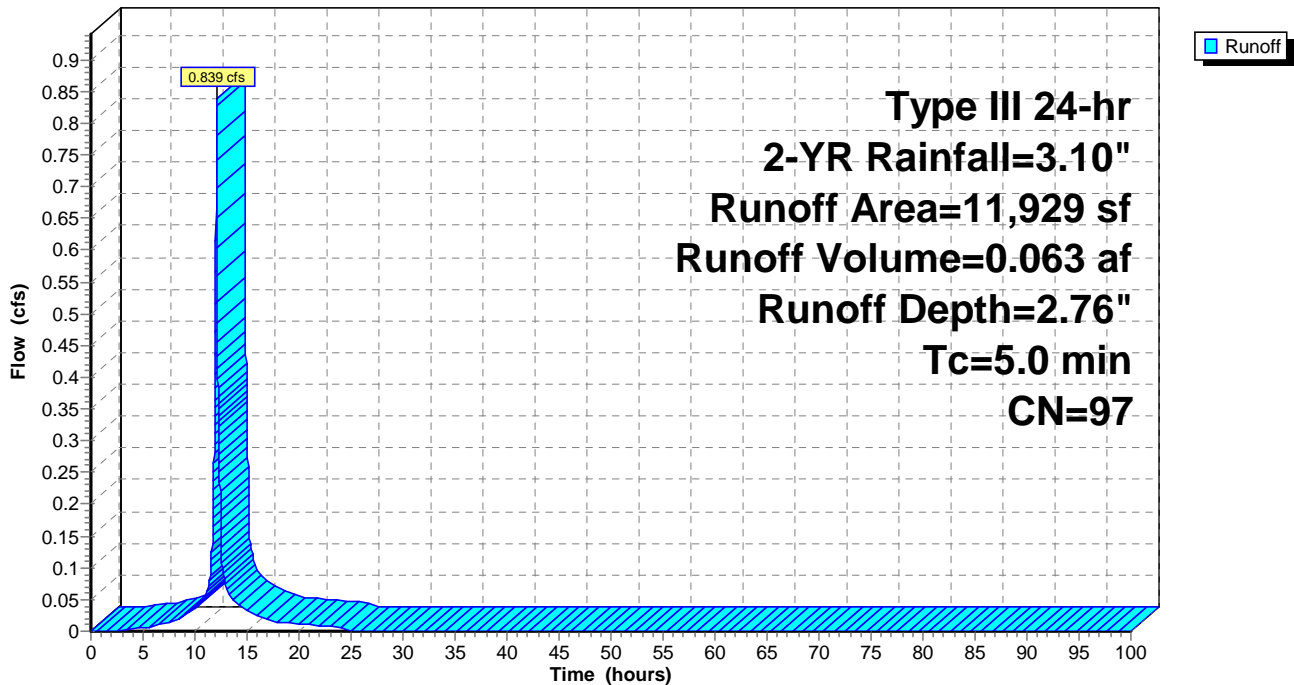
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
500	74	>75% Grass cover, Good, HSG C
11,429	98	Paved parking & roofs
11,929	97	Weighted Average
500		4.19% Pervious Area
11,429		95.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 7

**Subcatchment 7S: Subcatchment 7**

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

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**Summary for Subcatchment 8S: Subcatchment 8**

Runoff = 0.699 cfs @ 12.07 hrs, Volume= 0.051 af, Depth= 2.65"

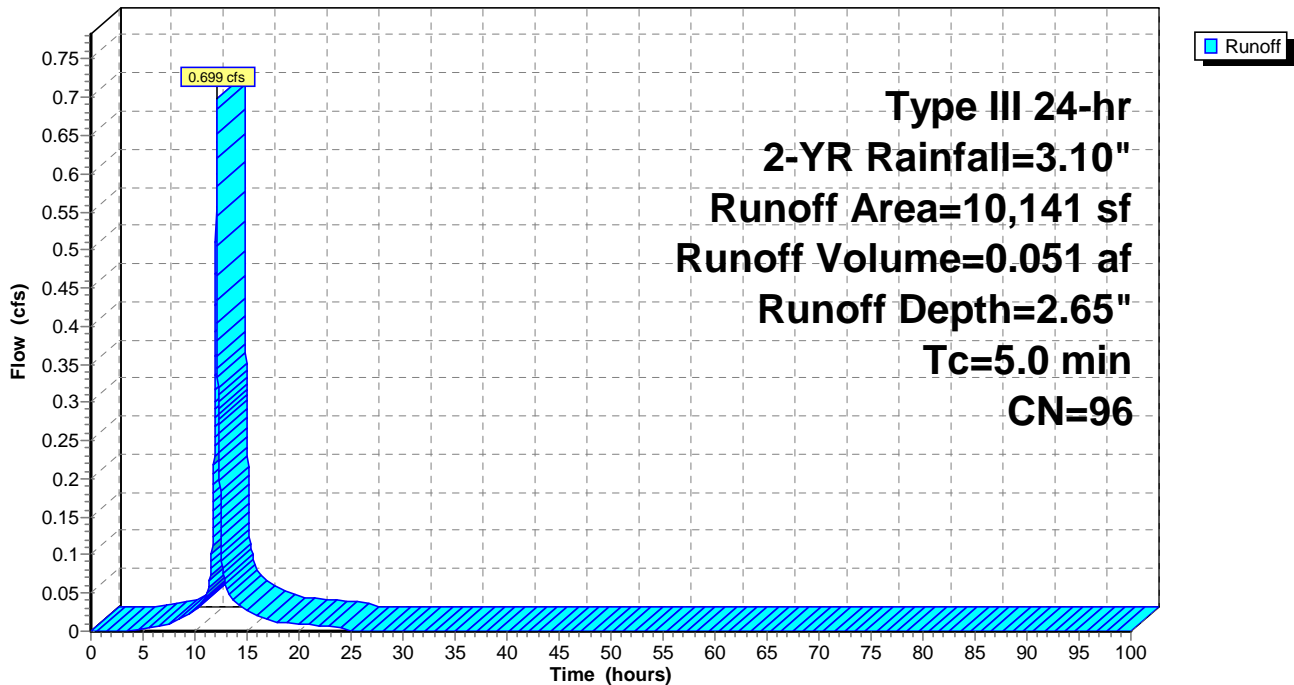
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
657	74	>75% Grass cover, Good, HSG C
9,484	98	Paved parking & roofs
10,141	96	Weighted Average
657		6.48% Pervious Area
9,484		93.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 8

**Subcatchment 8S: Subcatchment 8**

Hydrograph



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

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**Summary for Subcatchment 9S: Subcatchment 9**

Runoff = 0.928 cfs @ 12.07 hrs, Volume= 0.065 af, Depth= 2.26"

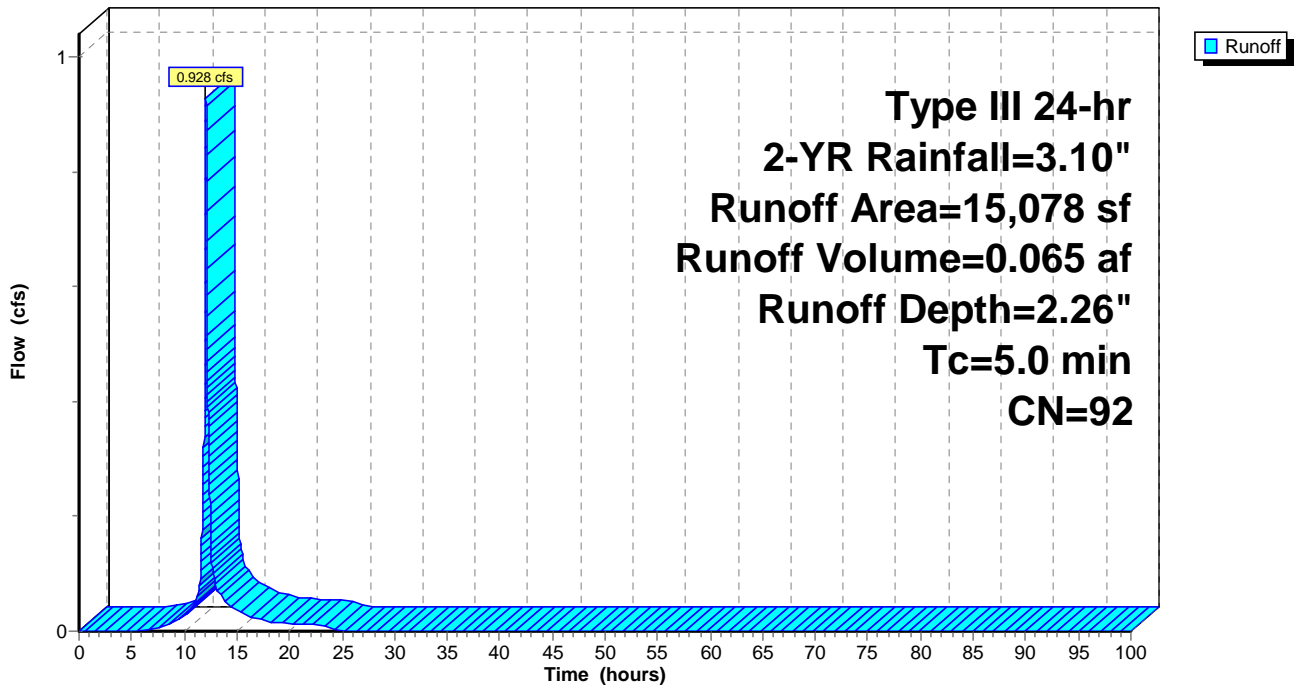
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
3,991	74	>75% Grass cover, Good, HSG C
11,087	98	Paved parking & roofs
15,078	92	Weighted Average
3,991		26.47% Pervious Area
11,087		73.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 9

**Subcatchment 9S: Subcatchment 9**

Hydrograph



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

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**Summary for Subcatchment 11S: Subcatchment 11**

Runoff = 3.696 cfs @ 12.50 hrs, Volume= 0.518 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

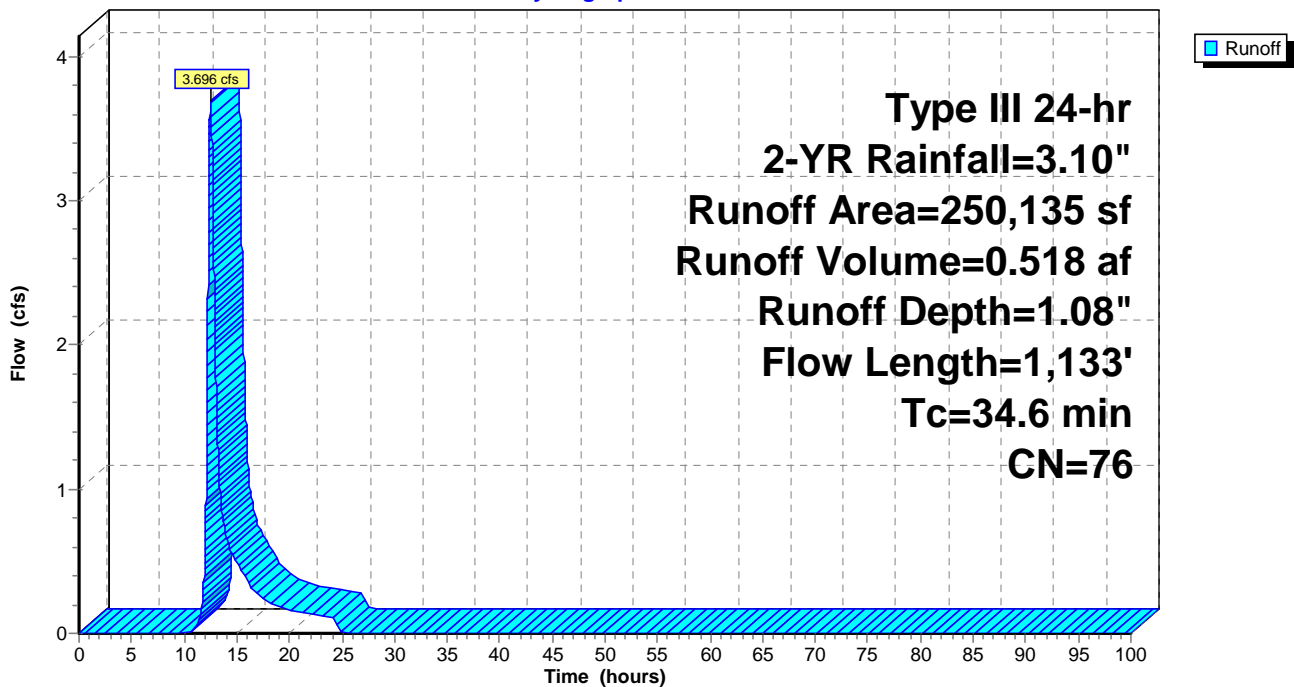
Area (sf)	CN	Description
250,135	76	Woods/grass comb., Fair, HSG C
250,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 11 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.5	203	0.0150	0.61		<b>Shallow Concentrated Flow, Subcatchment 11 SCF</b> Woodland Kv= 5.0 fps
4.2	830	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 11 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
34.6	1,133	Total			

**Subcatchment 11S: Subcatchment 11**

Hydrograph





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

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**Summary for Subcatchment 57S: Rain on Pond 35P**

Runoff = 0.019 cfs @ 12.07 hrs, Volume= 0.001 af, Depth= 2.87"

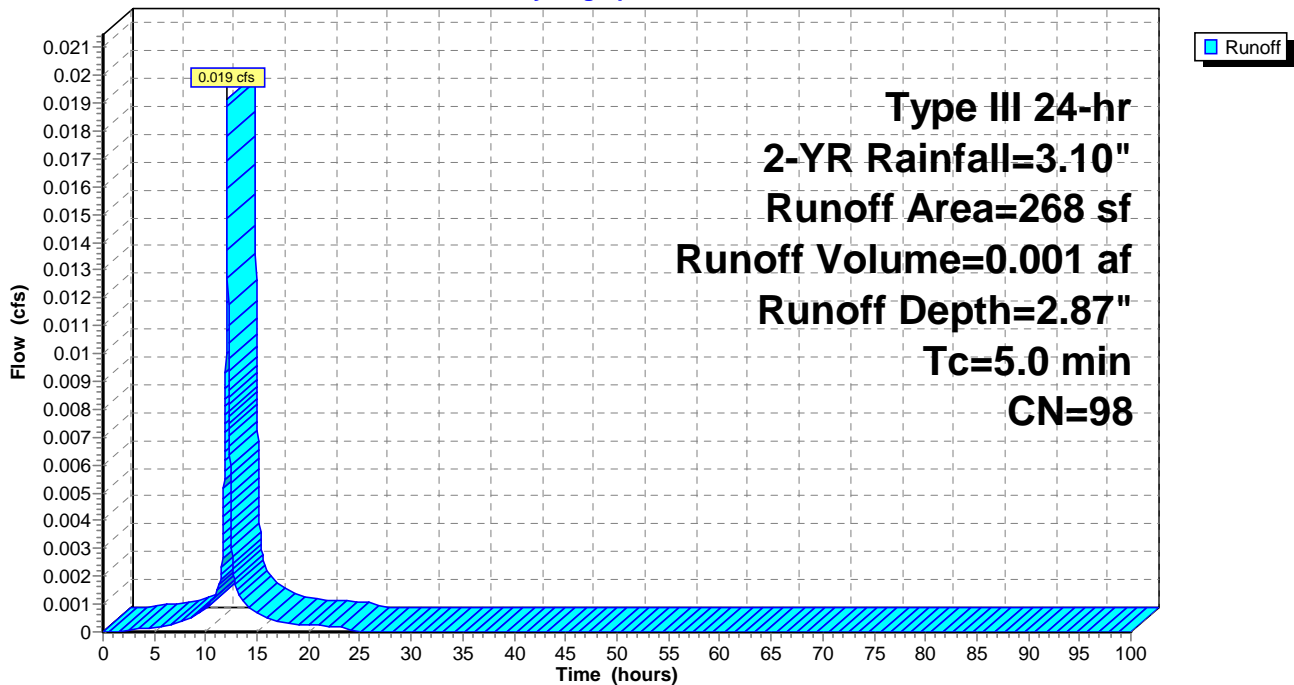
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
268	98	Water Surface, 0% imp
268		100.00% Pervious Area

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

**Subcatchment 57S: Rain on Pond 35P**

Hydrograph



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

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## Summary for Subcatchment 58S: Rain on Pond 36P

Runoff = 0.013 cfs @ 12.07 hrs, Volume= 0.001 af, Depth= 2.87"

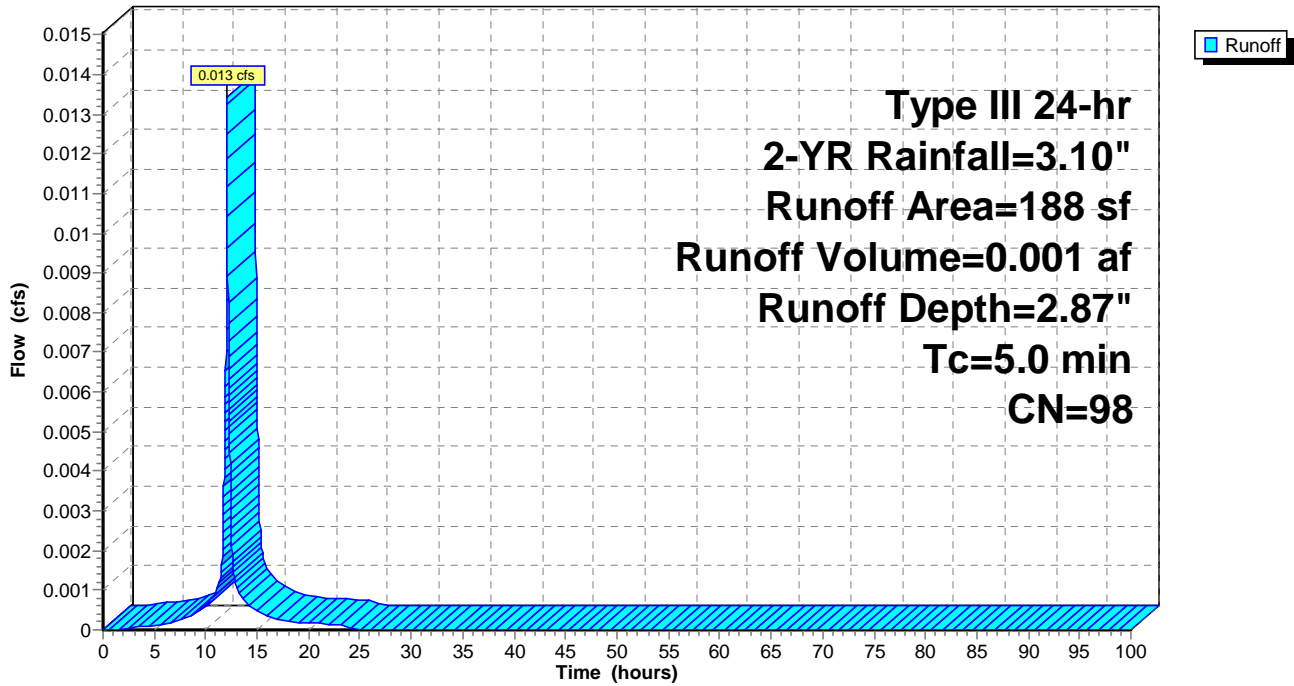
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
188	98	Water Surface, 0% imp
188		100.00% Pervious Area

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

## Subcatchment 58S: Rain on Pond 36P

Hydrograph



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

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**Summary for Subcatchment 59S: Rain on Pond 37P**

Runoff = 0.049 cfs @ 12.07 hrs, Volume= 0.004 af, Depth= 2.87"

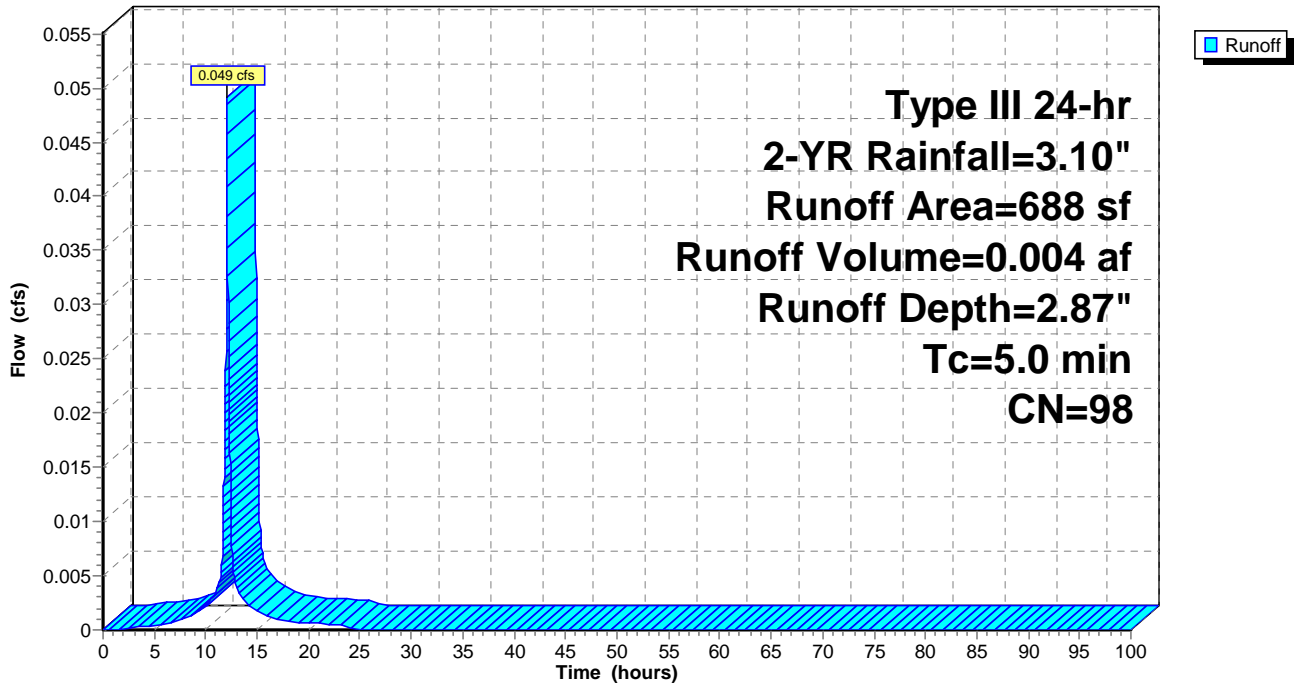
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
688	98	Water Surface, 0% imp
688		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 59S: Rain on Pond 37P**

Hydrograph



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

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**Summary for Subcatchment 61S: Rain on Pond 39P**

Runoff = 0.107 cfs @ 12.07 hrs, Volume= 0.008 af, Depth= 2.87"

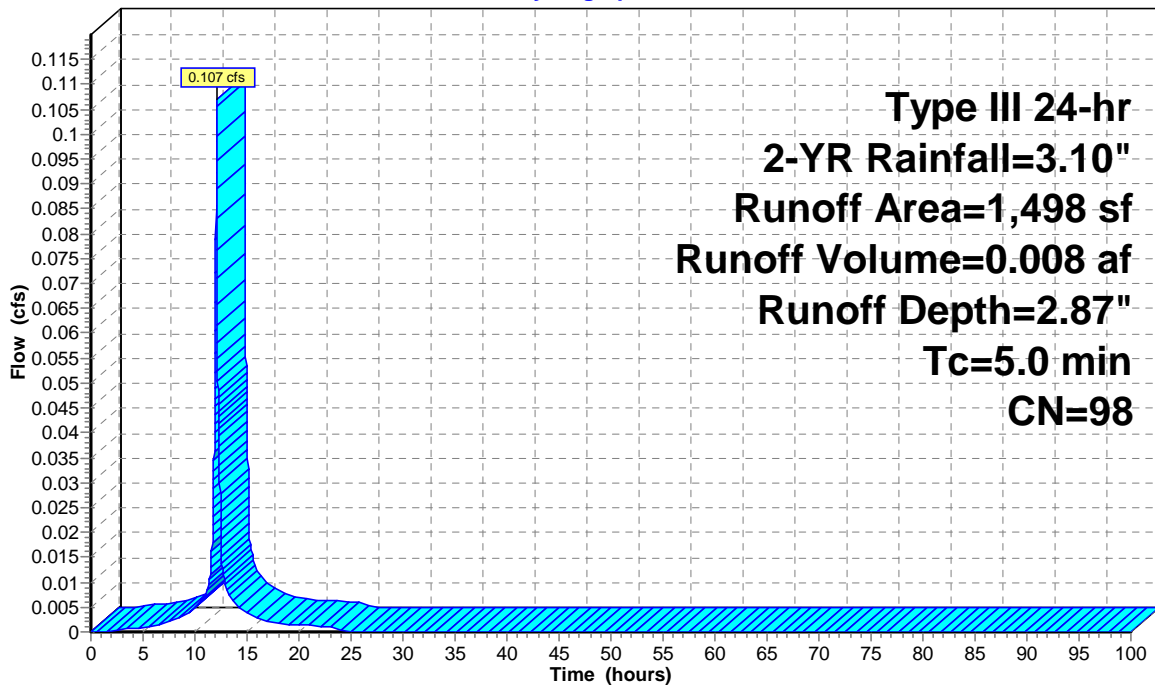
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,498	98	Water Surface, 0% imp
1,498		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 61S: Rain on Pond 39P**

Hydrograph



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

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**Summary for Subcatchment 63S: Rain on Pond 38P**

Runoff = 0.143 cfs @ 12.07 hrs, Volume= 0.011 af, Depth= 2.87"

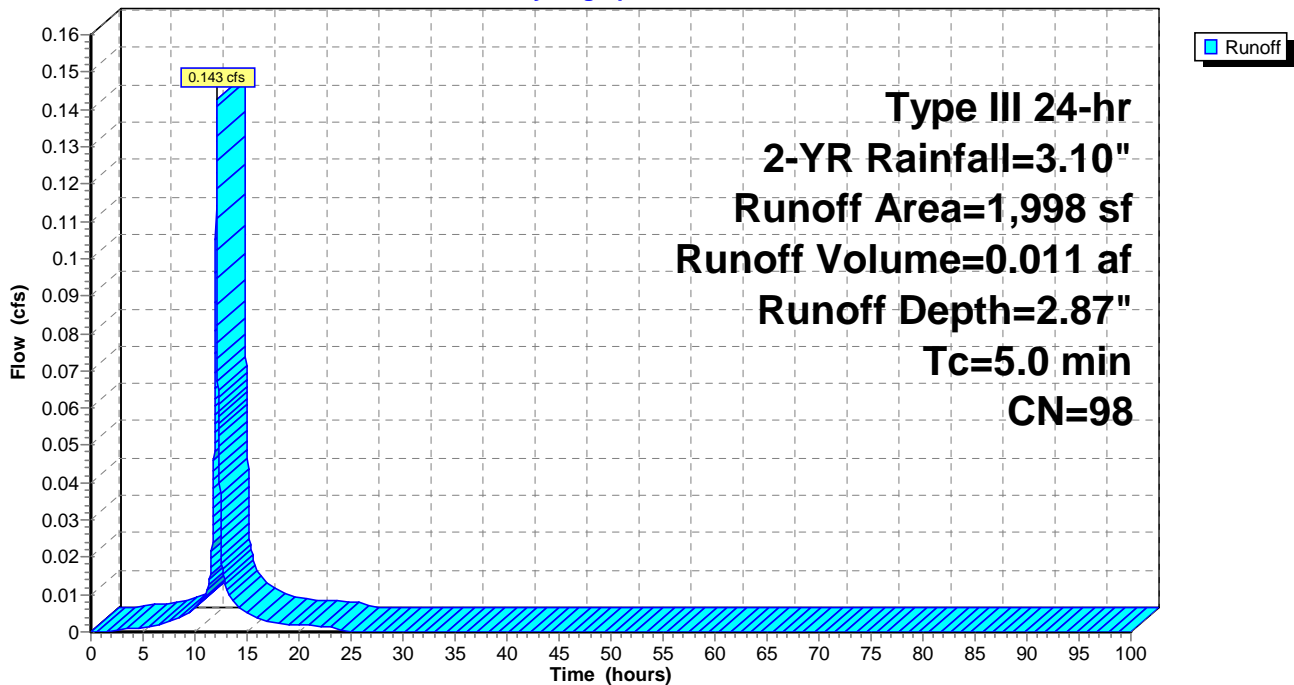
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,998	98	Water Surface, 0% imp
1,998		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 38P**

Hydrograph



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

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**Summary for Reach 58R: SF1&2 to SP1**

Inflow Area = 0.4 ac, 0.00% Impervious, Inflow Depth = 1.13" for 2-YR event  
Inflow = 0.047 cfs @ 13.35 hrs, Volume= 0.036 af  
Outflow = 0.047 cfs @ 13.66 hrs, Volume= 0.036 af, Atten= 0%, Lag= 18.5 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.19 fps, Min. Travel Time= 21.7 min  
Avg. Velocity = 0.18 fps, Avg. Travel Time= 23.3 min

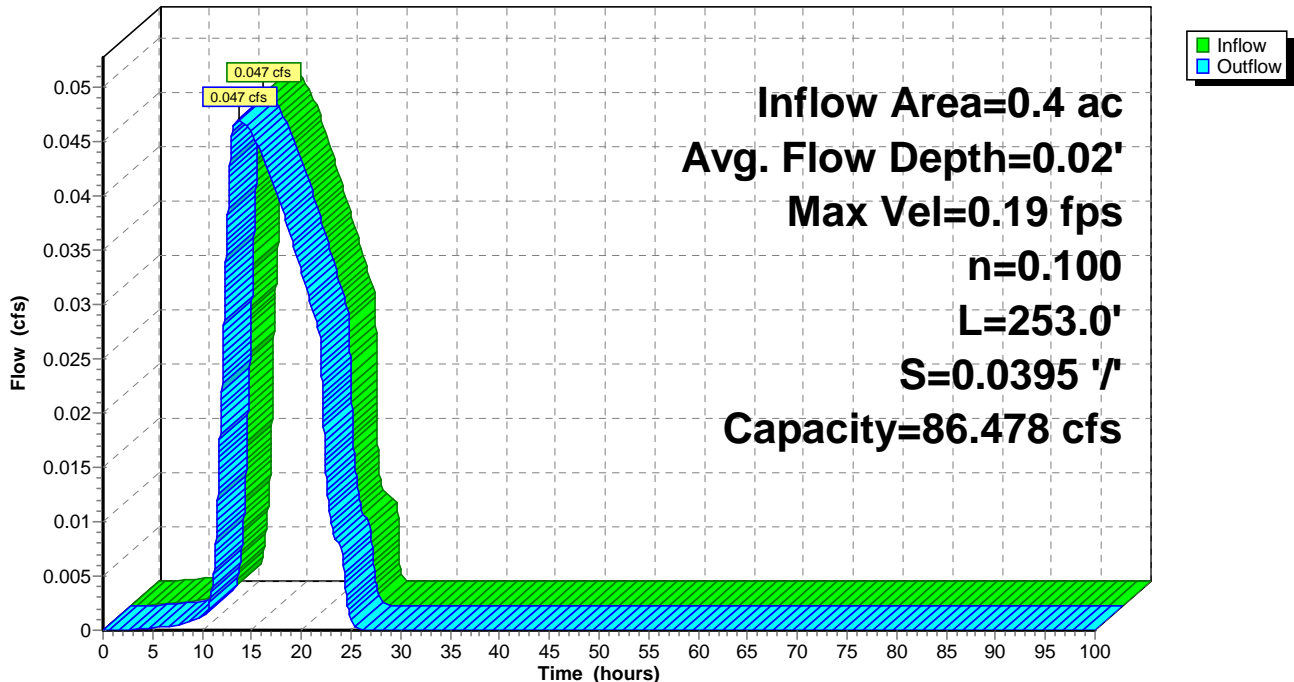
Peak Storage= 61 cf @ 13.66 hrs  
Average Depth at Peak Storage= 0.02'  
Bank-Full Depth= 1.50' Flow Area= 24.8 sf, Capacity= 86.478 cfs

15.00' x 1.50' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 1.0 '/' Top Width= 18.00'  
Length= 253.0' Slope= 0.0395 '/'  
Inlet Invert= 36.00', Outlet Invert= 26.00'



**Reach 58R: SF1&2 to SP1**

**Hydrograph**



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

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## Summary for Reach 63R: Channel to SP1

Inflow Area = 1.6 ac, 27.20% Impervious, Inflow Depth > 1.62" for 2-YR event  
Inflow = 1.047 cfs @ 12.08 hrs, Volume= 0.213 af  
Outflow = 0.808 cfs @ 12.57 hrs, Volume= 0.213 af, Atten= 23%, Lag= 29.7 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.56 fps, Min. Travel Time= 16.3 min  
Avg. Velocity = 0.49 fps, Avg. Travel Time= 18.6 min

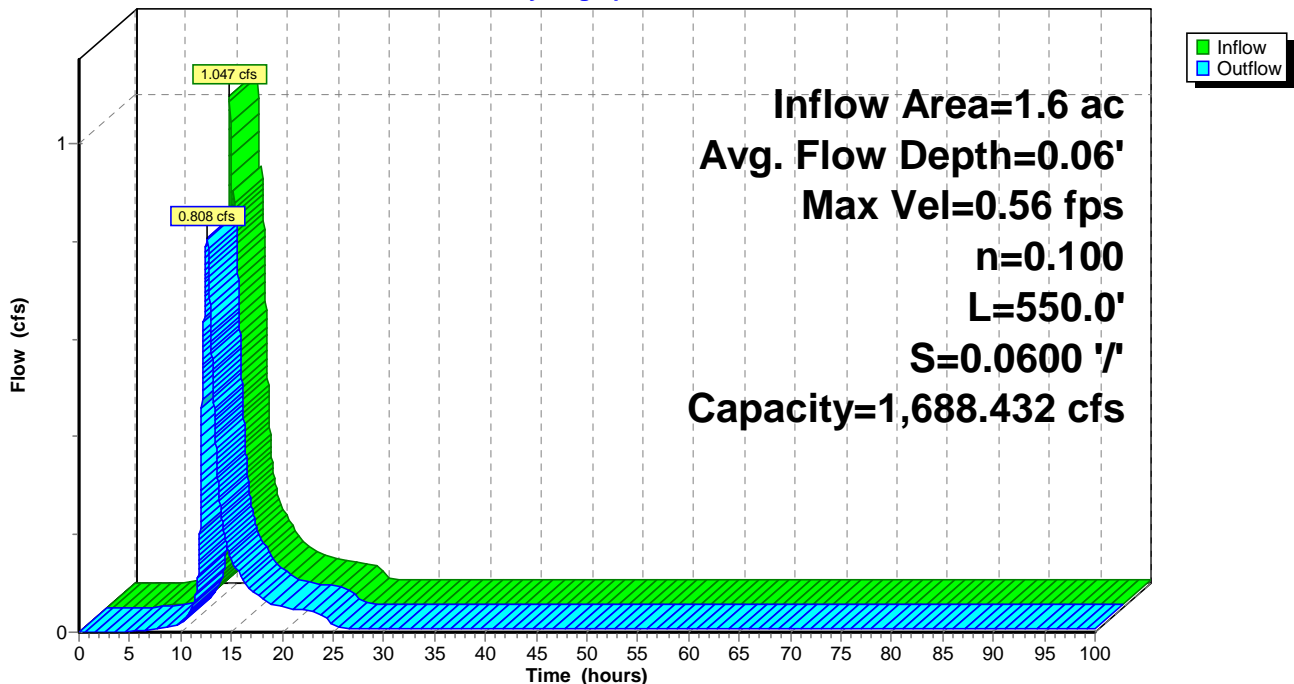
Peak Storage= 790 cf @ 12.57 hrs  
Average Depth at Peak Storage= 0.06'  
Bank-Full Depth= 5.00' Flow Area= 200.0 sf, Capacity= 1,688.432 cfs

25.00' x 5.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 3.0 '/' Top Width= 55.00'  
Length= 550.0' Slope= 0.0600 '/'  
Inlet Invert= 58.00', Outlet Invert= 25.00'



### Reach 63R: Channel to SP1

#### Hydrograph



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

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## Summary for Reach 64R: Culvert Under Main Entrance

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth = 1.33" for 2-YR event  
Inflow = 0.668 cfs @ 12.55 hrs, Volume= 0.096 af  
Outflow = 0.667 cfs @ 12.56 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.03 fps, Min. Travel Time= 0.8 min

Avg. Velocity = 0.87 fps, Avg. Travel Time= 1.9 min

Peak Storage= 33 cf @ 12.56 hrs

Average Depth at Peak Storage= 0.39'

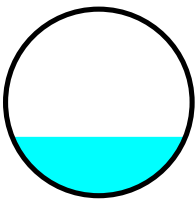
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 3.130 cfs

15.0" Round Pipe

n= 0.012 Concrete pipe, finished

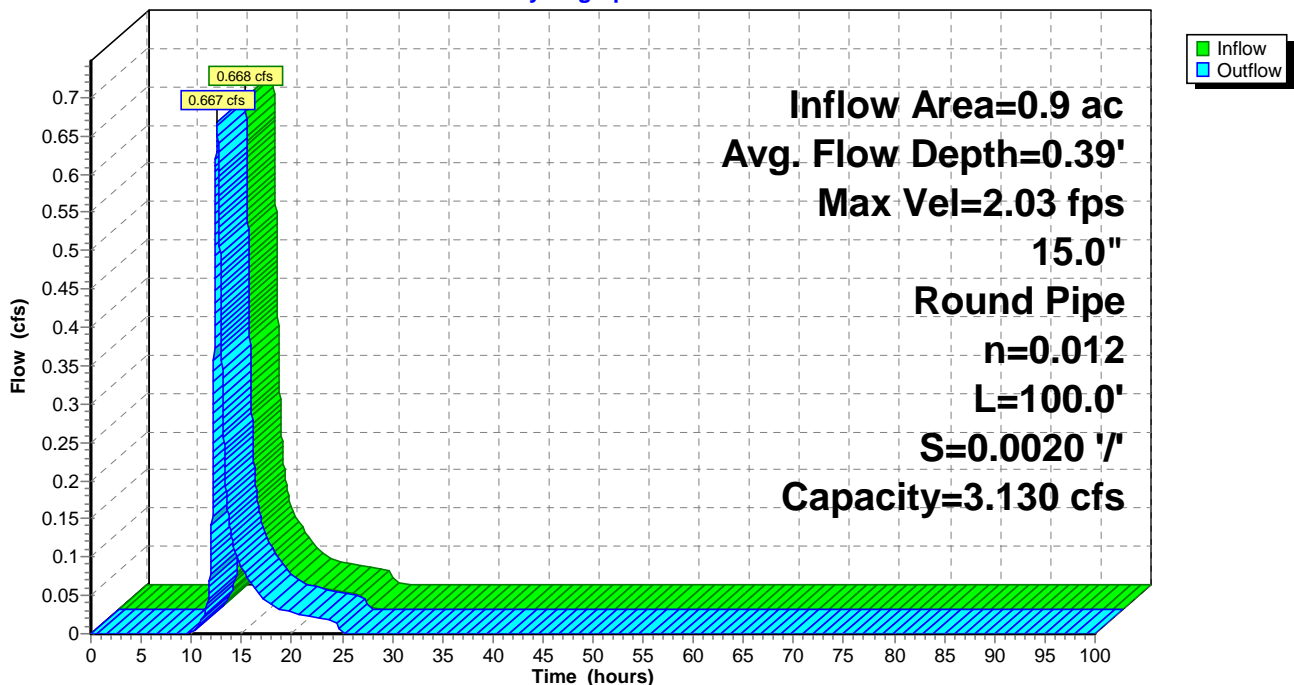
Length= 100.0' Slope= 0.0020 '/'

Inlet Invert= 59.00', Outlet Invert= 58.80'



## Reach 64R: Culvert Under Main Entrance

Hydrograph





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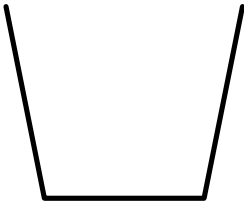
## Summary for Reach 65R: SF4 to SP1

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth = 2.74" for 2-YR event  
Inflow = 0.042 cfs @ 18.88 hrs, Volume= 0.210 af  
Outflow = 0.042 cfs @ 19.05 hrs, Volume= 0.210 af, Atten= 0%, Lag= 10.5 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.56 fps, Min. Travel Time= 10.4 min  
Avg. Velocity = 0.56 fps, Avg. Travel Time= 10.4 min

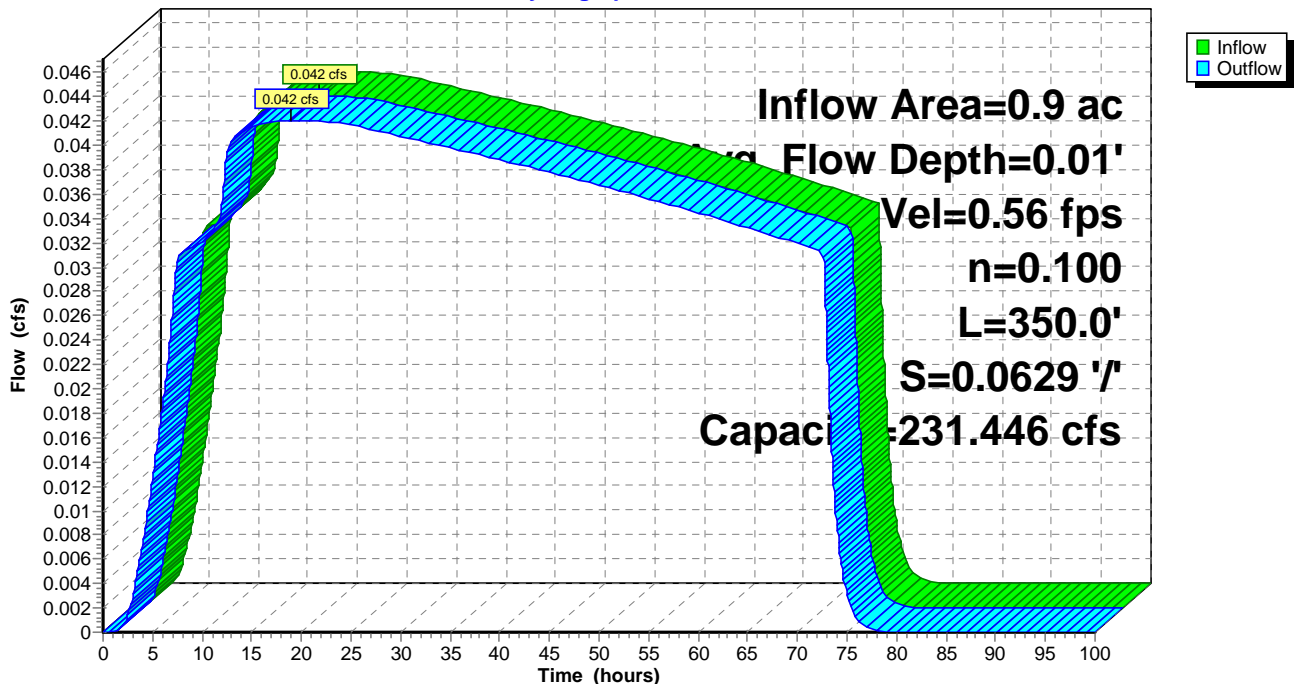
Peak Storage= 26 cf @ 19.05 hrs  
Average Depth at Peak Storage= 0.01'  
Bank-Full Depth= 6.00' Flow Area= 37.2 sf, Capacity= 231.446 cfs

5.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 0.2 '/' Top Width= 7.40'  
Length= 350.0' Slope= 0.0629 '/'  
Inlet Invert= 47.00', Outlet Invert= 25.00'



## Reach 65R: SF4 to SP1

### Hydrograph



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## Summary for Reach 66R: SF5 to SP2

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth > 2.50" for 2-YR event  
Inflow = 0.050 cfs @ 16.18 hrs, Volume= 0.136 af  
Outflow = 0.041 cfs @ 17.14 hrs, Volume= 0.136 af, Atten= 17%, Lag= 57.5 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.39 fps, Min. Travel Time= 36.2 min

Avg. Velocity = 0.39 fps, Avg. Travel Time= 36.2 min

Peak Storage= 90 cf @ 17.14 hrs

Average Depth at Peak Storage= 0.01'

Bank-Full Depth= 5.00' Flow Area= 47.5 sf, Capacity= 259.355 cfs

8.00' x 5.00' deep channel, n= 0.100

Side Slope Z-value= 0.3 '/ Top Width= 11.00'

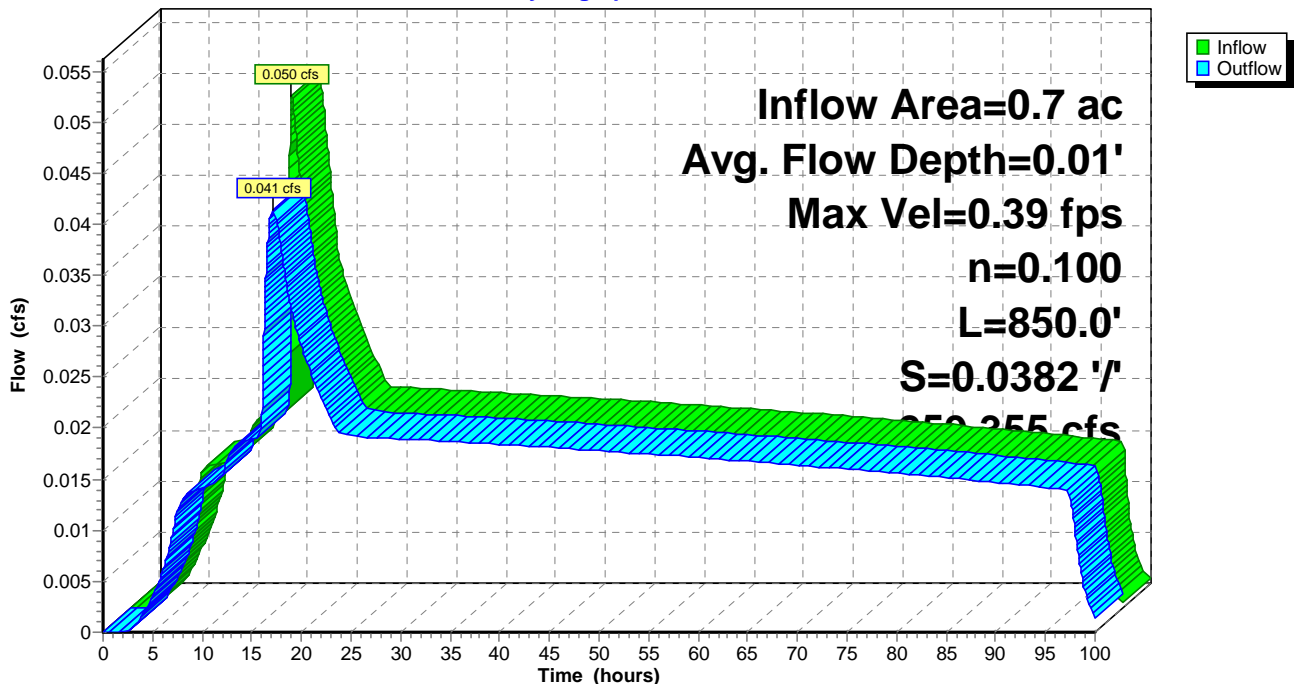
Length= 850.0' Slope= 0.0382 '/

Inlet Invert= 57.50', Outlet Invert= 25.00'



## Reach 66R: SF5 to SP2

### Hydrograph



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**Summary for Pond 35P: Soil Filter 1**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 1.13" for 2-YR event  
 Inflow = 0.287 cfs @ 12.08 hrs, Volume= 0.021 af  
 Outflow = 0.027 cfs @ 13.39 hrs, Volume= 0.021 af, Atten= 91%, Lag= 78.8 min  
 Primary = 0.027 cfs @ 13.39 hrs, Volume= 0.021 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 40.94' @ 13.39 hrs Surf.Area= 478 sf Storage= 352 cf

Plug-Flow detention time= 140.8 min calculated for 0.021 af (100% of inflow)  
 Center-of-Mass det. time= 140.8 min ( 990.1 - 849.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	40.00'	1,421 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
40.00	268	0	0
41.00	491	380	380
41.50	618	277	657
42.00	761	345	1,002
42.50	917	420	1,421

Device	Routing	Invert	Outlet Devices
#1	Primary	37.84'	<b>4.0" Round Culvert</b> L= 29.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 37.84' / 37.00' S= 0.0290 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	37.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	40.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	41.80'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	42.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.027 cfs @ 13.39 hrs HW=40.94' (Free Discharge)

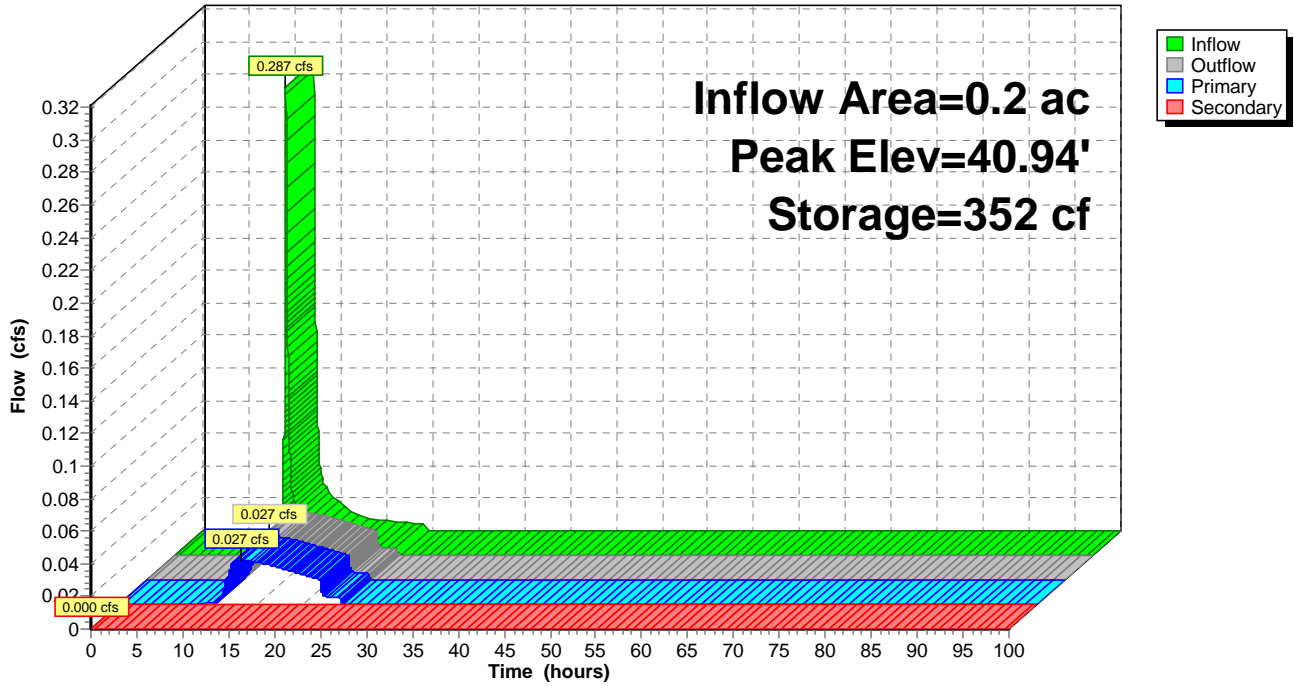
- ↑ 1=Culvert (Passes 0.027 cfs of 0.569 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.027 cfs of 0.046 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.027 cfs)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=40.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 35P: Soil Filter 1

Hydrograph



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**Summary for Pond 37P: Soil Filter 3**

Inflow Area = 0.3 ac, 87.29% Impervious, Inflow Depth = 2.66" for 2-YR event  
 Inflow = 0.796 cfs @ 12.07 hrs, Volume= 0.059 af  
 Outflow = 0.008 cfs @ 22.99 hrs, Volume= 0.056 af, Atten= 99%, Lag= 655.3 min  
 Primary = 0.008 cfs @ 22.99 hrs, Volume= 0.056 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

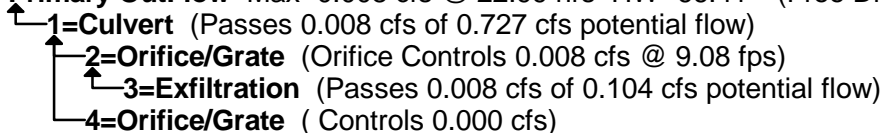
Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.41' @ 22.99 hrs Surf.Area= 1,871 sf Storage= 2,069 cf

Plug-Flow detention time= 2,343.6 min calculated for 0.056 af (96% of inflow)  
 Center-of-Mass det. time= 2,319.2 min ( 3,092.0 - 772.9 )

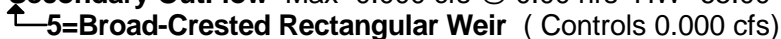
Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	5,079 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	1,078	0	0
66.00	1,626	1,352	1,352
66.50	1,925	888	2,240
67.00	2,657	1,146	3,385
67.60	2,988	1,693	5,079

Device	Routing	Invert	Outlet Devices
#1	Primary	62.84'	<b>4.0" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 62.84' / 61.00' S= 0.0460 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	62.84'	<b>0.4" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	65.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	67.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	67.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.008 cfs @ 22.99 hrs HW=66.41' (Free Discharge)

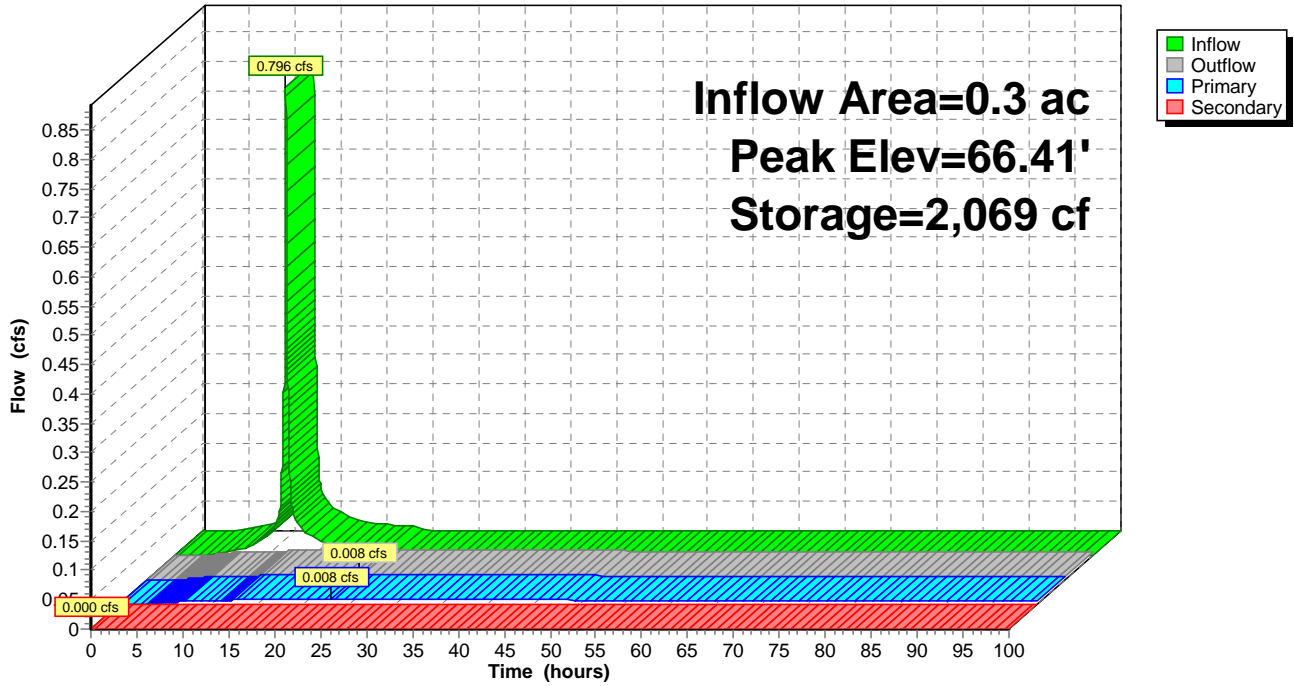


**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=65.00' (Free Discharge)



### Pond 37P: Soil Filter 3

Hydrograph



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**Summary for Pond 38P: Soil Filter 4**

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth = 2.74" for 2-YR event  
 Inflow = 2.798 cfs @ 12.07 hrs, Volume= 0.210 af  
 Outflow = 0.042 cfs @ 18.88 hrs, Volume= 0.210 af, Atten= 98%, Lag= 408.3 min  
 Primary = 0.042 cfs @ 18.88 hrs, Volume= 0.210 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 62.78' @ 18.88 hrs Surf.Area= 4,602 sf Storage= 6,725 cf

Plug-Flow detention time= 1,537.9 min calculated for 0.210 af (100% of inflow)  
 Center-of-Mass det. time= 1,538.0 min ( 2,303.4 - 765.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	18,006 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	2,993	0	0
62.00	3,864	3,429	3,429
62.50	4,321	2,046	5,475
63.00	4,823	2,286	7,761
64.00	6,970	5,897	13,657
64.60	7,527	4,349	18,006

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>4.0" Round Culvert</b> L= 65.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 48.00' S= 0.1668 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	58.84'	<b>0.9" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	64.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	64.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.042 cfs @ 18.88 hrs HW=62.78' (Free Discharge)

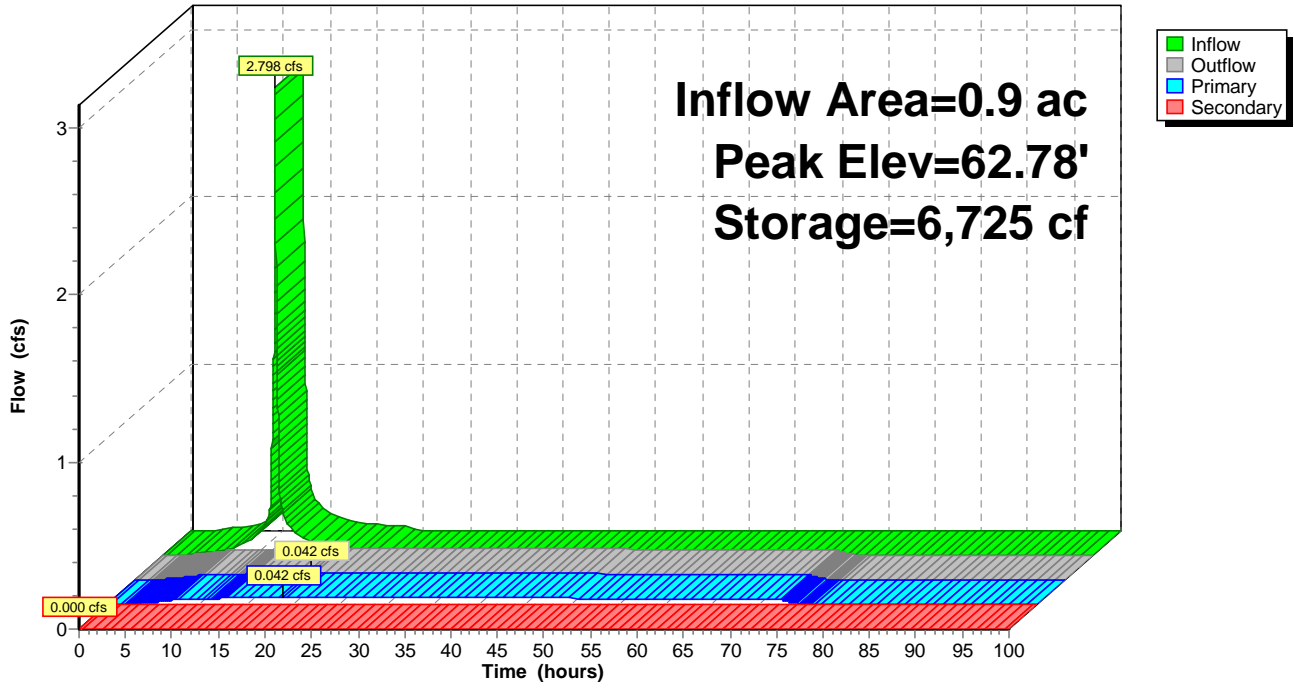
- ↑ 1=Culvert (Passes 0.042 cfs of 0.816 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.042 cfs @ 9.51 fps)
- ↑ 3=Exfiltration (Passes 0.042 cfs of 0.257 cfs potential flow)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 38P: Soil Filter 4

Hydrograph





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**Summary for Pond 39P: Soil Filter 5**

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth = 2.50" for 2-YR event  
 Inflow = 1.875 cfs @ 12.07 hrs, Volume= 0.136 af  
 Outflow = 0.050 cfs @ 16.18 hrs, Volume= 0.136 af, Atten= 97%, Lag= 246.7 min  
 Primary = 0.027 cfs @ 16.18 hrs, Volume= 0.131 af  
 Secondary = 0.023 cfs @ 16.18 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 63.00' @ 16.18 hrs Surf.Area= 3,240 sf Storage= 4,498 cf

Plug-Flow detention time= 2,132.2 min calculated for 0.136 af (100% of inflow)  
 Center-of-Mass det. time= 2,132.3 min ( 2,912.9 - 780.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	6,897 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	1,498	0	0
62.00	2,202	1,850	1,850
62.50	2,561	1,191	3,041
63.00	3,239	1,450	4,491
63.70	3,636	2,406	6,897

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>6.0" Round Culvert</b> L= 21.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 58.00' S= 0.0400 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Device 1	58.84'	<b>0.6" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	63.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.00'	<b>20.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.022 cfs @ 16.18 hrs HW=63.00' (Free Discharge)

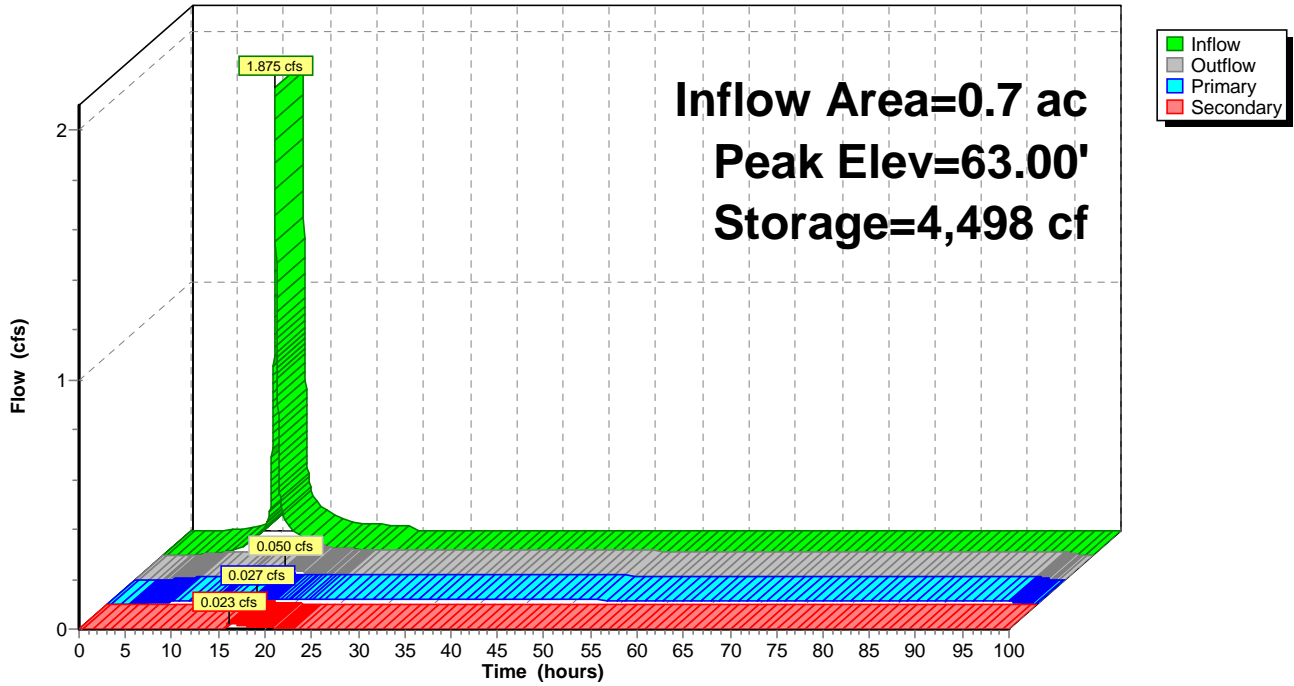
- ↑ 1=Culvert (Passes 0.022 cfs of 1.870 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.019 cfs @ 9.79 fps)
- ↑ 3=Exfiltration (Passes 0.019 cfs of 0.181 cfs potential flow)
- ↑ 4=Orifice/Grate (Weir Controls 0.002 cfs @ 0.16 fps)

**Secondary OutFlow** Max=0.007 cfs @ 16.18 hrs HW=63.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.007 cfs @ 0.15 fps)

### Pond 39P: Soil Filter 5

Hydrograph



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**Summary for Pond 59P: Soil Filter 2**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 1.13" for 2-YR event  
 Inflow = 0.212 cfs @ 12.08 hrs, Volume= 0.015 af  
 Outflow = 0.020 cfs @ 13.29 hrs, Volume= 0.015 af, Atten= 90%, Lag= 72.8 min  
 Primary = 0.020 cfs @ 13.29 hrs, Volume= 0.015 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 41.93' @ 13.29 hrs Surf.Area= 364 sf Storage= 258 cf

Plug-Flow detention time= 136.1 min calculated for 0.015 af (100% of inflow)  
 Center-of-Mass det. time= 136.1 min ( 985.8 - 849.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,121 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	188	0	0
42.00	377	283	283
42.50	491	217	500
43.00	618	277	777
43.50	760	345	1,121

Device	Routing	Invert	Outlet Devices
#1	Primary	38.84'	<b>4.0" Round Culvert</b> L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 38.84' / 38.00' S= 0.0263 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	38.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	41.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	42.70'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	43.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.020 cfs @ 13.29 hrs HW=41.93' (Free Discharge)

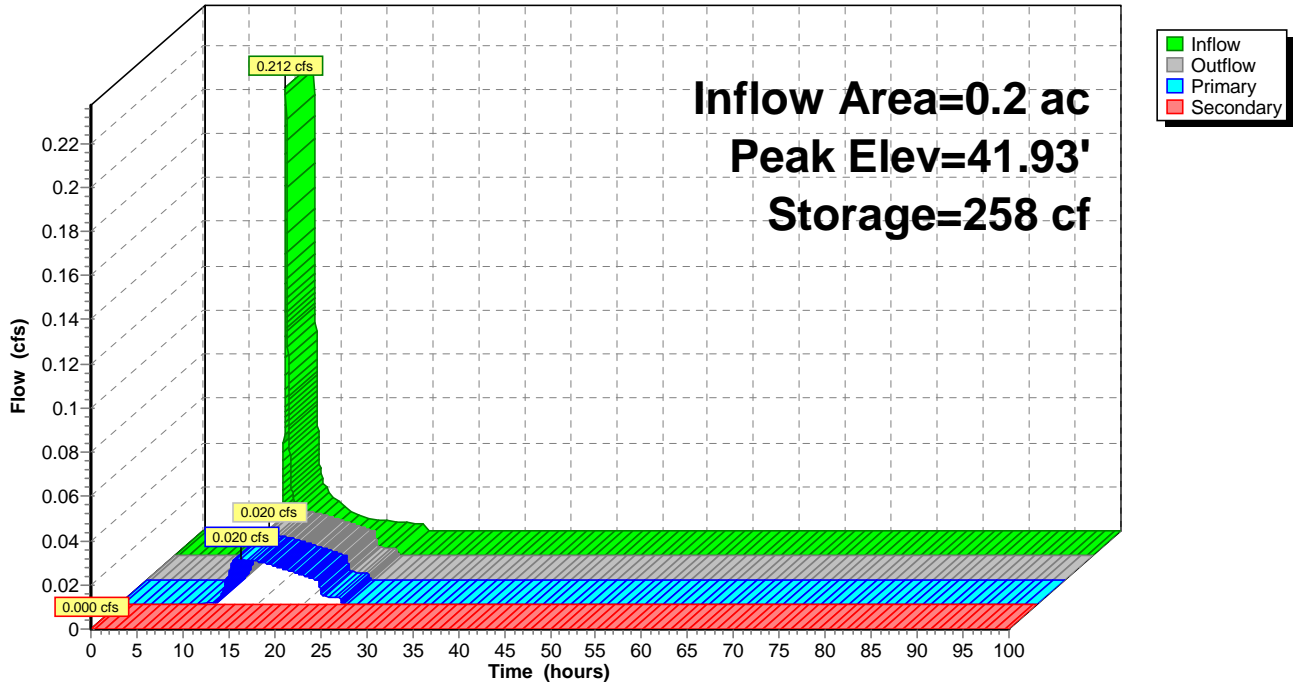
- ↑ 1=Culvert (Passes 0.020 cfs of 0.568 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.020 cfs of 0.046 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.020 cfs)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=41.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 59P: Soil Filter 2

Hydrograph



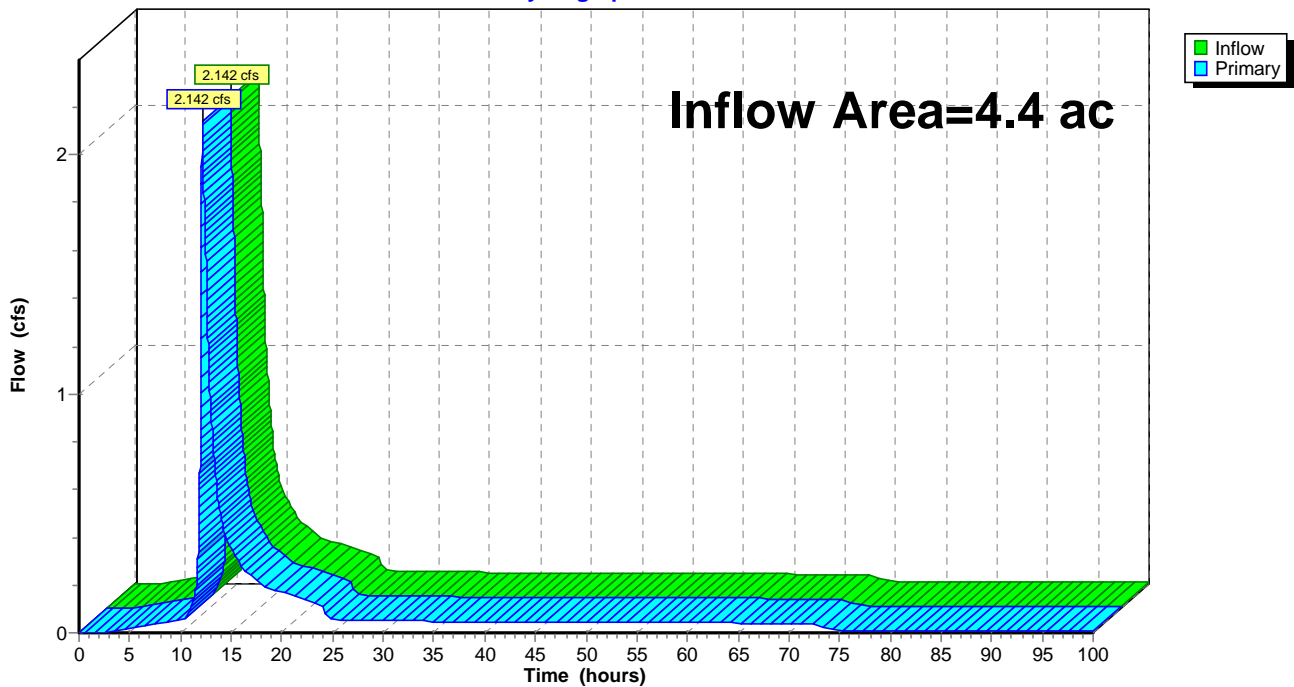
### Summary for Link 40L: Study Point 1

Inflow Area = 4.4 ac, 28.58% Impervious, Inflow Depth > 1.63" for 2-YR event  
Inflow = 2.142 cfs @ 12.19 hrs, Volume= 0.598 af  
Primary = 2.142 cfs @ 12.19 hrs, Volume= 0.598 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

### Link 40L: Study Point 1

Hydrograph



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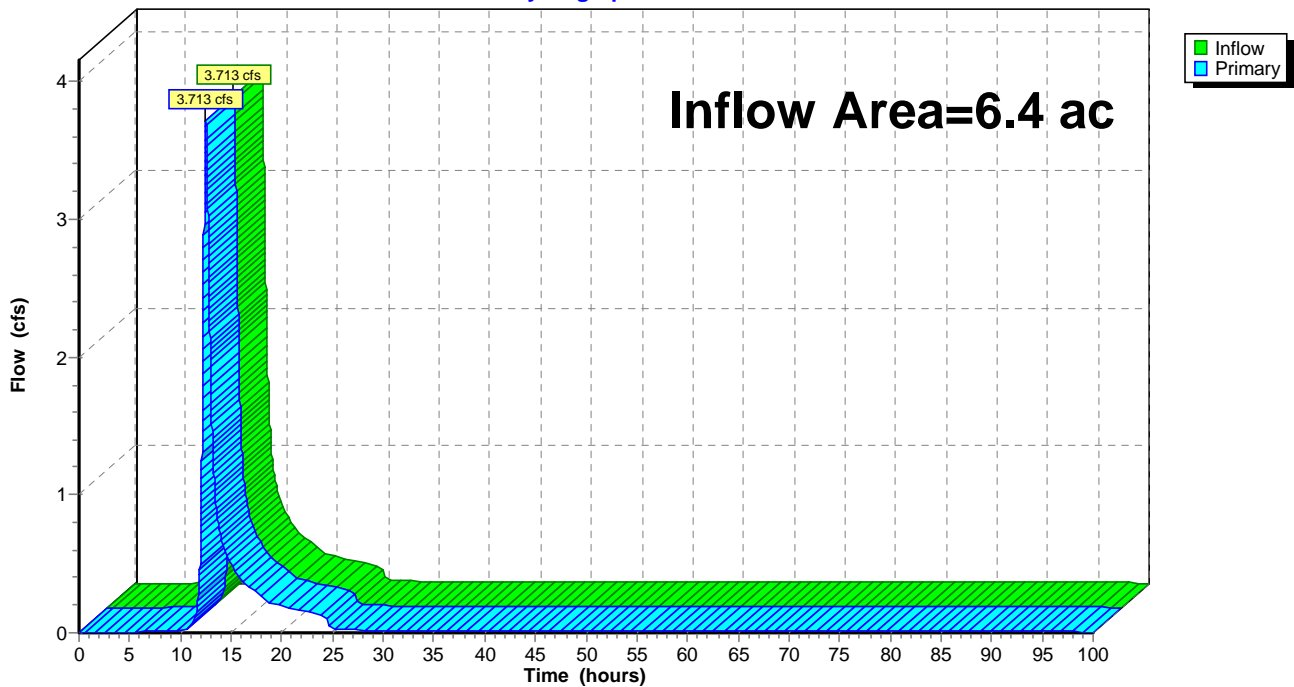
**Summary for Link 41L: Study Point 2**

Inflow Area = 6.4 ac, 8.08% Impervious, Inflow Depth > 1.23" for 2-YR event  
Inflow = 3.713 cfs @ 12.50 hrs, Volume= 0.654 af  
Primary = 3.713 cfs @ 12.50 hrs, Volume= 0.654 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

**Link 41L: Study Point 2**

Hydrograph



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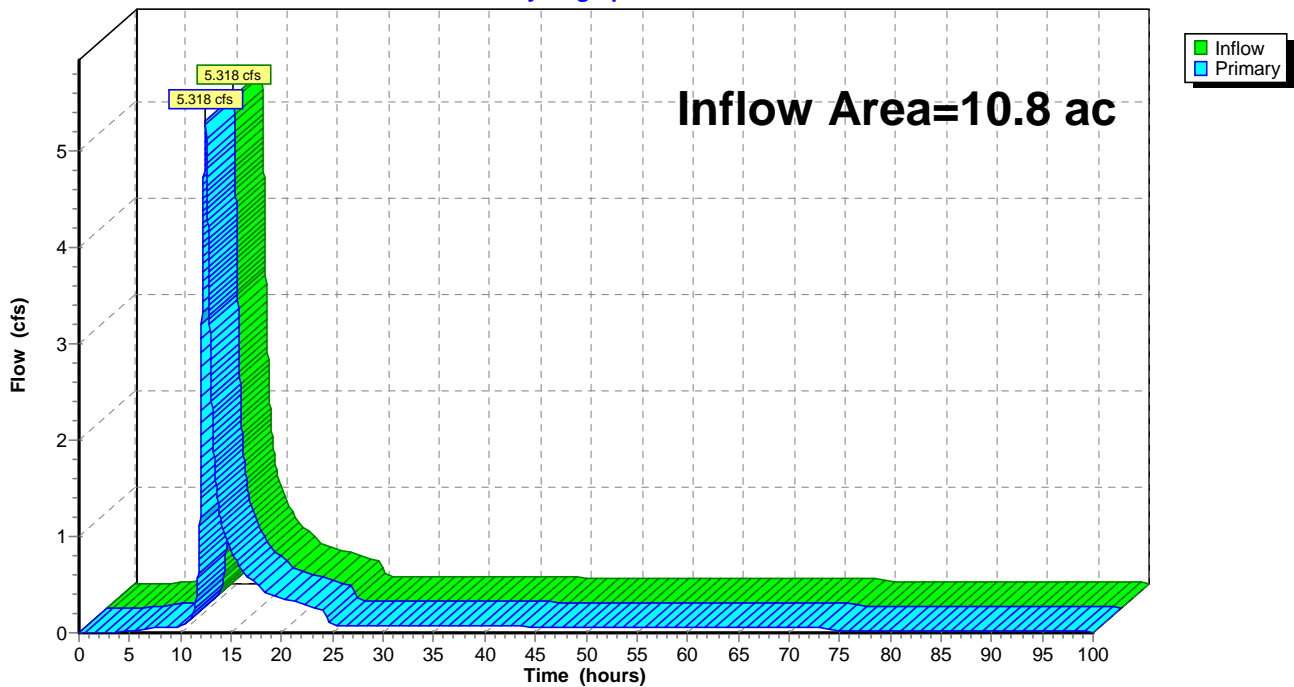
**Summary for Link 56L: Energy East Subtotal**

Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth > 1.39" for 2-YR event  
Inflow = 5.318 cfs @ 12.49 hrs, Volume= 1.252 af  
Primary = 5.318 cfs @ 12.49 hrs, Volume= 1.252 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

**Link 56L: Energy East Subtotal**

Hydrograph



**Post-Development - 2015.09.25 Energy East - Linked**POST - ENERGY EAST LINK  
Type III 24-hr 10-YR Rainfall=4.60"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 0S: Subcatchment 0</b>	Runoff Area=4,350 sf 80.48% Impervious Runoff Depth=3.81" Tc=5.0 min CN=93 Runoff=0.436 cfs 0.032 af
<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=14,847 sf 34.47% Impervious Runoff Depth=2.72" Tc=5.0 min CN=82 Runoff=1.128 cfs 0.077 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=37,951 sf 0.00% Impervious Runoff Depth=2.55" Flow Length=413' Tc=38.8 min CN=80 Runoff=1.304 cfs 0.185 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=10,834 sf 92.83% Impervious Runoff Depth=4.14" Tc=5.0 min CN=96 Runoff=1.137 cfs 0.086 af
<b>Subcatchment 4Sa: Subcatchment 4a</b>	Runoff Area=67,023 sf 0.00% Impervious Runoff Depth=2.21" Flow Length=484' Tc=12.3 min CN=76 Runoff=3.228 cfs 0.283 af
<b>Subcatchment 4Sb: Subcatchment 4b</b>	Runoff Area=9,222 sf 0.00% Impervious Runoff Depth=2.21" Tc=5.0 min CN=76 Runoff=0.567 cfs 0.039 af
<b>Subcatchment 4Sc: Subcatchment 4c</b>	Runoff Area=6,829 sf 0.00% Impervious Runoff Depth=2.21" Tc=5.0 min CN=76 Runoff=0.420 cfs 0.029 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=21,000 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=2.245 cfs 0.175 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=6,933 sf 83.40% Impervious Runoff Depth=3.91" Tc=5.0 min CN=94 Runoff=0.707 cfs 0.052 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=11,929 sf 95.81% Impervious Runoff Depth=4.25" Tc=5.0 min CN=97 Runoff=1.265 cfs 0.097 af
<b>Subcatchment 8S: Subcatchment 8</b>	Runoff Area=10,141 sf 93.52% Impervious Runoff Depth=4.14" Tc=5.0 min CN=96 Runoff=1.064 cfs 0.080 af
<b>Subcatchment 9S: Subcatchment 9</b>	Runoff Area=15,078 sf 73.53% Impervious Runoff Depth=3.70" Tc=5.0 min CN=92 Runoff=1.485 cfs 0.107 af
<b>Subcatchment 11S: Subcatchment 11</b>	Runoff Area=250,135 sf 0.00% Impervious Runoff Depth=2.21" Flow Length=1,133' Tc=34.6 min CN=76 Runoff=7.839 cfs 1.057 af
<b>Subcatchment 57S: Rain on Pond 35P</b>	Runoff Area=268 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.029 cfs 0.002 af
<b>Subcatchment 58S: Rain on Pond 36P</b>	Runoff Area=188 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.020 cfs 0.002 af
<b>Subcatchment 59S: Rain on Pond 37P</b>	Runoff Area=688 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.074 cfs 0.006 af



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<b>Subcatchment 61S: Rain on Pond 39P</b>	Runoff Area=1,498 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.160 cfs 0.013 af
<b>Subcatchment 63S: Rain on Pond 38P</b>	Runoff Area=1,998 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.214 cfs 0.017 af
<b>Reach 58R: SF1&amp;2 to SP1</b>	Avg. Flow Depth=0.02' Max Vel=0.24 fps Inflow=0.080 cfs 0.072 af n=0.100 L=253.0' S=0.0395 '/' Capacity=86.478 cfs Outflow=0.077 cfs 0.072 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.09' Max Vel=0.73 fps Inflow=1.951 cfs 0.358 af n=0.100 L=550.0' S=0.0600 '/' Capacity=1,688.432 cfs Outflow=1.576 cfs 0.358 af
<b>Reach 64R: Culvert Under Main</b>	Avg. Flow Depth=0.56' Max Vel=2.43 fps Inflow=1.304 cfs 0.185 af 15.0" Round Pipe n=0.012 L=100.0' S=0.0020 '/' Capacity=3.130 cfs Outflow=1.302 cfs 0.185 af
<b>Reach 65R: SF4 to SP1</b>	Avg. Flow Depth=0.02' Max Vel=0.56 fps Inflow=0.046 cfs 0.318 af n=0.100 L=350.0' S=0.0629 '/' Capacity=231.446 cfs Outflow=0.046 cfs 0.318 af
<b>Reach 66R: SF5 to SP2</b>	Avg. Flow Depth=0.11' Max Vel=0.66 fps Inflow=1.158 cfs 0.216 af n=0.100 L=850.0' S=0.0382 '/' Capacity=259.355 cfs Outflow=0.567 cfs 0.216 af
<b>Pond 35P: Soil Filter 1</b>	Peak Elev=41.80' Storage=855 cf Inflow=0.595 cfs 0.041 af Primary=0.040 cfs 0.041 af Secondary=0.000 cfs 0.000 af Outflow=0.040 cfs 0.041 af
<b>Pond 37P: Soil Filter 3</b>	Peak Elev=67.00' Storage=3,391 cf Inflow=1.210 cfs 0.091 af Primary=0.011 cfs 0.063 af Secondary=0.003 cfs 0.001 af Outflow=0.013 cfs 0.064 af
<b>Pond 38P: Soil Filter 4</b>	Peak Elev=63.62' Storage=11,173 cf Inflow=4.230 cfs 0.324 af Primary=0.046 cfs 0.318 af Secondary=0.000 cfs 0.000 af Outflow=0.046 cfs 0.318 af
<b>Pond 39P: Soil Filter 5</b>	Peak Elev=63.06' Storage=4,676 cf Inflow=2.910 cfs 0.216 af Primary=0.301 cfs 0.153 af Secondary=0.856 cfs 0.063 af Outflow=1.158 cfs 0.216 af
<b>Pond 59P: Soil Filter 2</b>	Peak Elev=42.70' Storage=605 cf Inflow=0.440 cfs 0.030 af Primary=0.042 cfs 0.030 af Secondary=0.000 cfs 0.000 af Outflow=0.042 cfs 0.030 af
<b>Link 40L: Study Point 1</b>	Inflow=4.668 cfs 1.030 af Primary=4.668 cfs 1.030 af
<b>Link 41L: Study Point 2</b>	Inflow=8.397 cfs 1.274 af Primary=8.397 cfs 1.274 af
<b>Link 56L: Energy East Subtotal</b>	Inflow=11.534 cfs 2.304 af Primary=11.534 cfs 2.304 af

**Total Runoff Area = 10.8 ac Runoff Volume = 2.338 af Average Runoff Depth = 2.60"**  
**83.55% Pervious = 9.0 ac 16.45% Impervious = 1.8 ac**

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**Summary for Subcatchment 0S: Subcatchment 0**

Runoff = 0.436 cfs @ 12.07 hrs, Volume= 0.032 af, Depth= 3.81"

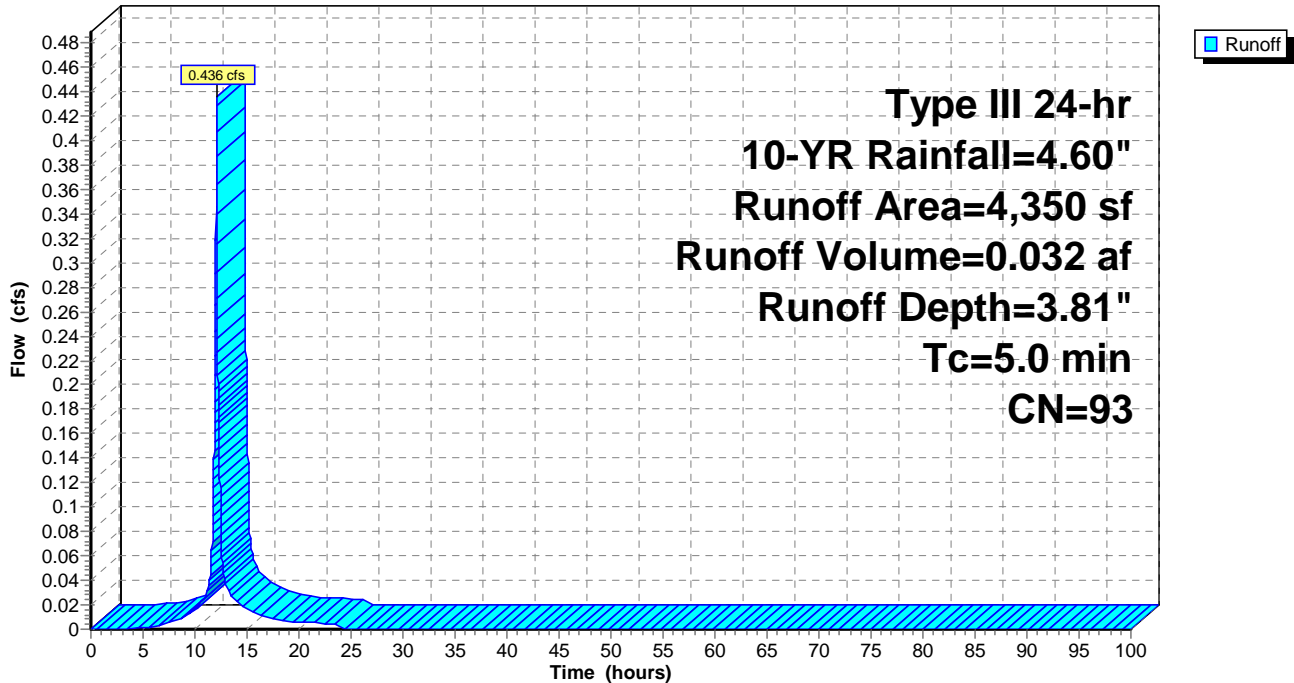
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
849	74	>75% Grass cover, Good, HSG C
3,501	98	Paved parking & roofs
4,350	93	Weighted Average
849		19.52% Pervious Area
3,501		80.48% Impervious Area

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

**Subcatchment 0S: Subcatchment 0**

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

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**Summary for Subcatchment 1S: Subcatchment 1**

Runoff = 1.128 cfs @ 12.07 hrs, Volume= 0.077 af, Depth= 2.72"

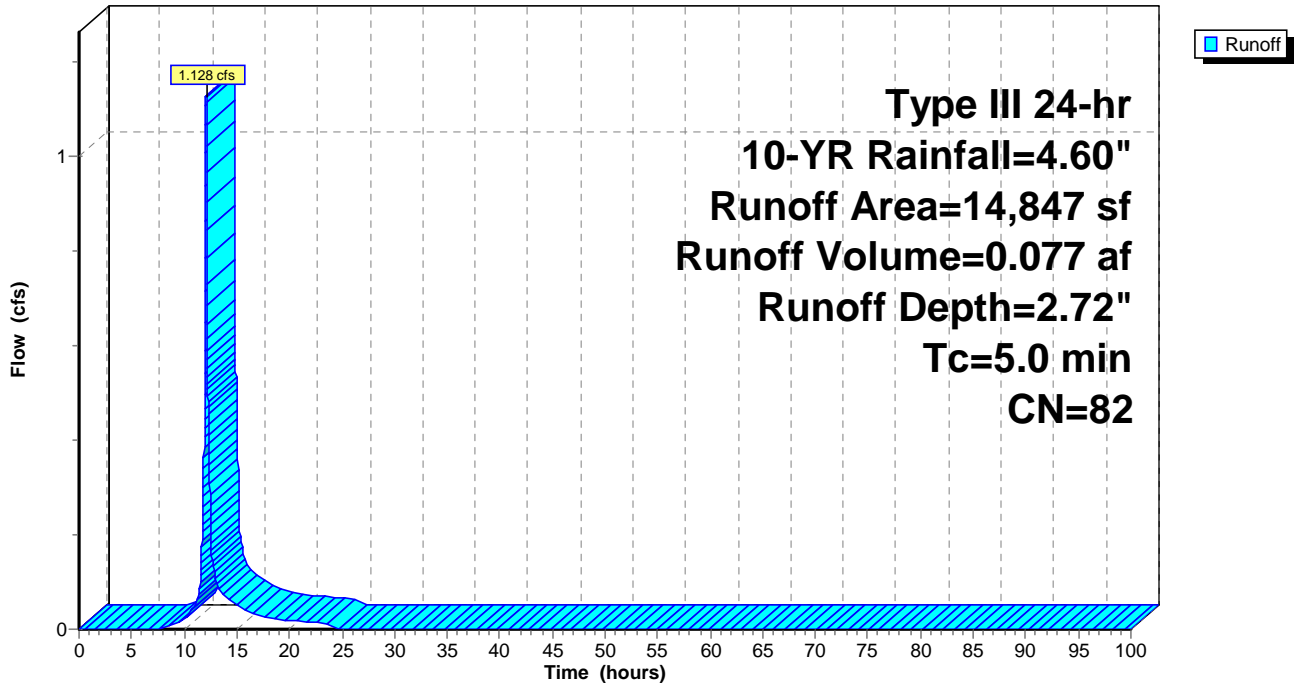
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
9,729	74	>75% Grass cover, Good, HSG C
5,118	98	Paved parking & roofs
14,847	82	Weighted Average
9,729		65.53% Pervious Area
5,118		34.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 1

**Subcatchment 1S: Subcatchment 1**

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

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**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 1.304 cfs @ 12.54 hrs, Volume= 0.185 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

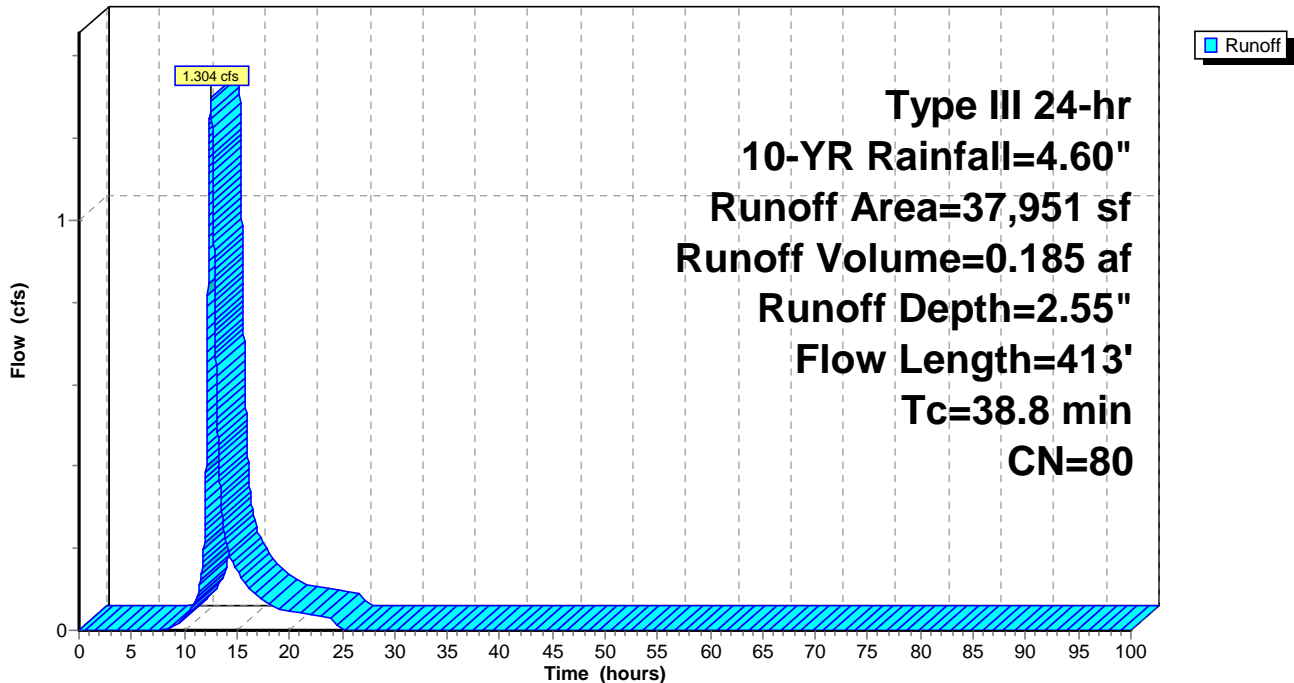
Area (sf)	CN	Description
27,420	82	Woods/grass comb., Fair, HSG D
10,531	76	Woods/grass comb., Fair, HSG C
37,951	80	Weighted Average
37,951		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
3.0	147	0.0272	0.82		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
0.0	34	0.1176	24.05	685.44	<b>Trap/Vee/Rect Channel Flow, Subcatchment 2 CF</b> Bot.W=3.50' D=3.00' Z= 2.0 '/' Top.W=15.50' n= 0.030 Earth, grassed & winding
38.8	413	Total			

**Subcatchment 2S: Subcatchment 2**

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**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 1.137 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 4.14"

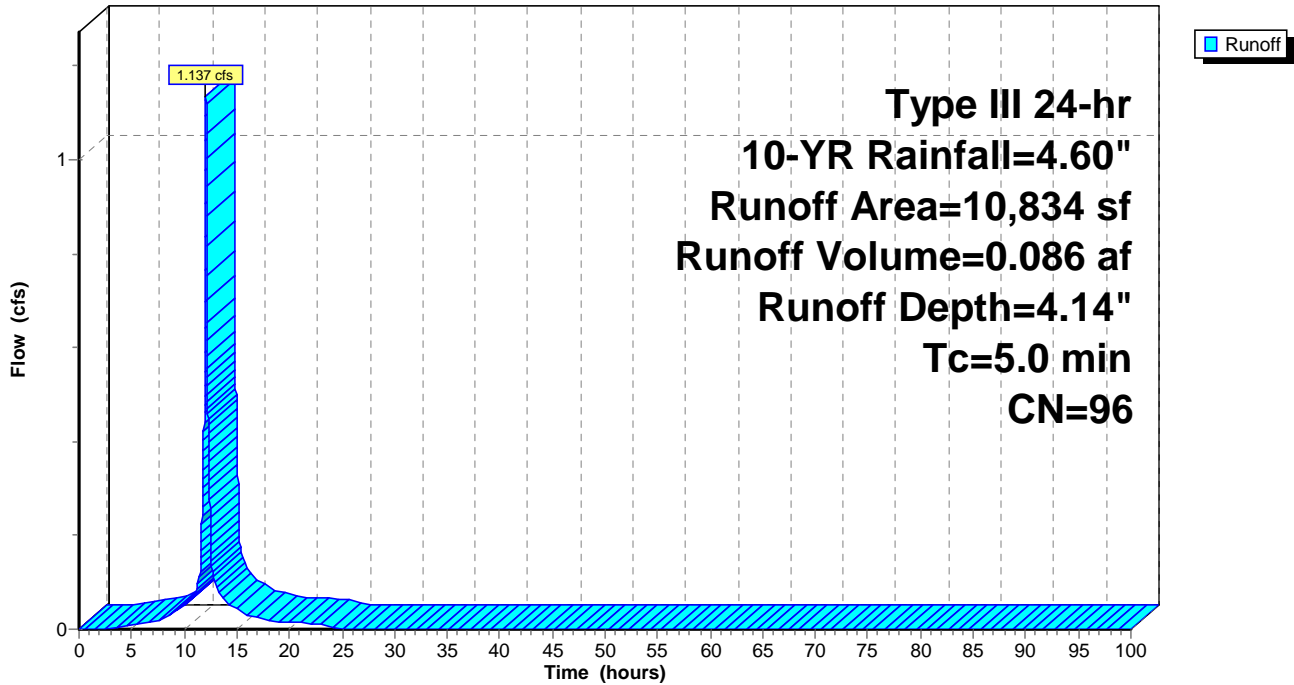
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
777	74	>75% Grass cover, Good, HSG C
10,057	98	Paved parking & roofs
10,834	96	Weighted Average
777		7.17% Pervious Area
10,057		92.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 3

**Subcatchment 3S: Subcatchment 3**

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

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**Summary for Subcatchment 4Sa: Subcatchment 4a**

Runoff = 3.228 cfs @ 12.17 hrs, Volume= 0.283 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-YR Rainfall=4.60"

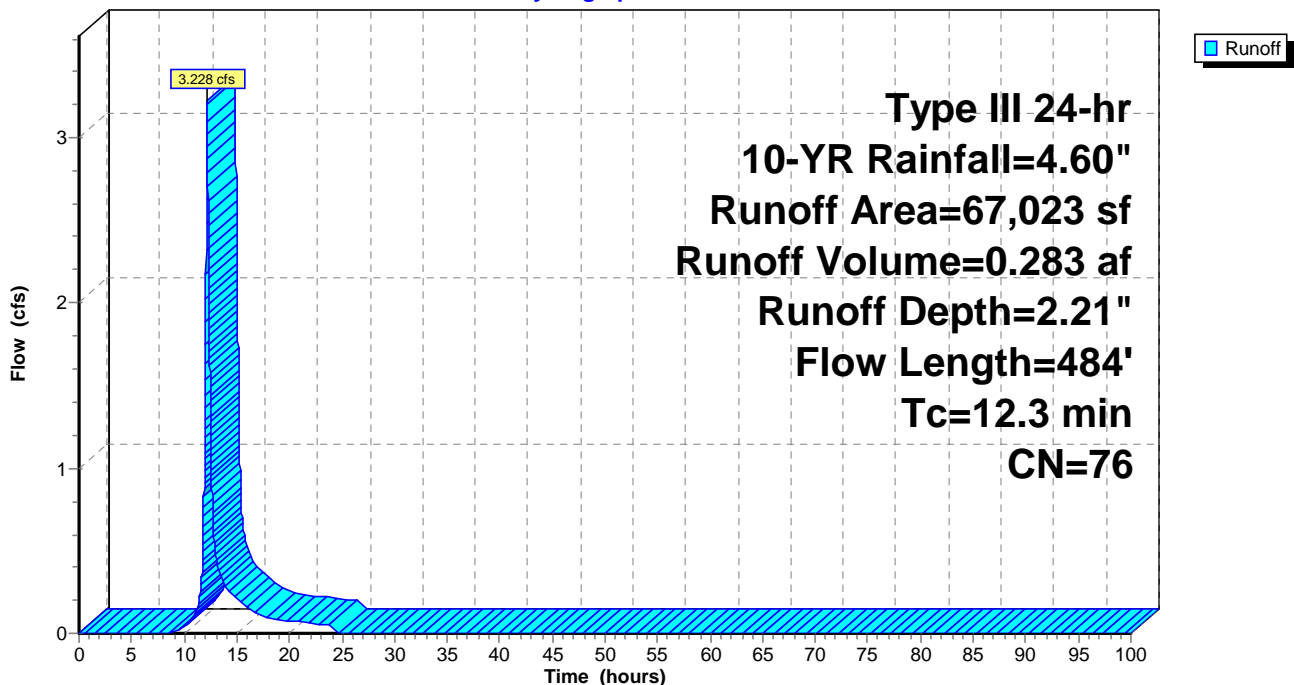
Area (sf)	CN	Description
67,023	76	Woods/grass comb., Fair, HSG C
67,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1500	0.17		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
1.5	297	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
12.3	484	Total			

**Subcatchment 4Sa: Subcatchment 4a**

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

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**Summary for Subcatchment 4Sb: Subcatchment 4b**

Runoff = 0.567 cfs @ 12.08 hrs, Volume= 0.039 af, Depth= 2.21"

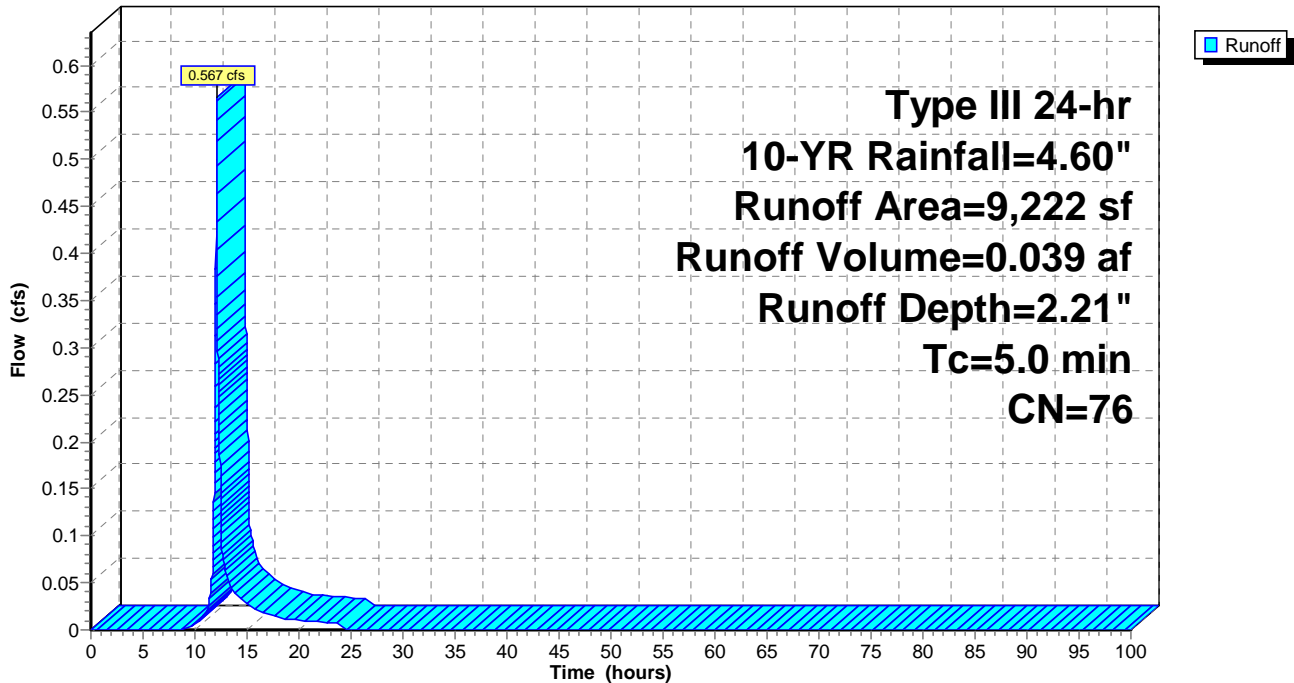
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
9,222	76	Woods/grass comb., Fair, HSG C
9,222		100.00% Pervious Area

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

**Subcatchment 4Sb: Subcatchment 4b**

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

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**Summary for Subcatchment 4Sc: Subcatchment 4c**

Runoff = 0.420 cfs @ 12.08 hrs, Volume= 0.029 af, Depth= 2.21"

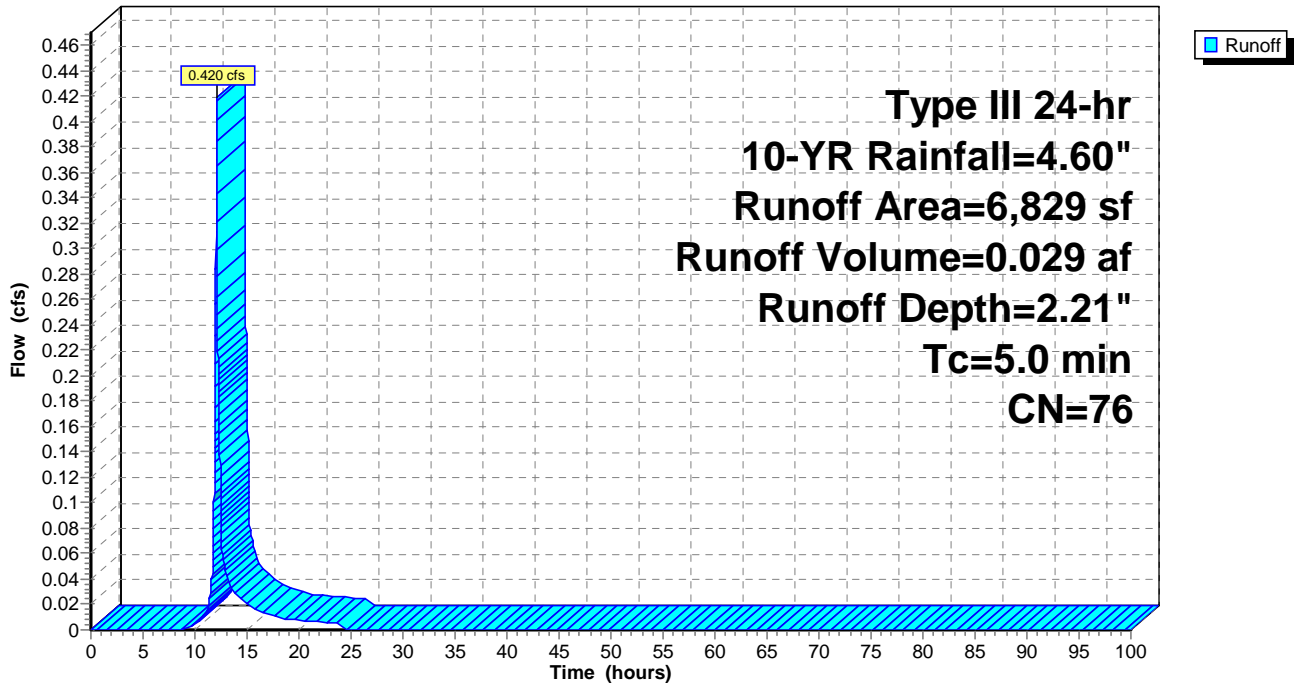
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
6,829	76	Woods/grass comb., Fair, HSG C
6,829		100.00% Pervious Area

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

**Subcatchment 4Sc: Subcatchment 4c**

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

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**Summary for Subcatchment 5S: Subcatchment 5**

Runoff = 2.245 cfs @ 12.07 hrs, Volume= 0.175 af, Depth= 4.36"

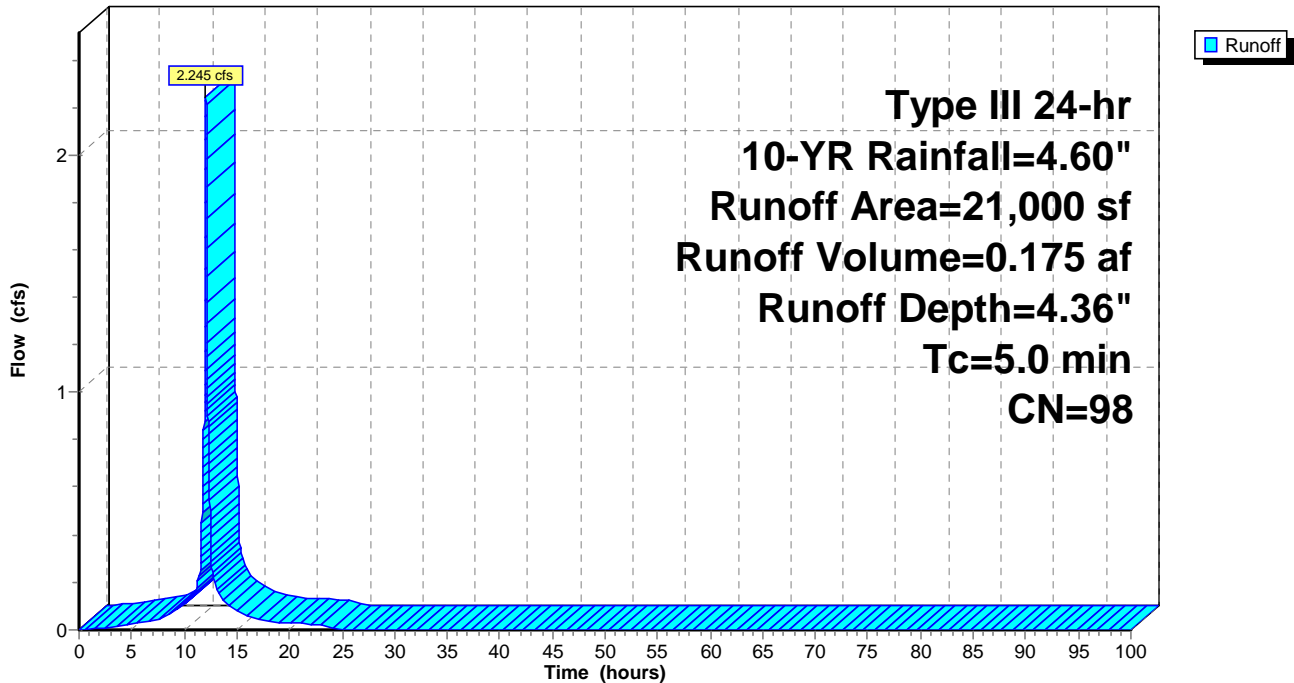
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
21,000	98	Paved parking & roofs
21,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 5

**Subcatchment 5S: Subcatchment 5**

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

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**Summary for Subcatchment 6S: Subcatchment 6**

Runoff = 0.707 cfs @ 12.07 hrs, Volume= 0.052 af, Depth= 3.91"

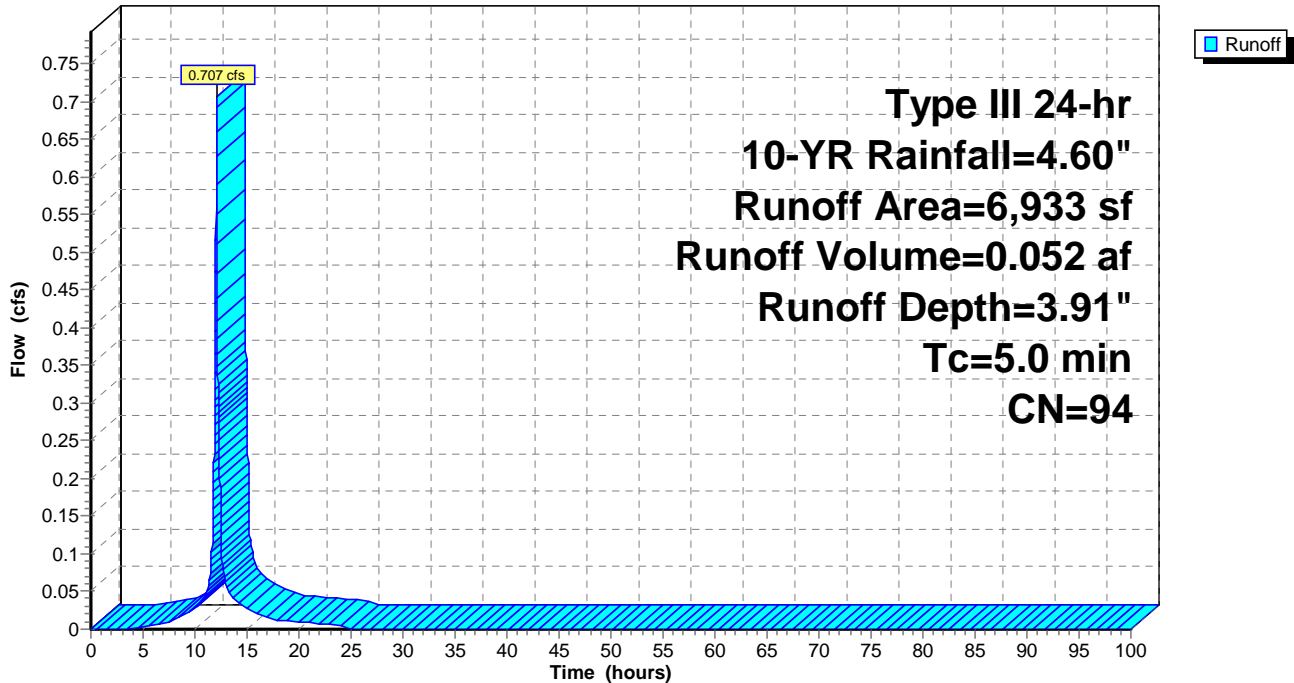
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,151	74	>75% Grass cover, Good, HSG C
5,782	98	Paved parking & roofs
6,933	94	Weighted Average
1,151		16.60% Pervious Area
5,782		83.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 6

**Subcatchment 6S: Subcatchment 6**

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

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**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 1.265 cfs @ 12.07 hrs, Volume= 0.097 af, Depth= 4.25"

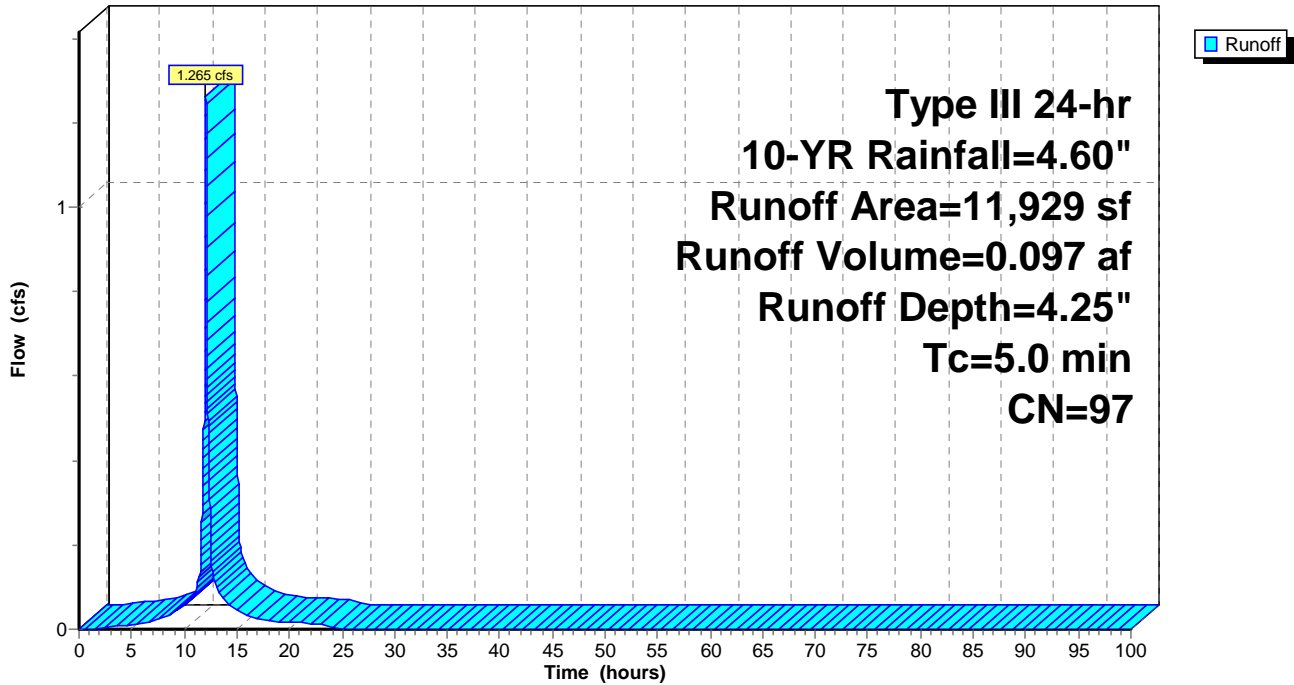
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
500	74	>75% Grass cover, Good, HSG C
11,429	98	Paved parking & roofs
11,929	97	Weighted Average
500		4.19% Pervious Area
11,429		95.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 7

**Subcatchment 7S: Subcatchment 7**

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

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**Summary for Subcatchment 8S: Subcatchment 8**

Runoff = 1.064 cfs @ 12.07 hrs, Volume= 0.080 af, Depth= 4.14"

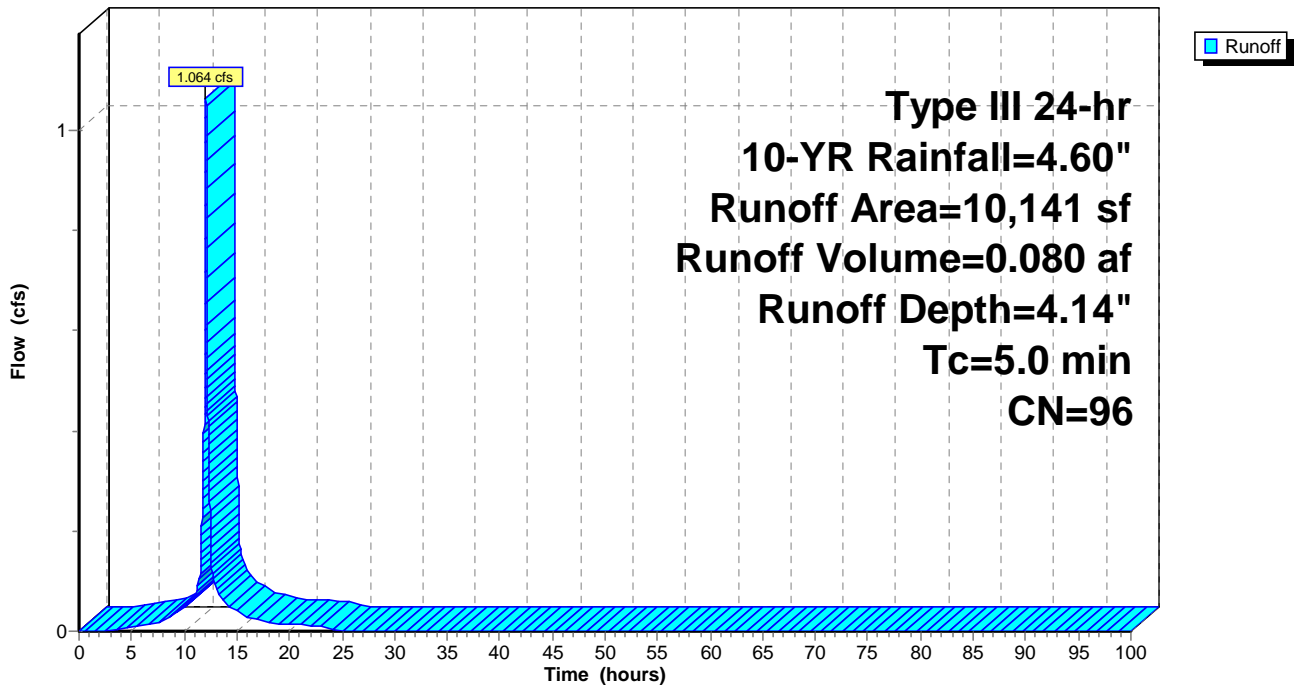
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
657	74	>75% Grass cover, Good, HSG C
9,484	98	Paved parking & roofs
10,141	96	Weighted Average
657		6.48% Pervious Area
9,484		93.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 8

**Subcatchment 8S: Subcatchment 8**

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

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**Summary for Subcatchment 9S: Subcatchment 9**

Runoff = 1.485 cfs @ 12.07 hrs, Volume= 0.107 af, Depth= 3.70"

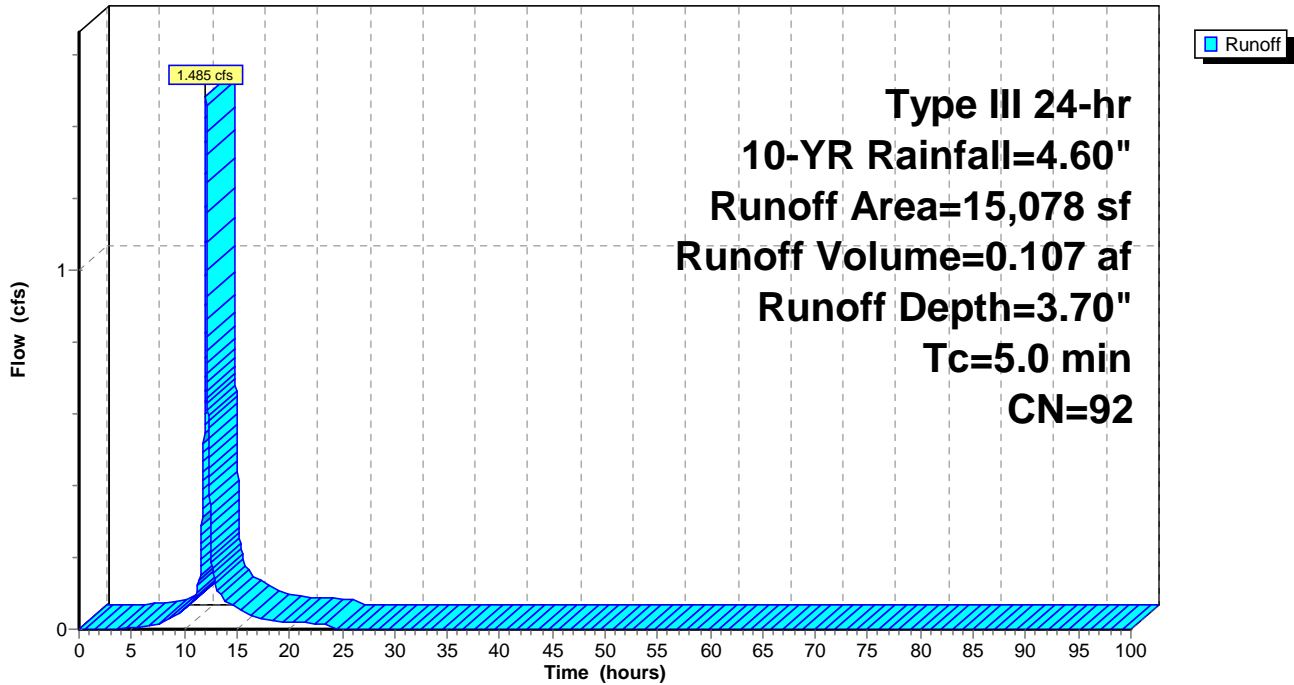
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
3,991	74	>75% Grass cover, Good, HSG C
11,087	98	Paved parking & roofs
15,078	92	Weighted Average
3,991		26.47% Pervious Area
11,087		73.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 9

**Subcatchment 9S: Subcatchment 9**

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

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**Summary for Subcatchment 11S: Subcatchment 11**

Runoff = 7.839 cfs @ 12.49 hrs, Volume= 1.057 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

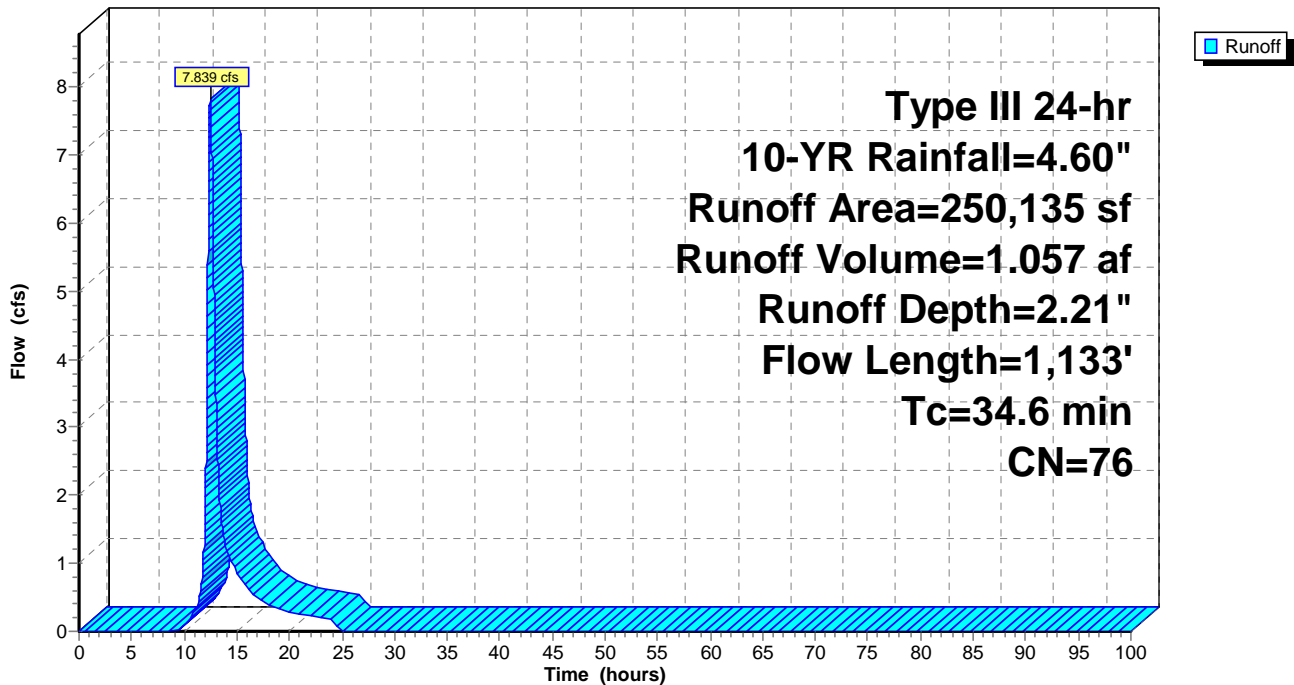
Area (sf)	CN	Description
250,135	76	Woods/grass comb., Fair, HSG C
250,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 11 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.5	203	0.0150	0.61		<b>Shallow Concentrated Flow, Subcatchment 11 SCF</b> Woodland Kv= 5.0 fps
4.2	830	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 11 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
34.6	1,133	Total			

**Subcatchment 11S: Subcatchment 11**

Hydrograph



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

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**Summary for Subcatchment 57S: Rain on Pond 35P**

Runoff = 0.029 cfs @ 12.07 hrs, Volume= 0.002 af, Depth= 4.36"

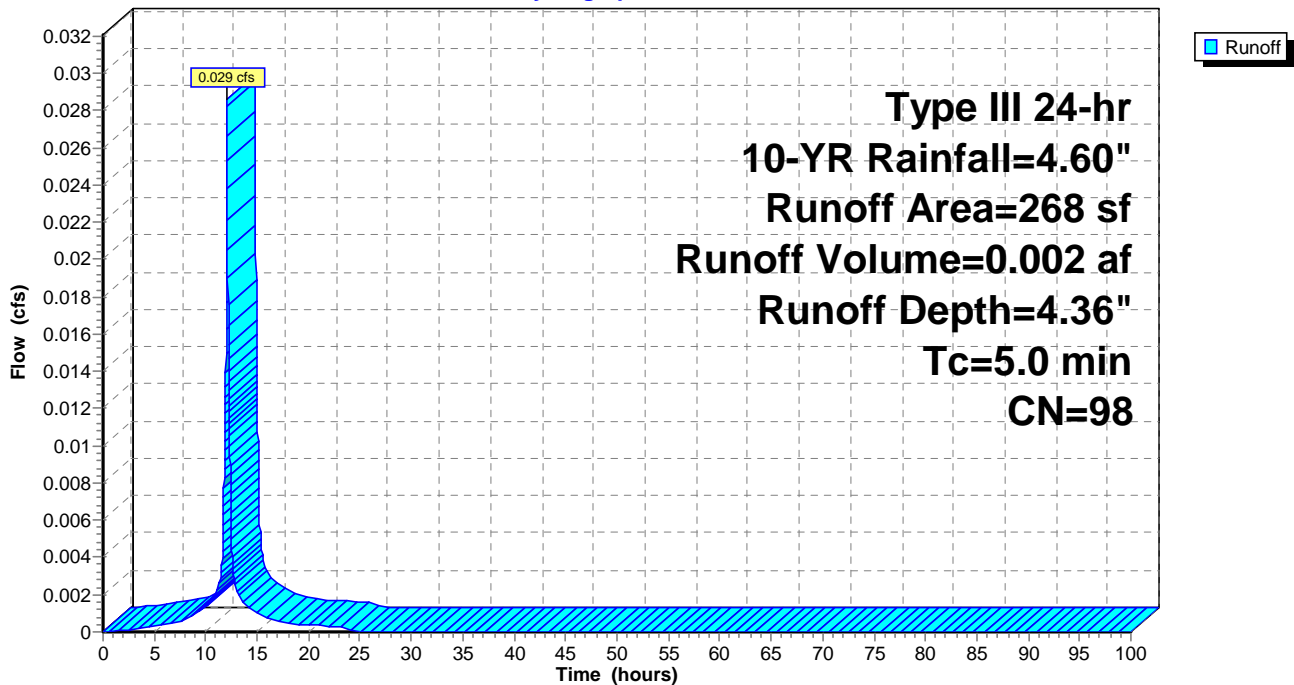
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
268	98	Water Surface, 0% imp
268		100.00% Pervious Area

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

**Subcatchment 57S: Rain on Pond 35P**

Hydrograph



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

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**Summary for Subcatchment 58S: Rain on Pond 36P**

Runoff = 0.020 cfs @ 12.07 hrs, Volume= 0.002 af, Depth= 4.36"

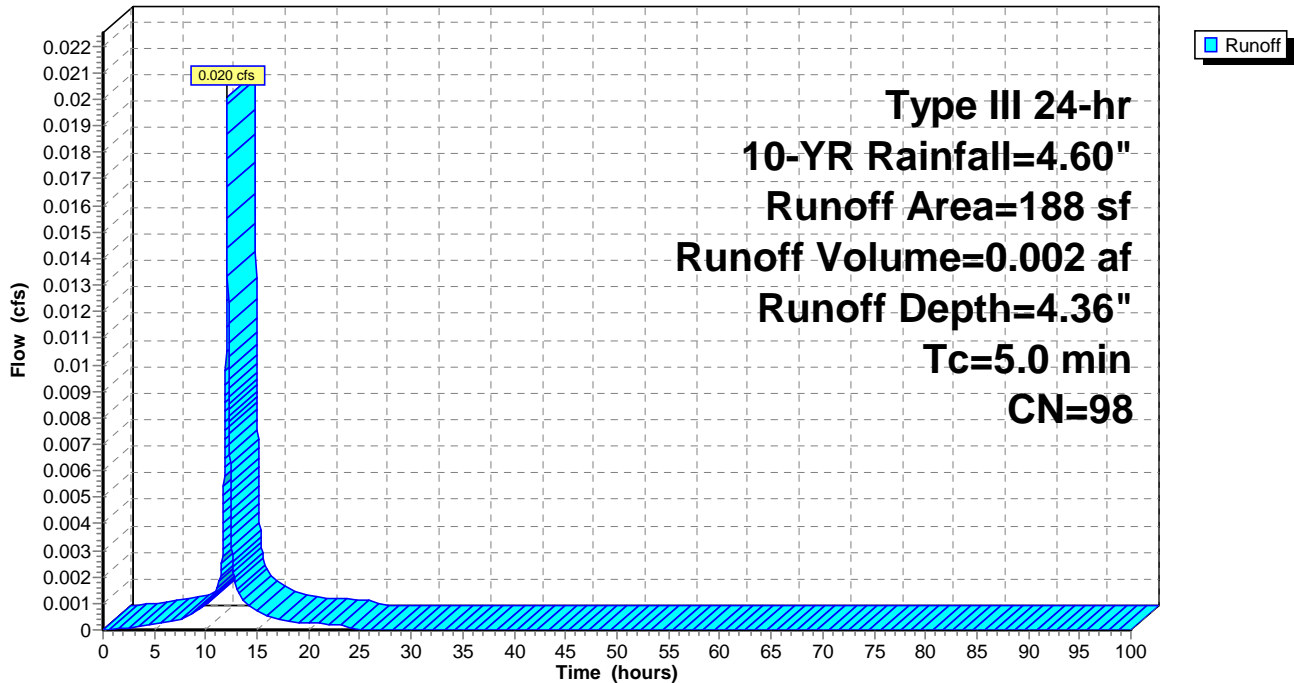
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
188	98	Water Surface, 0% imp
188		100.00% Pervious Area

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

**Subcatchment 58S: Rain on Pond 36P**

Hydrograph





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

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**Summary for Subcatchment 59S: Rain on Pond 37P**

Runoff = 0.074 cfs @ 12.07 hrs, Volume= 0.006 af, Depth= 4.36"

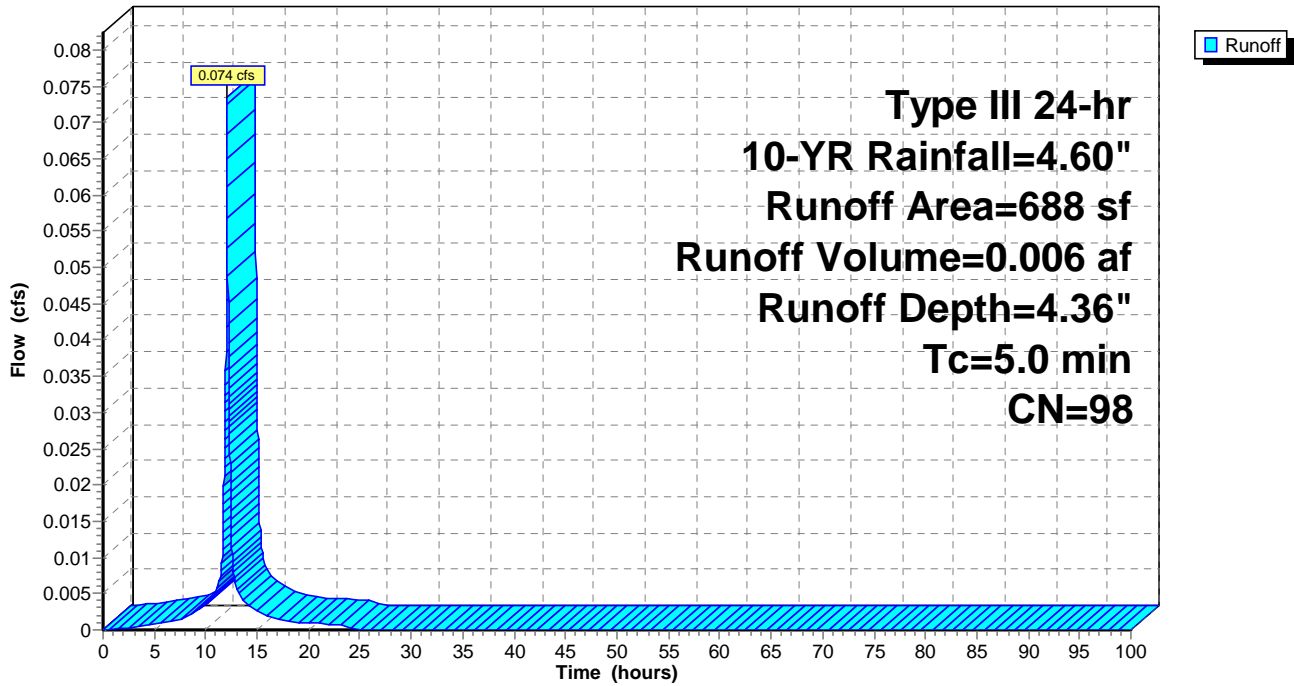
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
688	98	Water Surface, 0% imp
688		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 59S: Rain on Pond 37P**

Hydrograph



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

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**Summary for Subcatchment 61S: Rain on Pond 39P**

Runoff = 0.160 cfs @ 12.07 hrs, Volume= 0.013 af, Depth= 4.36"

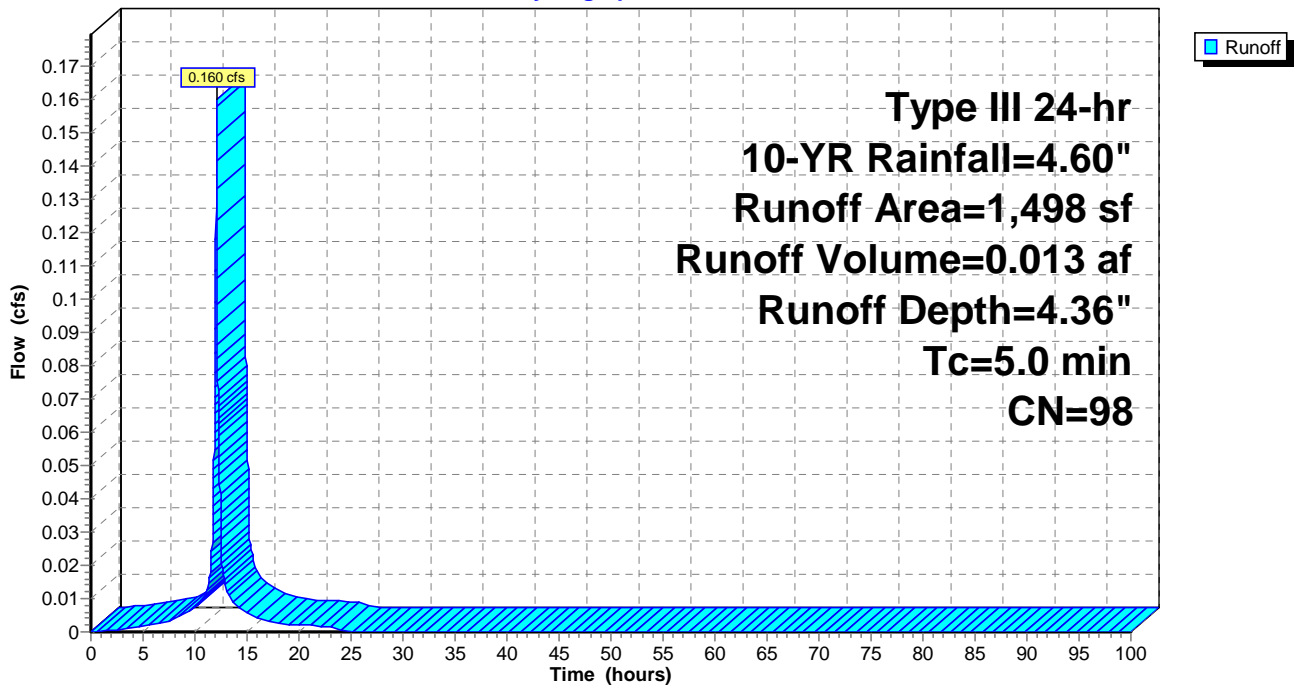
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,498	98	Water Surface, 0% imp
1,498		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 61S: Rain on Pond 39P**

Hydrograph



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

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**Summary for Subcatchment 63S: Rain on Pond 38P**

Runoff = 0.214 cfs @ 12.07 hrs, Volume= 0.017 af, Depth= 4.36"

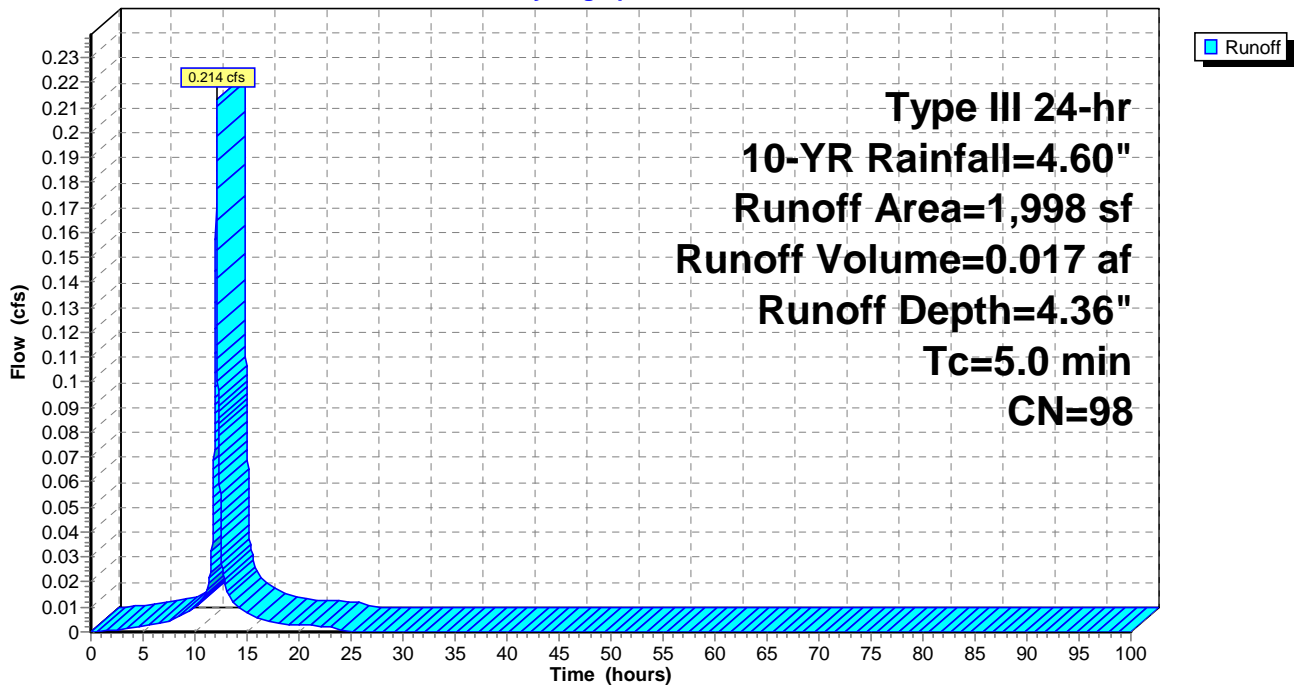
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,998	98	Water Surface, 0% imp
1,998		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 38P**

Hydrograph



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

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**Summary for Reach 58R: SF1&2 to SP1**

Inflow Area = 0.4 ac, 0.00% Impervious, Inflow Depth = 2.27" for 10-YR event  
Inflow = 0.080 cfs @ 13.04 hrs, Volume= 0.072 af  
Outflow = 0.077 cfs @ 13.31 hrs, Volume= 0.072 af, Atten= 5%, Lag= 16.6 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.24 fps, Min. Travel Time= 17.5 min  
Avg. Velocity = 0.19 fps, Avg. Travel Time= 21.8 min

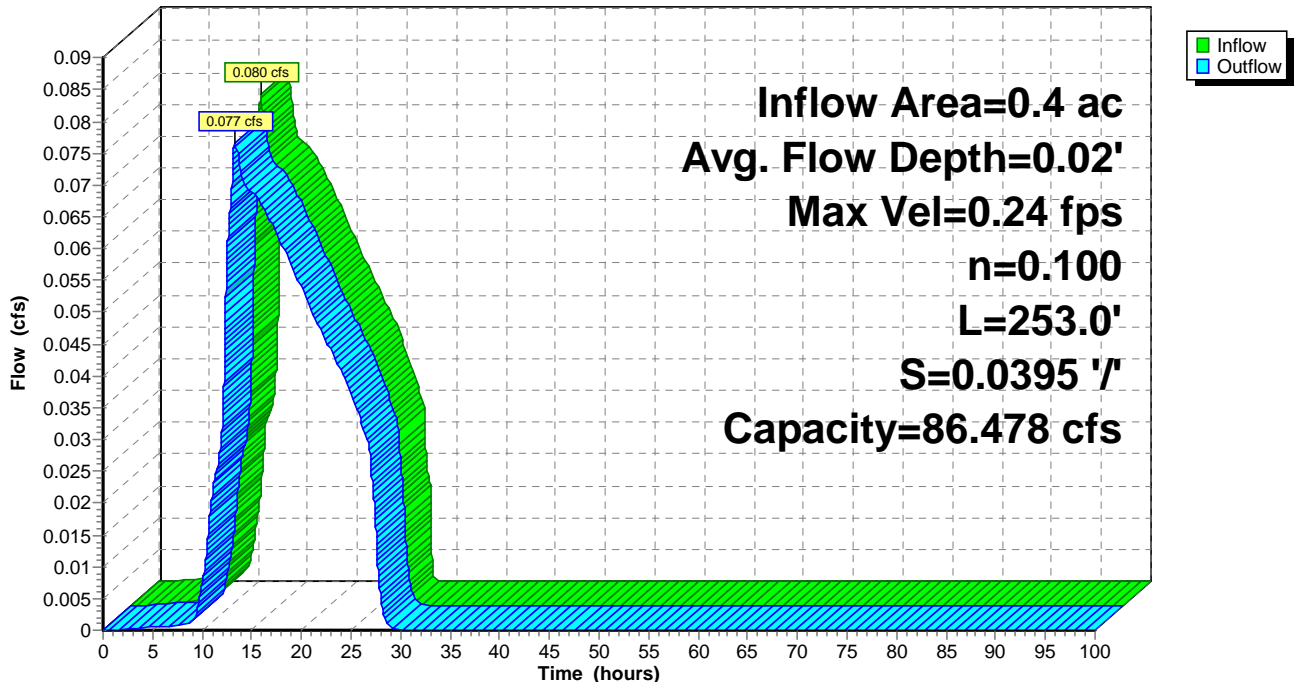
Peak Storage= 80 cf @ 13.31 hrs  
Average Depth at Peak Storage= 0.02'  
Bank-Full Depth= 1.50' Flow Area= 24.8 sf, Capacity= 86.478 cfs

15.00' x 1.50' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 1.0 '/' Top Width= 18.00'  
Length= 253.0' Slope= 0.0395 '/'  
Inlet Invert= 36.00', Outlet Invert= 26.00'



**Reach 58R: SF1&2 to SP1**

**Hydrograph**



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

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**Summary for Reach 63R: Channel to SP1**

Inflow Area = 1.6 ac, 27.20% Impervious, Inflow Depth > 2.72" for 10-YR event  
Inflow = 1.951 cfs @ 12.08 hrs, Volume= 0.358 af  
Outflow = 1.576 cfs @ 12.53 hrs, Volume= 0.358 af, Atten= 19%, Lag= 27.4 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.73 fps, Min. Travel Time= 12.6 min  
Avg. Velocity = 0.49 fps, Avg. Travel Time= 18.6 min

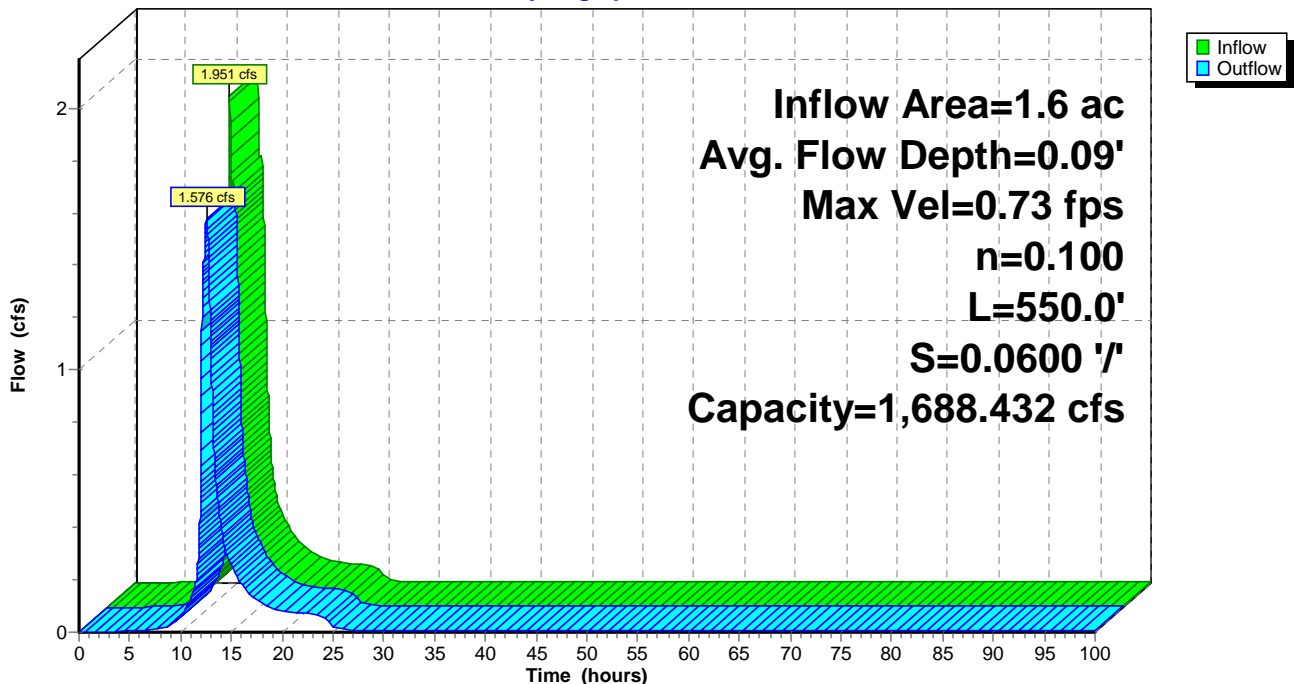
Peak Storage= 1,189 cf @ 12.53 hrs  
Average Depth at Peak Storage= 0.09'  
Bank-Full Depth= 5.00' Flow Area= 200.0 sf, Capacity= 1,688.432 cfs

25.00' x 5.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 3.0 '/ Top Width= 55.00'  
Length= 550.0' Slope= 0.0600 '/  
Inlet Invert= 58.00', Outlet Invert= 25.00'



**Reach 63R: Channel to SP1**

**Hydrograph**



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

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**Summary for Reach 64R: Culvert Under Main Entrance**

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth = 2.55" for 10-YR event  
Inflow = 1.304 cfs @ 12.54 hrs, Volume= 0.185 af  
Outflow = 1.302 cfs @ 12.55 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.43 fps, Min. Travel Time= 0.7 min

Avg. Velocity = 1.01 fps, Avg. Travel Time= 1.7 min

Peak Storage= 54 cf @ 12.55 hrs

Average Depth at Peak Storage= 0.56'

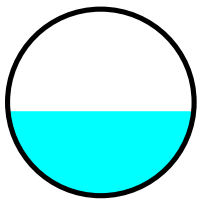
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 3.130 cfs

15.0" Round Pipe

n= 0.012 Concrete pipe, finished

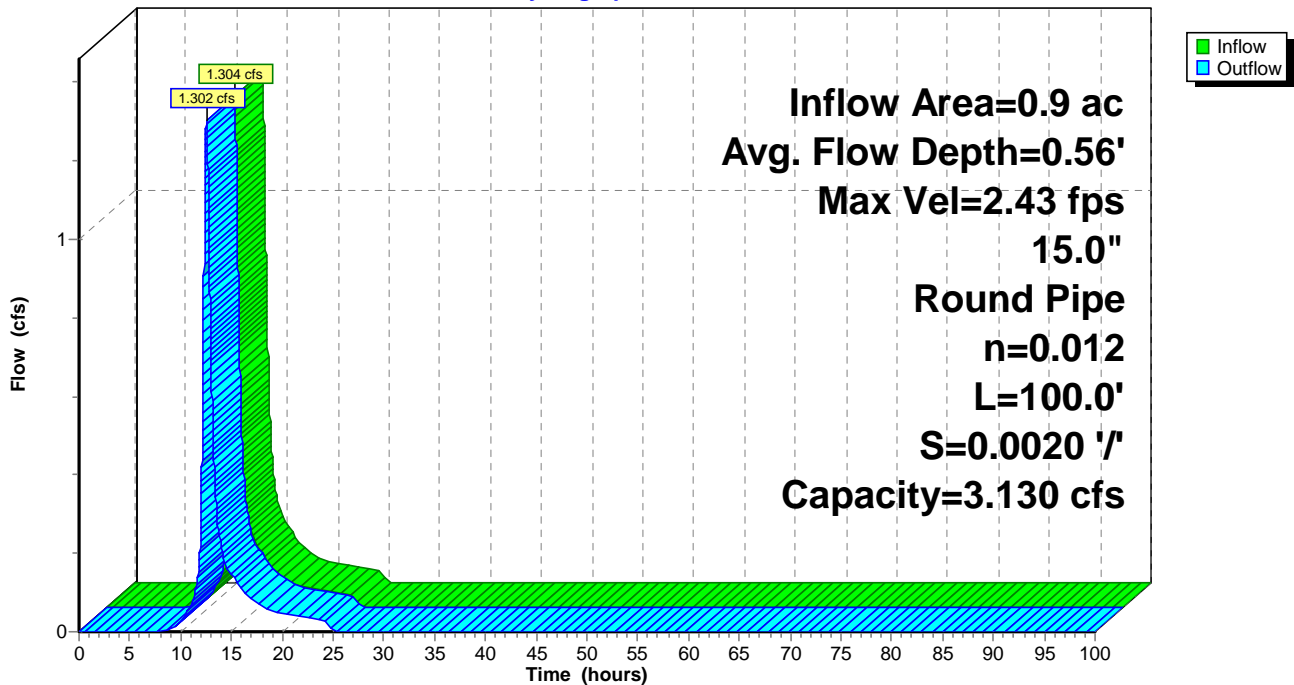
Length= 100.0' Slope= 0.0020 '/'

Inlet Invert= 59.00', Outlet Invert= 58.80'



**Reach 64R: Culvert Under Main Entrance**

Hydrograph



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

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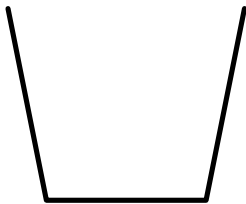
**Summary for Reach 65R: SF4 to SP1**

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth > 4.15" for 10-YR event  
 Inflow = 0.046 cfs @ 21.92 hrs, Volume= 0.318 af  
 Outflow = 0.046 cfs @ 22.10 hrs, Volume= 0.318 af, Atten= 0%, Lag= 10.4 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 0.56 fps, Min. Travel Time= 10.4 min  
 Avg. Velocity = 0.56 fps, Avg. Travel Time= 10.4 min

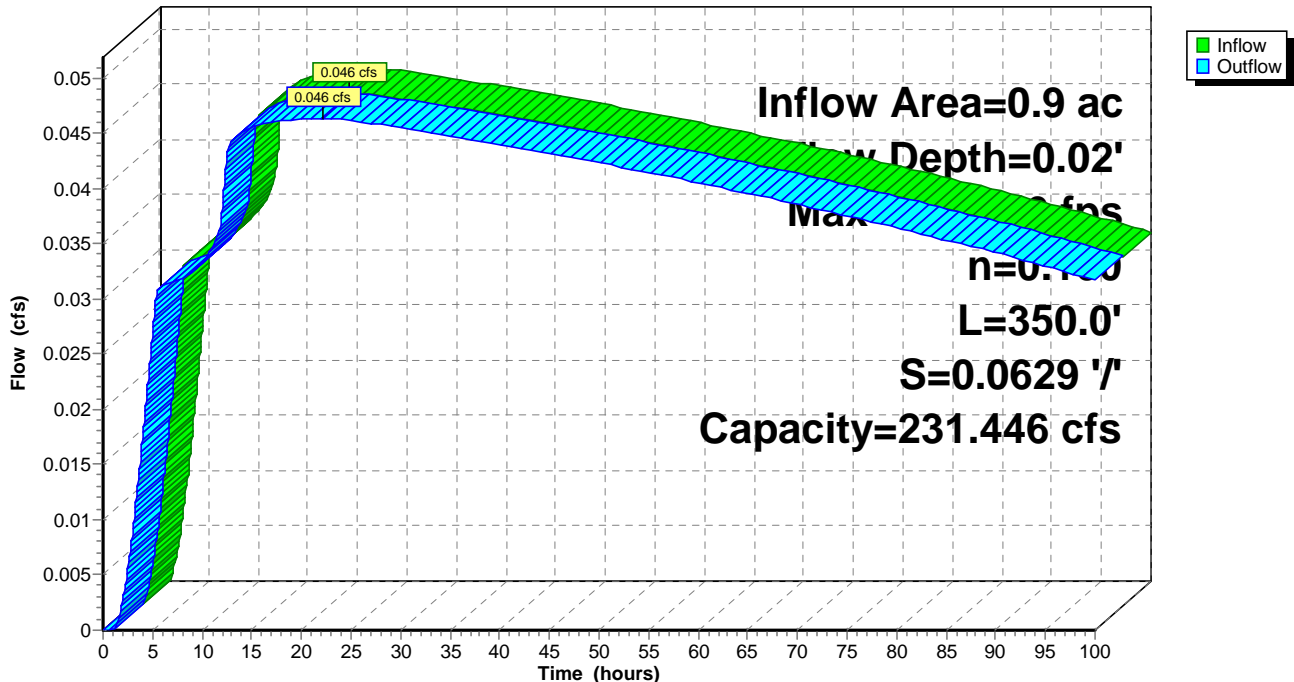
Peak Storage= 29 cf @ 22.10 hrs  
 Average Depth at Peak Storage= 0.02'  
 Bank-Full Depth= 6.00' Flow Area= 37.2 sf, Capacity= 231.446 cfs

5.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
 Side Slope Z-value= 0.2 '/' Top Width= 7.40'  
 Length= 350.0' Slope= 0.0629 '/'  
 Inlet Invert= 47.00', Outlet Invert= 25.00'



**Reach 65R: SF4 to SP1**

Hydrograph



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

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**Summary for Reach 66R: SF5 to SP2**

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth > 3.96" for 10-YR event  
Inflow = 1.158 cfs @ 12.27 hrs, Volume= 0.216 af  
Outflow = 0.567 cfs @ 12.53 hrs, Volume= 0.216 af, Atten= 51%, Lag= 15.7 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.66 fps, Min. Travel Time= 21.6 min  
Avg. Velocity = 0.39 fps, Avg. Travel Time= 36.0 min

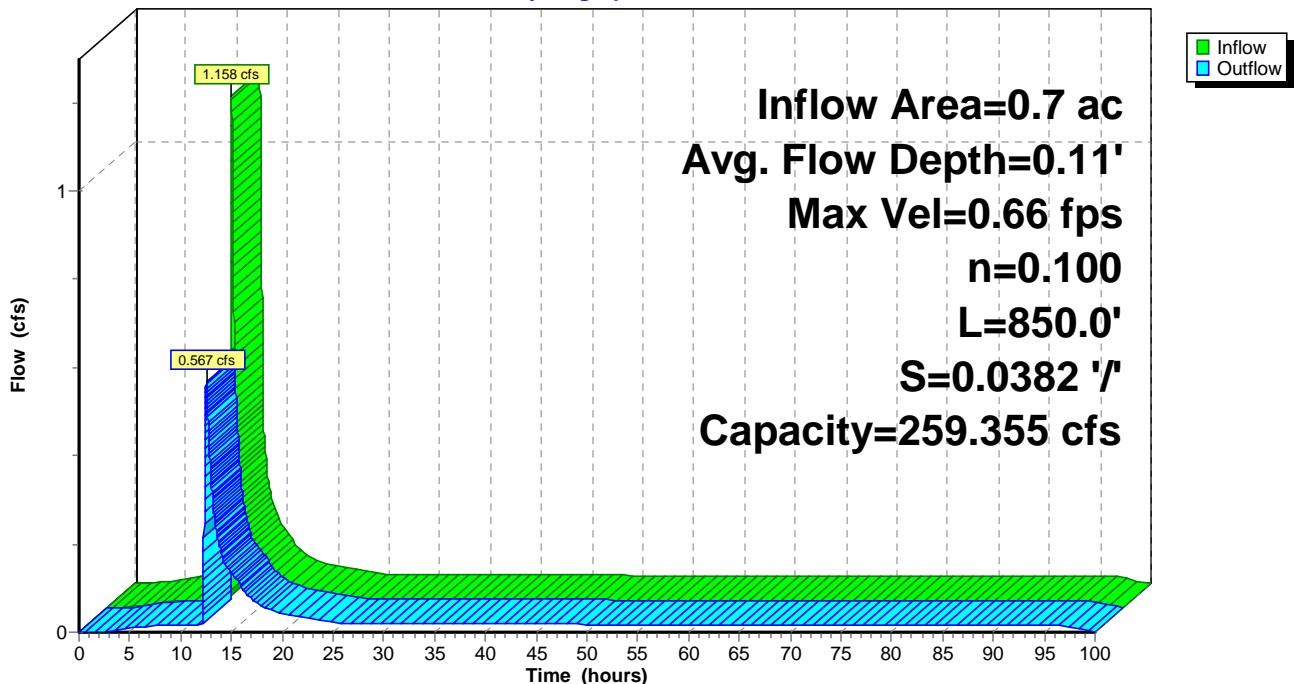
Peak Storage= 735 cf @ 12.53 hrs  
Average Depth at Peak Storage= 0.11'  
Bank-Full Depth= 5.00' Flow Area= 47.5 sf, Capacity= 259.355 cfs

8.00' x 5.00' deep channel, n= 0.100  
Side Slope Z-value= 0.3 '/ Top Width= 11.00'  
Length= 850.0' Slope= 0.0382 '/  
Inlet Invert= 57.50', Outlet Invert= 25.00'



**Reach 66R: SF5 to SP2**

Hydrograph





**Post-Development - 2015.09.25 Energy East - Linked**

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

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**Summary for Pond 35P: Soil Filter 1**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 2.27" for 10-YR event  
 Inflow = 0.595 cfs @ 12.08 hrs, Volume= 0.041 af  
 Outflow = 0.040 cfs @ 13.89 hrs, Volume= 0.041 af, Atten= 93%, Lag= 109.1 min  
 Primary = 0.040 cfs @ 13.89 hrs, Volume= 0.041 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 41.80' @ 13.89 hrs Surf.Area= 704 sf Storage= 855 cf

Plug-Flow detention time= 257.3 min calculated for 0.041 af (100% of inflow)  
 Center-of-Mass det. time= 257.3 min ( 1,087.9 - 830.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	40.00'	1,421 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
40.00	268	0	0
41.00	491	380	380
41.50	618	277	657
42.00	761	345	1,002
42.50	917	420	1,421

Device	Routing	Invert	Outlet Devices
#1	Primary	37.84'	<b>4.0" Round Culvert</b> L= 29.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 37.84' / 37.00' S= 0.0290 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	37.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	40.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	41.80'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	42.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.039 cfs @ 13.89 hrs HW=41.80' (Free Discharge)

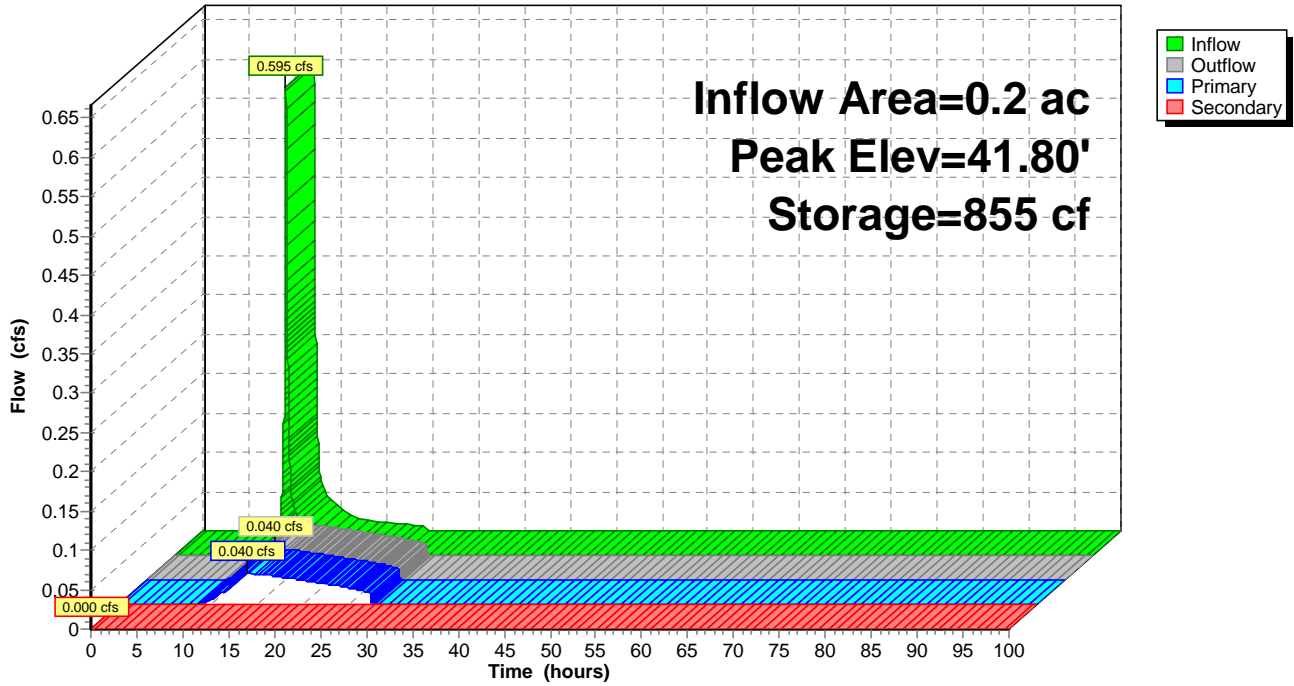
- ↑ 1=Culvert (Passes 0.039 cfs of 0.646 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.039 cfs of 0.052 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.039 cfs)
- ↑ 4=Orifice/Grate (Weir Controls 0.000 cfs @ 0.06 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=40.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 35P: Soil Filter 1

Hydrograph



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**Summary for Pond 37P: Soil Filter 3**

Inflow Area = 0.3 ac, 87.29% Impervious, Inflow Depth = 4.15" for 10-YR event  
 Inflow = 1.210 cfs @ 12.07 hrs, Volume= 0.091 af  
 Outflow = 0.013 cfs @ 21.79 hrs, Volume= 0.064 af, Atten= 99%, Lag= 583.4 min  
 Primary = 0.011 cfs @ 21.79 hrs, Volume= 0.063 af  
 Secondary = 0.003 cfs @ 21.79 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.00' @ 21.79 hrs Surf.Area= 2,658 sf Storage= 3,391 cf

Plug-Flow detention time= 2,405.6 min calculated for 0.064 af (70% of inflow)  
 Center-of-Mass det. time= 2,312.3 min ( 3,074.9 - 762.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	5,079 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	1,078	0	0
66.00	1,626	1,352	1,352
66.50	1,925	888	2,240
67.00	2,657	1,146	3,385
67.60	2,988	1,693	5,079

Device	Routing	Invert	Outlet Devices
#1	Primary	62.84'	<b>4.0" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 62.84' / 61.00' S= 0.0460 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	62.84'	<b>0.4" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	65.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	67.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	67.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.010 cfs @ 21.79 hrs HW=67.00' (Free Discharge)

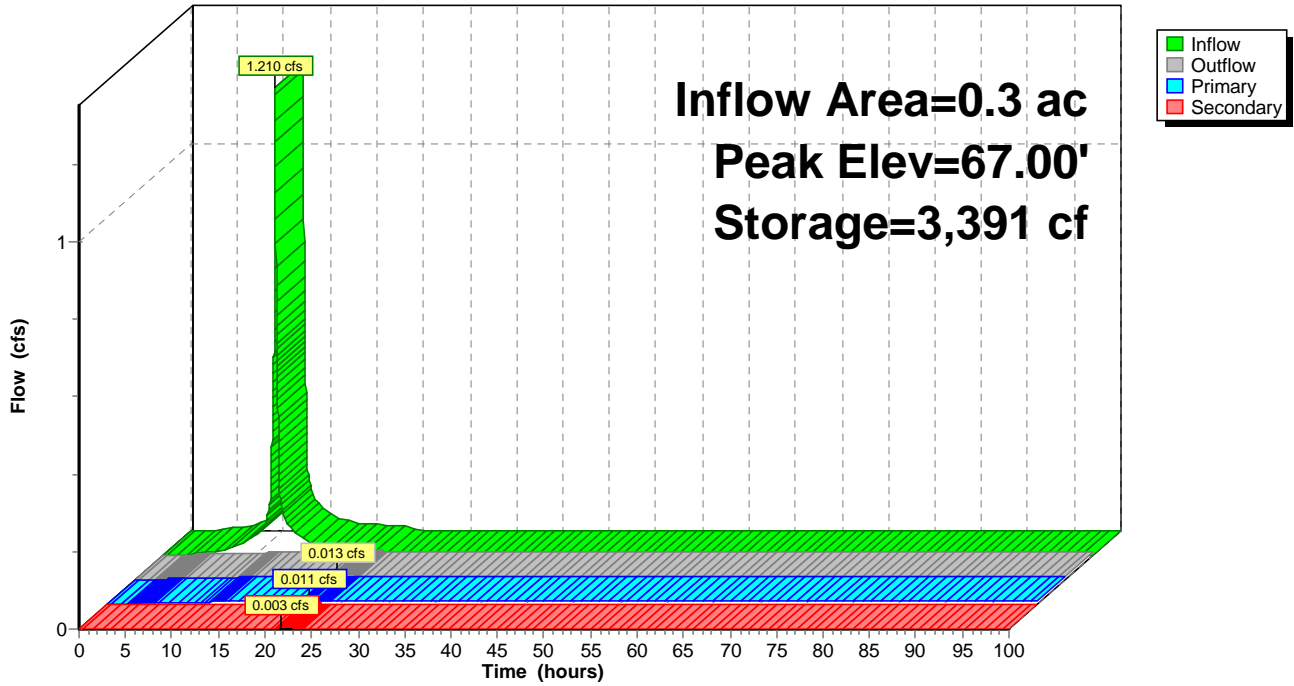
- ↑ 1=Culvert (Passes 0.010 cfs of 0.768 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.009 cfs @ 9.80 fps)
- ↑ 3=Exfiltration (Passes 0.009 cfs of 0.148 cfs potential flow)
- ↑ 4=Orifice/Grate (Weir Controls 0.002 cfs @ 0.15 fps)

**Secondary OutFlow** Max=0.003 cfs @ 21.79 hrs HW=67.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.003 cfs @ 0.14 fps)

### Pond 37P: Soil Filter 3

Hydrograph



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

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**Summary for Pond 38P: Soil Filter 4**

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth = 4.23" for 10-YR event  
 Inflow = 4.230 cfs @ 12.07 hrs, Volume= 0.324 af  
 Outflow = 0.046 cfs @ 21.92 hrs, Volume= 0.318 af, Atten= 99%, Lag= 591.3 min  
 Primary = 0.046 cfs @ 21.92 hrs, Volume= 0.318 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 63.62' @ 21.92 hrs Surf.Area= 6,157 sf Storage= 11,173 cf

Plug-Flow detention time= 2,256.0 min calculated for 0.318 af (98% of inflow)  
 Center-of-Mass det. time= 2,243.9 min ( 3,000.3 - 756.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	18,006 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	2,993	0	0
62.00	3,864	3,429	3,429
62.50	4,321	2,046	5,475
63.00	4,823	2,286	7,761
64.00	6,970	5,897	13,657
64.60	7,527	4,349	18,006

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>4.0" Round Culvert</b> L= 65.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 48.00' S= 0.1668 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	58.84'	<b>0.9" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	64.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	64.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.046 cfs @ 21.92 hrs HW=63.62' (Free Discharge)

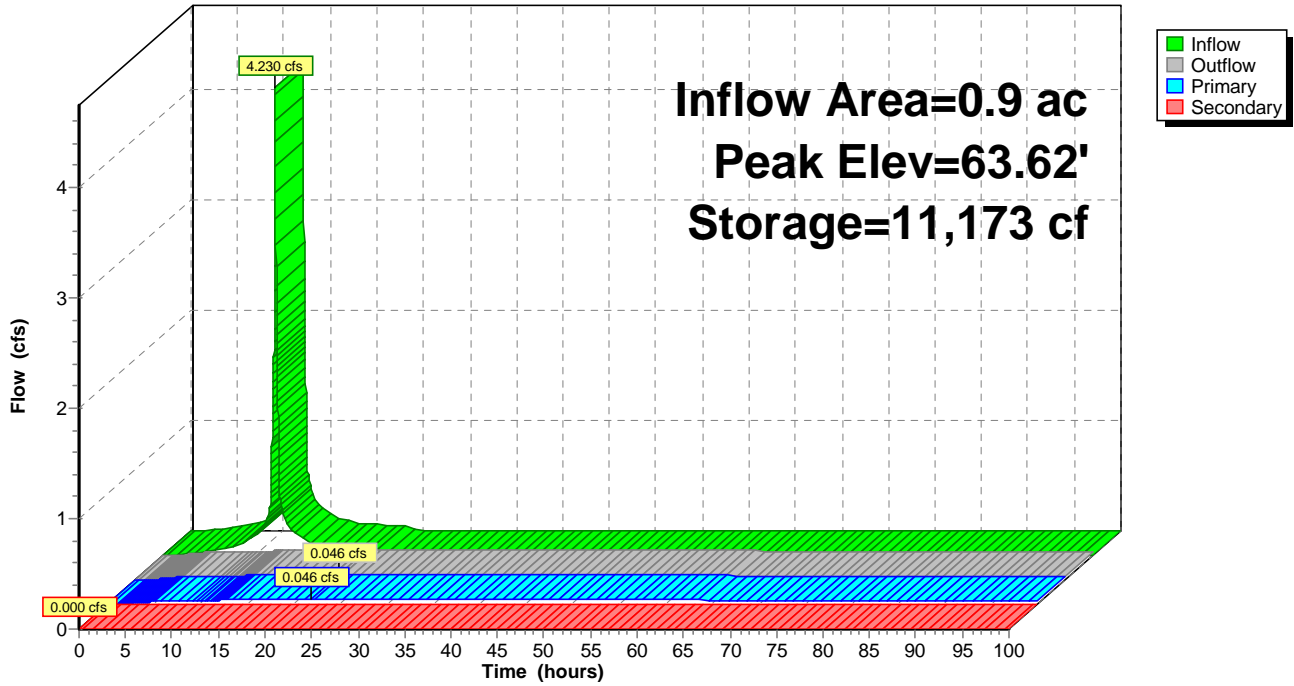
- ↑ 1=Culvert (Passes 0.046 cfs of 0.903 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.046 cfs @ 10.49 fps)
- ↑ 3=Exfiltration (Passes 0.046 cfs of 0.343 cfs potential flow)
- ↑ 4=Orifice/Grate ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 38P: Soil Filter 4

Hydrograph



**Post-Development - 2015.09.25 Energy East - Linked**

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

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**Summary for Pond 39P: Soil Filter 5**

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth = 3.96" for 10-YR event  
 Inflow = 2.910 cfs @ 12.07 hrs, Volume= 0.216 af  
 Outflow = 1.158 cfs @ 12.27 hrs, Volume= 0.216 af, Atten= 60%, Lag= 11.9 min  
 Primary = 0.301 cfs @ 12.27 hrs, Volume= 0.153 af  
 Secondary = 0.856 cfs @ 12.27 hrs, Volume= 0.063 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 63.06' @ 12.27 hrs Surf.Area= 3,271 sf Storage= 4,676 cf

Plug-Flow detention time= 1,374.3 min calculated for 0.216 af (100% of inflow)  
 Center-of-Mass det. time= 1,374.2 min ( 2,144.1 - 769.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	6,897 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	1,498	0	0
62.00	2,202	1,850	1,850
62.50	2,561	1,191	3,041
63.00	3,239	1,450	4,491
63.70	3,636	2,406	6,897

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>6.0" Round Culvert</b> L= 21.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 58.00' S= 0.0400 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Device 1	58.84'	<b>0.6" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	63.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.00'	<b>20.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.298 cfs @ 12.27 hrs HW=63.06' (Free Discharge)

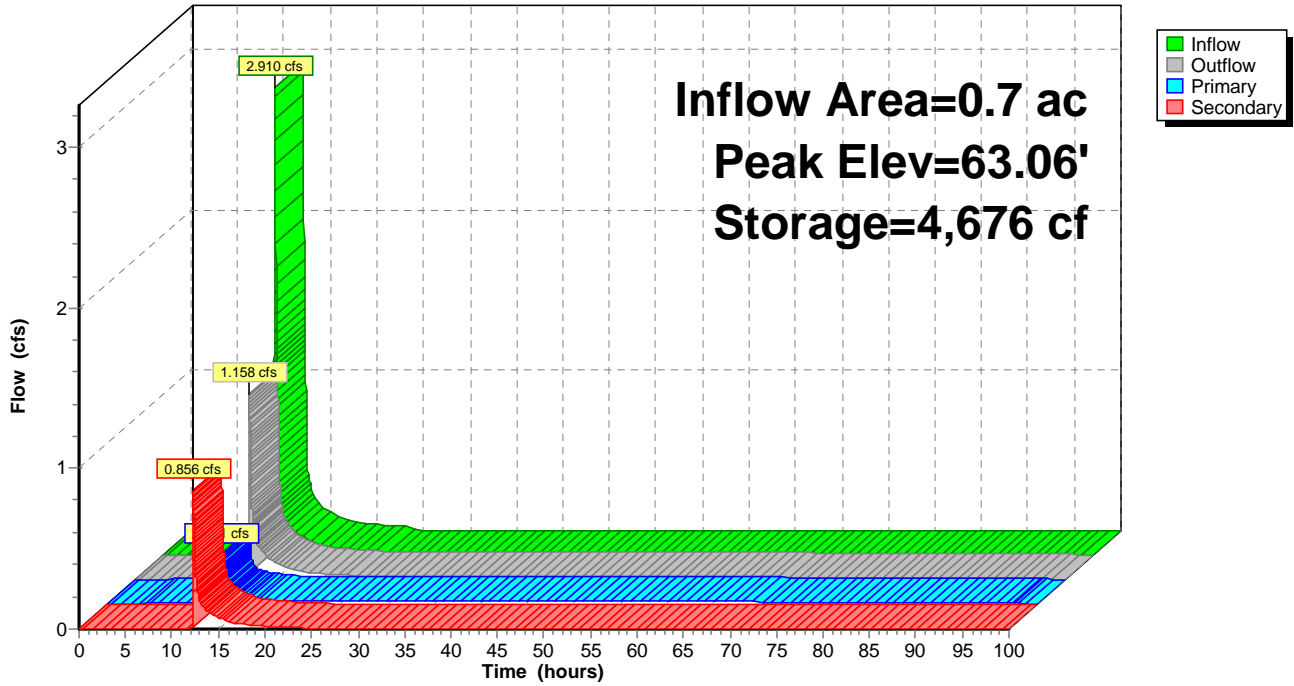
- 1=Culvert (Passes 0.298 cfs of 1.883 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.019 cfs @ 9.86 fps)
- 3=Exfiltration (Passes 0.019 cfs of 0.182 cfs potential flow)
- 4=Orifice/Grate (Weir Controls 0.279 cfs @ 0.78 fps)

**Secondary OutFlow** Max=0.846 cfs @ 12.27 hrs HW=63.06' (Free Discharge)

- 5=Broad-Crested Rectangular Weir (Weir Controls 0.846 cfs @ 0.74 fps)

### Pond 39P: Soil Filter 5

Hydrograph





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**Summary for Pond 59P: Soil Filter 2**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 2.27" for 10-YR event  
 Inflow = 0.440 cfs @ 12.08 hrs, Volume= 0.030 af  
 Outflow = 0.042 cfs @ 13.04 hrs, Volume= 0.030 af, Atten= 91%, Lag= 57.6 min  
 Primary = 0.042 cfs @ 13.04 hrs, Volume= 0.030 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 42.70' @ 13.04 hrs Surf.Area= 543 sf Storage= 605 cf

Plug-Flow detention time= 234.8 min calculated for 0.030 af (100% of inflow)  
 Center-of-Mass det. time= 234.8 min ( 1,065.7 - 830.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,121 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	188	0	0
42.00	377	283	283
42.50	491	217	500
43.00	618	277	777
43.50	760	345	1,121

Device	Routing	Invert	Outlet Devices
#1	Primary	38.84'	<b>4.0" Round Culvert</b> L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 38.84' / 38.00' S= 0.0263 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	38.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	41.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	42.70'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	43.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.035 cfs @ 13.04 hrs HW=42.70' (Free Discharge)

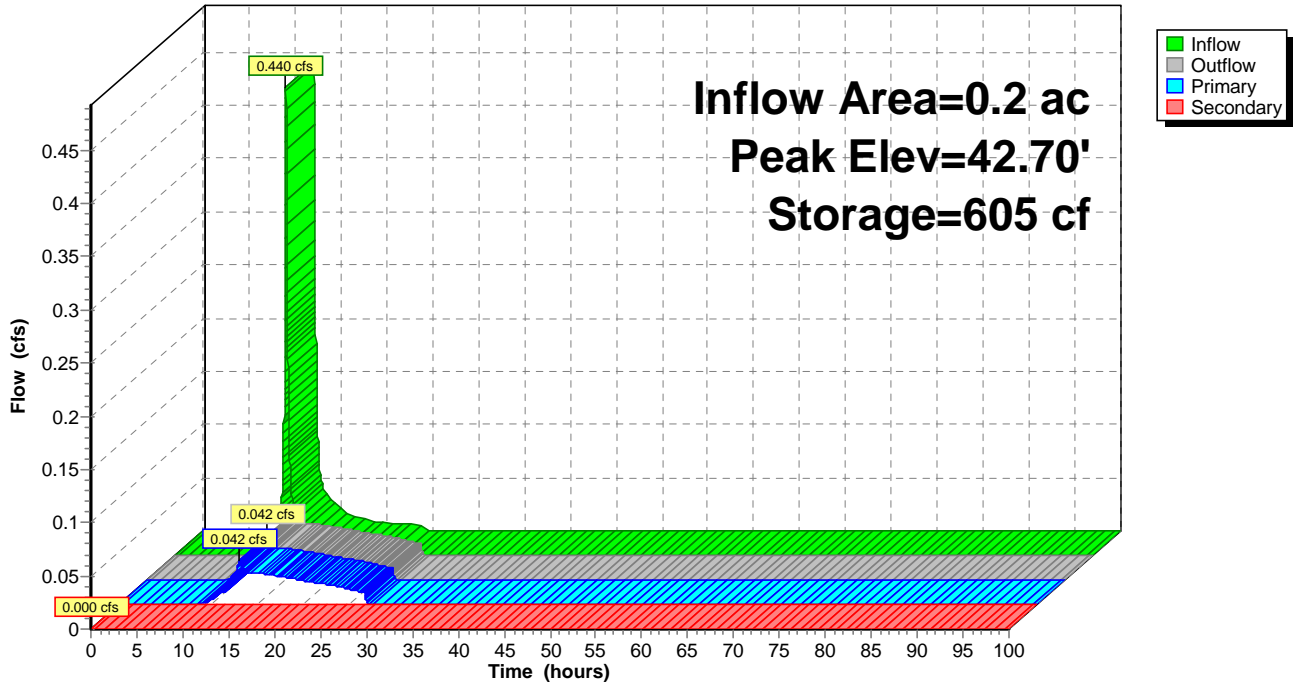
- ↑ 1=Culvert (Passes 0.035 cfs of 0.638 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.030 cfs of 0.051 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.030 cfs)
- ↑ 4=Orifice/Grate (Weir Controls 0.004 cfs @ 0.19 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=41.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 59P: Soil Filter 2

Hydrograph



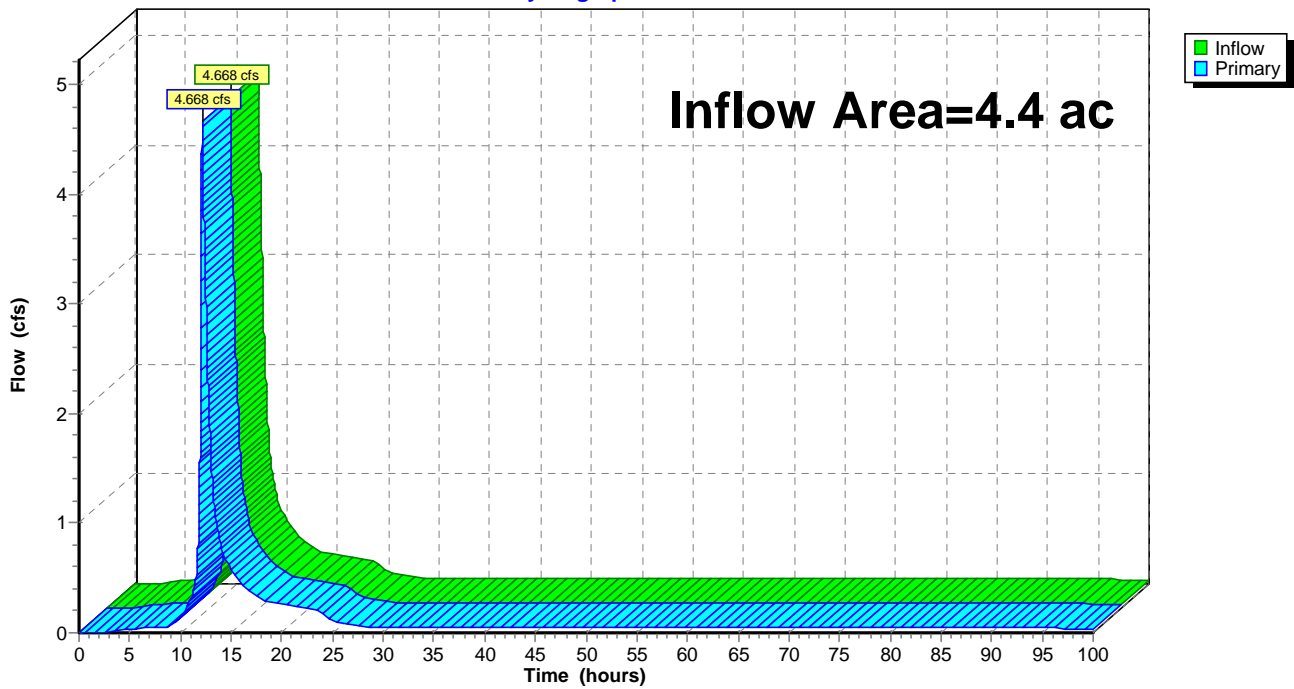
### Summary for Link 40L: Study Point 1

Inflow Area = 4.4 ac, 28.58% Impervious, Inflow Depth > 2.80" for 10-YR event  
Inflow = 4.668 cfs @ 12.18 hrs, Volume= 1.030 af  
Primary = 4.668 cfs @ 12.18 hrs, Volume= 1.030 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

### Link 40L: Study Point 1

Hydrograph



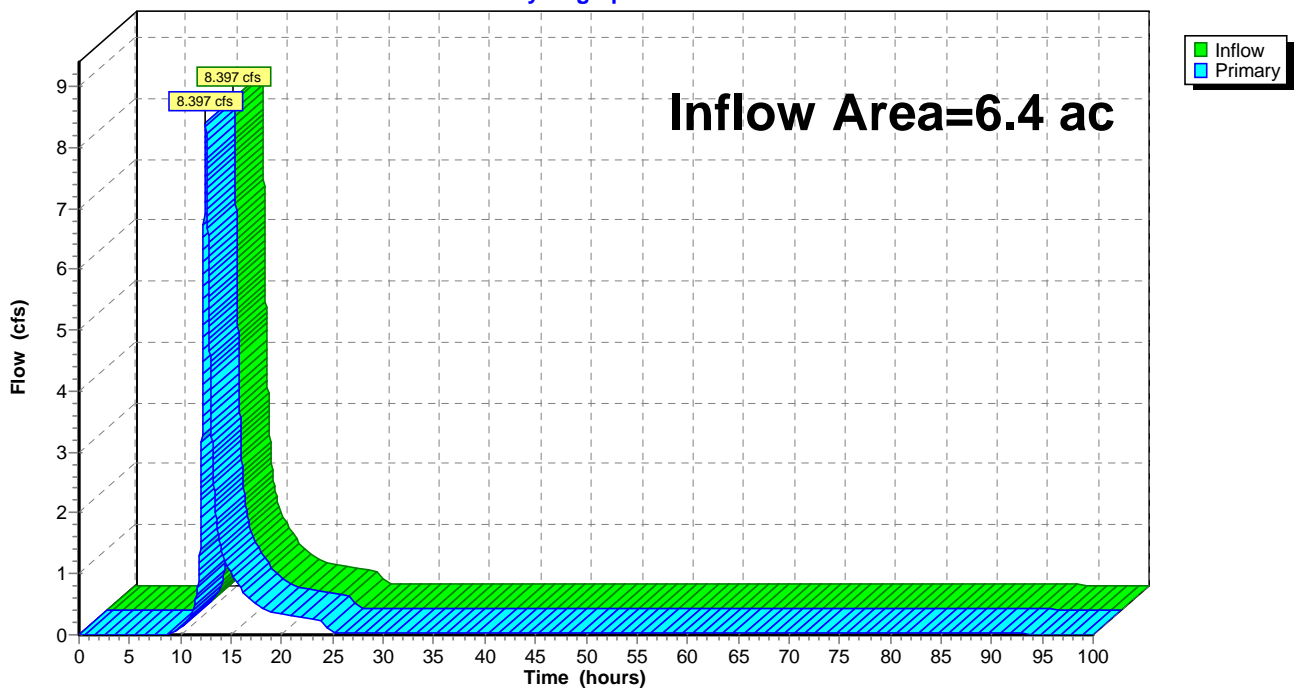
### Summary for Link 41L: Study Point 2

Inflow Area = 6.4 ac, 8.08% Impervious, Inflow Depth > 2.39" for 10-YR event  
Inflow = 8.397 cfs @ 12.50 hrs, Volume= 1.274 af  
Primary = 8.397 cfs @ 12.50 hrs, Volume= 1.274 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

### Link 41L: Study Point 2

Hydrograph



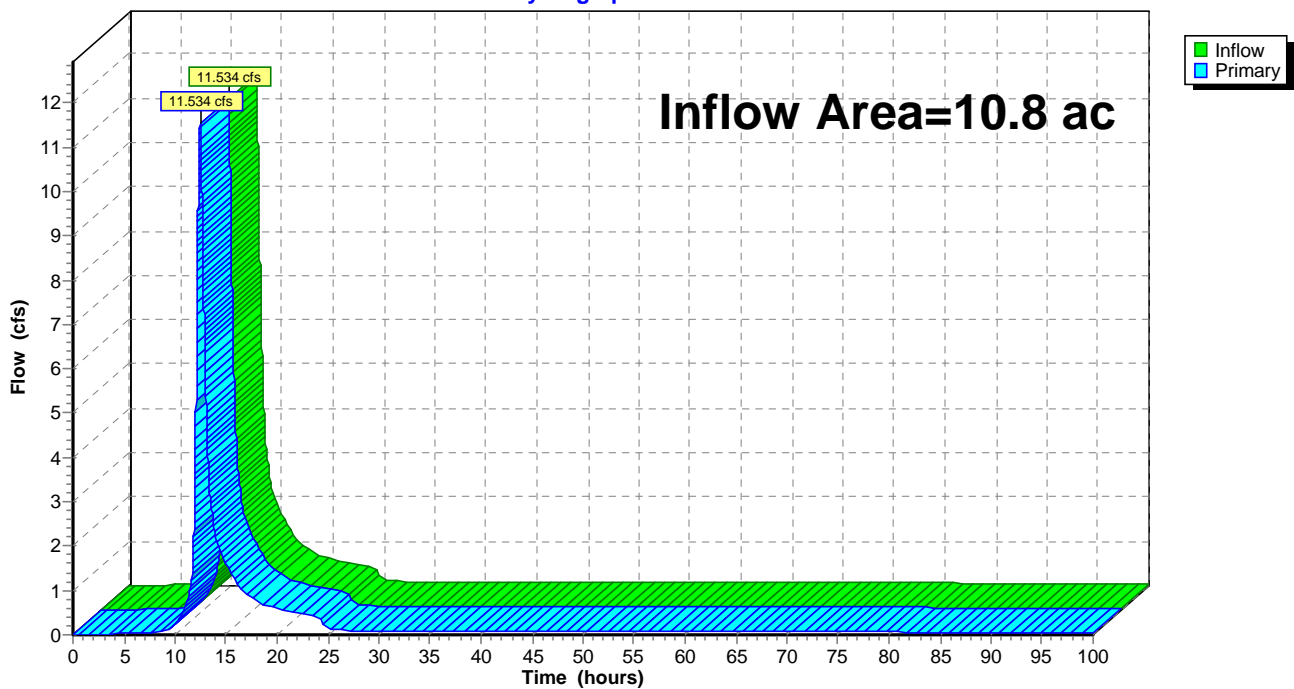
### Summary for Link 56L: Energy East Subtotal

Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth > 2.56" for 10-YR event  
Inflow = 11.534 cfs @ 12.46 hrs, Volume= 2.304 af  
Primary = 11.534 cfs @ 12.46 hrs, Volume= 2.304 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

### Link 56L: Energy East Subtotal

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Type III 24-hr 25-YR Rainfall=5.80"

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Time span=0.00-100.00 hrs, dt=0.01 hrs, 10001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 0S: Subcatchment 0</b>	Runoff Area=4,350 sf 80.48% Impervious Runoff Depth=4.99" Tc=5.0 min CN=93 Runoff=0.563 cfs 0.041 af
<b>Subcatchment 1S: Subcatchment 1</b>	Runoff Area=14,847 sf 34.47% Impervious Runoff Depth=3.80" Tc=5.0 min CN=82 Runoff=1.564 cfs 0.108 af
<b>Subcatchment 2S: Subcatchment 2</b>	Runoff Area=37,951 sf 0.00% Impervious Runoff Depth=3.60" Flow Length=413' Tc=38.8 min CN=80 Runoff=1.840 cfs 0.261 af
<b>Subcatchment 3S: Subcatchment 3</b>	Runoff Area=10,834 sf 92.83% Impervious Runoff Depth=5.33" Tc=5.0 min CN=96 Runoff=1.446 cfs 0.110 af
<b>Subcatchment 4Sa: Subcatchment 4a</b>	Runoff Area=67,023 sf 0.00% Impervious Runoff Depth=3.21" Flow Length=484' Tc=12.3 min CN=76 Runoff=4.713 cfs 0.411 af
<b>Subcatchment 4Sb: Subcatchment 4b</b>	Runoff Area=9,222 sf 0.00% Impervious Runoff Depth=3.21" Tc=5.0 min CN=76 Runoff=0.826 cfs 0.057 af
<b>Subcatchment 4Sc: Subcatchment 4c</b>	Runoff Area=6,829 sf 0.00% Impervious Runoff Depth=3.21" Tc=5.0 min CN=76 Runoff=0.612 cfs 0.042 af
<b>Subcatchment 5S: Subcatchment 5</b>	Runoff Area=21,000 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=2.838 cfs 0.223 af
<b>Subcatchment 6S: Subcatchment 6</b>	Runoff Area=6,933 sf 83.40% Impervious Runoff Depth=5.10" Tc=5.0 min CN=94 Runoff=0.908 cfs 0.068 af
<b>Subcatchment 7S: Subcatchment 7</b>	Runoff Area=11,929 sf 95.81% Impervious Runoff Depth=5.44" Tc=5.0 min CN=97 Runoff=1.603 cfs 0.124 af
<b>Subcatchment 8S: Subcatchment 8</b>	Runoff Area=10,141 sf 93.52% Impervious Runoff Depth=5.33" Tc=5.0 min CN=96 Runoff=1.353 cfs 0.103 af
<b>Subcatchment 9S: Subcatchment 9</b>	Runoff Area=15,078 sf 73.53% Impervious Runoff Depth=4.87" Tc=5.0 min CN=92 Runoff=1.925 cfs 0.141 af
<b>Subcatchment 11S: Subcatchment 11</b>	Runoff Area=250,135 sf 0.00% Impervious Runoff Depth=3.21" Flow Length=1,133' Tc=34.6 min CN=76 Runoff=11.440 cfs 1.535 af
<b>Subcatchment 57S: Rain on Pond 35P</b>	Runoff Area=268 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.036 cfs 0.003 af
<b>Subcatchment 58S: Rain on Pond 36P</b>	Runoff Area=188 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.025 cfs 0.002 af
<b>Subcatchment 59S: Rain on Pond 37P</b>	Runoff Area=688 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.093 cfs 0.007 af

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<b>Subcatchment 61S: Rain on Pond 39P</b>	Runoff Area=1,498 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.202 cfs 0.016 af
<b>Subcatchment 63S: Rain on Pond 38P</b>	Runoff Area=1,998 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.270 cfs 0.021 af
<b>Reach 58R: SF1&amp;2 to SP1</b>	Avg. Flow Depth=0.07' Max Vel=0.49 fps Inflow=0.667 cfs 0.103 af n=0.100 L=253.0' S=0.0395 '/' Capacity=86.478 cfs Outflow=0.504 cfs 0.103 af
<b>Reach 63R: Channel to SP1</b>	Avg. Flow Depth=0.11' Max Vel=0.83 fps Inflow=2.708 cfs 0.501 af n=0.100 L=550.0' S=0.0600 '/' Capacity=1,688.432 cfs Outflow=2.239 cfs 0.501 af
<b>Reach 64R: Culvert Under Main</b>	Avg. Flow Depth=0.69' Max Vel=2.65 fps Inflow=1.840 cfs 0.261 af 15.0" Round Pipe n=0.012 L=100.0' S=0.0020 '/' Capacity=3.130 cfs Outflow=1.839 cfs 0.261 af
<b>Reach 65R: SF4 to SP1</b>	Avg. Flow Depth=0.06' Max Vel=0.56 fps Inflow=0.167 cfs 0.369 af n=0.100 L=350.0' S=0.0629 '/' Capacity=231.446 cfs Outflow=0.161 cfs 0.368 af
<b>Reach 66R: SF5 to SP2</b>	Avg. Flow Depth=0.19' Max Vel=0.94 fps Inflow=3.307 cfs 0.281 af n=0.100 L=850.0' S=0.0382 '/' Capacity=259.355 cfs Outflow=1.454 cfs 0.281 af
<b>Pond 35P: Soil Filter 1</b>	Peak Elev=41.86' Storage=900 cf Inflow=0.862 cfs 0.059 af Primary=0.374 cfs 0.059 af Secondary=0.000 cfs 0.000 af Outflow=0.374 cfs 0.059 af
<b>Pond 37P: Soil Filter 3</b>	Peak Elev=67.01' Storage=3,421 cf Inflow=1.539 cfs 0.118 af Primary=0.053 cfs 0.074 af Secondary=0.067 cfs 0.016 af Outflow=0.119 cfs 0.090 af
<b>Pond 38P: Soil Filter 4</b>	Peak Elev=64.01' Storage=13,760 cf Inflow=5.369 cfs 0.416 af Primary=0.095 cfs 0.351 af Secondary=0.071 cfs 0.018 af Outflow=0.167 cfs 0.369 af
<b>Pond 39P: Soil Filter 5</b>	Peak Elev=63.12' Storage=4,870 cf Inflow=3.731 cfs 0.281 af Primary=0.834 cfs 0.170 af Secondary=2.473 cfs 0.111 af Outflow=3.307 cfs 0.281 af
<b>Pond 59P: Soil Filter 2</b>	Peak Elev=42.76' Storage=633 cf Inflow=0.637 cfs 0.044 af Primary=0.306 cfs 0.044 af Secondary=0.000 cfs 0.000 af Outflow=0.306 cfs 0.044 af
<b>Link 40L: Study Point 1</b>	Inflow=6.794 cfs 1.384 af Primary=6.794 cfs 1.384 af
<b>Link 41L: Study Point 2</b>	Inflow=12.651 cfs 1.816 af Primary=12.651 cfs 1.816 af
<b>Link 56L: Energy East Subtotal</b>	Inflow=17.742 cfs 3.200 af Primary=17.742 cfs 3.200 af

**Total Runoff Area = 10.8 ac Runoff Volume = 3.275 af Average Runoff Depth = 3.64"**  
**83.55% Pervious = 9.0 ac 16.45% Impervious = 1.8 ac**

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**Summary for Subcatchment 0S: Subcatchment 0**

Runoff = 0.563 cfs @ 12.07 hrs, Volume= 0.041 af, Depth= 4.99"

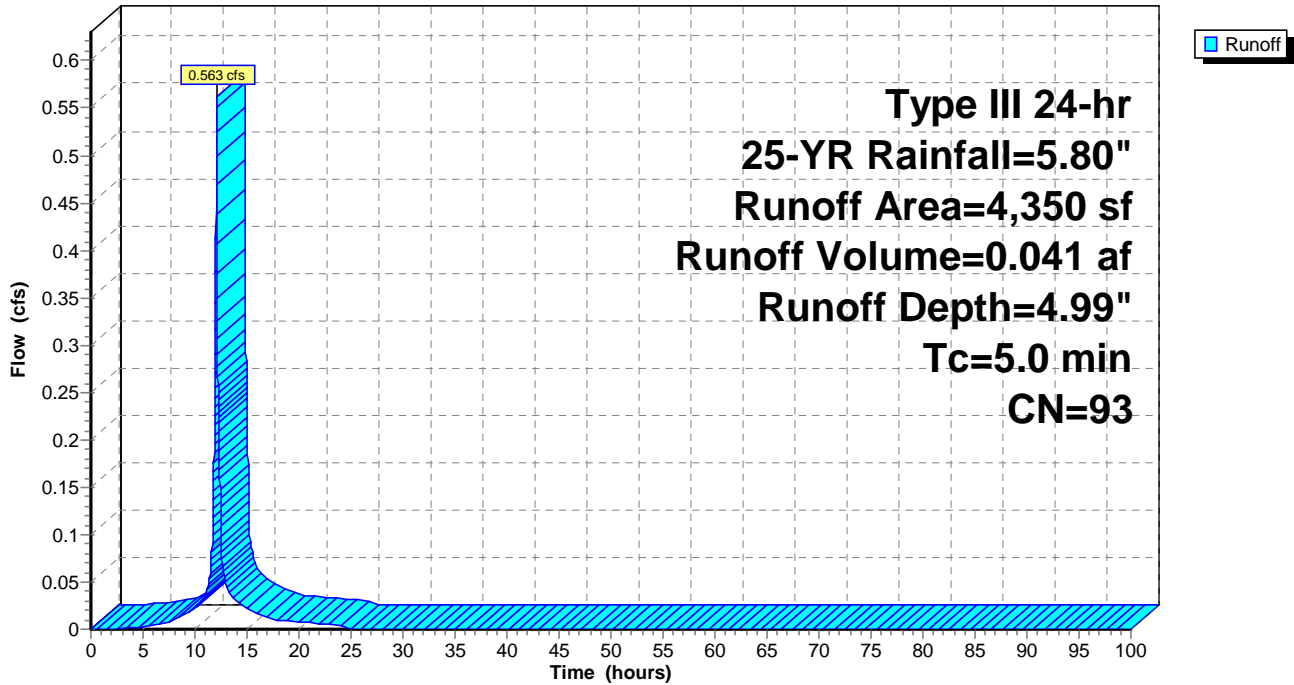
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
849	74	>75% Grass cover, Good, HSG C
3,501	98	Paved parking & roofs
4,350	93	Weighted Average
849		19.52% Pervious Area
3,501		80.48% Impervious Area

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

**Subcatchment 0S: Subcatchment 0**

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**Summary for Subcatchment 1S: Subcatchment 1**

Runoff = 1.564 cfs @ 12.07 hrs, Volume= 0.108 af, Depth= 3.80"

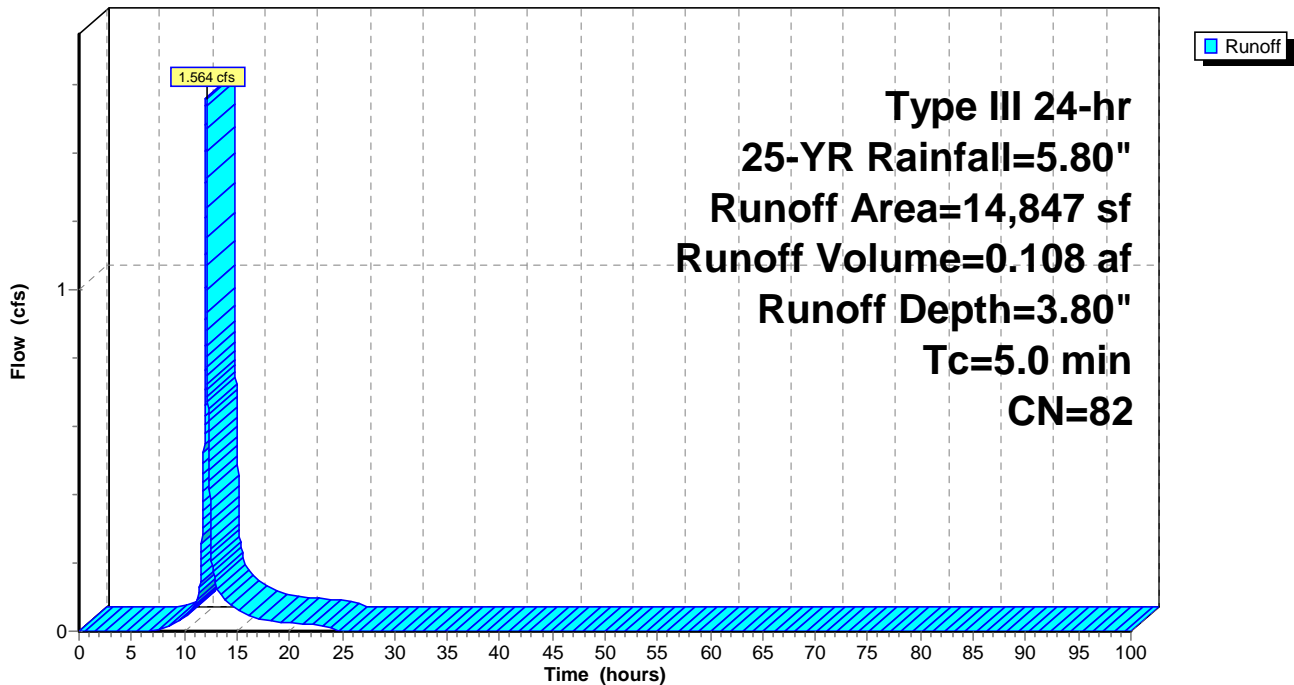
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
9,729	74	>75% Grass cover, Good, HSG C
5,118	98	Paved parking & roofs
14,847	82	Weighted Average
9,729		65.53% Pervious Area
5,118		34.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 1

**Subcatchment 1S: Subcatchment 1**

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 Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 2S: Subcatchment 2**

Runoff = 1.840 cfs @ 12.54 hrs, Volume= 0.261 af, Depth= 3.60"

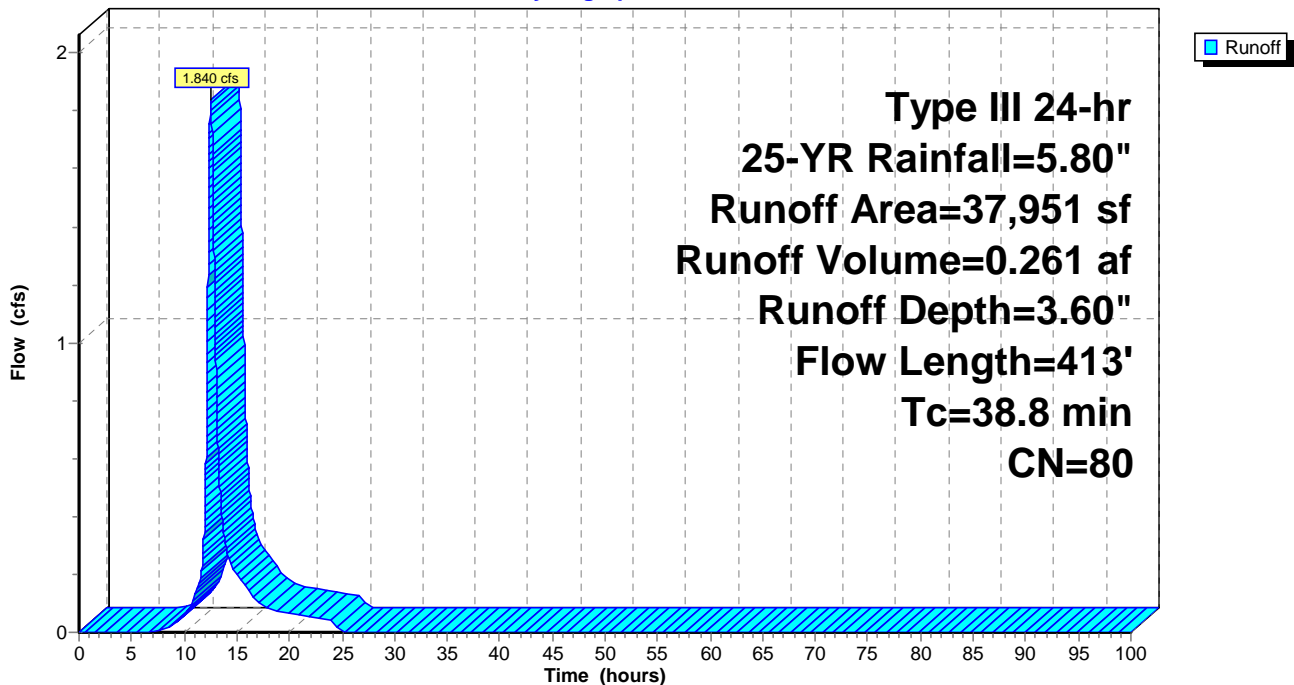
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
27,420	82	Woods/grass comb., Fair, HSG D
10,531	76	Woods/grass comb., Fair, HSG C
37,951	80	Weighted Average
37,951		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.1	100	0.0086	0.05		<b>Sheet Flow, Subcatchment 2 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
4.7	132	0.0086	0.46		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
3.0	147	0.0272	0.82		<b>Shallow Concentrated Flow, Subcatchment 2 SCF</b> Woodland Kv= 5.0 fps
0.0	34	0.1176	24.05	685.44	<b>Trap/Vee/Rect Channel Flow, Subcatchment 2 CF</b> Bot.W=3.50' D=3.00' Z= 2.0 '/' Top.W=15.50' n= 0.030 Earth, grassed & winding
38.8	413	Total			

**Subcatchment 2S: Subcatchment 2**

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**Summary for Subcatchment 3S: Subcatchment 3**

Runoff = 1.446 cfs @ 12.07 hrs, Volume= 0.110 af, Depth= 5.33"

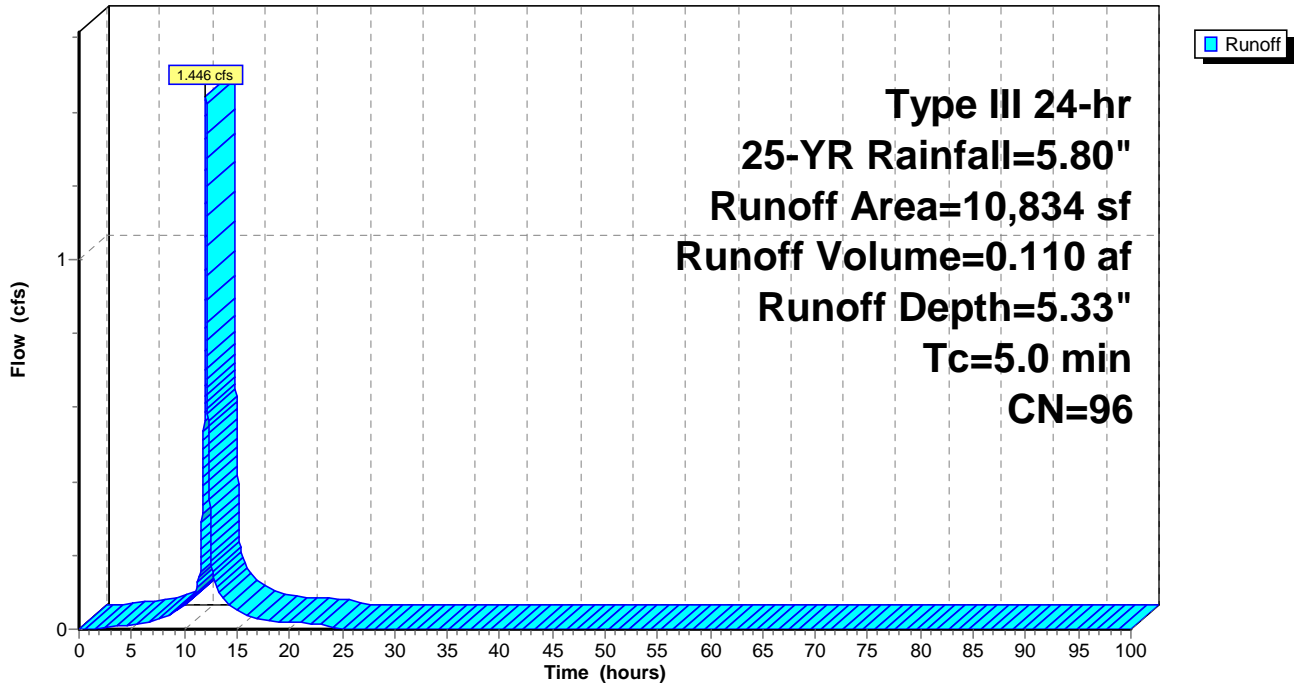
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
777	74	>75% Grass cover, Good, HSG C
10,057	98	Paved parking & roofs
10,834	96	Weighted Average
777		7.17% Pervious Area
10,057		92.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 3

**Subcatchment 3S: Subcatchment 3**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 4Sa: Subcatchment 4a**

Runoff = 4.713 cfs @ 12.17 hrs, Volume= 0.411 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

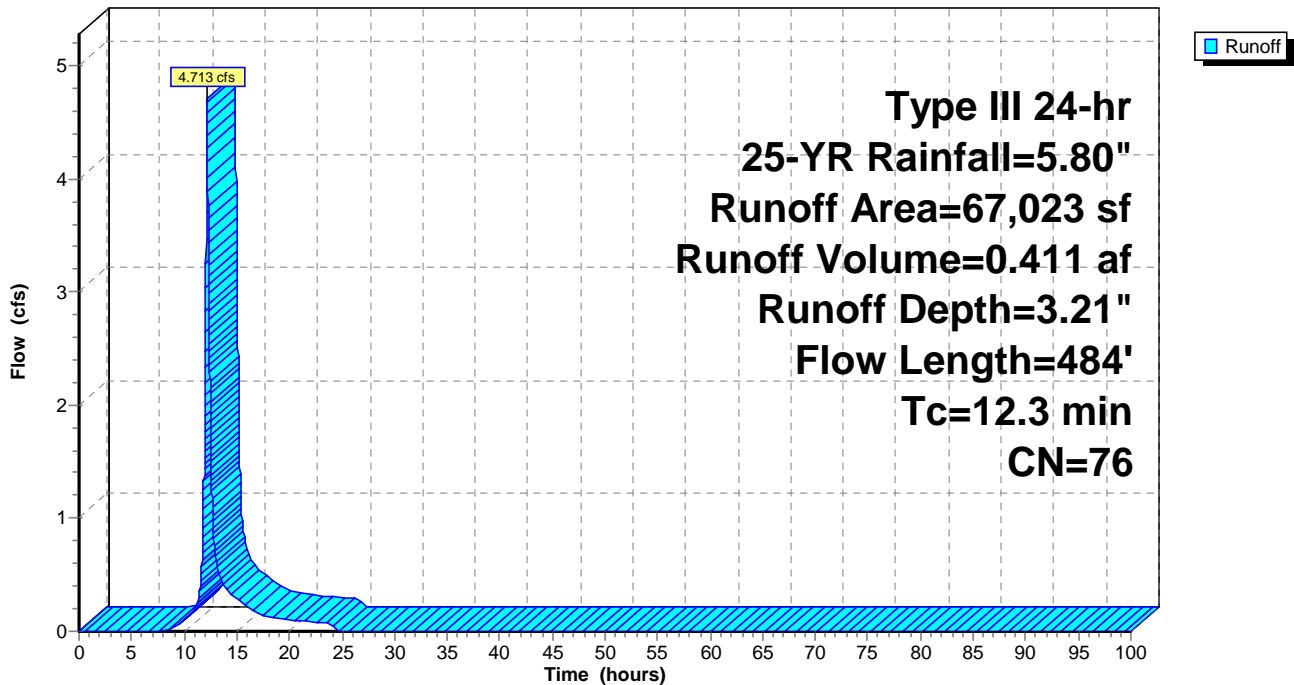
Area (sf)	CN	Description
67,023	76	Woods/grass comb., Fair, HSG C
67,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1500	0.17		<b>Sheet Flow, Subcatchment 4 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	87	0.1100	1.66		<b>Shallow Concentrated Flow, Subcatchment 4 SCF</b> Woodland Kv= 5.0 fps
1.5	297	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 4 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
12.3	484	Total			

**Subcatchment 4Sa: Subcatchment 4a**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 4Sb: Subcatchment 4b**

Runoff = 0.826 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 3.21"

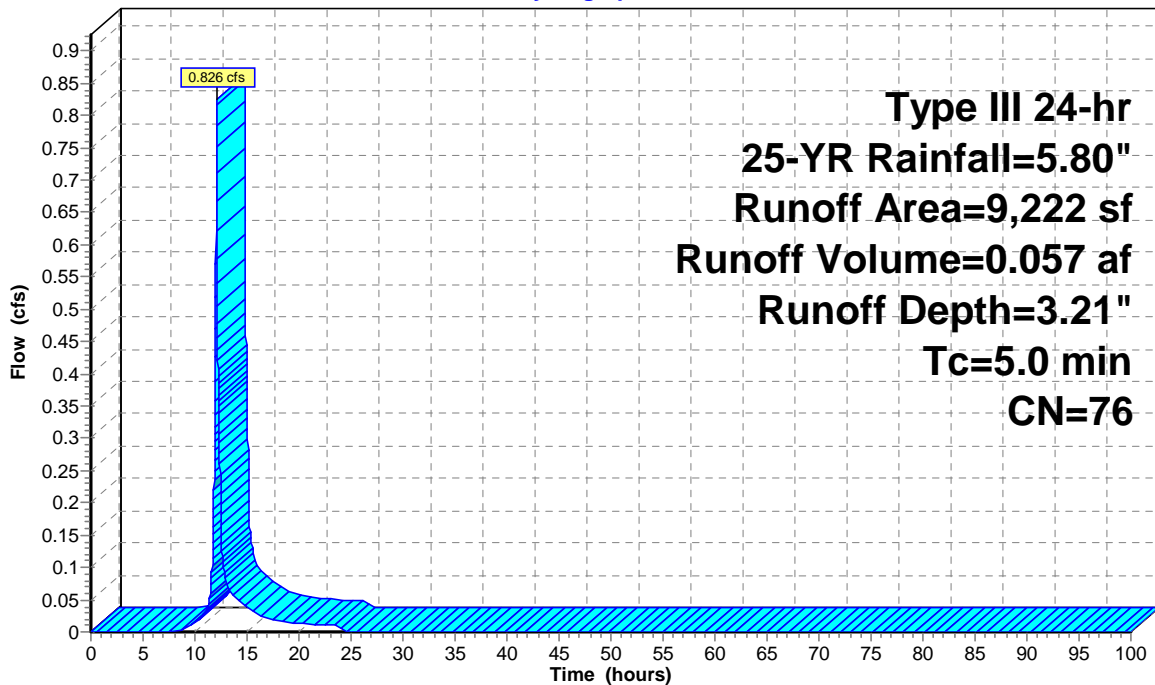
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
9,222	76	Woods/grass comb., Fair, HSG C
9,222		100.00% Pervious Area

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

**Subcatchment 4Sb: Subcatchment 4b**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 4Sc: Subcatchment 4c**

Runoff = 0.612 cfs @ 12.07 hrs, Volume= 0.042 af, Depth= 3.21"

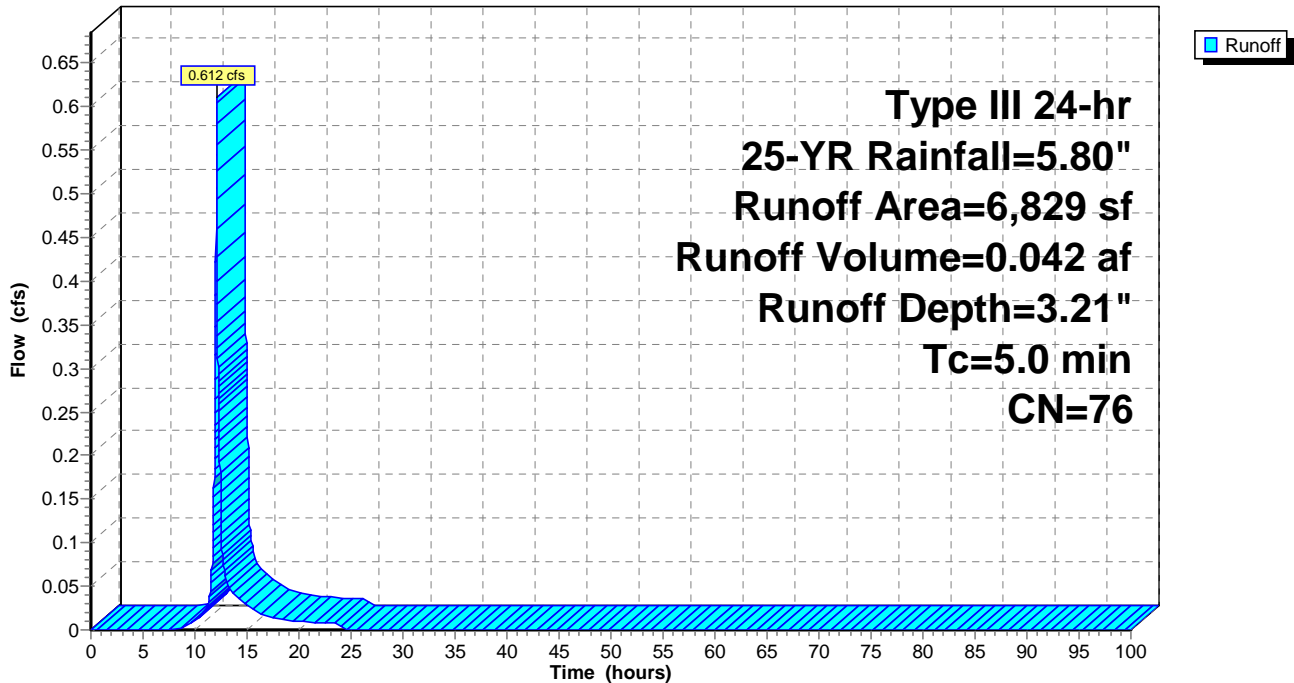
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
6,829	76	Woods/grass comb., Fair, HSG C
6,829		100.00% Pervious Area

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

**Subcatchment 4Sc: Subcatchment 4c**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 5S: Subcatchment 5**

Runoff = 2.838 cfs @ 12.07 hrs, Volume= 0.223 af, Depth= 5.56"

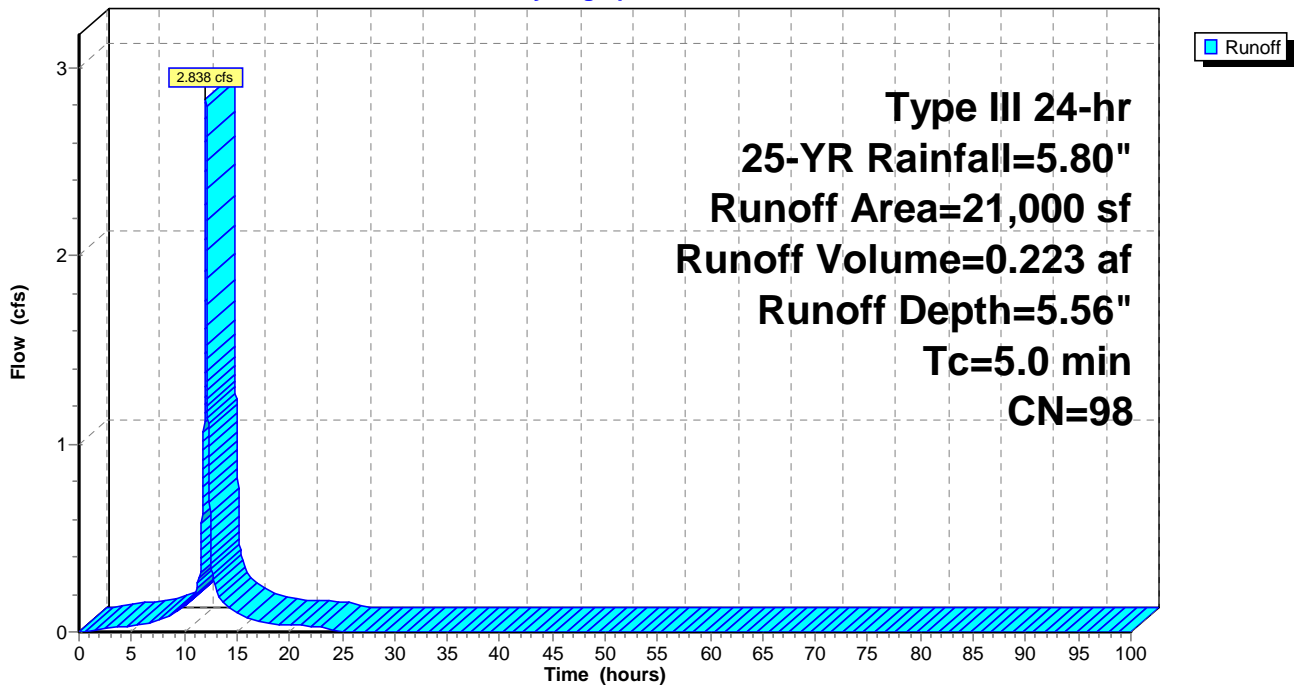
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
21,000	98	Paved parking & roofs
21,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 5

**Subcatchment 5S: Subcatchment 5**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 6S: Subcatchment 6**

Runoff = 0.908 cfs @ 12.07 hrs, Volume= 0.068 af, Depth= 5.10"

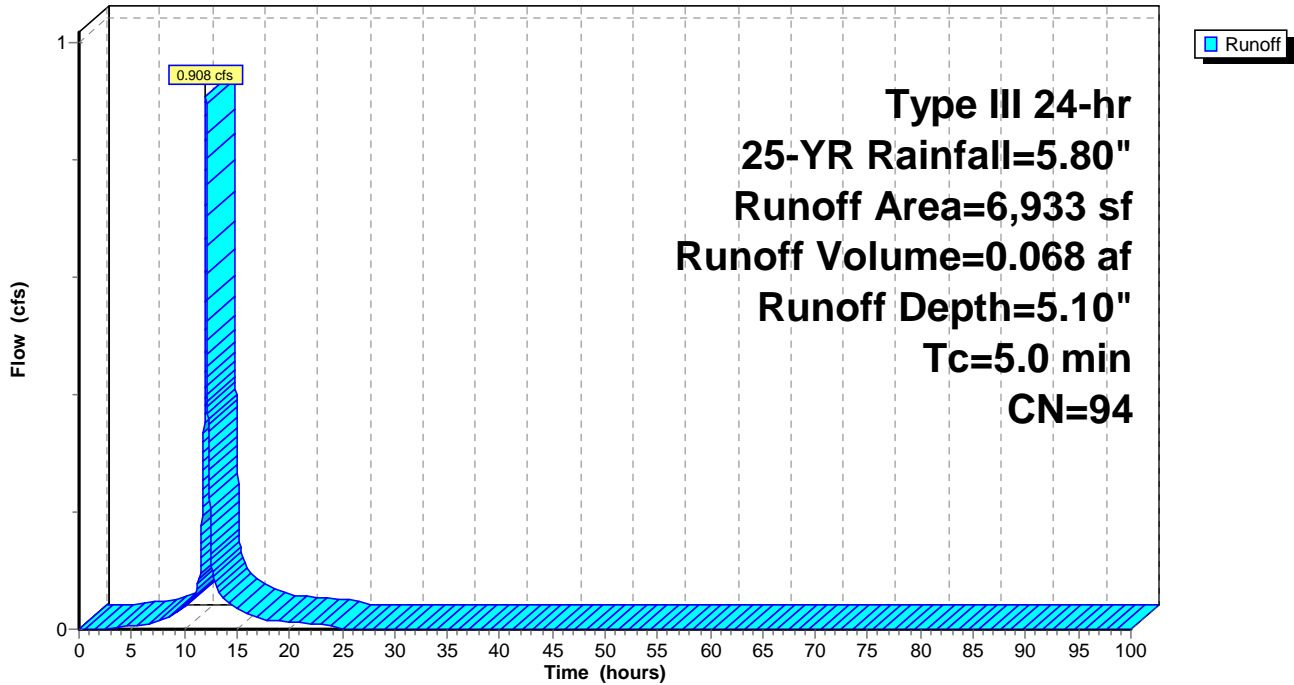
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,151	74	>75% Grass cover, Good, HSG C
5,782	98	Paved parking & roofs
6,933	94	Weighted Average
1,151		16.60% Pervious Area
5,782		83.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 6

**Subcatchment 6S: Subcatchment 6**

Hydrograph





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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 7S: Subcatchment 7**

Runoff = 1.603 cfs @ 12.07 hrs, Volume= 0.124 af, Depth= 5.44"

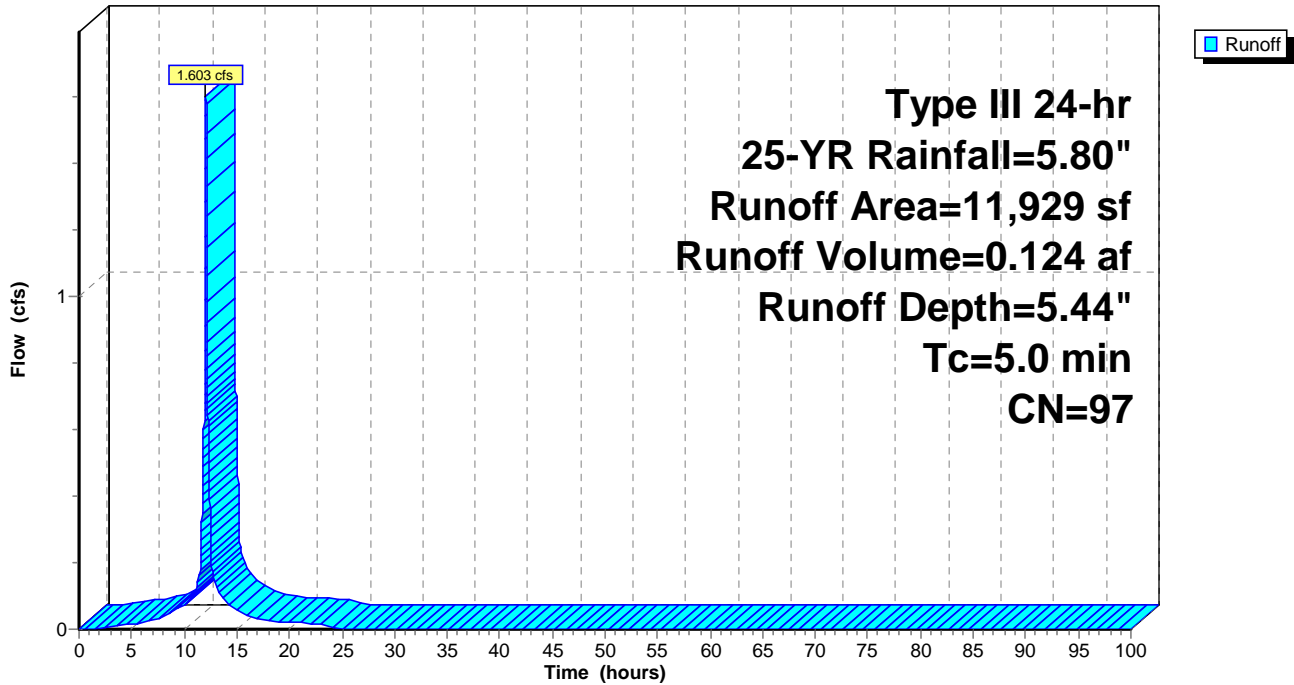
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
500	74	>75% Grass cover, Good, HSG C
11,429	98	Paved parking & roofs
11,929	97	Weighted Average
500		4.19% Pervious Area
11,429		95.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 7

**Subcatchment 7S: Subcatchment 7**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 8S: Subcatchment 8**

Runoff = 1.353 cfs @ 12.07 hrs, Volume= 0.103 af, Depth= 5.33"

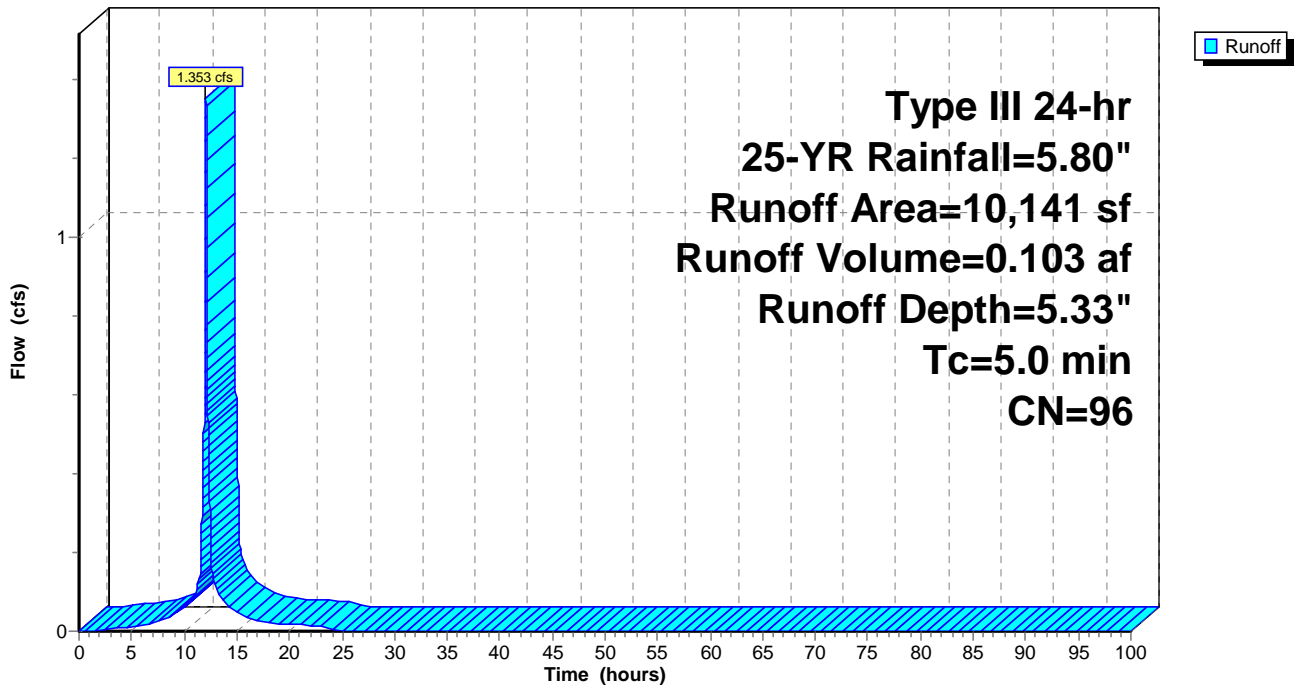
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
657	74	>75% Grass cover, Good, HSG C
9,484	98	Paved parking & roofs
10,141	96	Weighted Average
657		6.48% Pervious Area
9,484		93.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 8

**Subcatchment 8S: Subcatchment 8**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 9S: Subcatchment 9**

Runoff = 1.925 cfs @ 12.07 hrs, Volume= 0.141 af, Depth= 4.87"

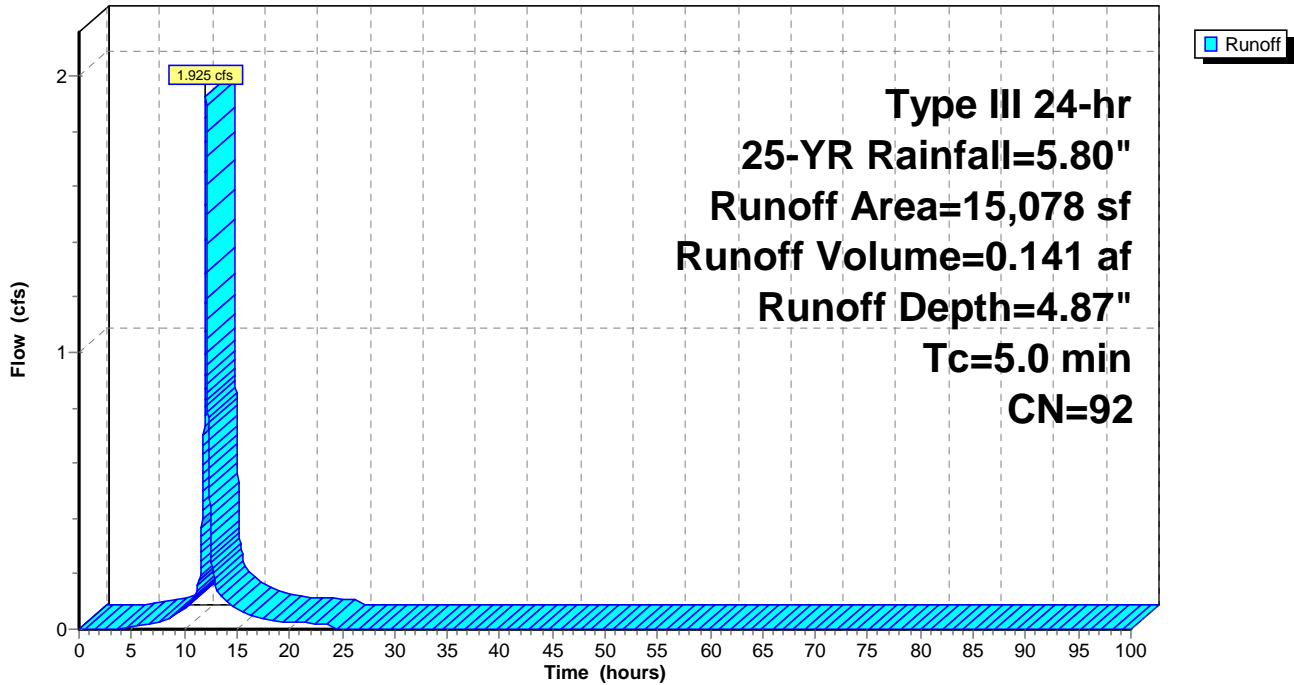
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
3,991	74	>75% Grass cover, Good, HSG C
11,087	98	Paved parking & roofs
15,078	92	Weighted Average
3,991		26.47% Pervious Area
11,087		73.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 9

**Subcatchment 9S: Subcatchment 9**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 11S: Subcatchment 11**

Runoff = 11.440 cfs @ 12.49 hrs, Volume= 1.535 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 25-YR Rainfall=5.80"

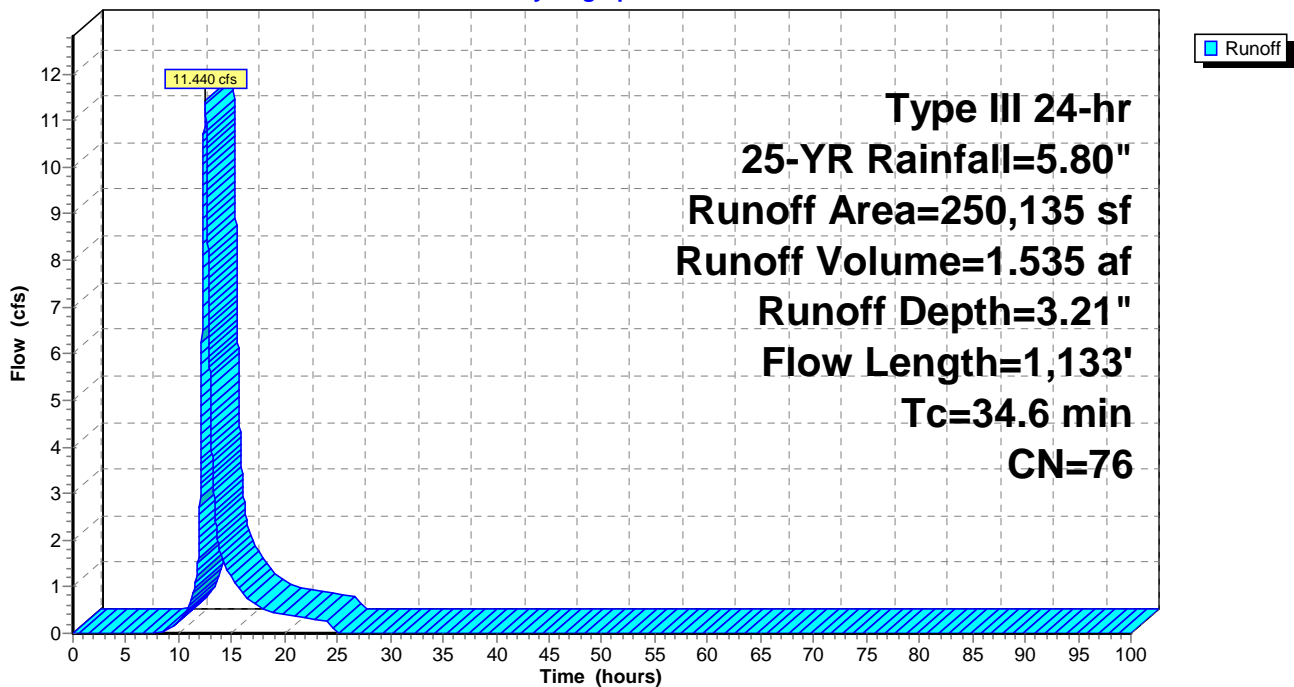
Area (sf)	CN	Description
250,135	76	Woods/grass comb., Fair, HSG C
250,135		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 11 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.5	203	0.0150	0.61		<b>Shallow Concentrated Flow, Subcatchment 11 SCF</b> Woodland Kv= 5.0 fps
4.2	830	0.0400	3.31	8.60	<b>Channel Flow, Subcatchment 11 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
34.6	1,133	Total			

**Subcatchment 11S: Subcatchment 11**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 57S: Rain on Pond 35P**

Runoff = 0.036 cfs @ 12.07 hrs, Volume= 0.003 af, Depth= 5.56"

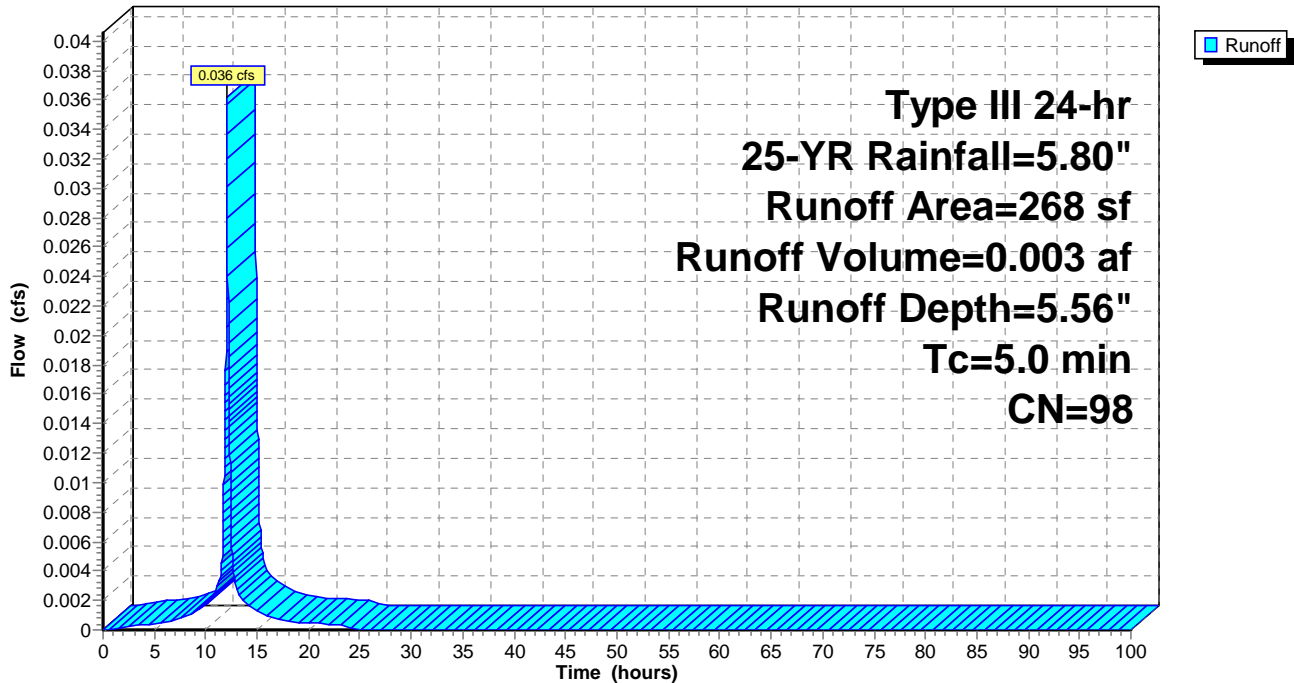
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
268	98	Water Surface, 0% imp
268		100.00% Pervious Area

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

**Subcatchment 57S: Rain on Pond 35P**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 58S: Rain on Pond 36P**

Runoff = 0.025 cfs @ 12.07 hrs, Volume= 0.002 af, Depth= 5.56"

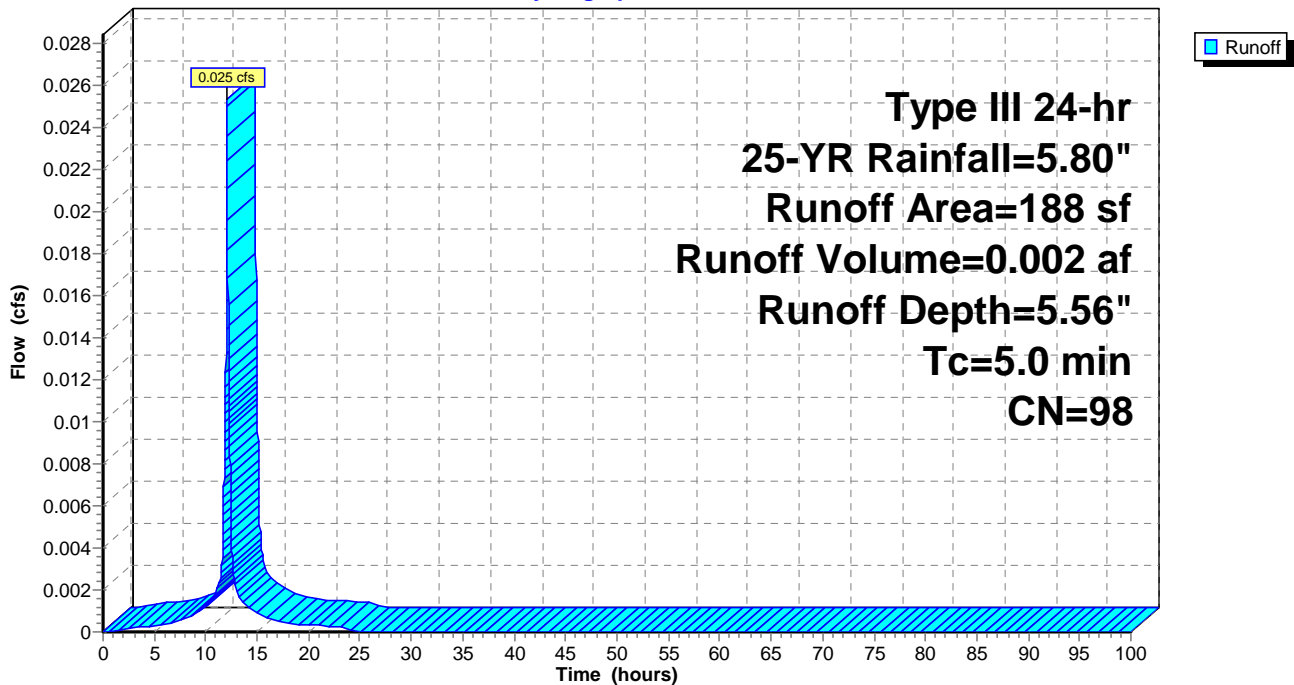
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
188	98	Water Surface, 0% imp
188		100.00% Pervious Area

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

**Subcatchment 58S: Rain on Pond 36P**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 59S: Rain on Pond 37P**

Runoff = 0.093 cfs @ 12.07 hrs, Volume= 0.007 af, Depth= 5.56"

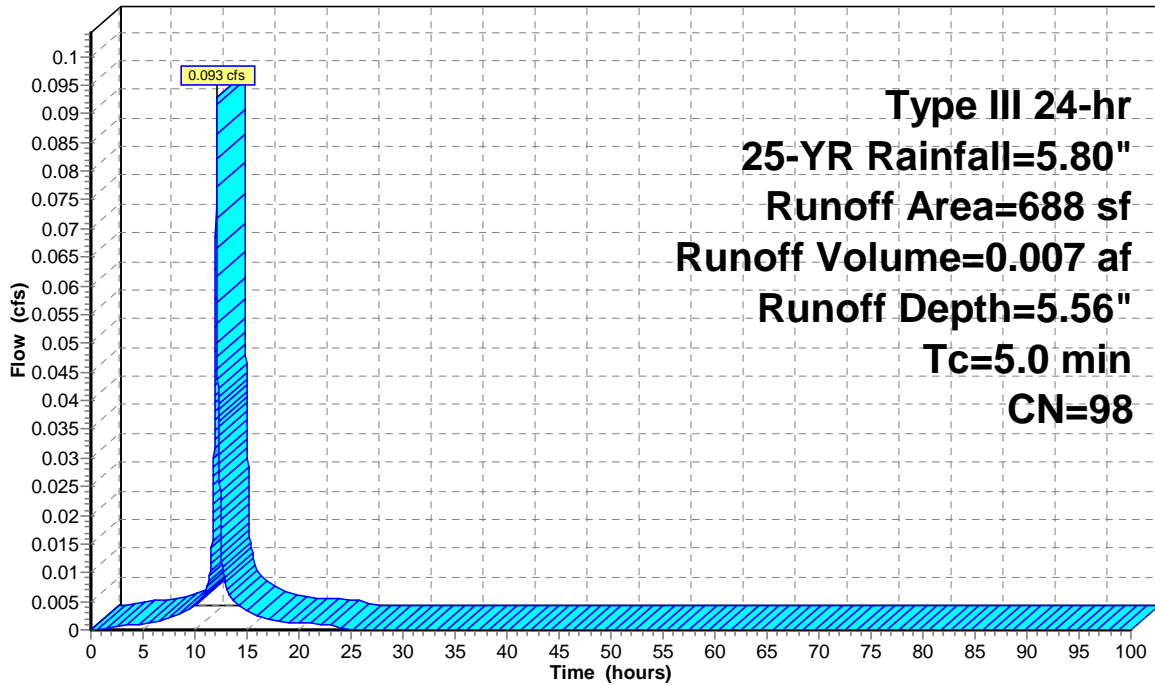
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
688	98	Water Surface, 0% imp
688		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 59S: Rain on Pond 37P**

Hydrograph



Runoff

**Type III 24-hr  
25-YR Rainfall=5.80"  
Runoff Area=688 sf  
Runoff Volume=0.007 af  
Runoff Depth=5.56"  
Tc=5.0 min  
CN=98**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 61S: Rain on Pond 39P**

Runoff = 0.202 cfs @ 12.07 hrs, Volume= 0.016 af, Depth= 5.56"

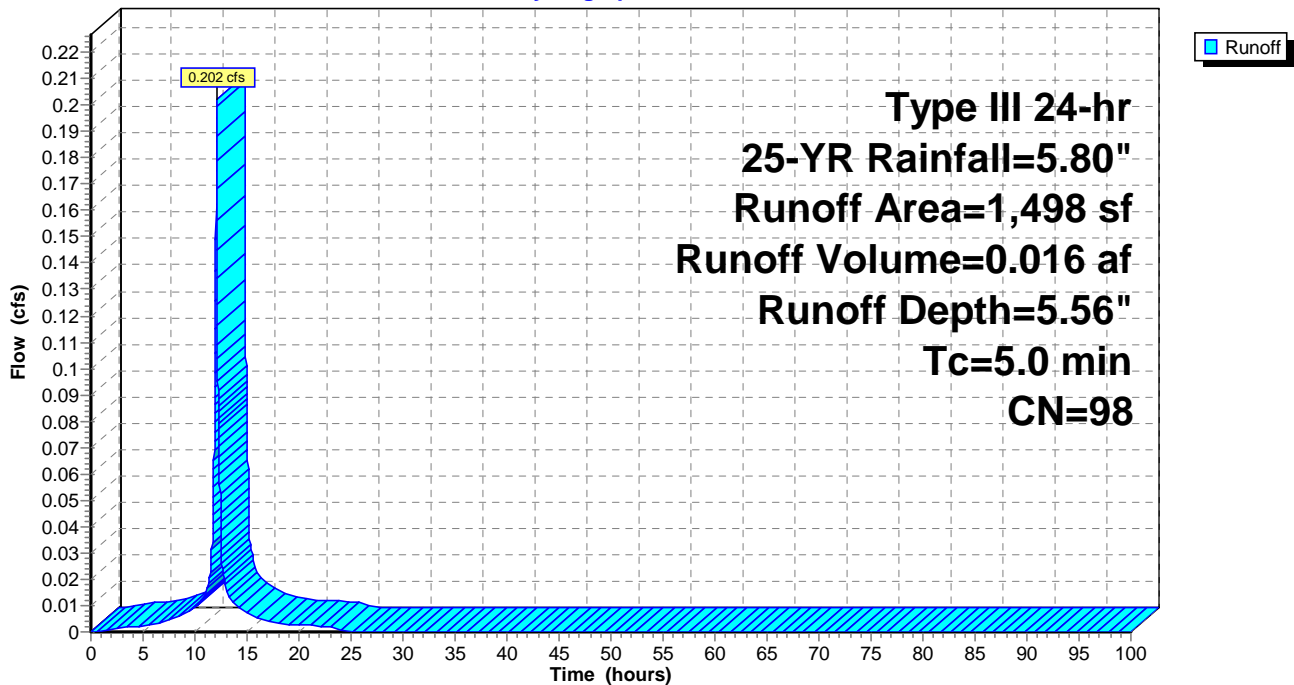
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,498	98	Water Surface, 0% imp
1,498		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 61S: Rain on Pond 39P**

Hydrograph





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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 63S: Rain on Pond 38P**

Runoff = 0.270 cfs @ 12.07 hrs, Volume= 0.021 af, Depth= 5.56"

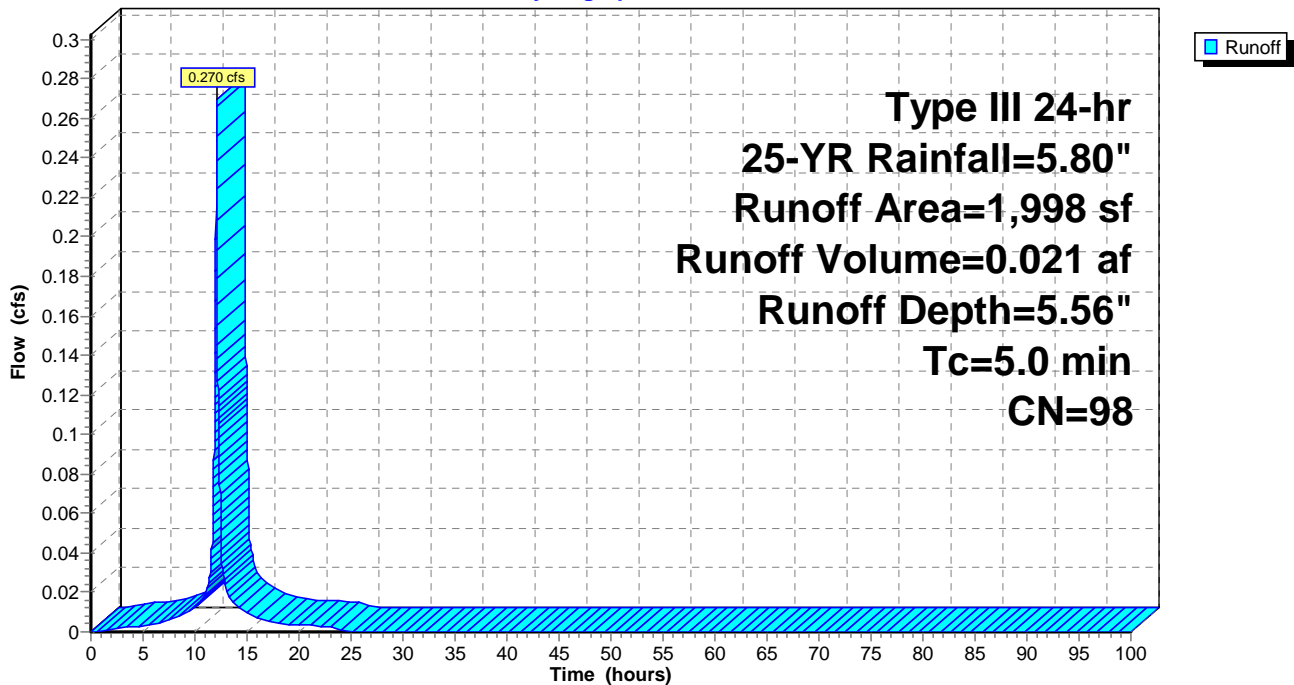
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,998	98	Water Surface, 0% imp
1,998		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 38P**

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Reach 58R: SF1&2 to SP1**

Inflow Area = 0.4 ac, 0.00% Impervious, Inflow Depth = 3.27" for 25-YR event  
Inflow = 0.667 cfs @ 12.26 hrs, Volume= 0.103 af  
Outflow = 0.504 cfs @ 12.40 hrs, Volume= 0.103 af, Atten= 24%, Lag= 8.5 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.49 fps, Min. Travel Time= 8.6 min  
Avg. Velocity = 0.20 fps, Avg. Travel Time= 20.8 min

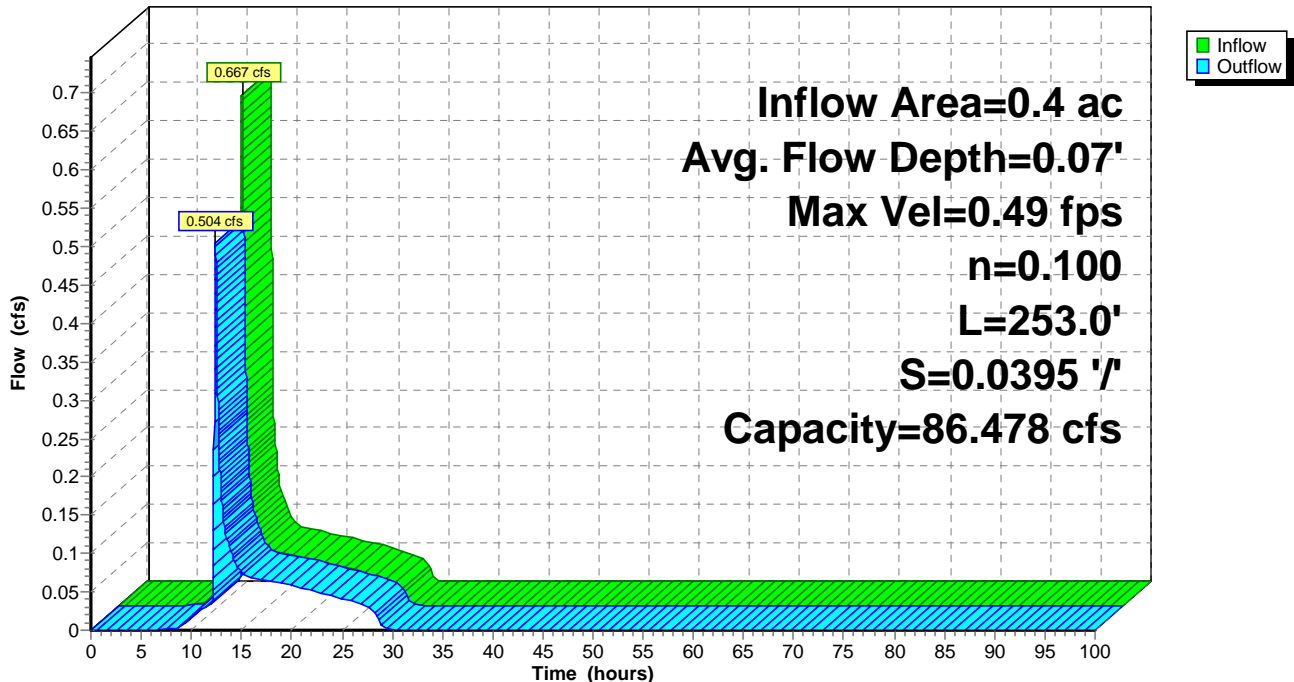
Peak Storage= 259 cf @ 12.40 hrs  
Average Depth at Peak Storage= 0.07'  
Bank-Full Depth= 1.50' Flow Area= 24.8 sf, Capacity= 86.478 cfs

15.00' x 1.50' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 1.0 '/' Top Width= 18.00'  
Length= 253.0' Slope= 0.0395 '/'  
Inlet Invert= 36.00', Outlet Invert= 26.00'



**Reach 58R: SF1&2 to SP1**

Hydrograph



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**Summary for Reach 63R: Channel to SP1**

Inflow Area = 1.6 ac, 27.20% Impervious, Inflow Depth > 3.81" for 25-YR event  
Inflow = 2.708 cfs @ 12.08 hrs, Volume= 0.501 af  
Outflow = 2.239 cfs @ 12.51 hrs, Volume= 0.501 af, Atten= 17%, Lag= 26.0 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.83 fps, Min. Travel Time= 11.1 min  
Avg. Velocity = 0.50 fps, Avg. Travel Time= 18.5 min

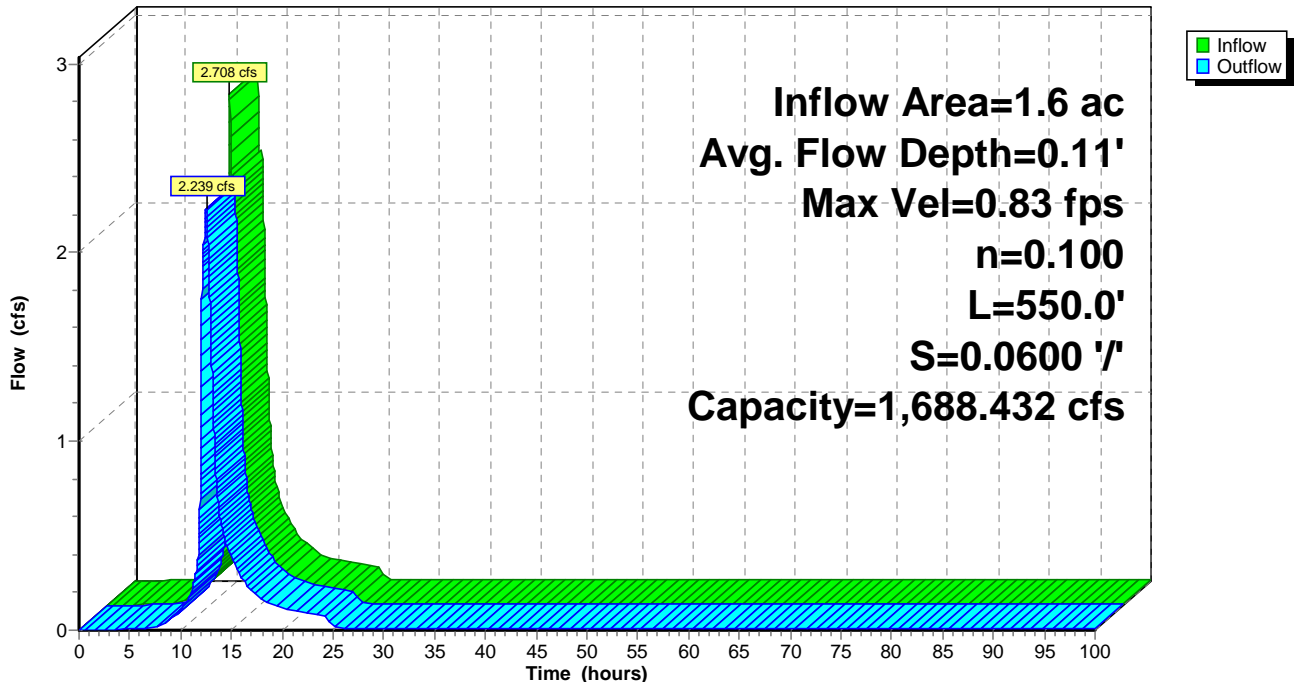
Peak Storage= 1,493 cf @ 12.51 hrs  
Average Depth at Peak Storage= 0.11'  
Bank-Full Depth= 5.00' Flow Area= 200.0 sf, Capacity= 1,688.432 cfs

25.00' x 5.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 3.0 '/' Top Width= 55.00'  
Length= 550.0' Slope= 0.0600 '/'  
Inlet Invert= 58.00', Outlet Invert= 25.00'



**Reach 63R: Channel to SP1**

Hydrograph



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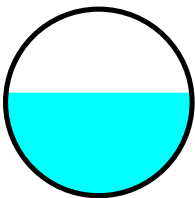
**Summary for Reach 64R: Culvert Under Main Entrance**

Inflow Area = 0.9 ac, 0.00% Impervious, Inflow Depth = 3.60" for 25-YR event  
Inflow = 1.840 cfs @ 12.54 hrs, Volume= 0.261 af  
Outflow = 1.839 cfs @ 12.55 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 2.65 fps, Min. Travel Time= 0.6 min  
Avg. Velocity = 1.09 fps, Avg. Travel Time= 1.5 min

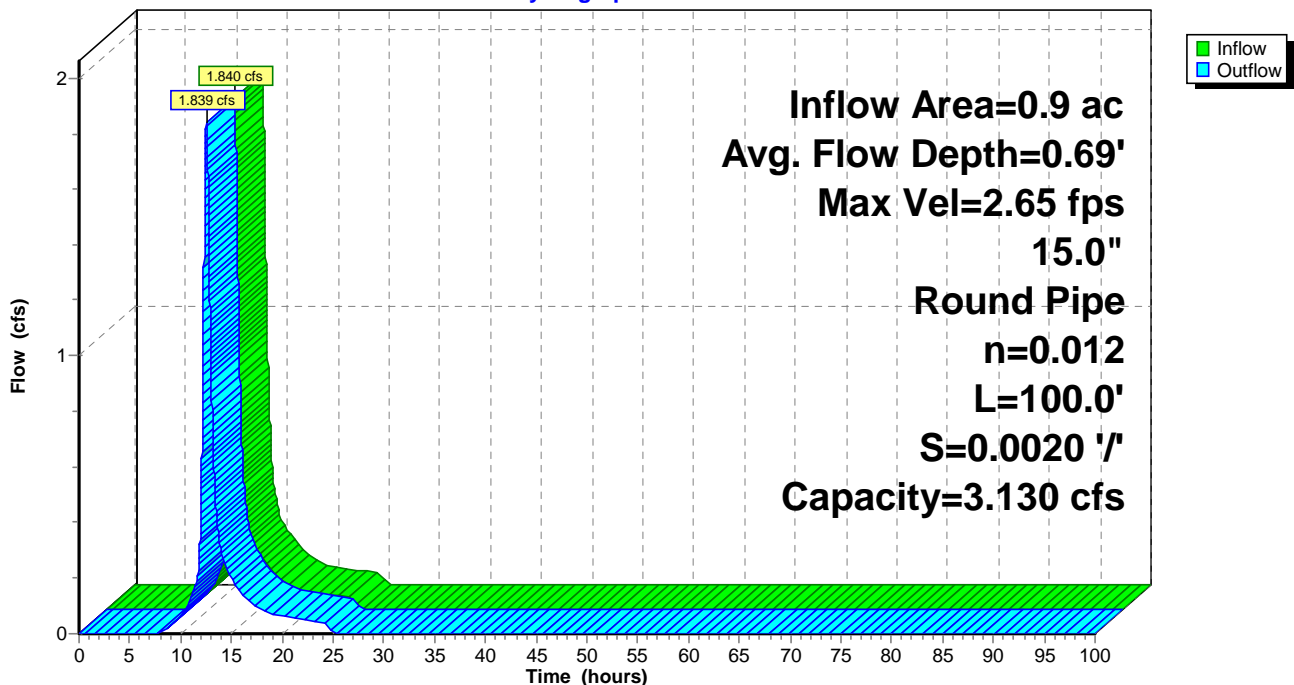
Peak Storage= 69 cf @ 12.55 hrs  
Average Depth at Peak Storage= 0.69'  
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 3.130 cfs

15.0" Round Pipe  
n= 0.012 Concrete pipe, finished  
Length= 100.0' Slope= 0.0020 '/'  
Inlet Invert= 59.00', Outlet Invert= 58.80'



**Reach 64R: Culvert Under Main Entrance**

Hydrograph



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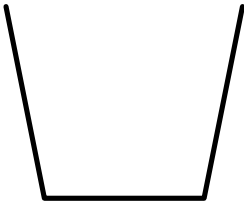
## Summary for Reach 65R: SF4 to SP1

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth > 4.81" for 25-YR event  
Inflow = 0.167 cfs @ 15.63 hrs, Volume= 0.369 af  
Outflow = 0.161 cfs @ 15.87 hrs, Volume= 0.368 af, Atten= 3%, Lag= 14.0 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.56 fps, Min. Travel Time= 10.4 min  
Avg. Velocity = 0.56 fps, Avg. Travel Time= 10.4 min

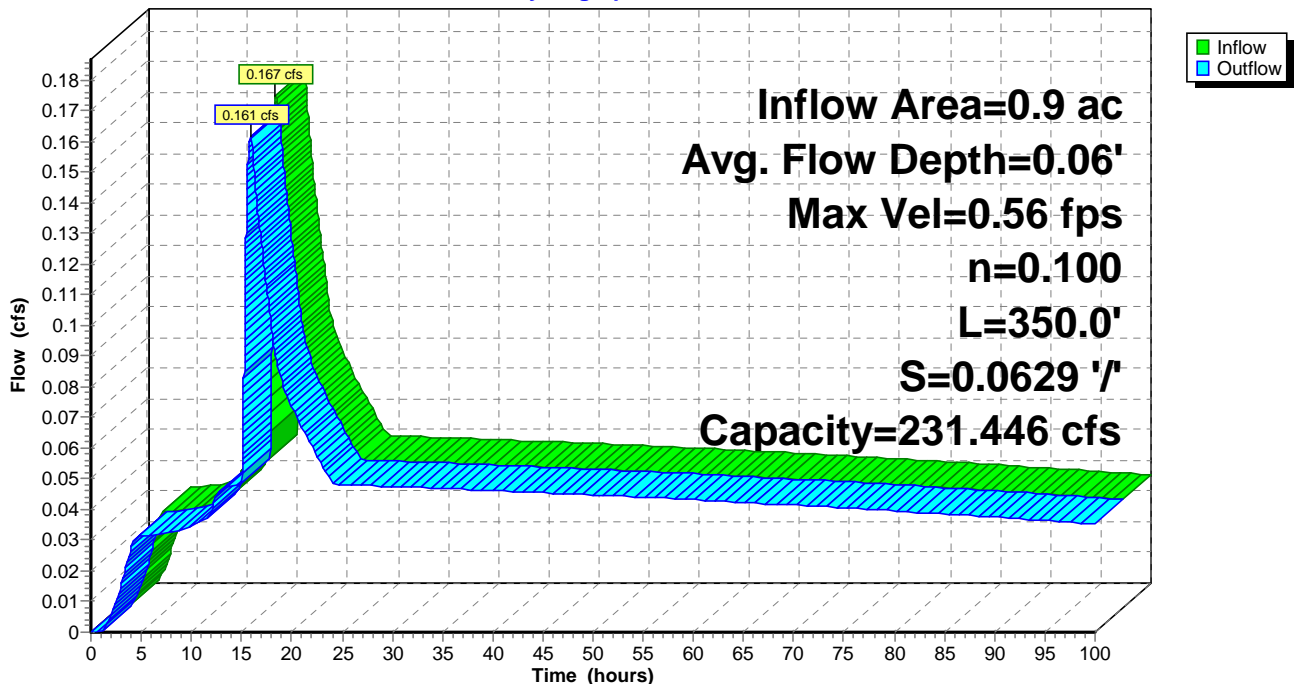
Peak Storage= 100 cf @ 15.87 hrs  
Average Depth at Peak Storage= 0.06'  
Bank-Full Depth= 6.00' Flow Area= 37.2 sf, Capacity= 231.446 cfs

5.00' x 6.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 0.2 ' / ' Top Width= 7.40'  
Length= 350.0' Slope= 0.0629 ' / '  
Inlet Invert= 47.00', Outlet Invert= 25.00'



## Reach 65R: SF4 to SP1

### Hydrograph



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**Summary for Reach 66R: SF5 to SP2**

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth > 5.15" for 25-YR event  
Inflow = 3.307 cfs @ 12.11 hrs, Volume= 0.281 af  
Outflow = 1.454 cfs @ 12.31 hrs, Volume= 0.281 af, Atten= 56%, Lag= 11.7 min

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.94 fps, Min. Travel Time= 15.0 min  
Avg. Velocity = 0.40 fps, Avg. Travel Time= 35.7 min

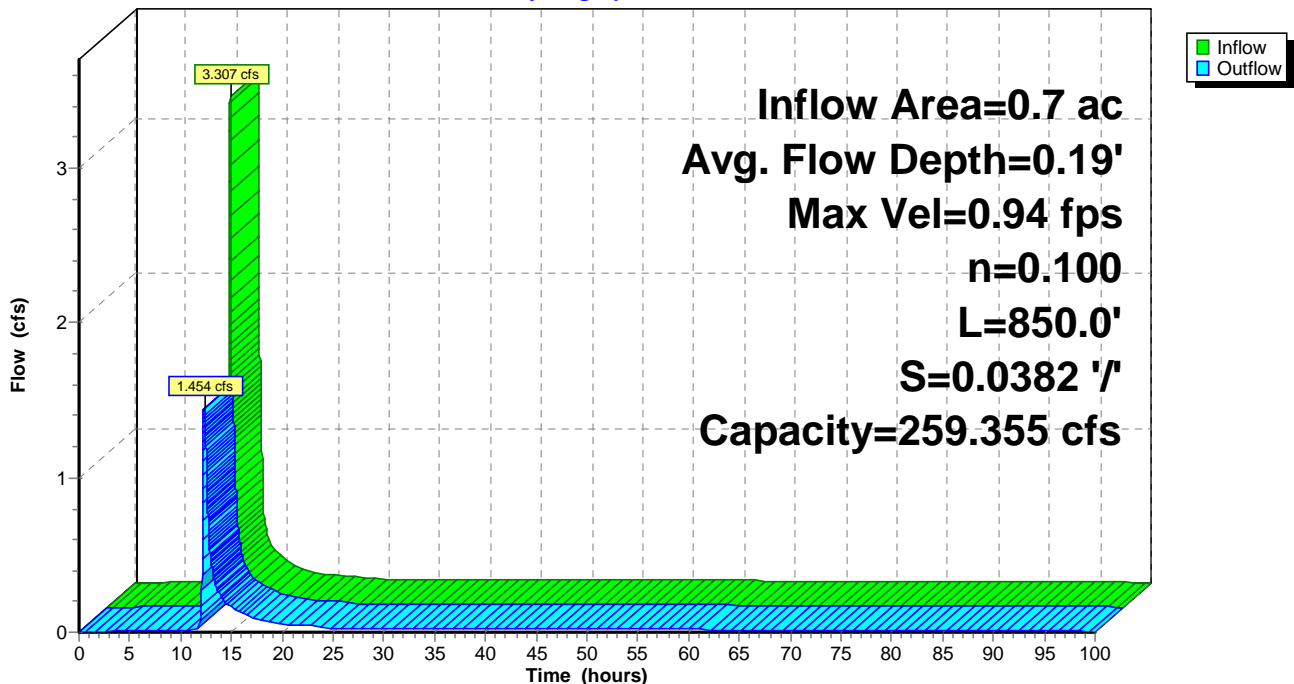
Peak Storage= 1,311 cf @ 12.31 hrs  
Average Depth at Peak Storage= 0.19'  
Bank-Full Depth= 5.00' Flow Area= 47.5 sf, Capacity= 259.355 cfs

8.00' x 5.00' deep channel, n= 0.100  
Side Slope Z-value= 0.3 '/ Top Width= 11.00'  
Length= 850.0' Slope= 0.0382 '/  
Inlet Invert= 57.50', Outlet Invert= 25.00'



**Reach 66R: SF5 to SP2**

Hydrograph



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 Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Pond 35P: Soil Filter 1**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 3.27" for 25-YR event  
 Inflow = 0.862 cfs @ 12.07 hrs, Volume= 0.059 af  
 Outflow = 0.374 cfs @ 12.27 hrs, Volume= 0.059 af, Atten= 57%, Lag= 11.7 min  
 Primary = 0.374 cfs @ 12.27 hrs, Volume= 0.059 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 41.86' @ 12.27 hrs Surf.Area= 722 sf Storage= 900 cf

Plug-Flow detention time= 209.0 min calculated for 0.059 af (100% of inflow)  
 Center-of-Mass det. time= 209.1 min ( 1,029.8 - 820.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	40.00'	1,421 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
40.00	268	0	0
41.00	491	380	380
41.50	618	277	657
42.00	761	345	1,002
42.50	917	420	1,421

Device	Routing	Invert	Outlet Devices
#1	Primary	37.84'	<b>4.0" Round Culvert</b> L= 29.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 37.84' / 37.00' S= 0.0290 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	37.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	40.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	41.80'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	42.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.369 cfs @ 12.27 hrs HW=41.86' (Free Discharge)

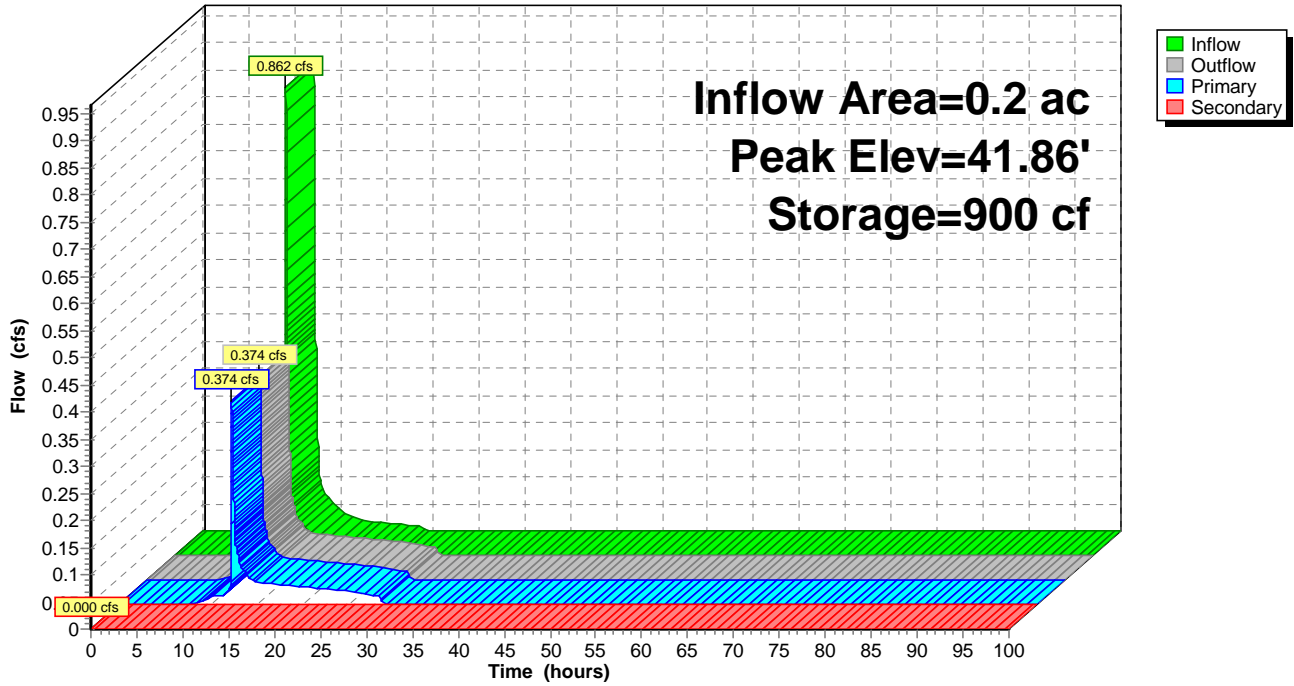
- ↑ 1=Culvert (Passes 0.369 cfs of 0.651 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.040 cfs of 0.052 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.040 cfs)
- ↑ 4=Orifice/Grate (Weir Controls 0.329 cfs @ 0.82 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=40.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 35P: Soil Filter 1

Hydrograph





**Post-Development - 2015.09.25 Energy East - Linked**

Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Pond 37P: Soil Filter 3**

Inflow Area = 0.3 ac, 87.29% Impervious, Inflow Depth = 5.34" for 25-YR event  
 Inflow = 1.539 cfs @ 12.07 hrs, Volume= 0.118 af  
 Outflow = 0.119 cfs @ 13.03 hrs, Volume= 0.090 af, Atten= 92%, Lag= 57.3 min  
 Primary = 0.053 cfs @ 13.03 hrs, Volume= 0.074 af  
 Secondary = 0.067 cfs @ 13.03 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.01' @ 13.03 hrs Surf.Area= 2,665 sf Storage= 3,421 cf

Plug-Flow detention time= 1,773.3 min calculated for 0.090 af (77% of inflow)  
 Center-of-Mass det. time= 1,690.2 min ( 2,447.4 - 757.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	5,079 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	1,078	0	0
66.00	1,626	1,352	1,352
66.50	1,925	888	2,240
67.00	2,657	1,146	3,385
67.60	2,988	1,693	5,079

Device	Routing	Invert	Outlet Devices
#1	Primary	62.84'	<b>4.0" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 62.84' / 61.00' S= 0.0460 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	62.84'	<b>0.4" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	65.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	67.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	67.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.041 cfs @ 13.03 hrs HW=67.01' (Free Discharge)

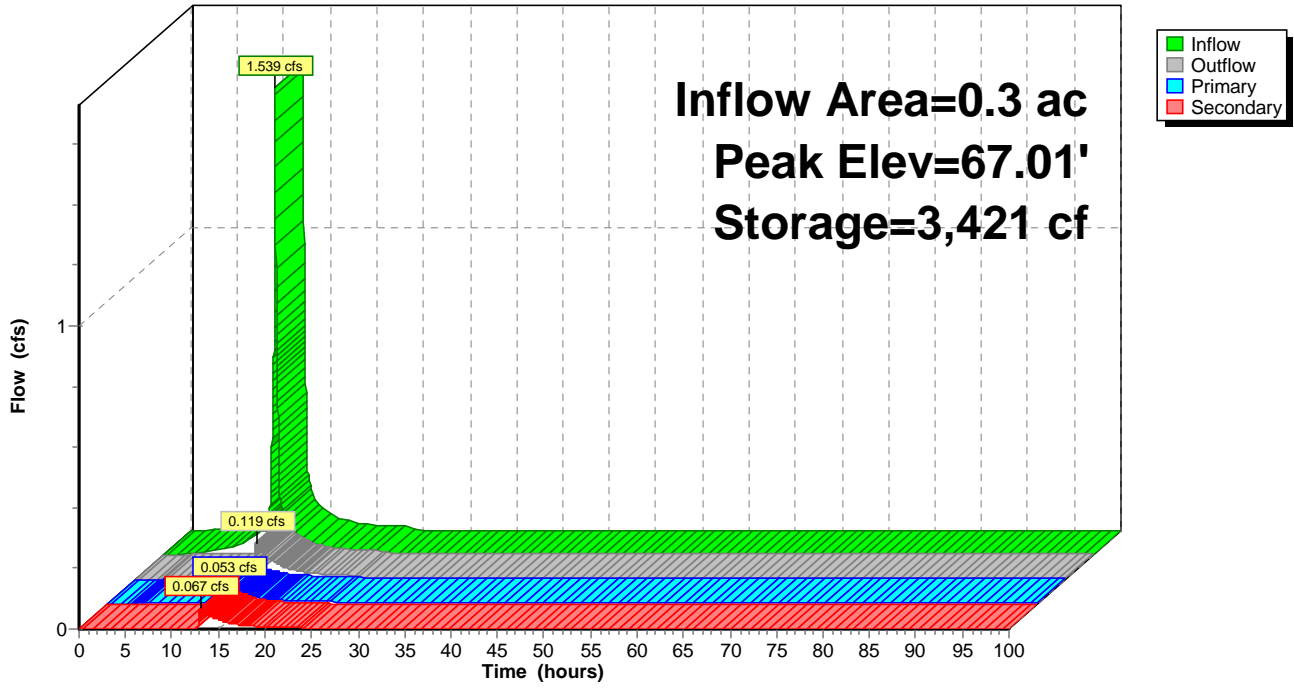
- ↑ 1=Culvert (Passes 0.041 cfs of 0.769 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.009 cfs @ 9.82 fps)
- ↑ 3=Exfiltration (Passes 0.009 cfs of 0.149 cfs potential flow)
- ↑ 4=Orifice/Grate (Weir Controls 0.033 cfs @ 0.38 fps)

**Secondary OutFlow** Max=0.050 cfs @ 13.03 hrs HW=67.01' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.050 cfs @ 0.36 fps)

### Pond 37P: Soil Filter 3

Hydrograph



**Post-Development - 2015.09.25 Energy East - Linked**

Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Pond 38P: Soil Filter 4**

Inflow Area = 0.9 ac, 90.50% Impervious, Inflow Depth = 5.42" for 25-YR event  
 Inflow = 5.369 cfs @ 12.07 hrs, Volume= 0.416 af  
 Outflow = 0.167 cfs @ 15.63 hrs, Volume= 0.369 af, Atten= 97%, Lag= 213.8 min  
 Primary = 0.095 cfs @ 15.63 hrs, Volume= 0.351 af  
 Secondary = 0.071 cfs @ 15.63 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 64.01' @ 15.63 hrs Surf.Area= 6,984 sf Storage= 13,760 cf

Plug-Flow detention time= 2,163.6 min calculated for 0.369 af (89% of inflow)  
 Center-of-Mass det. time= 2,109.6 min ( 2,861.5 - 751.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	18,006 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	2,993	0	0
62.00	3,864	3,429	3,429
62.50	4,321	2,046	5,475
63.00	4,823	2,286	7,761
64.00	6,970	5,897	13,657
64.60	7,527	4,349	18,006

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>4.0" Round Culvert</b> L= 65.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 48.00' S= 0.1668 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	58.84'	<b>0.9" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	64.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	64.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.085 cfs @ 15.63 hrs HW=64.01' (Free Discharge)

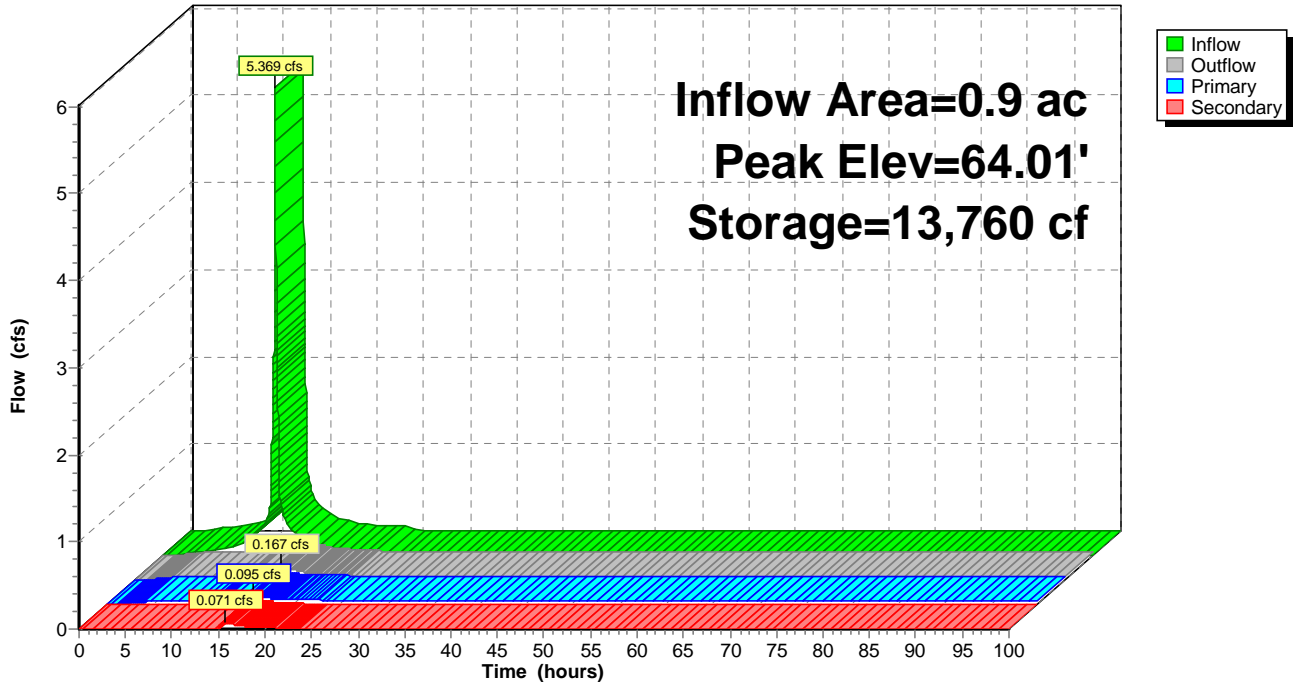
- ↑ 1=Culvert (Passes 0.085 cfs of 0.940 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.048 cfs @ 10.91 fps)
- ↑ 3=Exfiltration (Passes 0.048 cfs of 0.390 cfs potential flow)
- ↑ 4=Orifice/Grate (Weir Controls 0.037 cfs @ 0.40 fps)

**Secondary OutFlow** Max=0.056 cfs @ 15.63 hrs HW=64.01' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 0.056 cfs @ 0.38 fps)

### Pond 38P: Soil Filter 4

Hydrograph



**Post-Development - 2015.09.25 Energy East - Linked**

Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Pond 39P: Soil Filter 5**

Inflow Area = 0.7 ac, 78.99% Impervious, Inflow Depth = 5.15" for 25-YR event  
 Inflow = 3.731 cfs @ 12.07 hrs, Volume= 0.281 af  
 Outflow = 3.307 cfs @ 12.11 hrs, Volume= 0.281 af, Atten= 11%, Lag= 2.4 min  
 Primary = 0.834 cfs @ 12.11 hrs, Volume= 0.170 af  
 Secondary = 2.473 cfs @ 12.11 hrs, Volume= 0.111 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 63.12' @ 12.11 hrs Surf.Area= 3,305 sf Storage= 4,870 cf

Plug-Flow detention time= 1,069.9 min calculated for 0.281 af (100% of inflow)  
 Center-of-Mass det. time= 1,069.8 min ( 1,834.0 - 764.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	6,897 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	1,498	0	0
62.00	2,202	1,850	1,850
62.50	2,561	1,191	3,041
63.00	3,239	1,450	4,491
63.70	3,636	2,406	6,897

Device	Routing	Invert	Outlet Devices
#1	Primary	58.84'	<b>6.0" Round Culvert</b> L= 21.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 58.84' / 58.00' S= 0.0400 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Device 1	58.84'	<b>0.6" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	61.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	63.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.00'	<b>20.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.830 cfs @ 12.11 hrs HW=63.12' (Free Discharge)

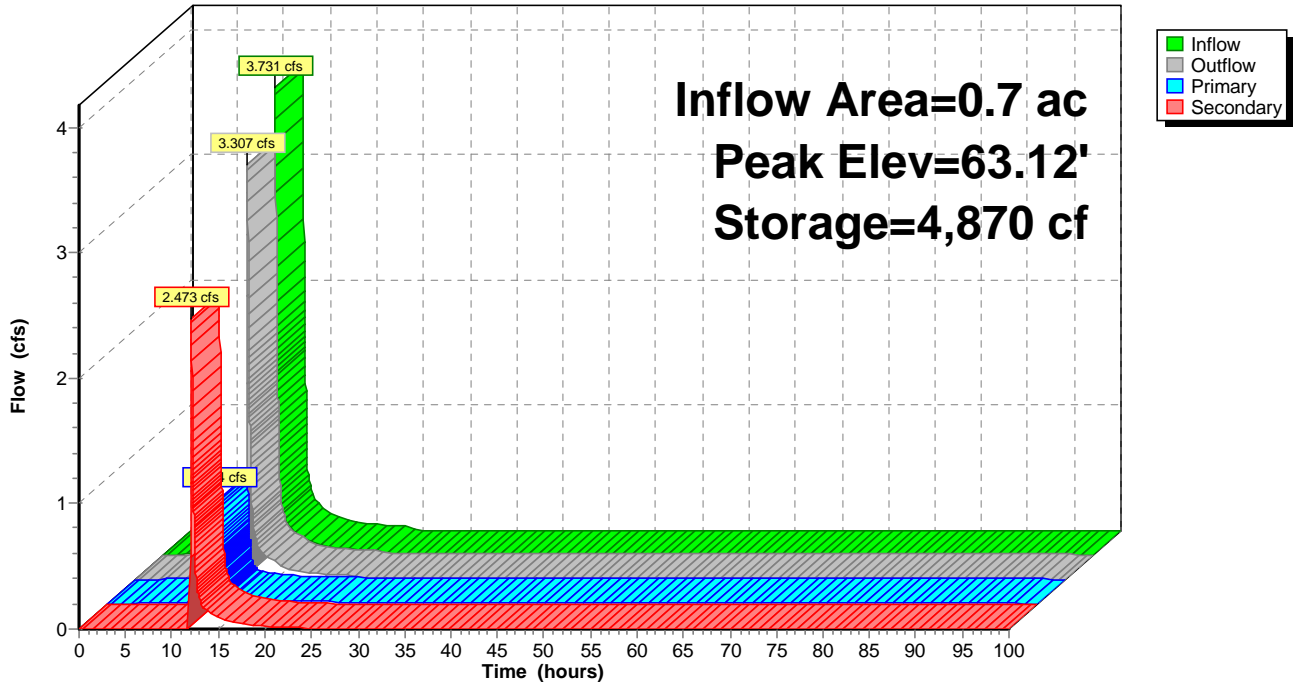
- ↑ 1=Culvert (Passes 0.830 cfs of 1.897 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.019 cfs @ 9.93 fps)
- ↑ 3=Exfiltration (Passes 0.019 cfs of 0.184 cfs potential flow)
- ↑ 4=Orifice/Grate (Weir Controls 0.810 cfs @ 1.11 fps)

**Secondary OutFlow** Max=2.460 cfs @ 12.11 hrs HW=63.12' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Weir Controls 2.460 cfs @ 1.06 fps)

### Pond 39P: Soil Filter 5

Hydrograph



**Post-Development - 2015.09.25 Energy East - Linked**

Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Pond 59P: Soil Filter 2**

Inflow Area = 0.2 ac, 0.00% Impervious, Inflow Depth = 3.27" for 25-YR event  
 Inflow = 0.637 cfs @ 12.07 hrs, Volume= 0.044 af  
 Outflow = 0.306 cfs @ 12.23 hrs, Volume= 0.044 af, Atten= 52%, Lag= 9.3 min  
 Primary = 0.306 cfs @ 12.23 hrs, Volume= 0.044 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs  
 Peak Elev= 42.76' @ 12.23 hrs Surf.Area= 556 sf Storage= 633 cf

Plug-Flow detention time= 191.3 min calculated for 0.044 af (100% of inflow)  
 Center-of-Mass det. time= 191.3 min ( 1,012.2 - 821.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,121 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	188	0	0
42.00	377	283	283
42.50	491	217	500
43.00	618	277	777
43.50	760	345	1,121

Device	Routing	Invert	Outlet Devices
#1	Primary	38.84'	<b>4.0" Round Culvert</b> L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 38.84' / 38.00' S= 0.0263 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	38.84'	<b>1.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 2	41.00'	<b>2.410 in/hr Exfiltration over Surface area</b>
#4	Device 1	42.70'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	43.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.302 cfs @ 12.23 hrs HW=42.76' (Free Discharge)

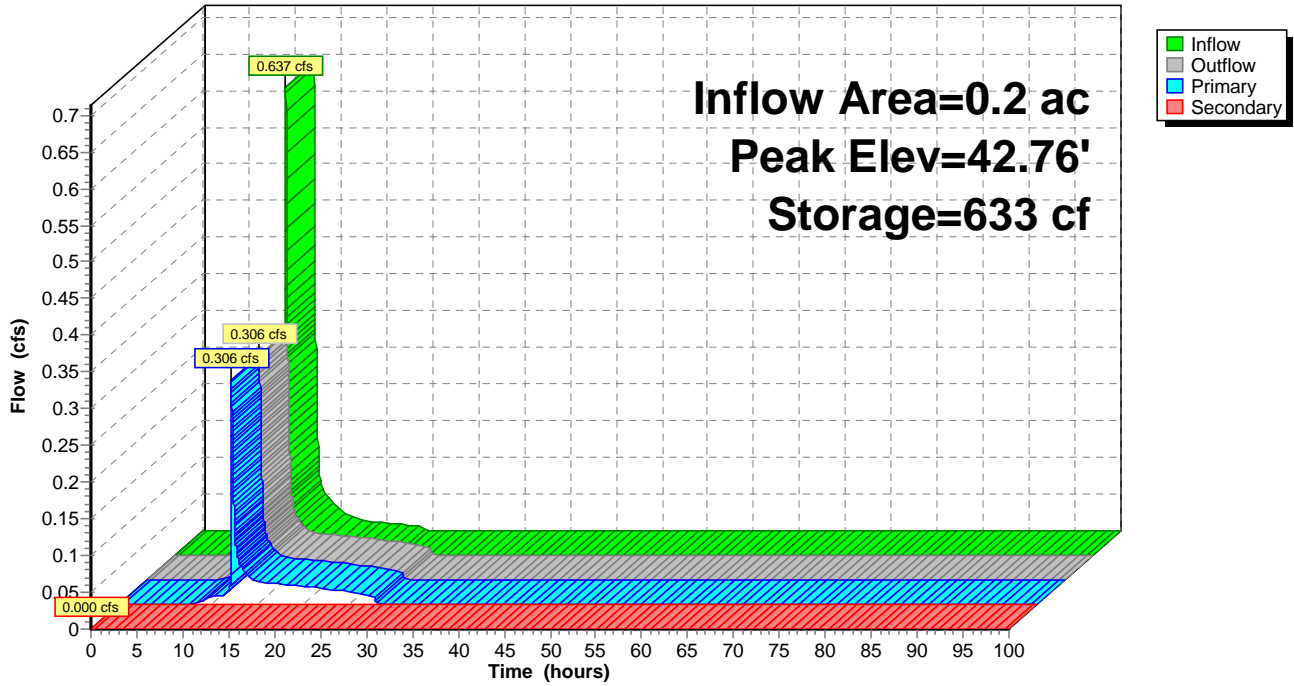
- ↑ 1=Culvert (Passes 0.302 cfs of 0.642 cfs potential flow)
- ↑ 2=Orifice/Grate (Passes 0.031 cfs of 0.052 cfs potential flow)
- ↑ 3=Exfiltration (Exfiltration Controls 0.031 cfs)
- ↑ 4=Orifice/Grate (Weir Controls 0.271 cfs @ 0.77 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=41.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

### Pond 59P: Soil Filter 2

Hydrograph





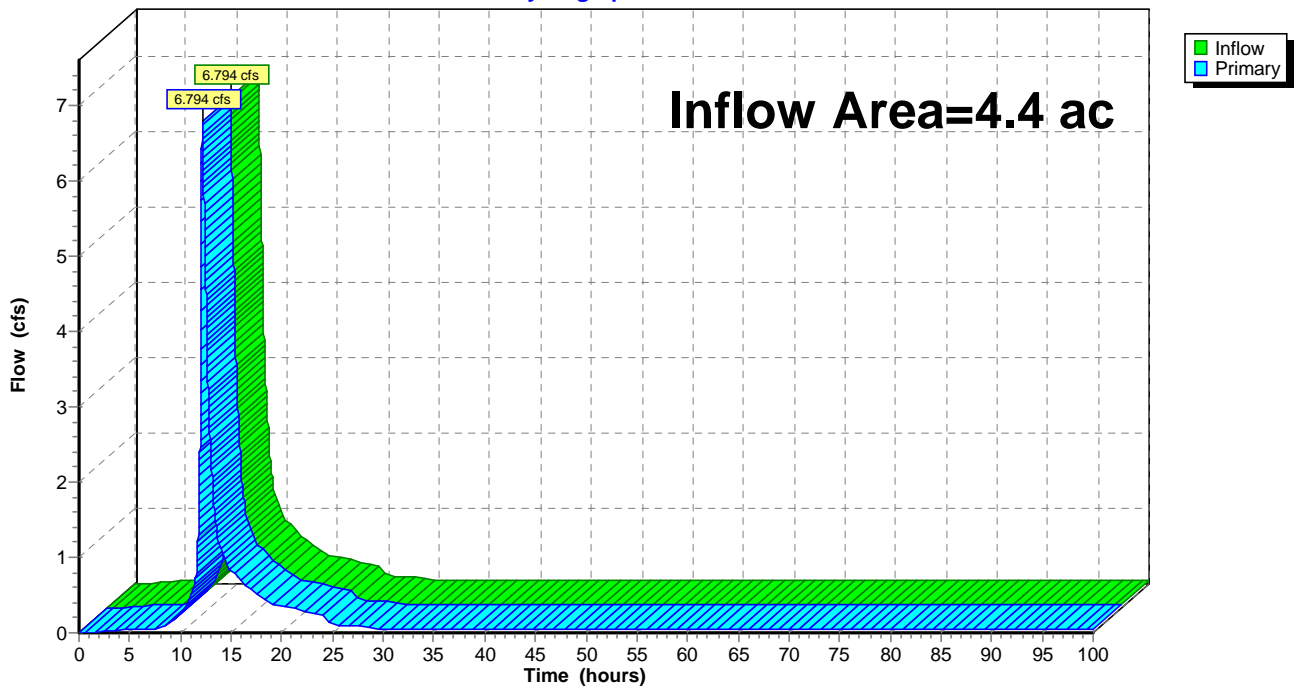
### Summary for Link 40L: Study Point 1

Inflow Area = 4.4 ac, 28.58% Impervious, Inflow Depth > 3.76" for 25-YR event  
Inflow = 6.794 cfs @ 12.18 hrs, Volume= 1.384 af  
Primary = 6.794 cfs @ 12.18 hrs, Volume= 1.384 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

### Link 40L: Study Point 1

Hydrograph



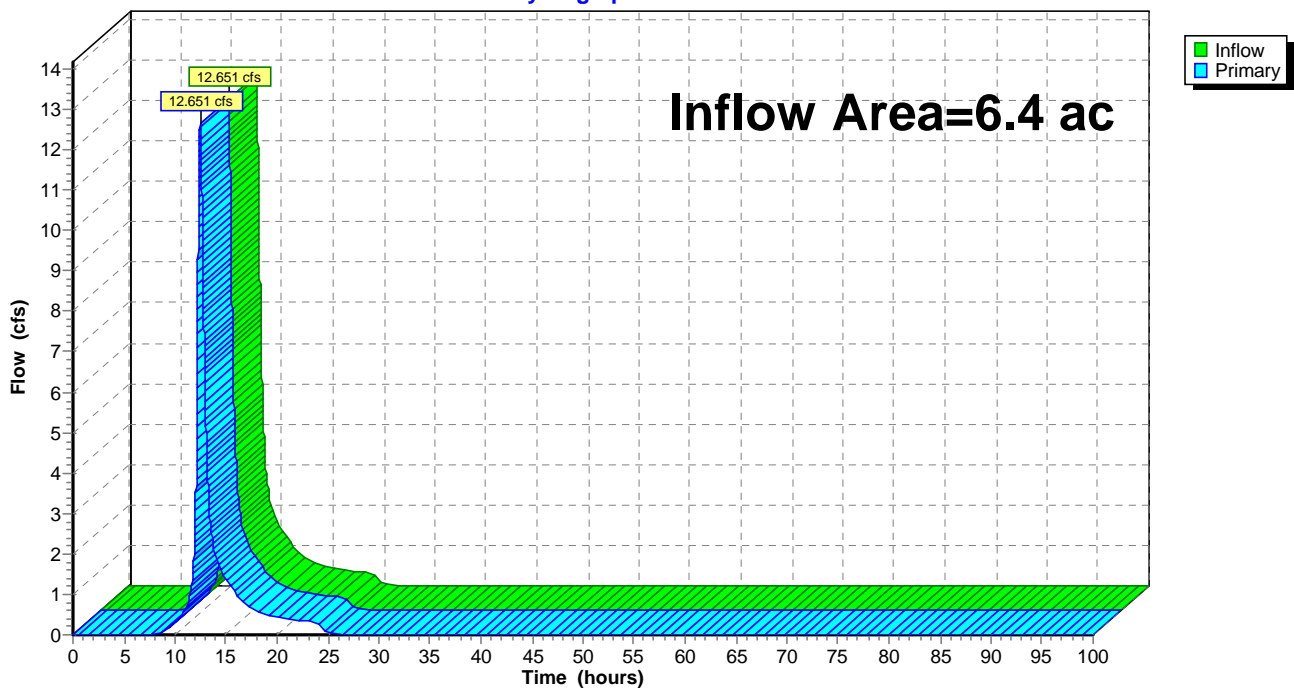
### Summary for Link 41L: Study Point 2

Inflow Area = 6.4 ac, 8.08% Impervious, Inflow Depth > 3.41" for 25-YR event  
Inflow = 12.651 cfs @ 12.46 hrs, Volume= 1.816 af  
Primary = 12.651 cfs @ 12.46 hrs, Volume= 1.816 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

### Link 41L: Study Point 2

Hydrograph



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POST - ENERGY EAST LINK

Type III 24-hr 25-YR Rainfall=5.80"

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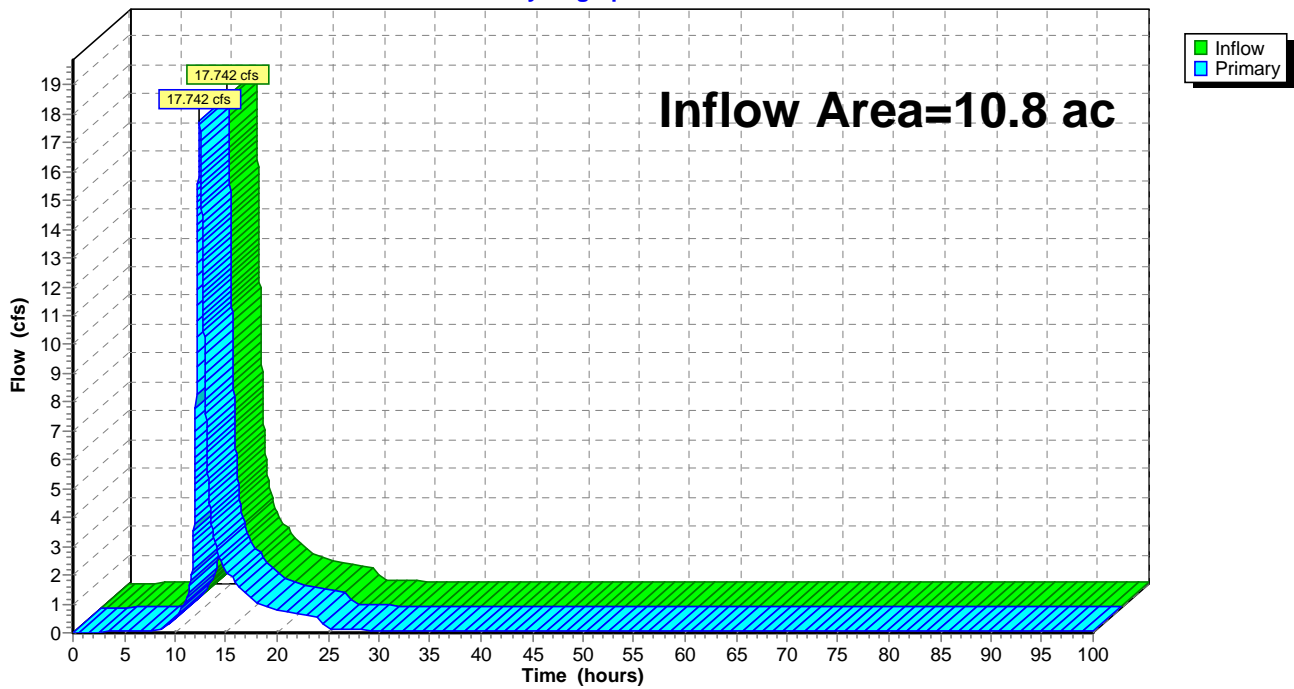
**Summary for Link 56L: Energy East Subtotal**

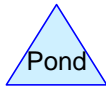
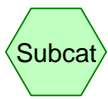
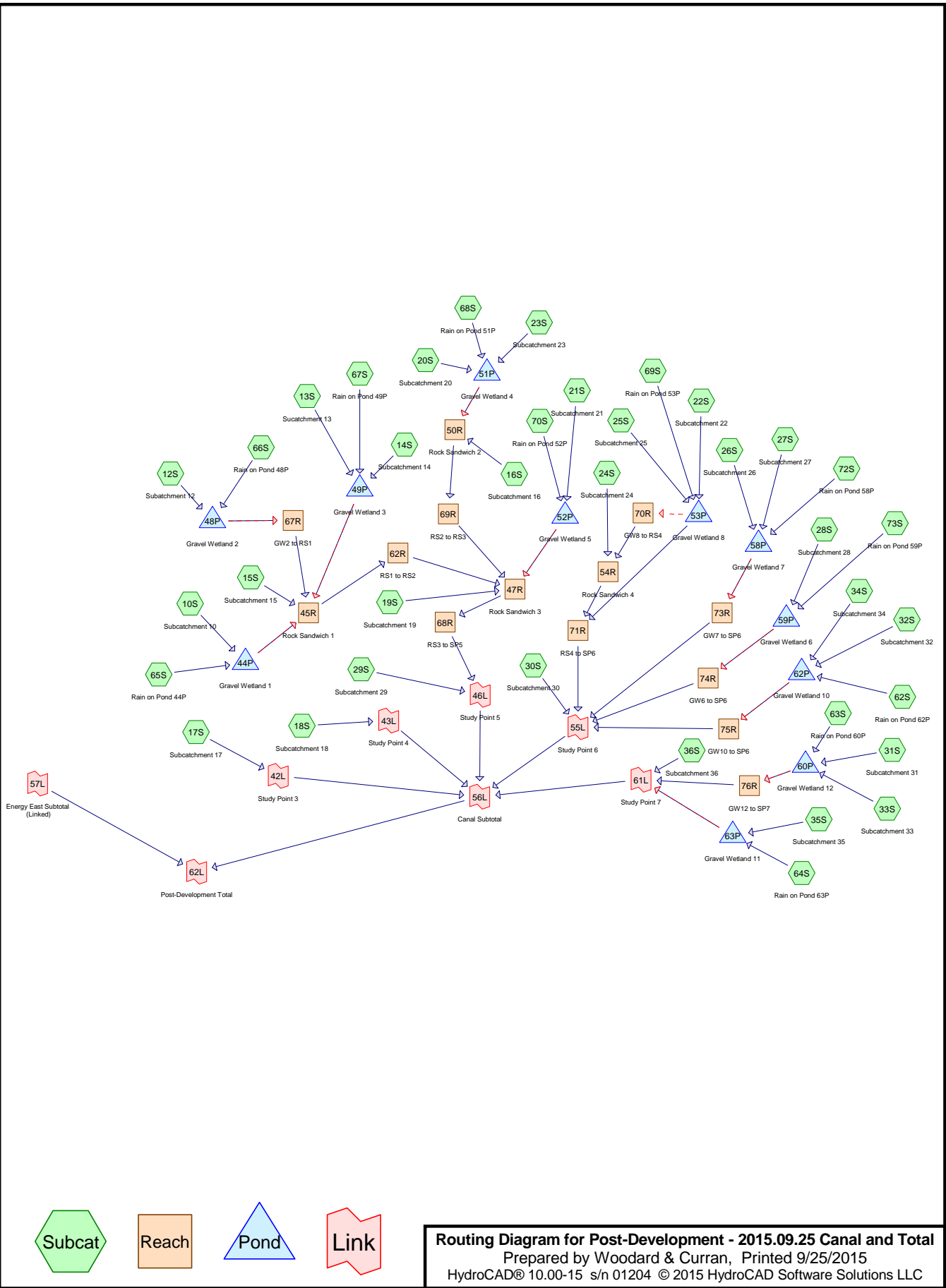
Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth > 3.55" for 25-YR event  
Inflow = 17.742 cfs @ 12.42 hrs, Volume= 3.200 af  
Primary = 17.742 cfs @ 12.42 hrs, Volume= 3.200 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

**Link 56L: Energy East Subtotal**

Hydrograph





**Routing Diagram for Post-Development - 2015.09.25 Canal and Total**  
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**Post-Development - 2015.09.25 Canal and Total**

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**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
3.0	74	>75% Grass cover, Good, HSG C (10S, 18S, 29S, 30S, 36S)
12.3	80	>75% Grass cover, Good, HSG D (10S, 12S, 14S, 18S, 22S, 23S, 25S, 27S, 28S, 29S, 30S, 33S, 34S, 35S, 36S)
5.9	98	Paved parking & roofs (10S, 12S, 13S, 14S, 18S, 19S, 20S, 21S, 22S, 23S, 25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 33S, 34S, 35S)
1.5	98	Water Surface, 0% imp (62S, 63S, 64S, 65S, 66S, 67S, 68S, 69S, 70S, 72S, 73S)
0.8	76	Woods/grass comb., Fair, HSG C (17S)
8.6	82	Woods/grass comb., Fair, HSG D (15S, 16S, 19S, 24S)
<b>32.0</b>	<b>84</b>	<b>TOTAL AREA</b>

## Post-Development - 2015.09.25 Canal and Total

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POST - CANAL & TOTAL  
Type III 24-hr 1" Rainfall=1.00"

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Time span=0.00-70.00 hrs, dt=0.01 hrs, 7001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Subcatchment 10</b>	Runoff Area=12,862 sf 78.49% Impervious Runoff Depth=0.50" Tc=5.0 min CN=94 Runoff=0.181 cfs 0.012 af
<b>Subcatchment 12S: Subcatchment 12</b>	Runoff Area=14,246 sf 88.46% Impervious Runoff Depth=0.63" Tc=5.0 min CN=96 Runoff=0.250 cfs 0.017 af
<b>Subcatchment 13S: Subcatchment 13</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.212 cfs 0.015 af
<b>Subcatchment 14S: Subcatchment 14</b>	Runoff Area=18,696 sf 79.19% Impervious Runoff Depth=0.50" Tc=5.0 min CN=94 Runoff=0.262 cfs 0.018 af
<b>Subcatchment 15S: Subcatchment 15</b>	Runoff Area=61,581 sf 0.00% Impervious Runoff Depth=0.11" Flow Length=339' Tc=35.2 min CN=82 Runoff=0.060 cfs 0.013 af
<b>Subcatchment 16S: Subcatchment 16</b>	Runoff Area=121,629 sf 0.00% Impervious Runoff Depth=0.11" Flow Length=580' Tc=65.1 min CN=82 Runoff=0.086 cfs 0.027 af
<b>Subcatchment 17S: Subcatchment 17</b>	Runoff Area=34,853 sf 0.00% Impervious Runoff Depth=0.04" Flow Length=275' Tc=24.2 min CN=76 Runoff=0.004 cfs 0.003 af
<b>Subcatchment 18S: Subcatchment 18</b>	Runoff Area=115,135 sf 2.64% Impervious Runoff Depth=0.05" Flow Length=717' Tc=48.7 min CN=77 Runoff=0.020 cfs 0.011 af
<b>Subcatchment 19S: Subcatchment 19</b>	Runoff Area=120,933 sf 3.33% Impervious Runoff Depth=0.13" Flow Length=527' Tc=40.1 min CN=83 Runoff=0.141 cfs 0.031 af
<b>Subcatchment 20S: Subcatchment 20</b>	Runoff Area=9,481 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.201 cfs 0.014 af
<b>Subcatchment 21S: Subcatchment 21</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.212 cfs 0.015 af
<b>Subcatchment 22S: Subcatchment 22</b>	Runoff Area=32,114 sf 84.79% Impervious Runoff Depth=0.56" Tc=5.0 min CN=95 Runoff=0.505 cfs 0.035 af
<b>Subcatchment 23S: Subcatchment 23</b>	Runoff Area=36,758 sf 67.01% Impervious Runoff Depth=0.40" Tc=5.0 min CN=92 Runoff=0.405 cfs 0.028 af
<b>Subcatchment 24S: Subcatchment 24</b>	Runoff Area=73,357 sf 0.00% Impervious Runoff Depth=0.11" Flow Length=490' Tc=54.8 min CN=82 Runoff=0.057 cfs 0.016 af
<b>Subcatchment 25S: Subcatchment 25</b>	Runoff Area=23,474 sf 83.13% Impervious Runoff Depth=0.56" Tc=5.0 min CN=95 Runoff=0.369 cfs 0.025 af
<b>Subcatchment 26S: Subcatchment 26</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.212 cfs 0.015 af

# Post-Development - 2015.09.25 Canal and Total

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POST - CANAL & TOTAL  
Type III 24-hr 1" Rainfall=1.00"

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<b>Subcatchment 27S: Subcatchment 27</b>	Runoff Area=18,249 sf 85.83% Impervious Runoff Depth=0.56" Tc=5.0 min CN=95 Runoff=0.287 cfs 0.020 af
<b>Subcatchment 28S: Subcatchment 28</b>	Runoff Area=18,336 sf 98.31% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.388 cfs 0.028 af
<b>Subcatchment 29S: Subcatchment 29</b>	Runoff Area=102,124 sf 2.45% Impervious Runoff Depth=0.07" Flow Length=374' Tc=22.9 min CN=79 Runoff=0.050 cfs 0.014 af
<b>Subcatchment 30S: Subcatchment 30</b>	Runoff Area=236,639 sf 0.09% Impervious Runoff Depth=0.07" Flow Length=644' Tc=41.2 min CN=79 Runoff=0.090 cfs 0.032 af
<b>Subcatchment 31S: Subcatchment 31</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.212 cfs 0.015 af
<b>Subcatchment 32S: Subcatchment 32</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.212 cfs 0.015 af
<b>Subcatchment 33S: Subcatchment 33</b>	Runoff Area=13,542 sf 82.88% Impervious Runoff Depth=0.56" Tc=5.0 min CN=95 Runoff=0.213 cfs 0.015 af
<b>Subcatchment 34S: Subcatchment 34</b>	Runoff Area=29,429 sf 78.93% Impervious Runoff Depth=0.50" Tc=5.0 min CN=94 Runoff=0.413 cfs 0.028 af
<b>Subcatchment 35S: Subcatchment 35</b>	Runoff Area=9,946 sf 86.59% Impervious Runoff Depth=0.63" Tc=5.0 min CN=96 Runoff=0.174 cfs 0.012 af
<b>Subcatchment 36S: Subcatchment 36</b>	Runoff Area=177,857 sf 0.00% Impervious Runoff Depth=0.08" Flow Length=771' Tc=49.8 min CN=80 Runoff=0.085 cfs 0.028 af
<b>Subcatchment 62S: Rain on Pond 62P</b>	Runoff Area=5,931 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.126 cfs 0.009 af
<b>Subcatchment 63S: Rain on Pond 60P</b>	Runoff Area=6,384 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.135 cfs 0.010 af
<b>Subcatchment 64S: Rain on Pond 63P</b>	Runoff Area=5,399 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.114 cfs 0.008 af
<b>Subcatchment 65S: Rain on Pond 44P</b>	Runoff Area=5,782 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.122 cfs 0.009 af
<b>Subcatchment 66S: Rain on Pond 48P</b>	Runoff Area=3,675 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.078 cfs 0.006 af
<b>Subcatchment 67S: Rain on Pond 49P</b>	Runoff Area=4,004 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.085 cfs 0.006 af
<b>Subcatchment 68S: Rain on Pond 51P</b>	Runoff Area=7,212 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.153 cfs 0.011 af

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<b>Subcatchment 69S: Rain on Pond 53P</b>	Runoff Area=10,280 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.218 cfs 0.016 af
<b>Subcatchment 70S: Rain on Pond 52P</b>	Runoff Area=2,175 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.046 cfs 0.003 af
<b>Subcatchment 72S: Rain on Pond 58P</b>	Runoff Area=6,629 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.140 cfs 0.010 af
<b>Subcatchment 73S: Rain on Pond 59P</b>	Runoff Area=5,709 sf 0.00% Impervious Runoff Depth=0.79" Tc=5.0 min CN=98 Runoff=0.121 cfs 0.009 af
<b>Reach 45R: Rock Sandwich 1</b>	Avg. Flow Depth=0.02' Max Vel=0.12 fps Inflow=0.098 cfs 0.097 af n=0.050 L=80.0' S=0.0025 '/ Capacity=96.775 cfs Outflow=0.095 cfs 0.097 af
<b>Reach 47R: Rock Sandwich 3</b>	Avg. Flow Depth=0.02' Max Vel=0.14 fps Inflow=0.205 cfs 0.226 af n=0.050 L=70.0' S=0.0057 '/ Capacity=388.834 cfs Outflow=0.203 cfs 0.226 af
<b>Reach 50R: Rock Sandwich 2</b>	Avg. Flow Depth=0.02' Max Vel=0.12 fps Inflow=0.115 cfs 0.080 af n=0.050 L=75.0' S=0.0020 '/ Capacity=127.762 cfs Outflow=0.113 cfs 0.080 af
<b>Reach 54R: Rock Sandwich 4</b>	Avg. Flow Depth=0.01' Max Vel=0.16 fps Inflow=0.057 cfs 0.016 af n=0.050 L=60.0' S=0.0083 '/ Capacity=150.131 cfs Outflow=0.055 cfs 0.016 af
<b>Reach 62R: RS1 to RS2</b>	Avg. Flow Depth=0.08' Max Vel=0.09 fps Inflow=0.095 cfs 0.097 af n=0.100 L=450.0' S=0.0020 '/ Capacity=16.893 cfs Outflow=0.064 cfs 0.097 af
<b>Reach 67R: GW2 to RS1</b>	Avg. Flow Depth=0.03' Max Vel=0.06 fps Inflow=0.011 cfs 0.023 af n=0.100 L=225.0' S=0.0031 '/ Capacity=62.120 cfs Outflow=0.011 cfs 0.023 af
<b>Reach 68R: RS3 to SP5</b>	Avg. Flow Depth=0.02' Max Vel=0.19 fps Inflow=0.203 cfs 0.226 af n=0.100 L=375.0' S=0.0413 '/ Capacity=145.240 cfs Outflow=0.199 cfs 0.226 af
<b>Reach 69R: RS2 to RS3</b>	Avg. Flow Depth=0.04' Max Vel=0.09 fps Inflow=0.113 cfs 0.080 af n=0.100 L=350.0' S=0.0043 '/ Capacity=86.608 cfs Outflow=0.079 cfs 0.080 af
<b>Reach 70R: GW8 to RS4</b>	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.000 cfs 0.000 af n=0.100 L=180.0' S=0.0022 '/ Capacity=14.593 cfs Outflow=0.000 cfs 0.000 af
<b>Reach 71R: RS4 to SP6</b>	Avg. Flow Depth=0.03' Max Vel=0.19 fps Inflow=0.139 cfs 0.091 af n=0.100 L=575.0' S=0.0261 '/ Capacity=38.460 cfs Outflow=0.116 cfs 0.091 af
<b>Reach 73R: GW7 to SP6</b>	Avg. Flow Depth=0.01' Max Vel=0.11 fps Inflow=0.020 cfs 0.045 af n=0.100 L=350.0' S=0.0371 '/ Capacity=80.313 cfs Outflow=0.019 cfs 0.045 af
<b>Reach 74R: GW6 to SP6</b>	Avg. Flow Depth=0.01' Max Vel=0.10 fps Inflow=0.020 cfs 0.036 af n=0.100 L=425.0' S=0.0329 '/ Capacity=75.634 cfs Outflow=0.020 cfs 0.036 af
<b>Reach 75R: GW10 to SP6</b>	Avg. Flow Depth=0.01' Max Vel=0.74 fps Inflow=0.027 cfs 0.052 af n=0.100 L=325.0' S=0.0446 '/ Capacity=900.771 cfs Outflow=0.027 cfs 0.052 af



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<b>Reach 76R: GW12 to SP7</b>	Avg. Flow Depth=0.04' Max Vel=0.14 fps Inflow=0.023 cfs 0.039 af n=0.100 L=700.0' S=0.0121 1/' Capacity=131.872 cfs Outflow=0.023 cfs 0.039 af
<b>Pond 44P: Gravel Wetland 1</b>	Peak Elev=65.53' Storage=479 cf Inflow=0.303 cfs 0.021 af Primary=0.013 cfs 0.021 af Secondary=0.000 cfs 0.000 af Outflow=0.013 cfs 0.021 af
<b>Pond 48P: Gravel Wetland 2</b>	Peak Elev=67.67' Storage=575 cf Inflow=0.327 cfs 0.023 af Primary=0.011 cfs 0.023 af Secondary=0.000 cfs 0.000 af Outflow=0.011 cfs 0.023 af
<b>Pond 49P: Gravel Wetland 3</b>	Peak Elev=66.83' Storage=1,035 cf Inflow=0.559 cfs 0.039 af Primary=0.017 cfs 0.039 af Secondary=0.000 cfs 0.000 af Outflow=0.017 cfs 0.039 af
<b>Pond 51P: Gravel Wetland 4</b>	Peak Elev=66.59' Storage=1,444 cf Inflow=0.757 cfs 0.054 af Primary=0.030 cfs 0.054 af Secondary=0.000 cfs 0.000 af Outflow=0.030 cfs 0.054 af
<b>Pond 52P: Gravel Wetland 5</b>	Peak Elev=65.88' Storage=418 cf Inflow=0.258 cfs 0.018 af Primary=0.011 cfs 0.018 af Secondary=0.000 cfs 0.000 af Outflow=0.011 cfs 0.018 af
<b>Pond 53P: Gravel Wetland 8</b>	Peak Elev=67.02' Storage=1,649 cf Inflow=1.092 cfs 0.075 af Primary=0.084 cfs 0.075 af Secondary=0.000 cfs 0.000 af Outflow=0.084 cfs 0.075 af
<b>Pond 58P: Gravel Wetland 7</b>	Peak Elev=64.86' Storage=1,172 cf Inflow=0.639 cfs 0.045 af Primary=0.020 cfs 0.045 af Secondary=0.000 cfs 0.000 af Outflow=0.020 cfs 0.045 af
<b>Pond 59P: Gravel Wetland 6</b>	Peak Elev=65.87' Storage=869 cf Inflow=0.509 cfs 0.036 af Primary=0.020 cfs 0.036 af Secondary=0.000 cfs 0.000 af Outflow=0.020 cfs 0.036 af
<b>Pond 60P: Gravel Wetland 12</b>	Peak Elev=68.81' Storage=908 cf Inflow=0.560 cfs 0.039 af Primary=0.023 cfs 0.039 af Secondary=0.000 cfs 0.000 af Outflow=0.023 cfs 0.039 af
<b>Pond 62P: Gravel Wetland 10</b>	Peak Elev=65.56' Storage=1,354 cf Inflow=0.750 cfs 0.052 af Primary=0.027 cfs 0.052 af Secondary=0.000 cfs 0.000 af Outflow=0.027 cfs 0.052 af
<b>Pond 63P: Gravel Wetland 11</b>	Peak Elev=64.75' Storage=500 cf Inflow=0.288 cfs 0.020 af Primary=0.010 cfs 0.020 af Secondary=0.000 cfs 0.000 af Outflow=0.010 cfs 0.020 af
<b>Link 42L: Study Point 3</b>	Inflow=0.004 cfs 0.003 af Primary=0.004 cfs 0.003 af
<b>Link 43L: Study Point 4</b>	Inflow=0.020 cfs 0.011 af Primary=0.020 cfs 0.011 af
<b>Link 46L: Study Point 5</b>	Inflow=0.220 cfs 0.239 af Primary=0.220 cfs 0.239 af
<b>Link 55L: Study Point 6</b>	Inflow=0.242 cfs 0.257 af Primary=0.242 cfs 0.257 af
<b>Link 56L: Canal Subtotal</b>	Inflow=0.568 cfs 0.597 af Primary=0.568 cfs 0.597 af

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primary Outflow Link Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce Inflow=0.129 cfs 0.136 af  
Area= 10.8 ac 16.45% Imperv. Primary=0.129 cfs 0.136 af

**Link 61L: Study Point 7**

Inflow=0.115 cfs 0.088 af

Primary=0.115 cfs 0.088 af

**Link 62L: Post-Development Total**

Inflow=0.691 cfs 0.733 af

Primary=0.691 cfs 0.733 af

**Total Runoff Area = 32.0 ac Runoff Volume = 0.597 af Average Runoff Depth = 0.22"**  
**81.72% Pervious = 26.2 ac 18.28% Impervious = 5.9 ac**

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## Summary for Subcatchment 10S: Subcatchment 10

Runoff = 0.181 cfs @ 12.08 hrs, Volume= 0.012 af, Depth= 0.50"

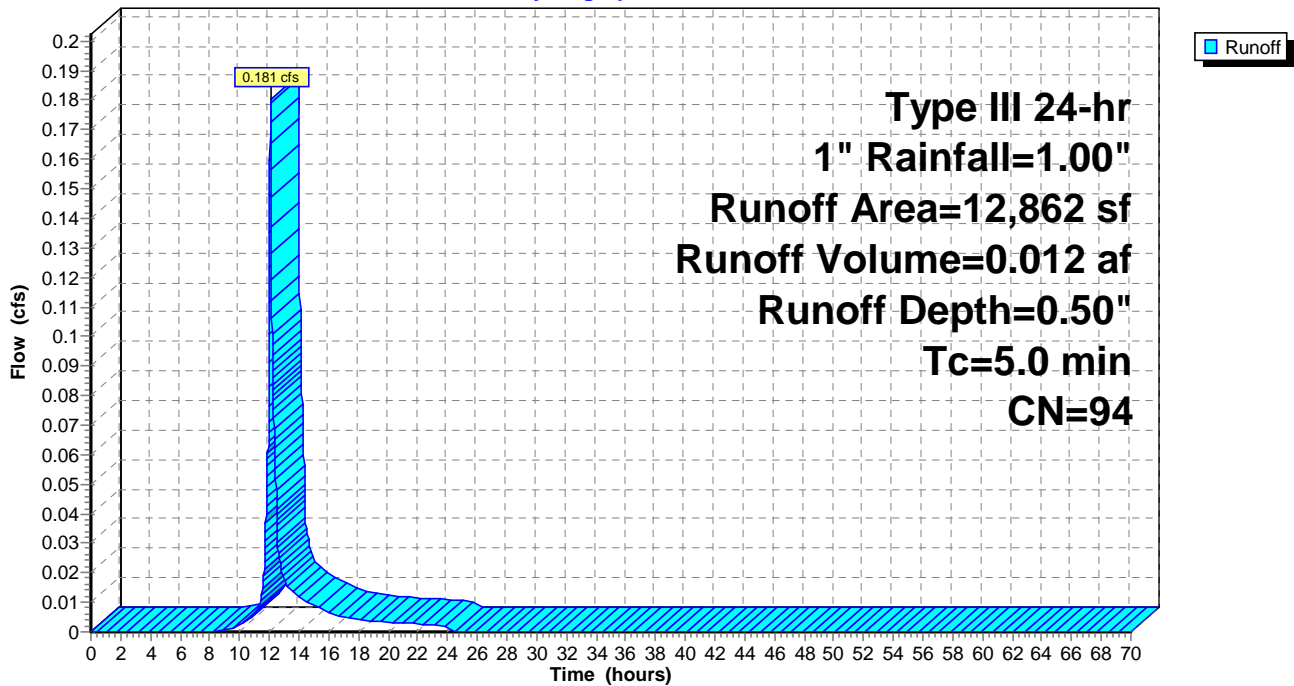
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
1,150	74	>75% Grass cover, Good, HSG C
1,617	80	>75% Grass cover, Good, HSG D
10,095	98	Paved parking & roofs
12,862	94	Weighted Average
2,767		21.51% Pervious Area
10,095		78.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 10

## Subcatchment 10S: Subcatchment 10

Hydrograph



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**Summary for Subcatchment 12S: Subbatchment 12**

Runoff = 0.250 cfs @ 12.07 hrs, Volume= 0.017 af, Depth= 0.63"

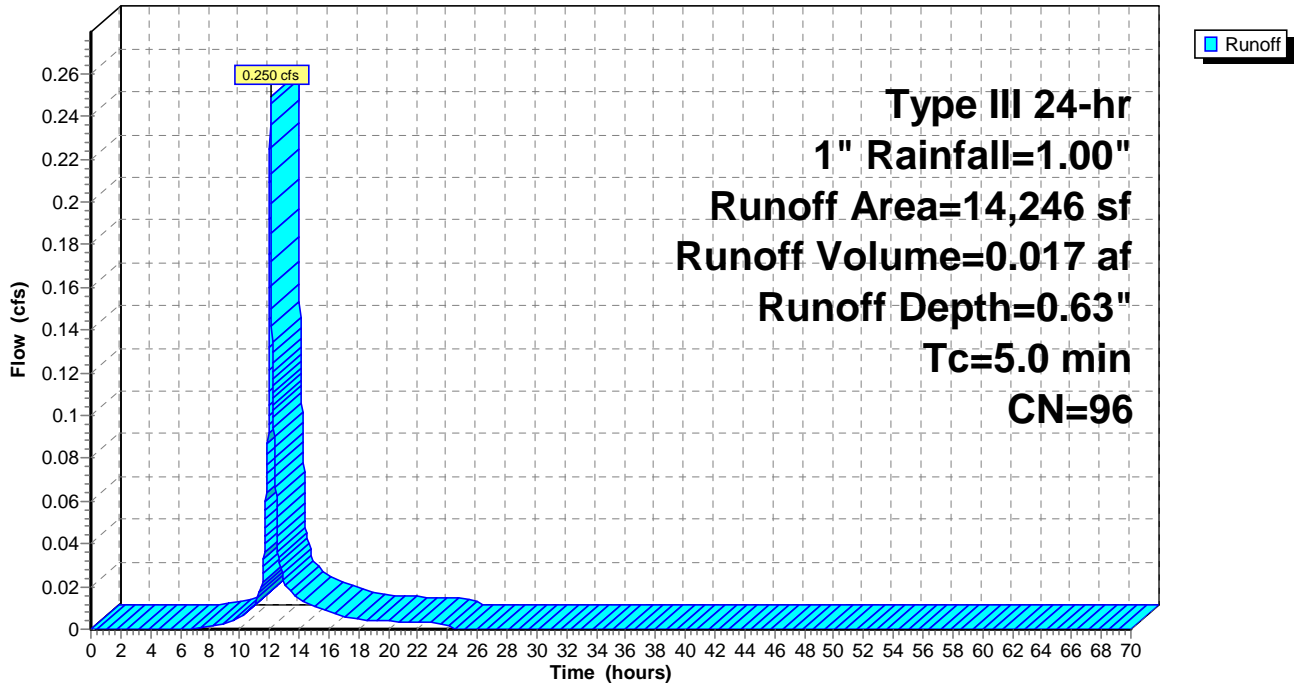
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
1,644	80	>75% Grass cover, Good, HSG D
12,602	98	Paved parking & roofs
14,246	96	Weighted Average
1,644		11.54% Pervious Area
12,602		88.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 12

**Subcatchment 12S: Subbatchment 12**

Hydrograph



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**Summary for Subcatchment 13S: Sucatchment 13**

Runoff = 0.212 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 0.79"

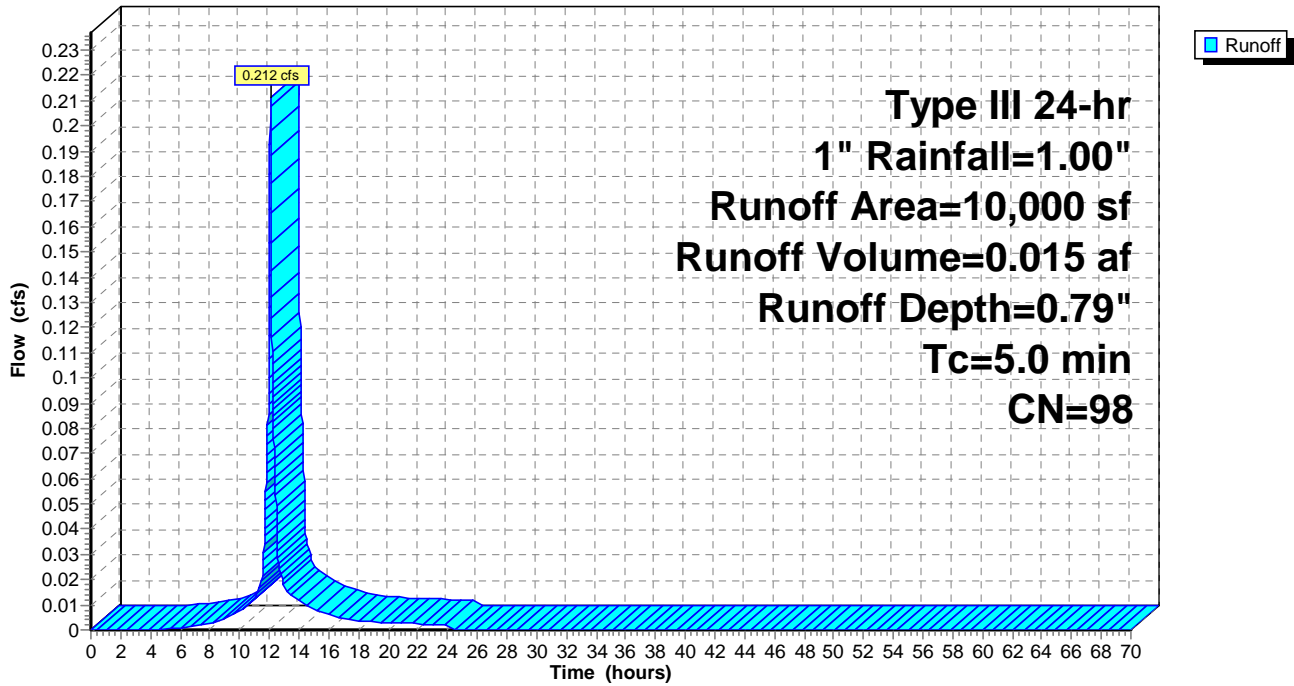
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 13

**Subcatchment 13S: Sucatchment 13**

Hydrograph



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**Summary for Subcatchment 14S: Subcatchment 14**

Runoff = 0.262 cfs @ 12.08 hrs, Volume= 0.018 af, Depth= 0.50"

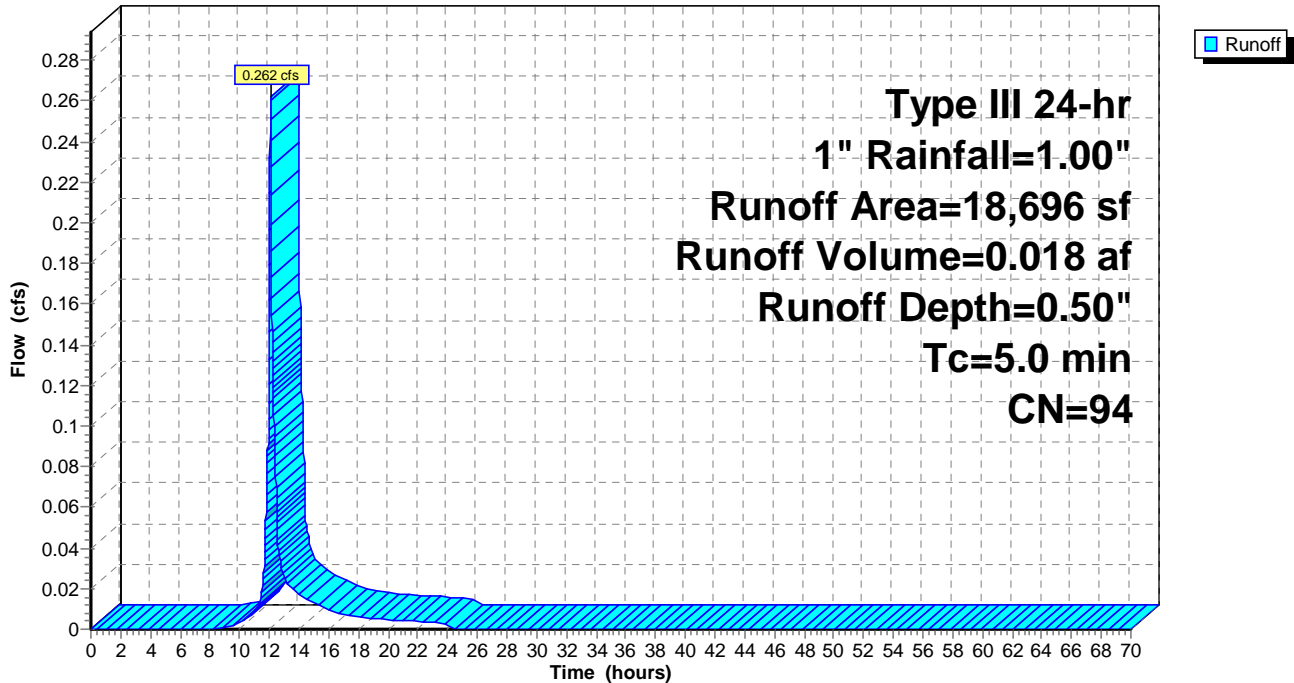
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
3,890	80	>75% Grass cover, Good, HSG D
14,806	98	Paved parking & roofs
18,696	94	Weighted Average
3,890		20.81% Pervious Area
14,806		79.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 14

**Subcatchment 14S: Subcatchment 14**

Hydrograph



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## Summary for Subcatchment 15S: Subcatchment 15

Runoff = 0.060 cfs @ 12.67 hrs, Volume= 0.013 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

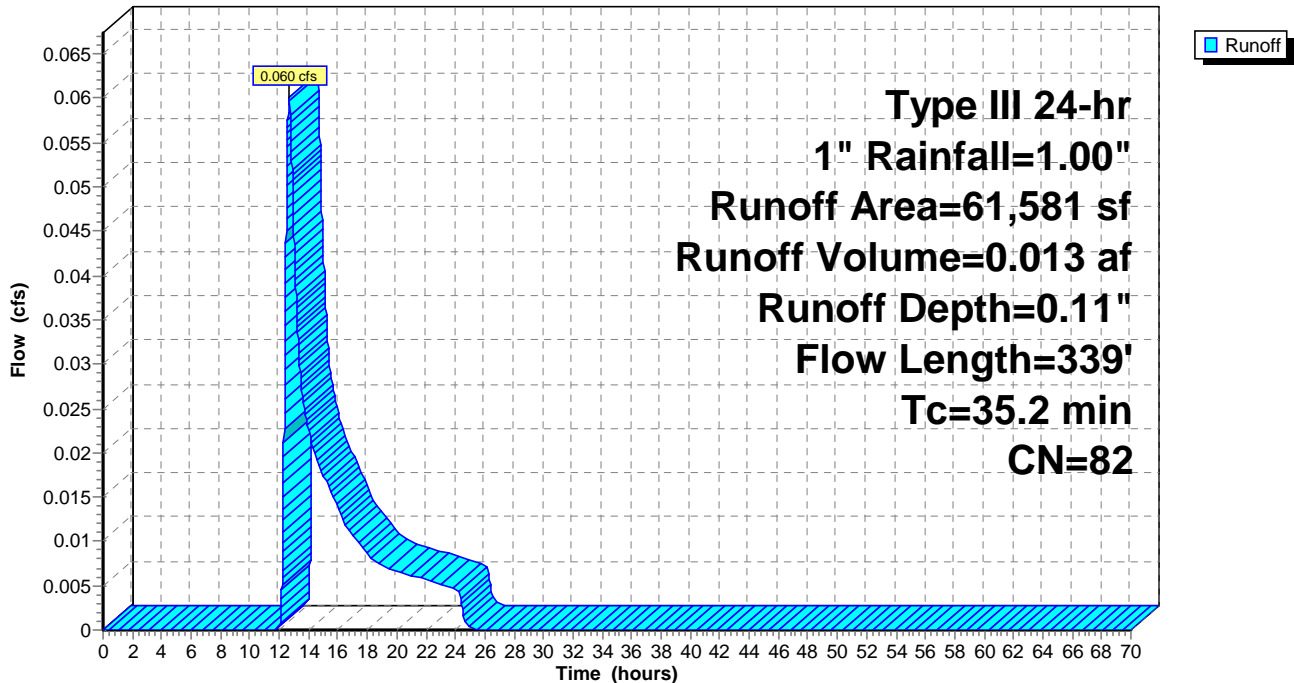
Area (sf)	CN	Description
61,581	82	Woods/grass comb., Fair, HSG D
61,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 15 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
10.3	239	0.0060	0.39		<b>Shallow Concentrated Flow, Subcatchment 15 SCF</b>
					Woodland Kv= 5.0 fps
35.2	339	Total			

## Subcatchment 15S: Subcatchment 15

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**Summary for Subcatchment 16S: Subcatchment 16**

Runoff = 0.086 cfs @ 13.16 hrs, Volume= 0.027 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

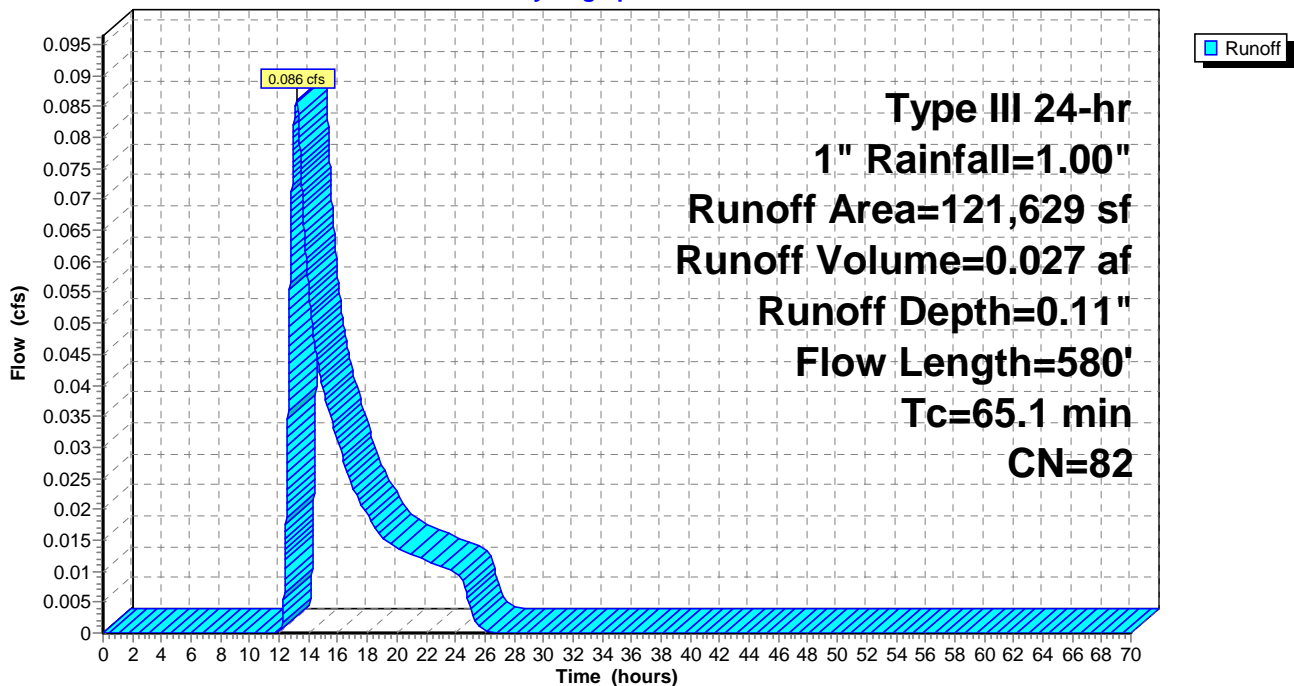
Area (sf)	CN	Description
121,629	82	Woods/grass comb., Fair, HSG D
121,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 16 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
35.8	480	0.0020	0.22		<b>Shallow Concentrated Flow, Subcatchment 16 SCF</b>
					Woodland Kv= 5.0 fps
65.1	580	Total			

**Subcatchment 16S: Subcatchment 16**

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**Summary for Subcatchment 17S: Subcatchment 17**

Runoff = 0.004 cfs @ 13.10 hrs, Volume= 0.003 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

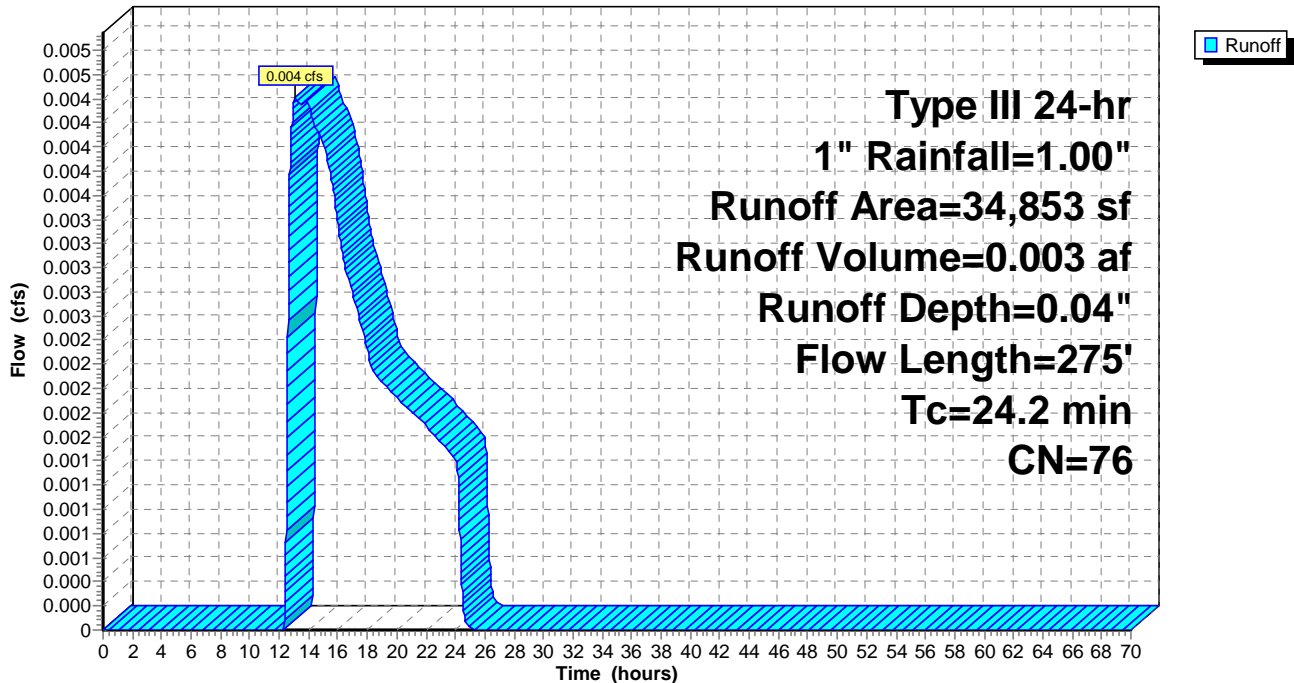
Area (sf)	CN	Description
34,853	76	Woods/grass comb., Fair, HSG C
34,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 17 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 17 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 17S: Subcatchment 17**

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**Summary for Subcatchment 18S: Subcatchment 18**

Runoff = 0.020 cfs @ 13.36 hrs, Volume= 0.011 af, Depth= 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

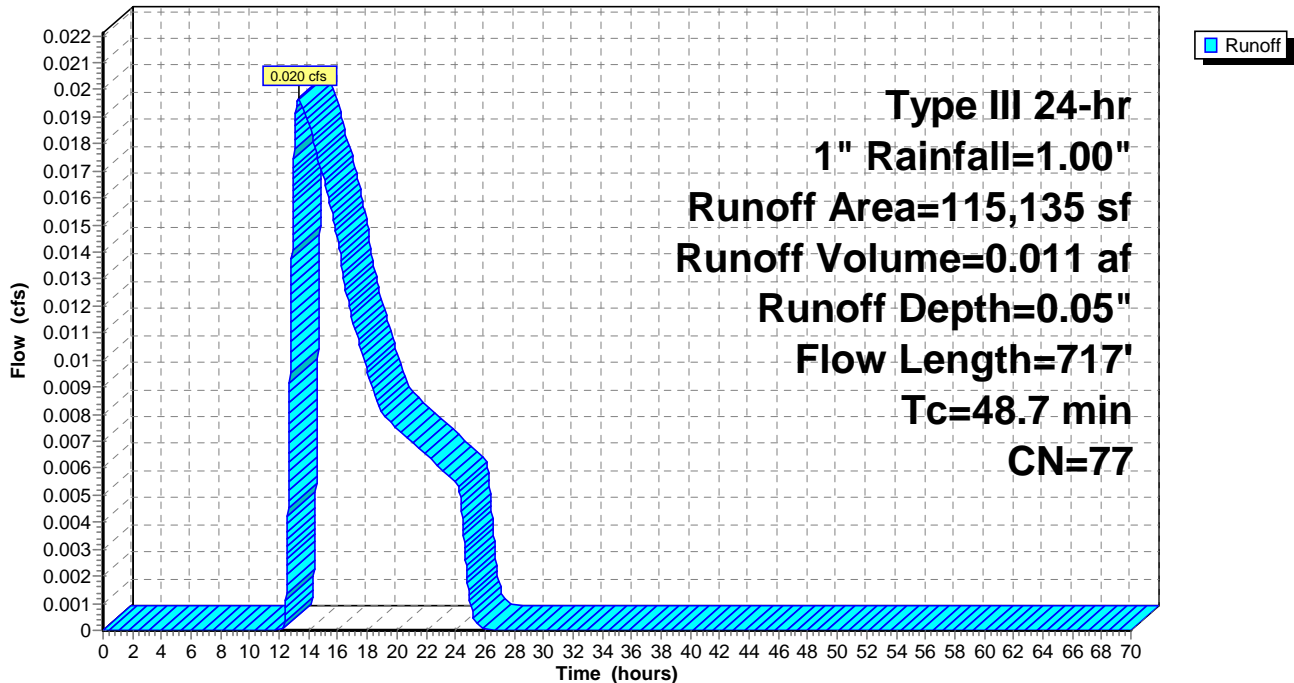
Area (sf)	CN	Description
41,712	80	>75% Grass cover, Good, HSG D
70,387	74	>75% Grass cover, Good, HSG C
3,036	98	Paved parking & roofs
115,135	77	Weighted Average
112,099		97.36% Pervious Area
3,036		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 18 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 18 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 18 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

**Subcatchment 18S: Subcatchment 18**

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**Summary for Subcatchment 19S: Subcatchment 19**

Runoff = 0.141 cfs @ 12.70 hrs, Volume= 0.031 af, Depth= 0.13"

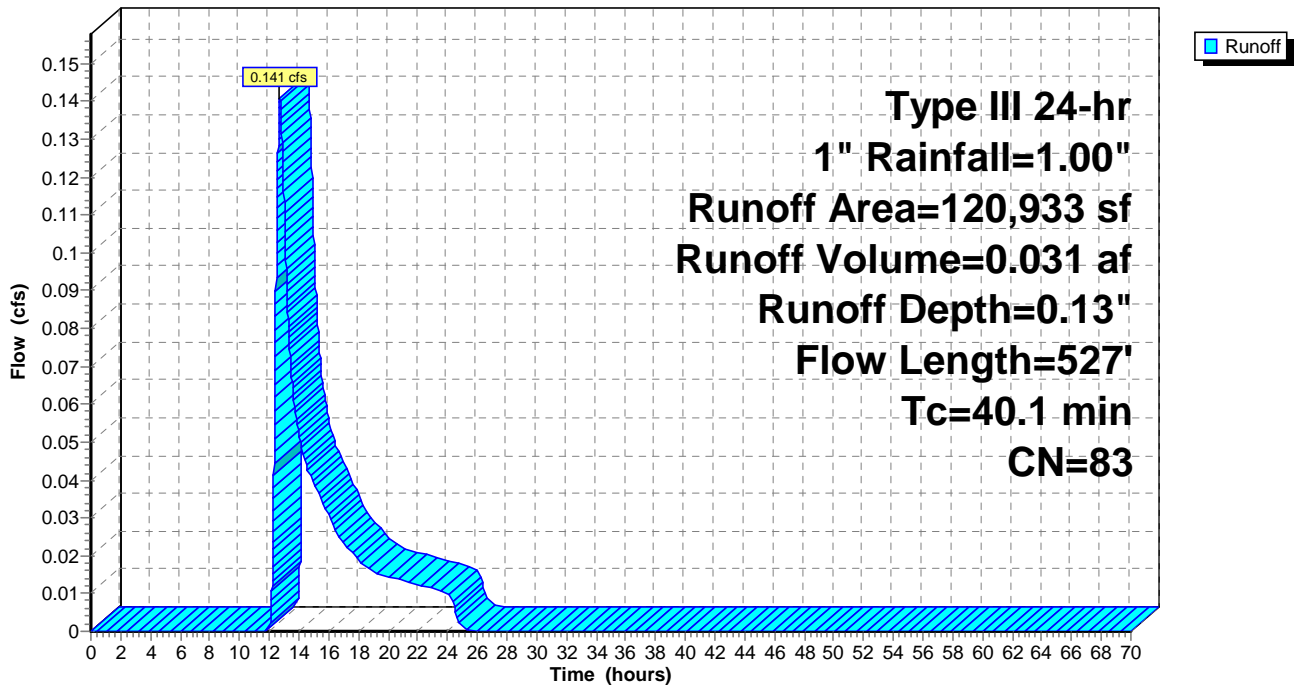
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
116,905	82	Woods/grass comb., Fair, HSG D
4,028	98	Paved parking & roofs
120,933	83	Weighted Average
116,905		96.67% Pervious Area
4,028		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0450	0.10		<b>Sheet Flow, Subcatchment 19 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
24.1	427	0.0035	0.30		<b>Shallow Concentrated Flow, Subcatchment 19 SCF</b>
					Woodland Kv= 5.0 fps
40.1	527	Total			

**Subcatchment 19S: Subcatchment 19**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 20S: Subcatchment 20**

Runoff = 0.201 cfs @ 12.07 hrs, Volume= 0.014 af, Depth= 0.79"

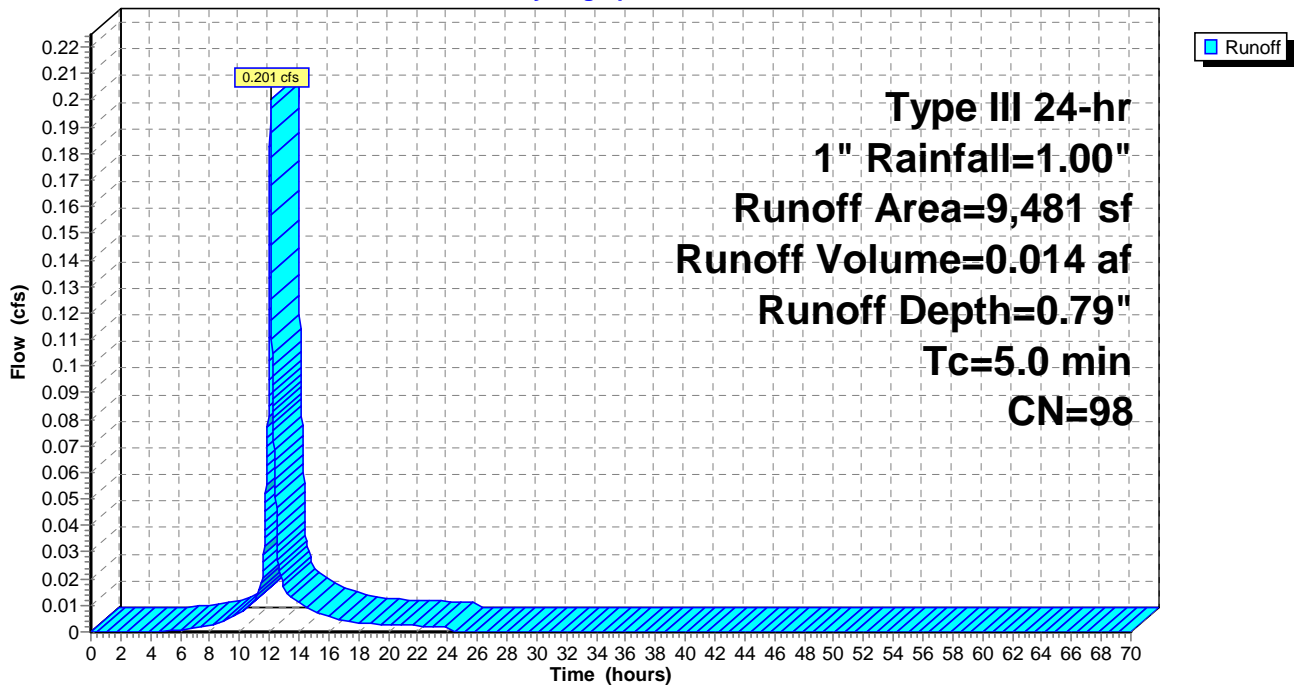
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
9,481	98	Paved parking & roofs
9,481		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 20

**Subcatchment 20S: Subcatchment 20**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 21S: Subcatchment 21**

Runoff = 0.212 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 0.79"

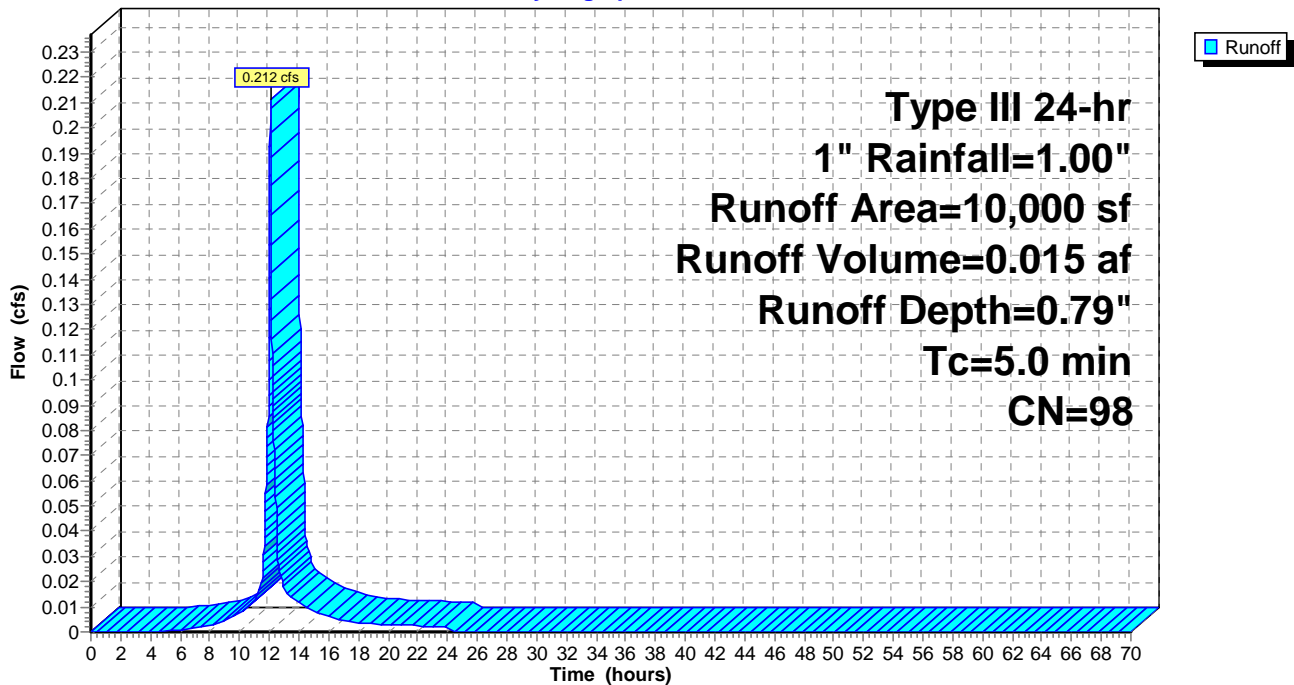
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 21

**Subcatchment 21S: Subcatchment 21**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 22S: Subcatchment 22**

Runoff = 0.505 cfs @ 12.07 hrs, Volume= 0.035 af, Depth= 0.56"

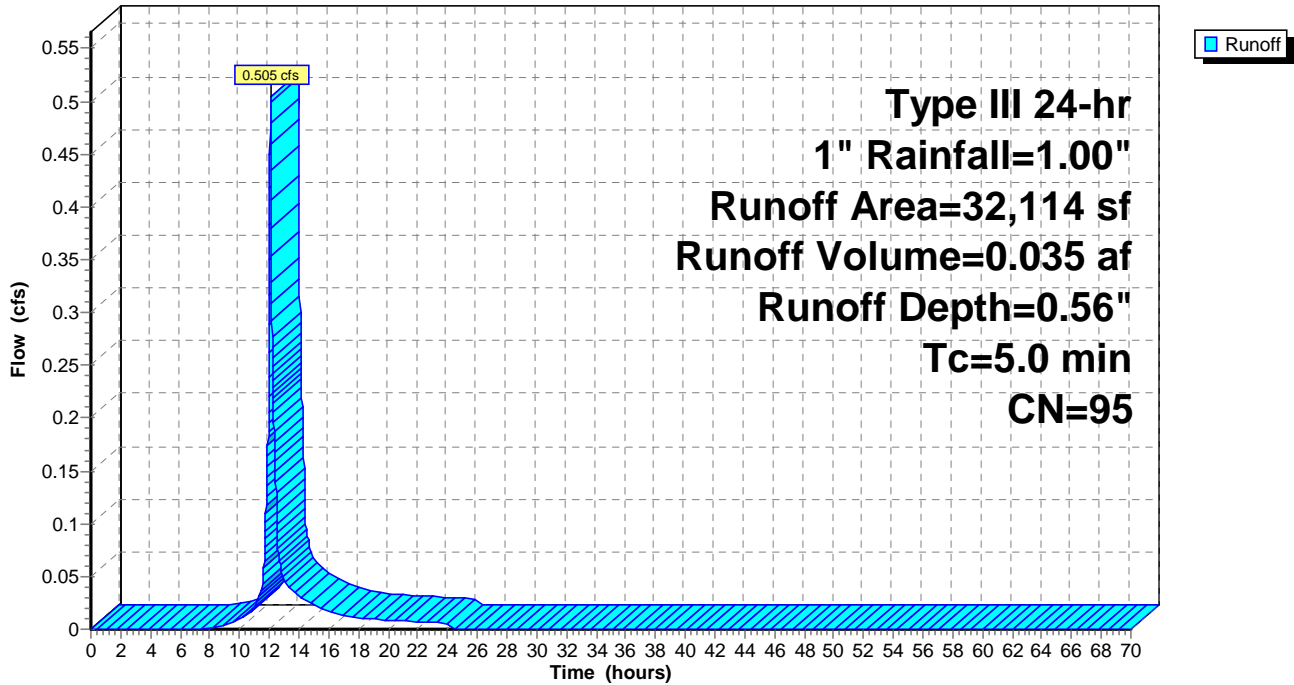
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
4,886	80	>75% Grass cover, Good, HSG D
27,228	98	Paved parking & roofs
32,114	95	Weighted Average
4,886		15.21% Pervious Area
27,228		84.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 22

**Subcatchment 22S: Subcatchment 22**

Hydrograph



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**Summary for Subcatchment 23S: Subcatchment 23**

Runoff = 0.405 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 0.40"

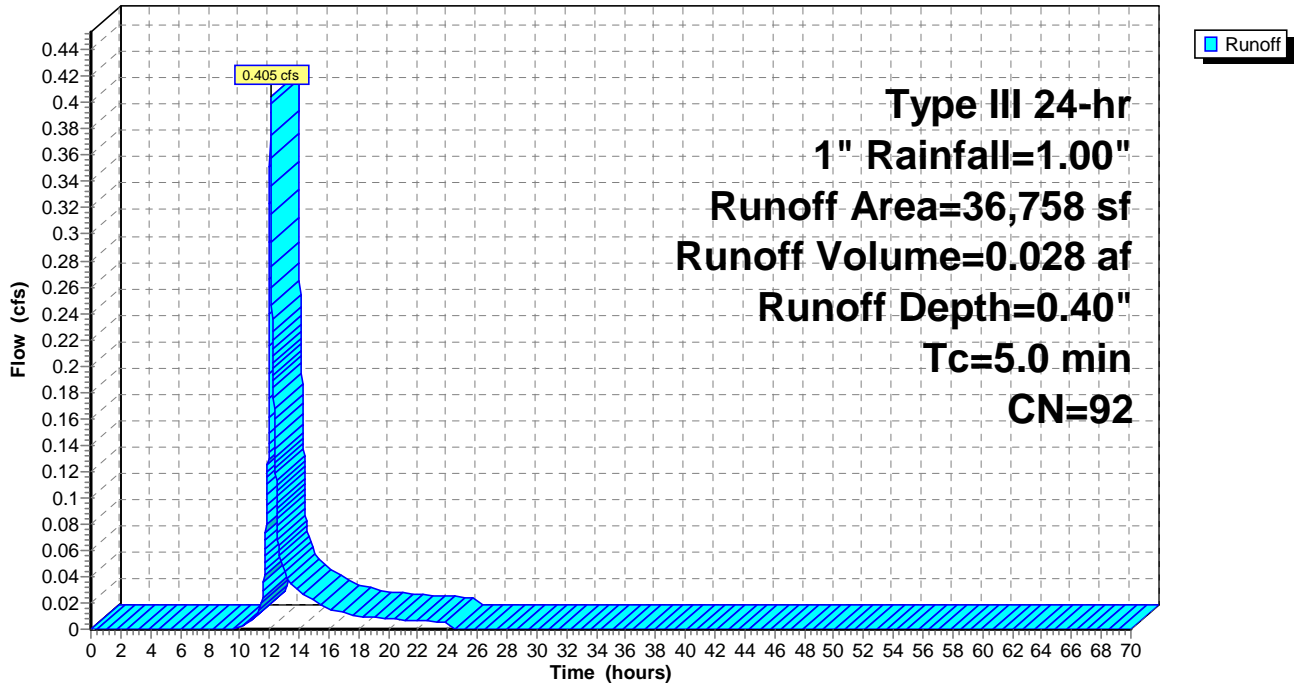
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
12,128	80	>75% Grass cover, Good, HSG D
24,630	98	Paved parking & roofs
36,758	92	Weighted Average
12,128		32.99% Pervious Area
24,630		67.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 23

**Subcatchment 23S: Subcatchment 23**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Subcatchment 24S: Subcatchment 24

Runoff = 0.057 cfs @ 12.97 hrs, Volume= 0.016 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

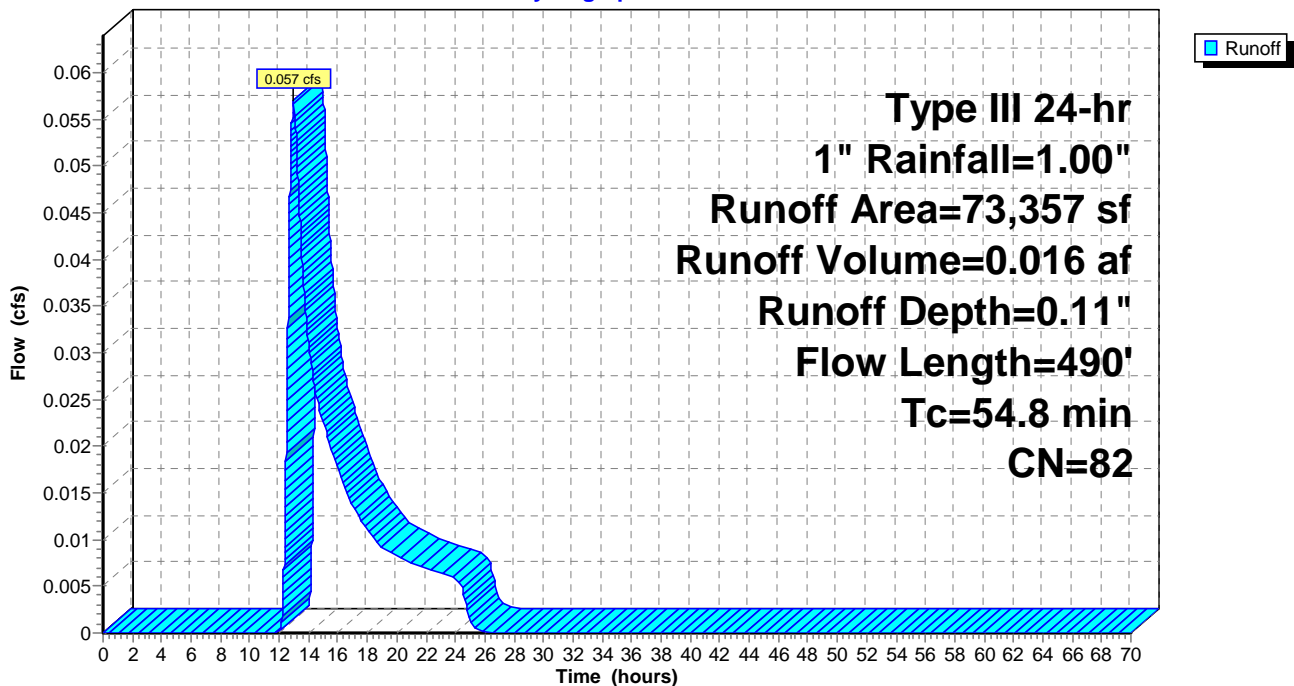
Area (sf)	CN	Description
73,357	82	Woods/grass comb., Fair, HSG D
73,357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 24 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
25.5	390	0.0026	0.25		<b>Shallow Concentrated Flow, Subcatchment 24 SCF</b>
					Woodland Kv= 5.0 fps
54.8	490	Total			

## Subcatchment 24S: Subcatchment 24

Hydrograph





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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 25S: Subcatchment 25**

Runoff = 0.369 cfs @ 12.07 hrs, Volume= 0.025 af, Depth= 0.56"

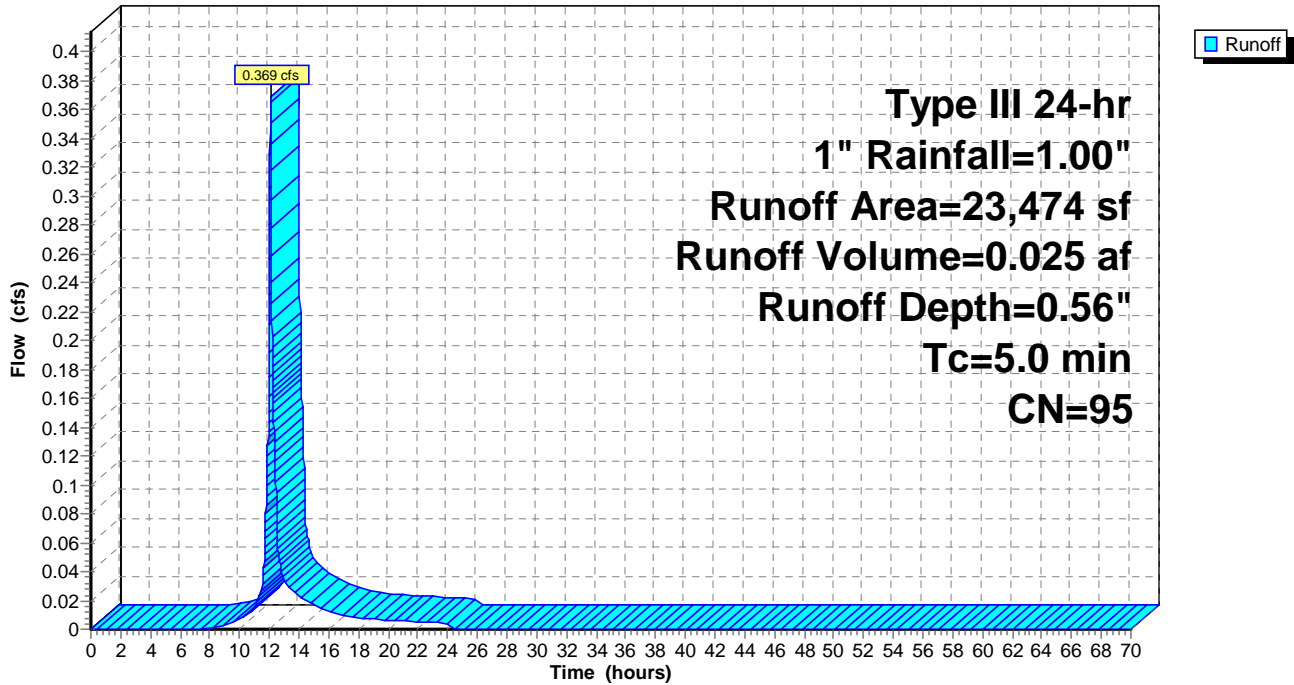
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
3,959	80	>75% Grass cover, Good, HSG D
19,515	98	Paved parking & roofs
23,474	95	Weighted Average
3,959		16.87% Pervious Area
19,515		83.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 25

**Subcatchment 25S: Subcatchment 25**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 26S: Subcatchment 26**

Runoff = 0.212 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 0.79"

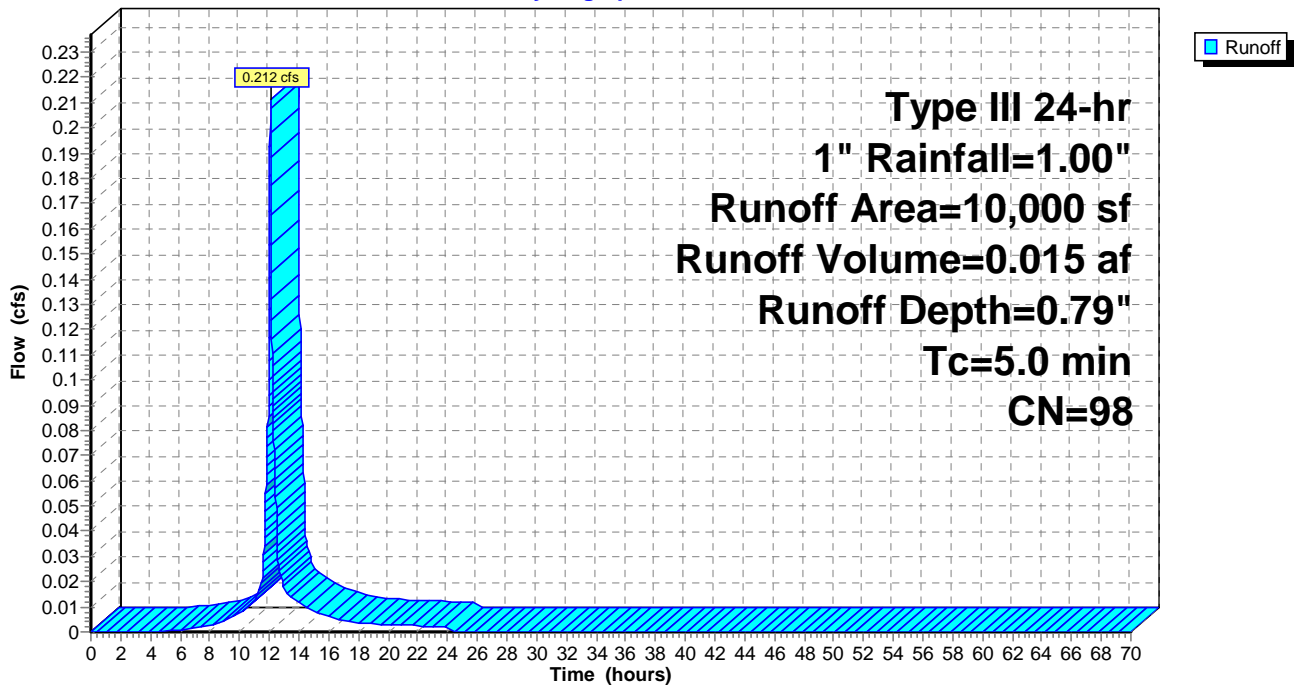
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 26

**Subcatchment 26S: Subcatchment 26**

Hydrograph



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**Summary for Subcatchment 27S: Subcatchment 27**

Runoff = 0.287 cfs @ 12.07 hrs, Volume= 0.020 af, Depth= 0.56"

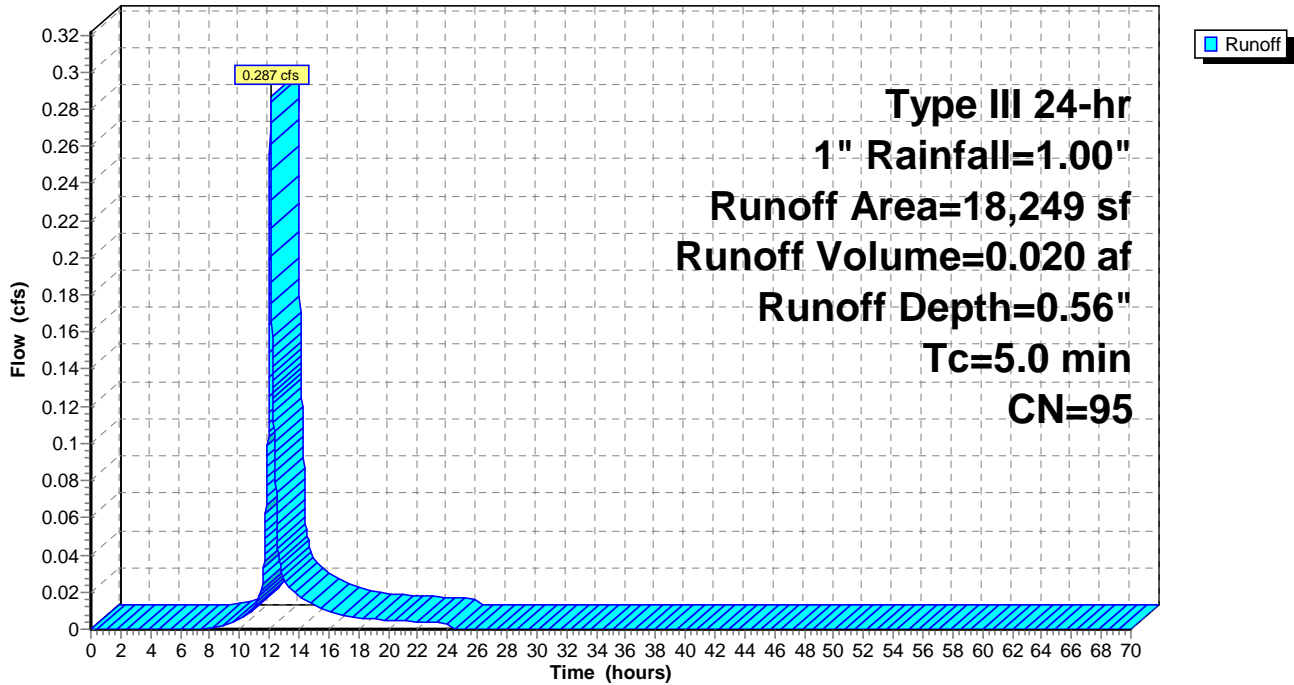
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
2,585	80	>75% Grass cover, Good, HSG D
15,664	98	Paved parking & roofs
18,249	95	Weighted Average
2,585		14.17% Pervious Area
15,664		85.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 27

**Subcatchment 27S: Subcatchment 27**

Hydrograph



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## Summary for Subcatchment 28S: Subcatchment 28

Runoff = 0.388 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 0.79"

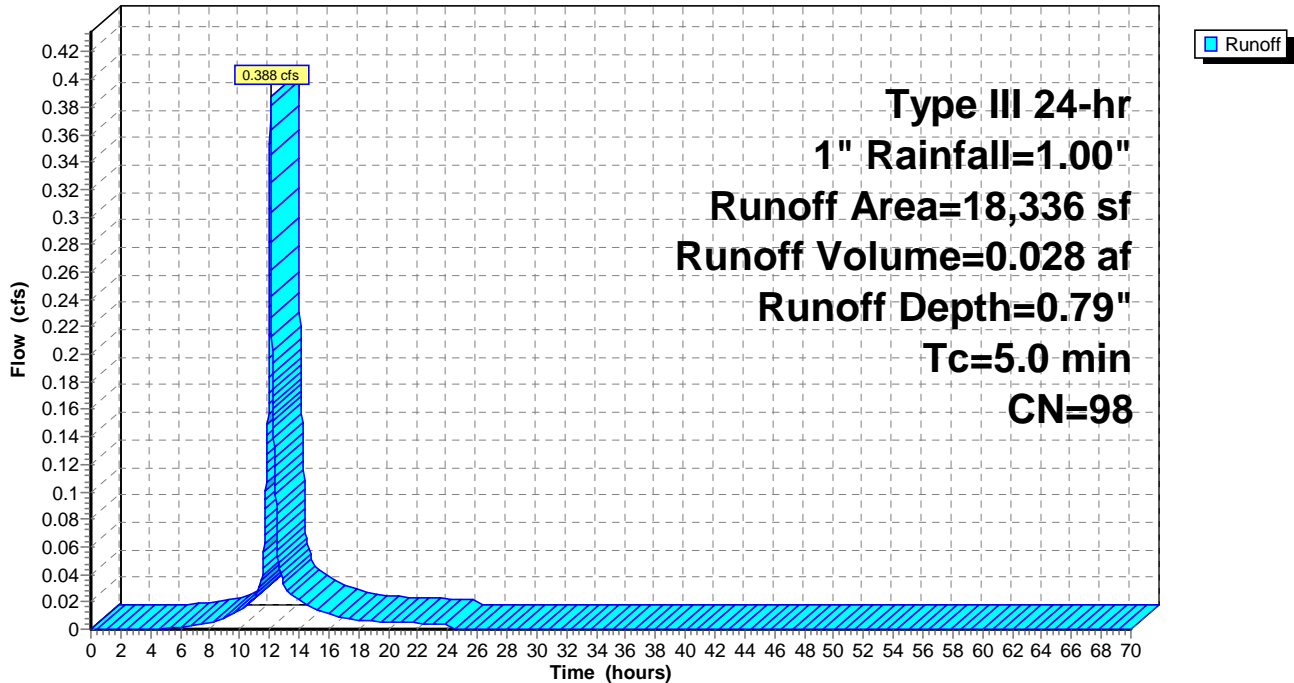
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
18,027	98	Paved parking & roofs
309	80	>75% Grass cover, Good, HSG D
18,336	98	Weighted Average
309		1.69% Pervious Area
18,027		98.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 28

## Subcatchment 28S: Subcatchment 28

Hydrograph



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**Summary for Subcatchment 29S: Subcatchment 29**

Runoff = 0.050 cfs @ 12.60 hrs, Volume= 0.014 af, Depth= 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

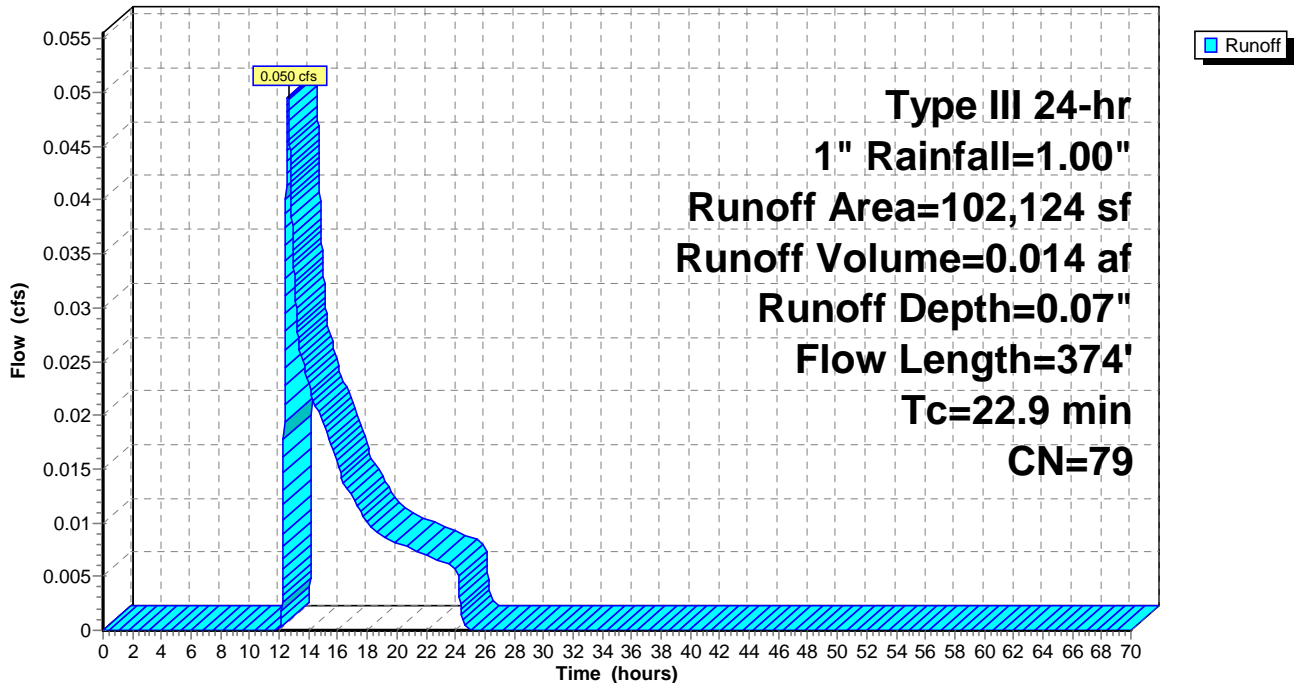
Area (sf)	CN	Description
30,457	74	>75% Grass cover, Good, HSG C
69,161	80	>75% Grass cover, Good, HSG D
2,506	98	Paved parking & roofs
102,124	79	Weighted Average
99,618		97.55% Pervious Area
2,506		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		<b>Sheet Flow, Subcatchment 29 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.9	207	0.0138	0.59		<b>Shallow Concentrated Flow, Subcatchment 29 SCF</b> Woodland Kv= 5.0 fps
0.2	67	0.1567	6.54	17.02	<b>Channel Flow, Subcatchment 29 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
22.9	374	Total			

**Subcatchment 29S: Subcatchment 29**

Hydrograph



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**Summary for Subcatchment 30S: Subcatchment 30**

Runoff = 0.090 cfs @ 12.91 hrs, Volume= 0.032 af, Depth= 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

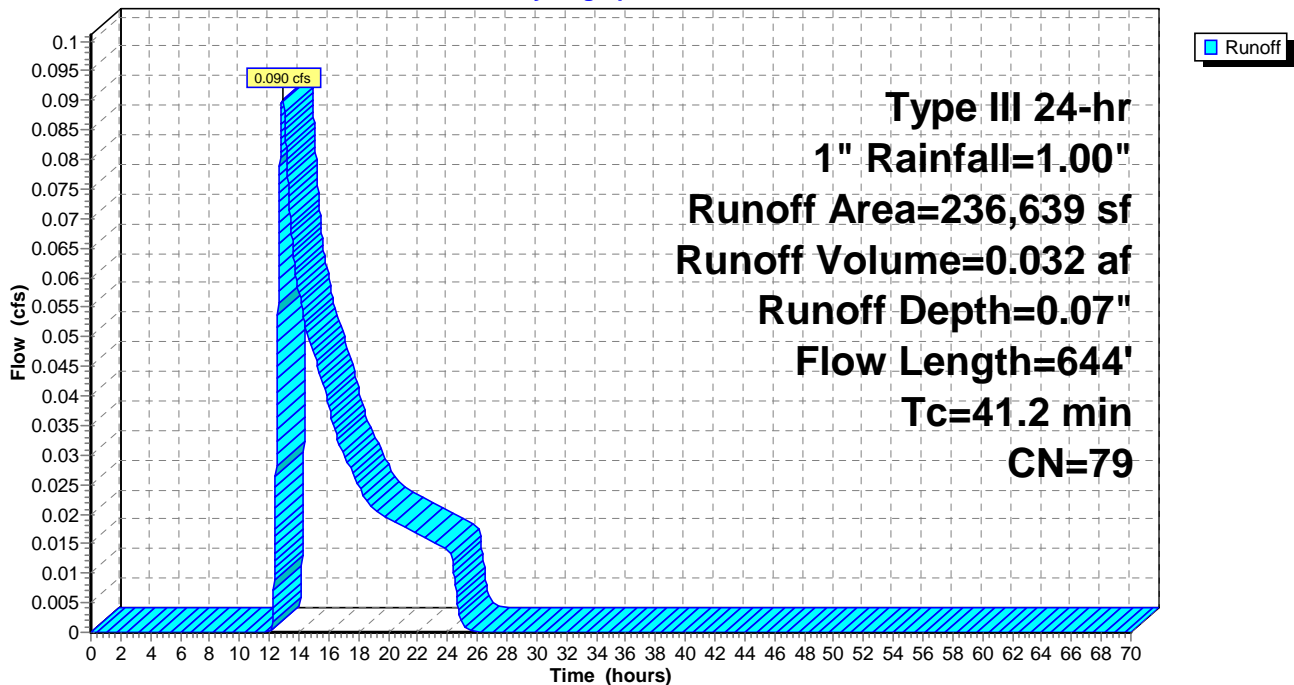
Area (sf)	CN	Description
26,475	74	>75% Grass cover, Good, HSG C
209,945	80	>75% Grass cover, Good, HSG D
219	98	Paved parking & roofs
236,639	79	Weighted Average
236,420		99.91% Pervious Area
219		0.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 30 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.2	357	0.0112	0.53		<b>Shallow Concentrated Flow, Subcatchment 30 SCF</b> Woodland Kv= 5.0 fps
0.7	187	0.0640	4.18	10.87	<b>Channel Flow, Subcatchment 30 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
41.2	644	Total			

**Subcatchment 30S: Subcatchment 30**

Hydrograph



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**Summary for Subcatchment 31S: Subcatchment 31**

Runoff = 0.212 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 0.79"

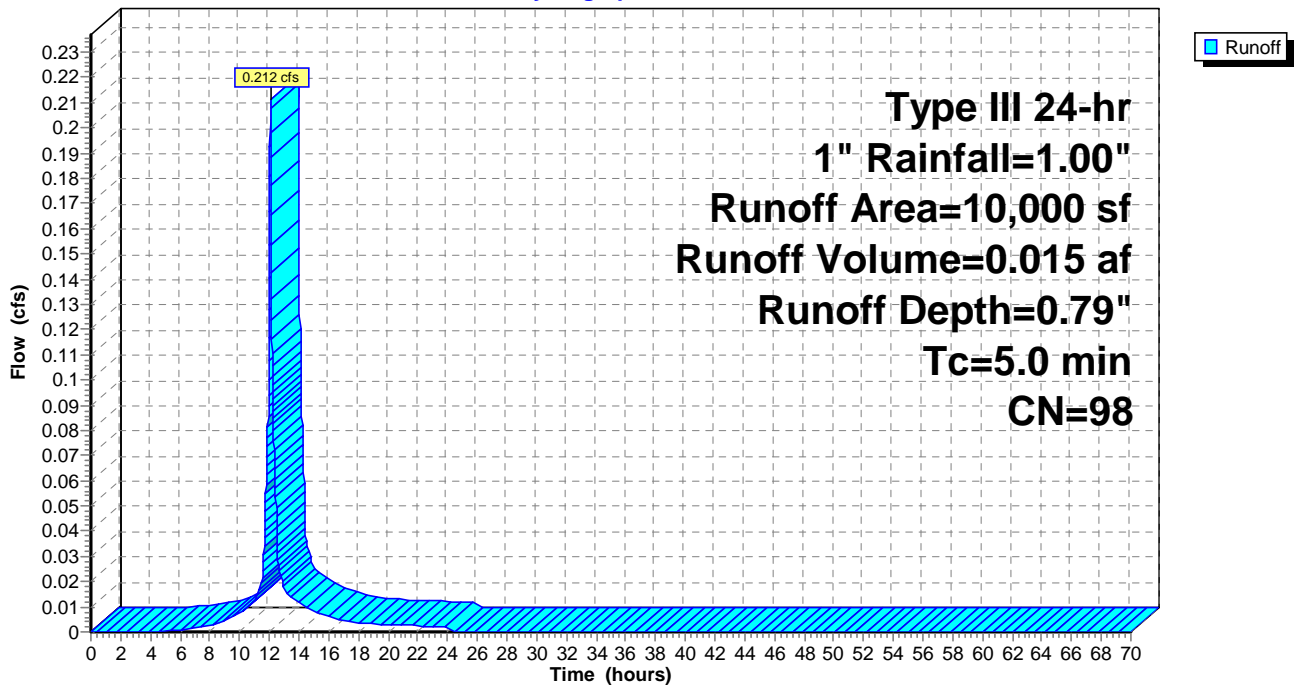
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 31

**Subcatchment 31S: Subcatchment 31**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 32S: Subcatchment 32**

Runoff = 0.212 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 0.79"

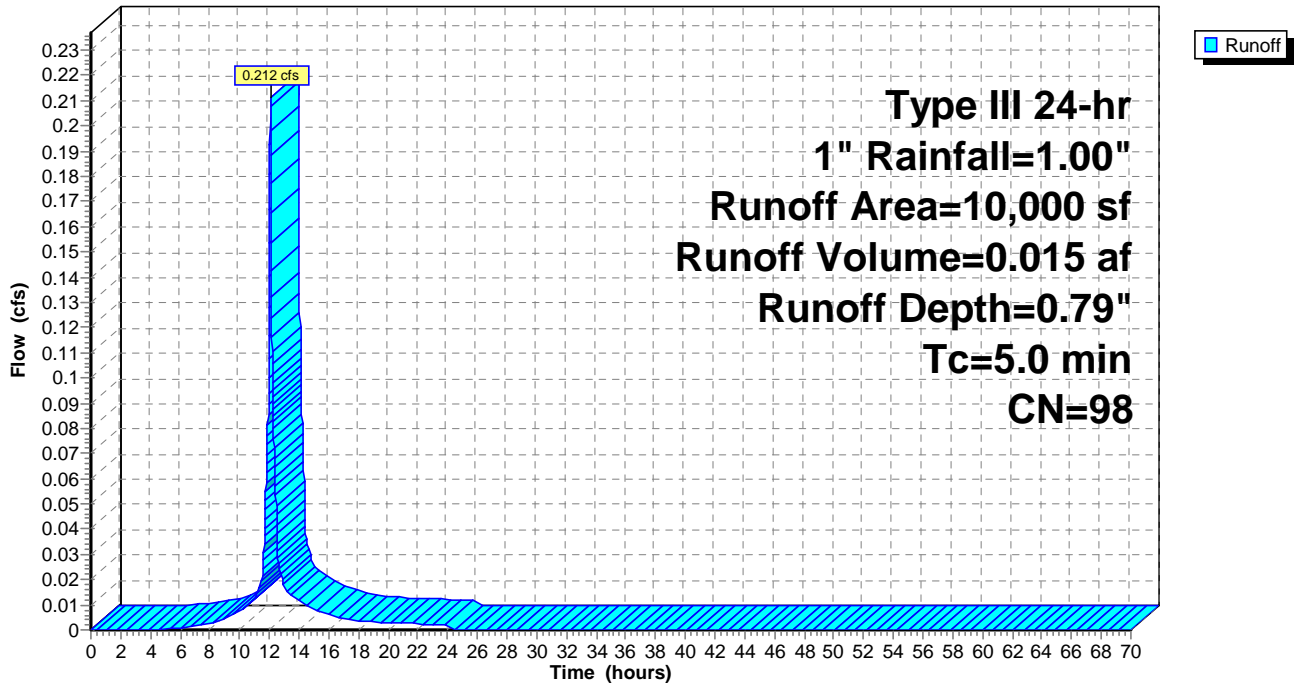
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 32

**Subcatchment 32S: Subcatchment 32**

Hydrograph





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**Summary for Subcatchment 33S: Subcatchment 33**

Runoff = 0.213 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 0.56"

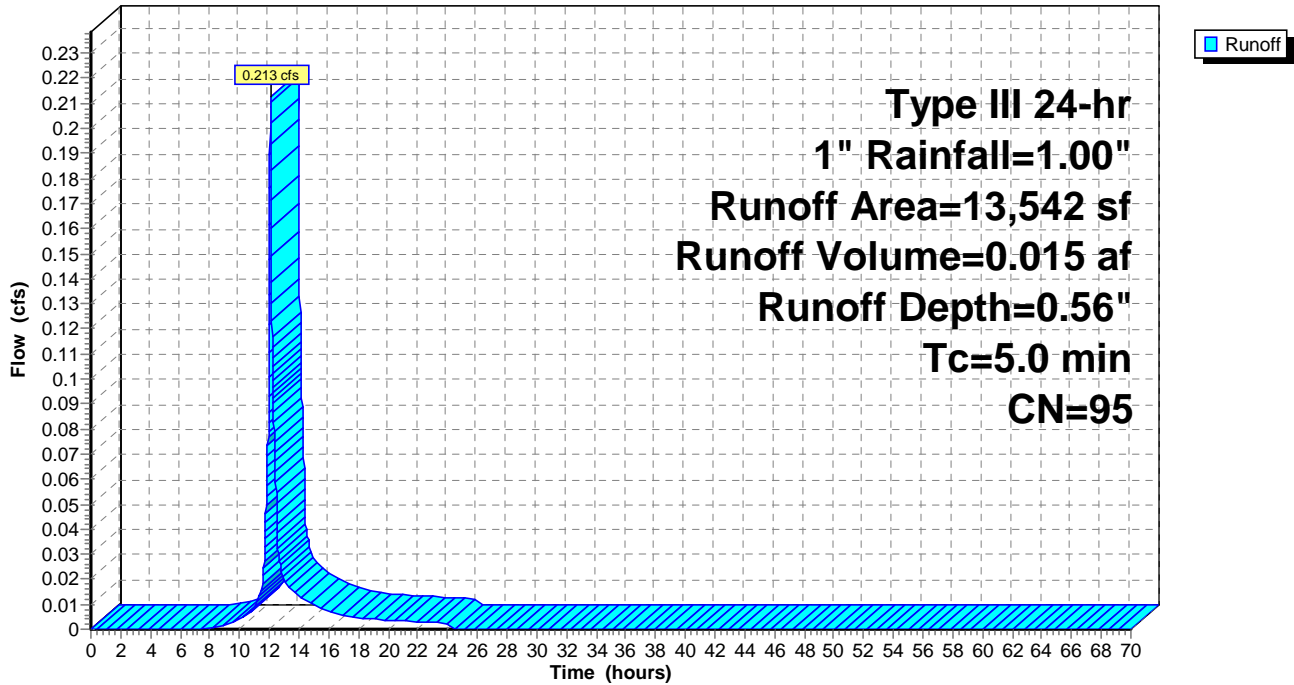
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
2,318	80	>75% Grass cover, Good, HSG D
11,224	98	Paved parking & roofs
13,542	95	Weighted Average
2,318		17.12% Pervious Area
11,224		82.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 33

**Subcatchment 33S: Subcatchment 33**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Subcatchment 34S: Subcatchment 34

Runoff = 0.413 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 0.50"

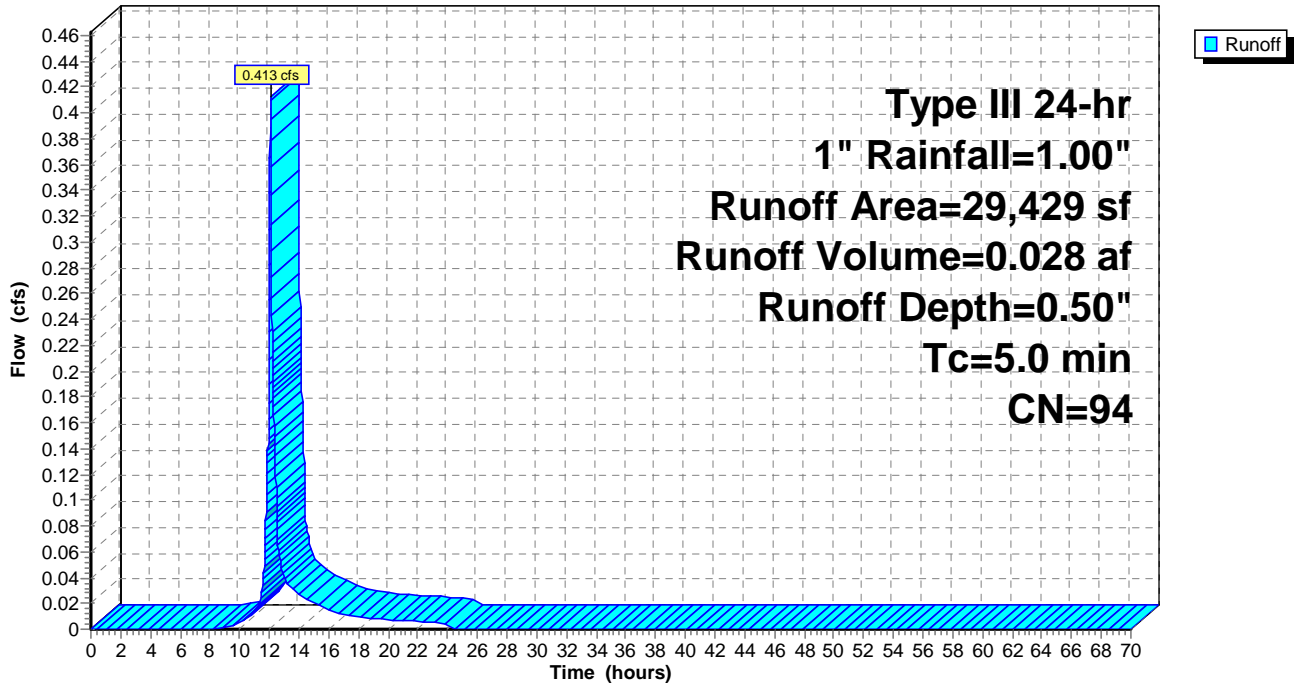
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
6,200	80	>75% Grass cover, Good, HSG D
23,229	98	Paved parking & roofs
29,429	94	Weighted Average
6,200		21.07% Pervious Area
23,229		78.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 34

## Subcatchment 34S: Subcatchment 34

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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 35S: Subcatchment 35**

Runoff = 0.174 cfs @ 12.07 hrs, Volume= 0.012 af, Depth= 0.63"

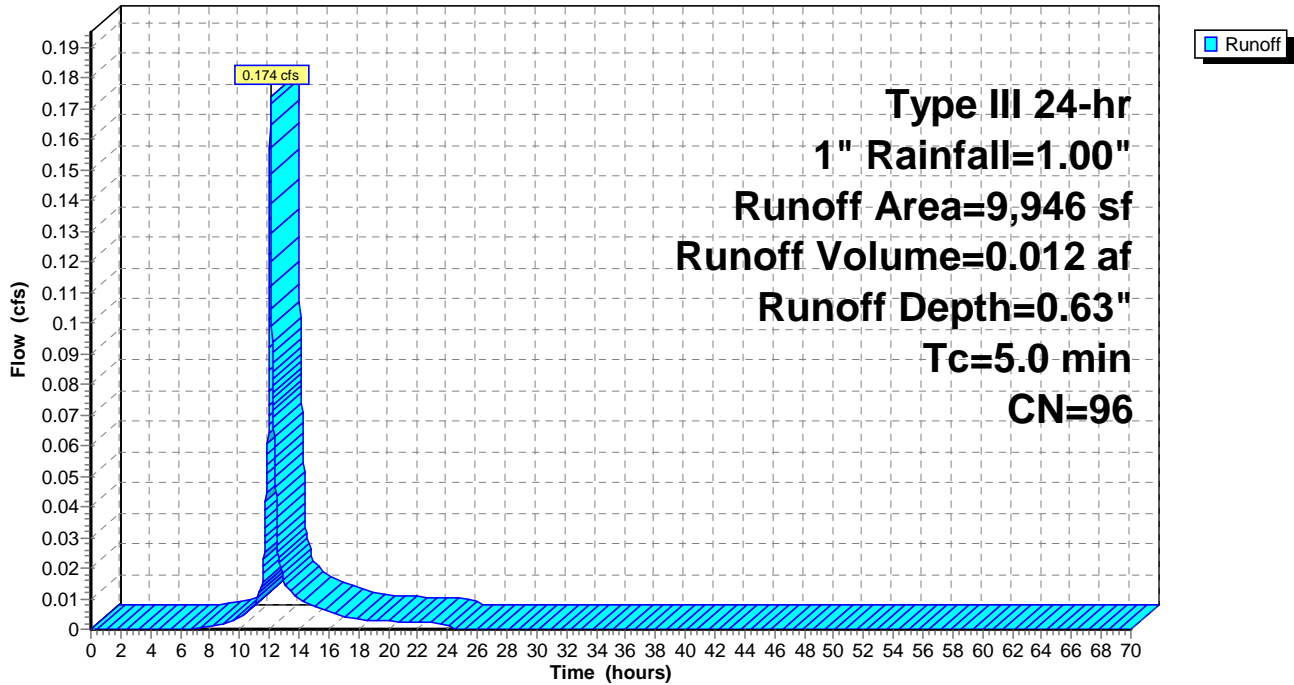
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
1,334	80	>75% Grass cover, Good, HSG D
8,612	98	Paved parking & roofs
9,946	96	Weighted Average
1,334		13.41% Pervious Area
8,612		86.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 35

**Subcatchment 35S: Subcatchment 35**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 36S: Subcatchment 36**

Runoff = 0.085 cfs @ 13.00 hrs, Volume= 0.028 af, Depth= 0.08"

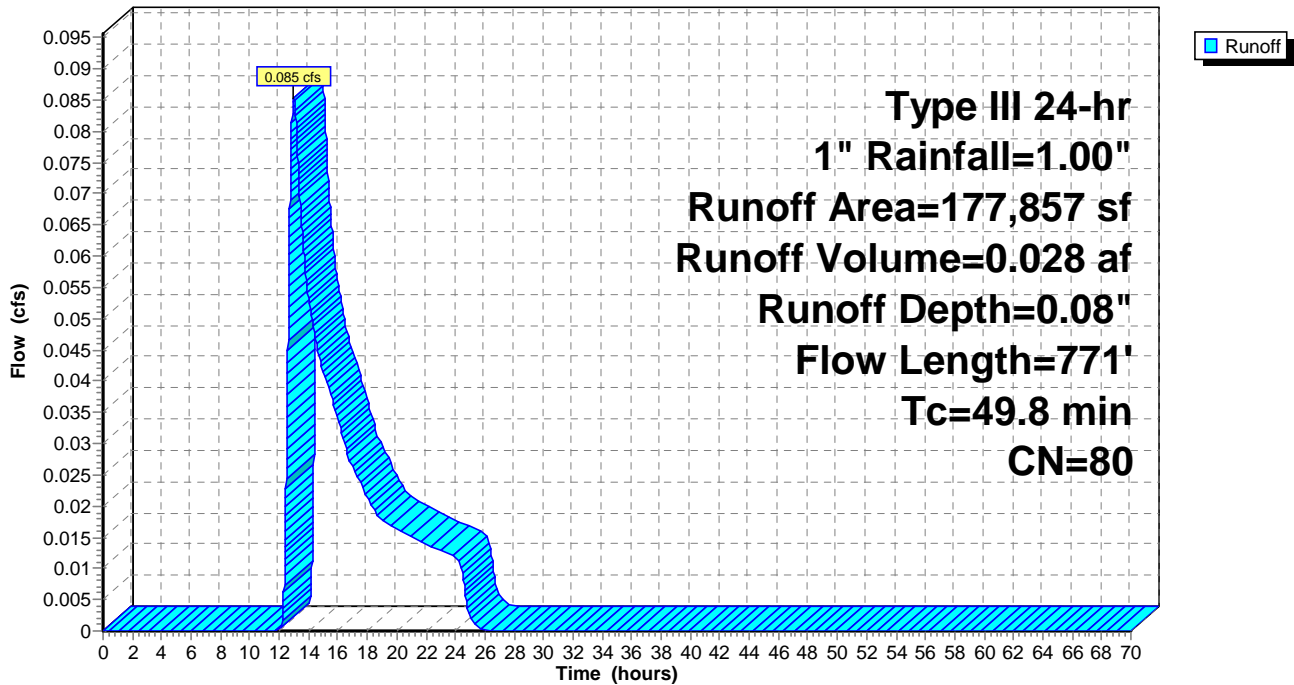
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
3,520	74	>75% Grass cover, Good, HSG C
174,337	80	>75% Grass cover, Good, HSG D
177,857	80	Weighted Average
177,857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 36 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
20.5	671	0.0119	0.55		<b>Shallow Concentrated Flow, Subcatchment 36 SCF</b>
					Woodland Kv= 5.0 fps
49.8	771	Total			

**Subcatchment 36S: Subcatchment 36**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 62S: Rain on Pond 62P**

Runoff = 0.126 cfs @ 12.07 hrs, Volume= 0.009 af, Depth= 0.79"

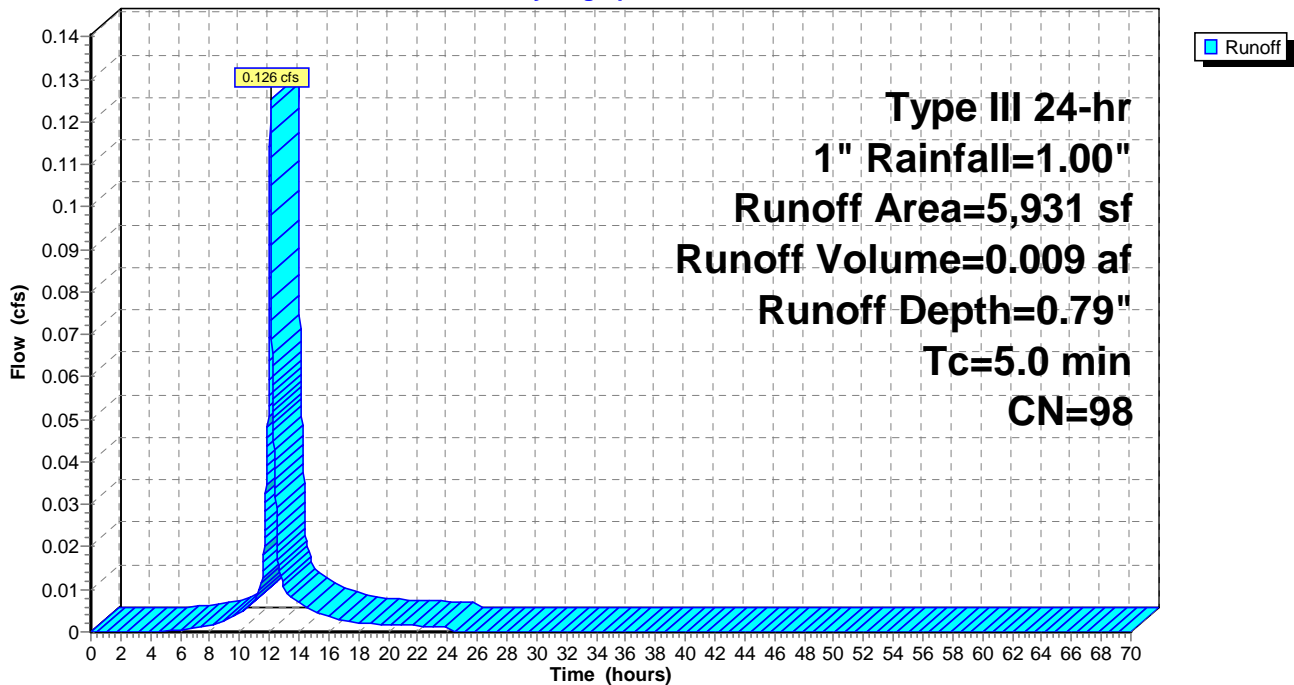
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
5,931	98	Water Surface, 0% imp
5,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 62S: Rain on Pond 62P**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 63S: Rain on Pond 60P**

Runoff = 0.135 cfs @ 12.07 hrs, Volume= 0.010 af, Depth= 0.79"

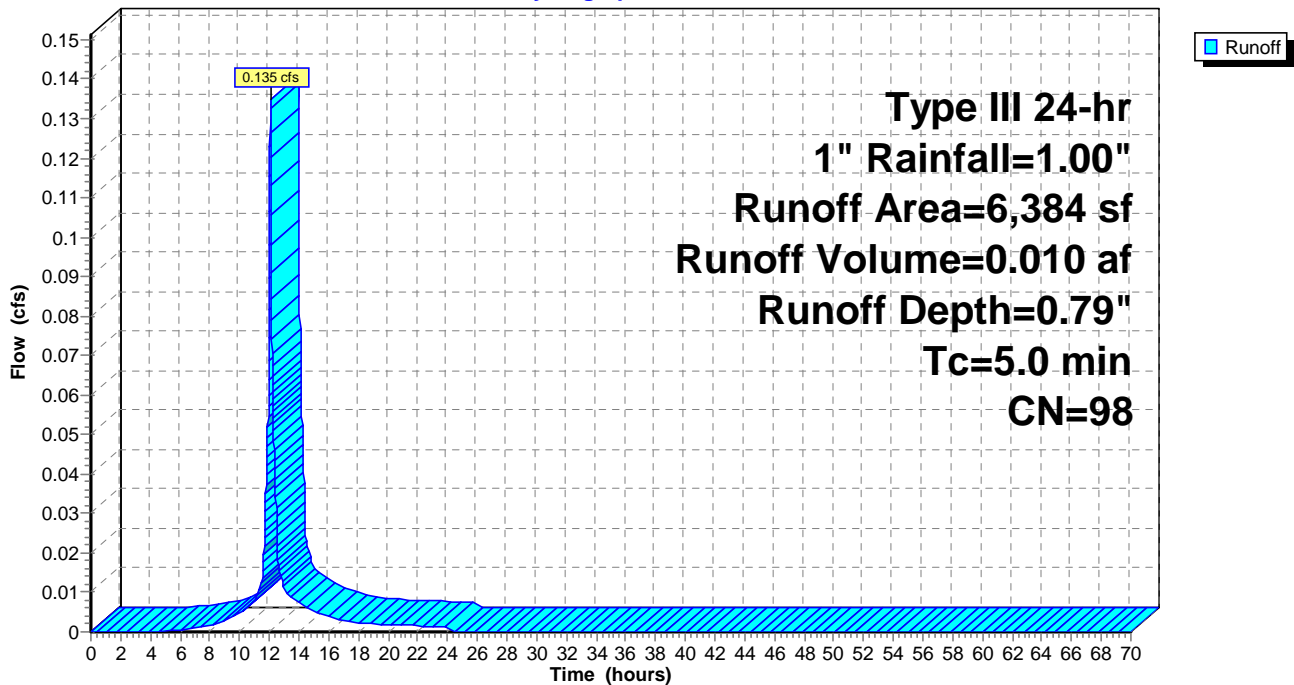
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
6,384	98	Water Surface, 0% imp
6,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 60P**

Hydrograph



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**Summary for Subcatchment 64S: Rain on Pond 63P**

Runoff = 0.114 cfs @ 12.07 hrs, Volume= 0.008 af, Depth= 0.79"

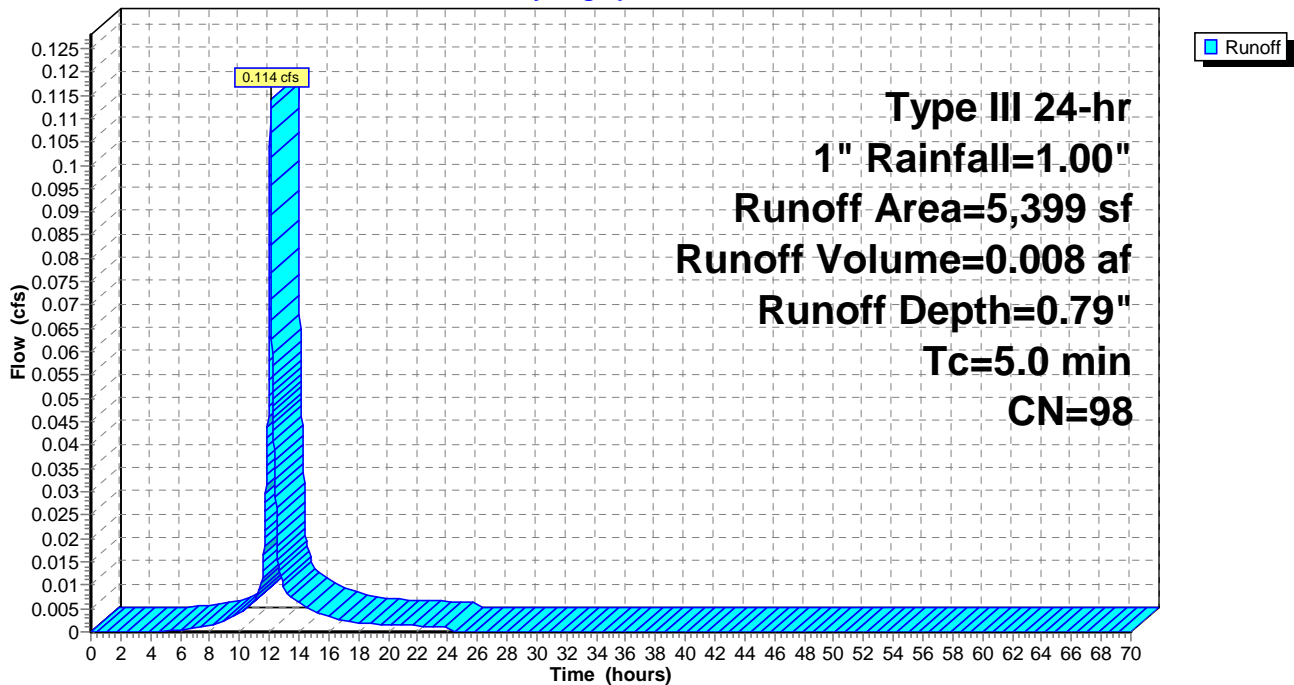
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
5,399	98	Water Surface, 0% imp
5,399		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 64S: Rain on Pond 63P**

Hydrograph



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**Summary for Subcatchment 65S: Rain on Pond 44P**

Runoff = 0.122 cfs @ 12.07 hrs, Volume= 0.009 af, Depth= 0.79"

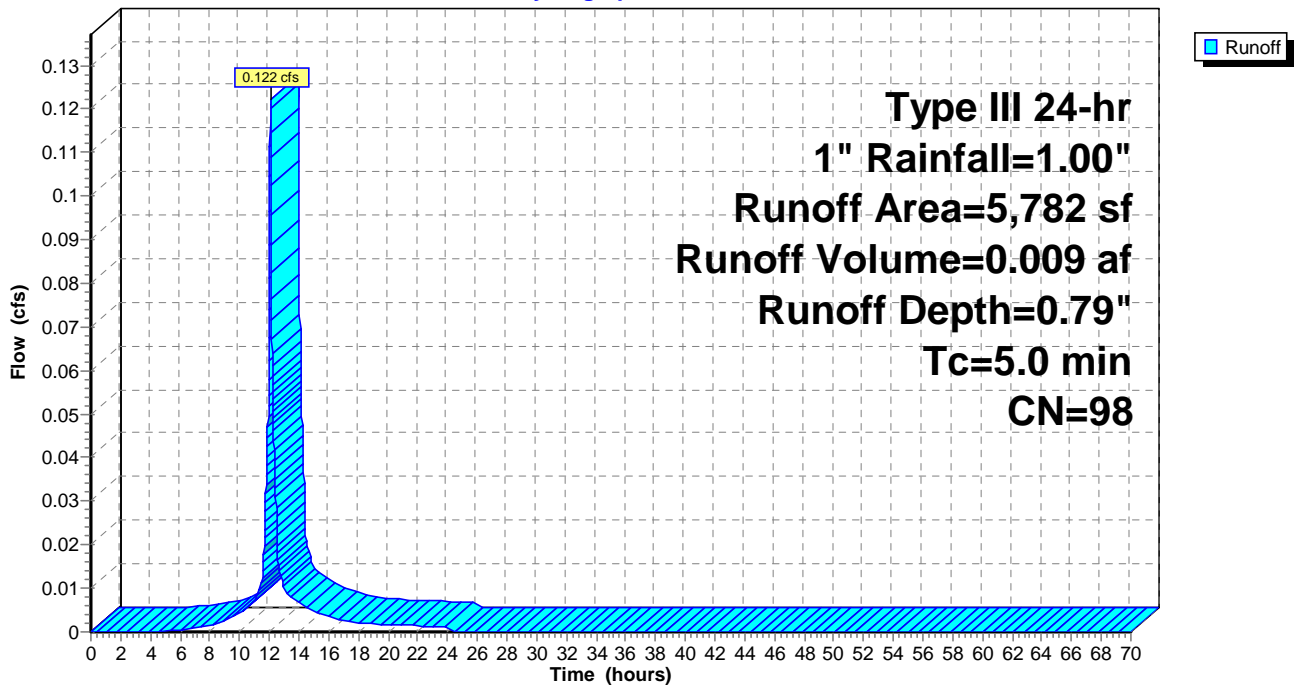
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
5,782	98	Water Surface, 0% imp
5,782		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 65S: Rain on Pond 44P**

Hydrograph





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## Summary for Subcatchment 66S: Rain on Pond 48P

Runoff = 0.078 cfs @ 12.07 hrs, Volume= 0.006 af, Depth= 0.79"

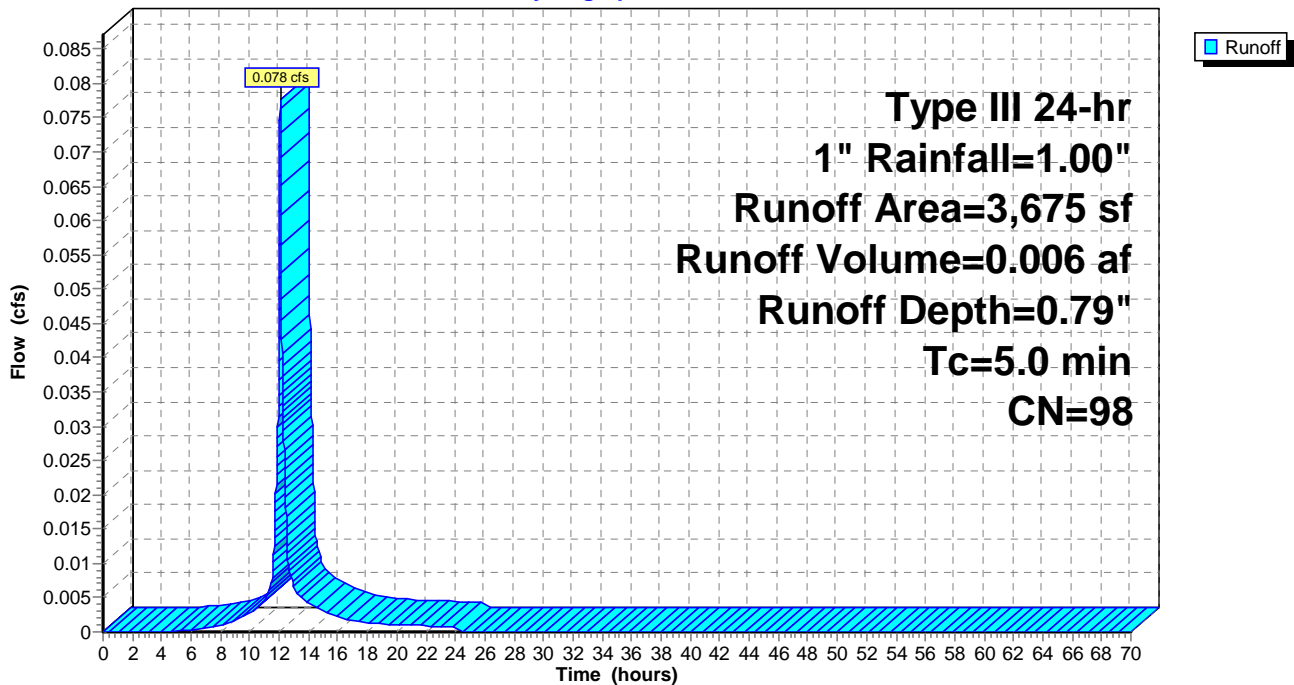
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
3,675	98	Water Surface, 0% imp
3,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

## Subcatchment 66S: Rain on Pond 48P

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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**Summary for Subcatchment 67S: Rain on Pond 49P**

Runoff = 0.085 cfs @ 12.07 hrs, Volume= 0.006 af, Depth= 0.79"

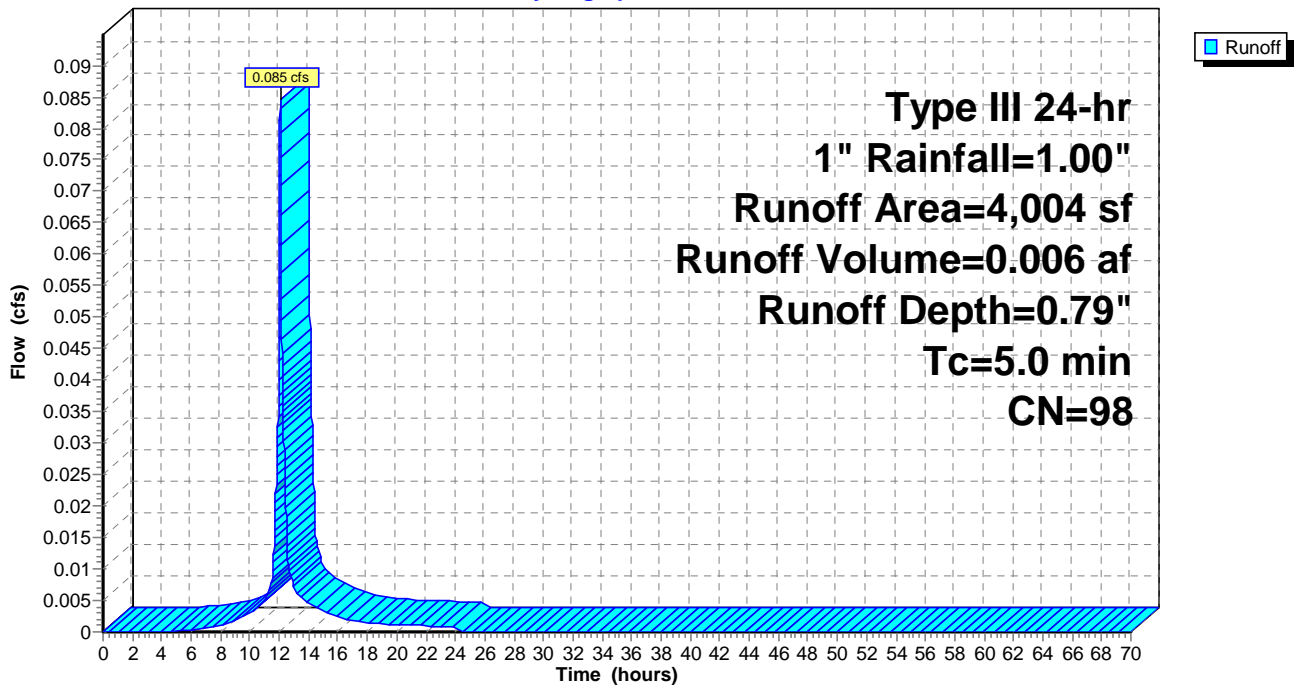
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
4,004	98	Water Surface, 0% imp
4,004		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 67S: Rain on Pond 49P**

Hydrograph



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**Summary for Subcatchment 68S: Rain on Pond 51P**

Runoff = 0.153 cfs @ 12.07 hrs, Volume= 0.011 af, Depth= 0.79"

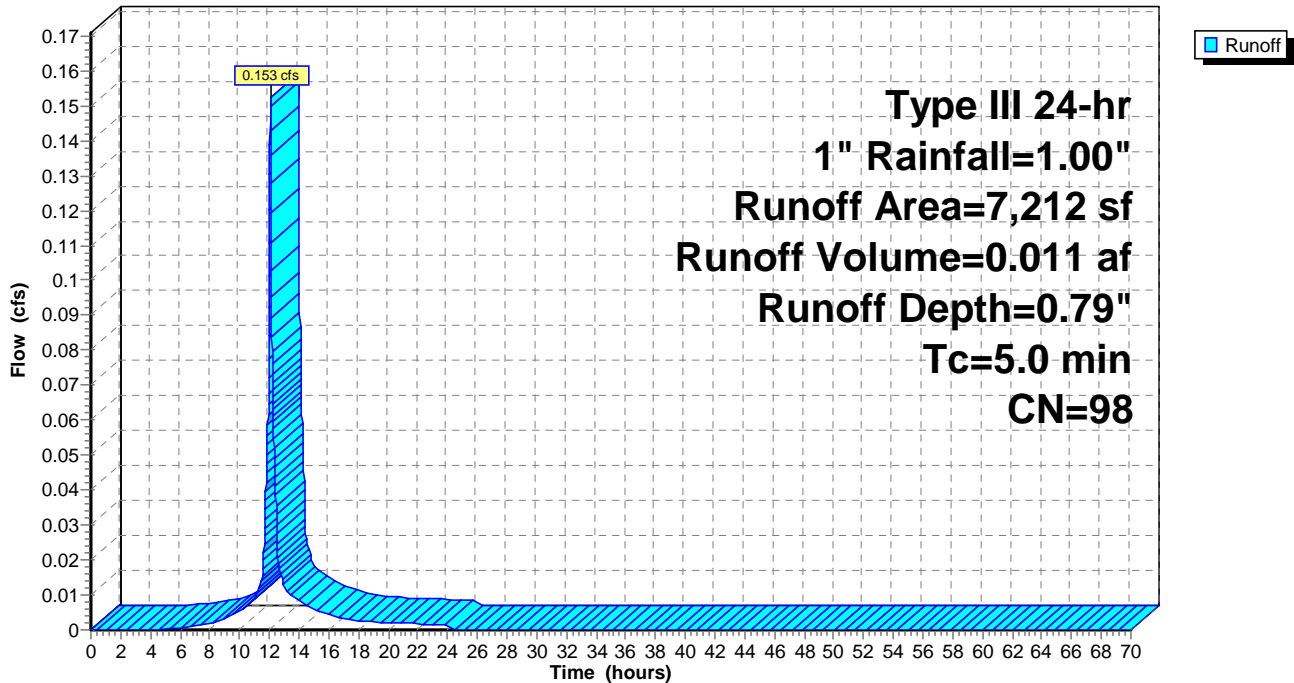
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
7,212	98	Water Surface, 0% imp
7,212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 68S: Rain on Pond 51P**

Hydrograph



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**Summary for Subcatchment 69S: Rain on Pond 53P**

Runoff = 0.218 cfs @ 12.07 hrs, Volume= 0.016 af, Depth= 0.79"

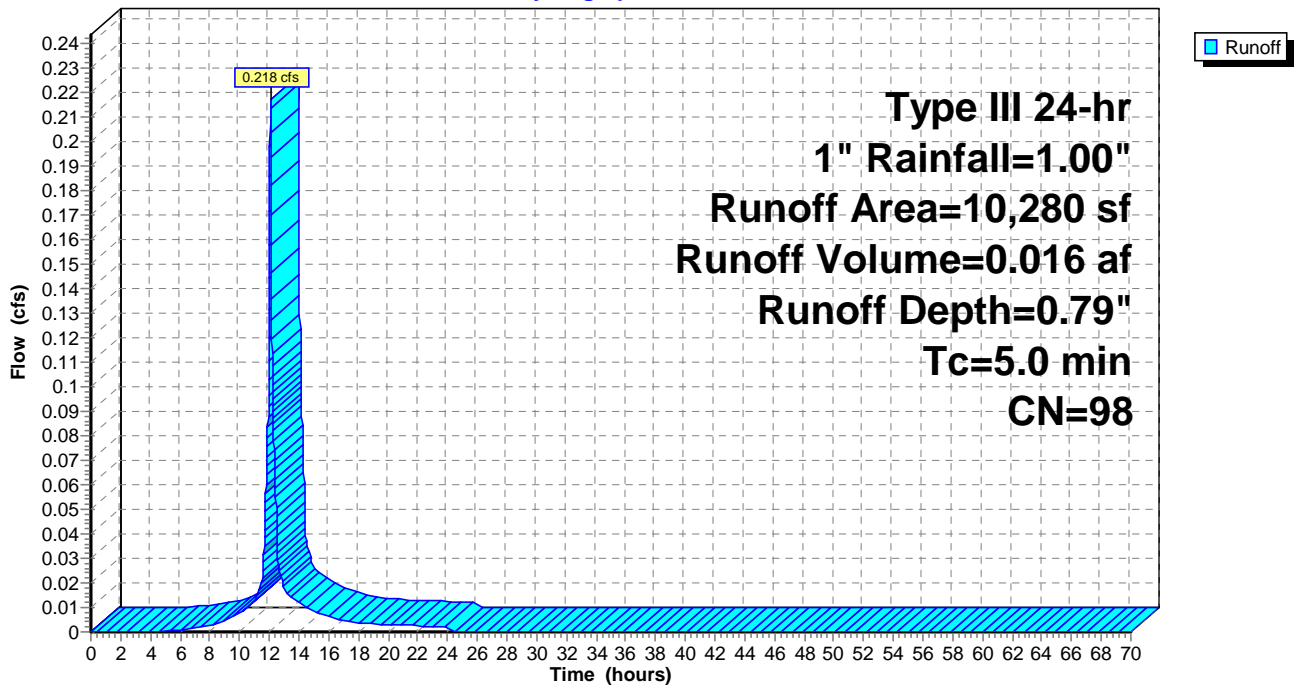
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
10,280	98	Water Surface, 0% imp
10,280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 69S: Rain on Pond 53P**

Hydrograph



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**Summary for Subcatchment 70S: Rain on Pond 52P**

Runoff = 0.046 cfs @ 12.07 hrs, Volume= 0.003 af, Depth= 0.79"

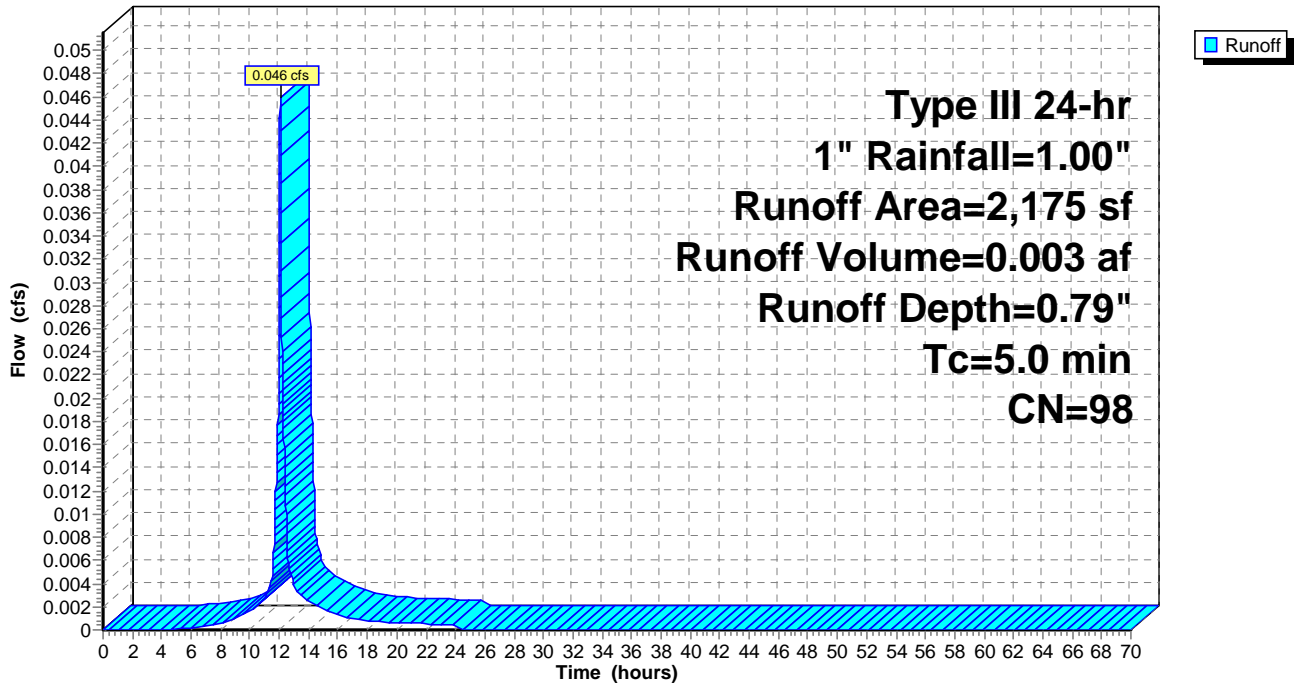
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
2,175	98	Water Surface, 0% imp
2,175		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 70S: Rain on Pond 52P**

Hydrograph



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**Summary for Subcatchment 72S: Rain on Pond 58P**

Runoff = 0.140 cfs @ 12.07 hrs, Volume= 0.010 af, Depth= 0.79"

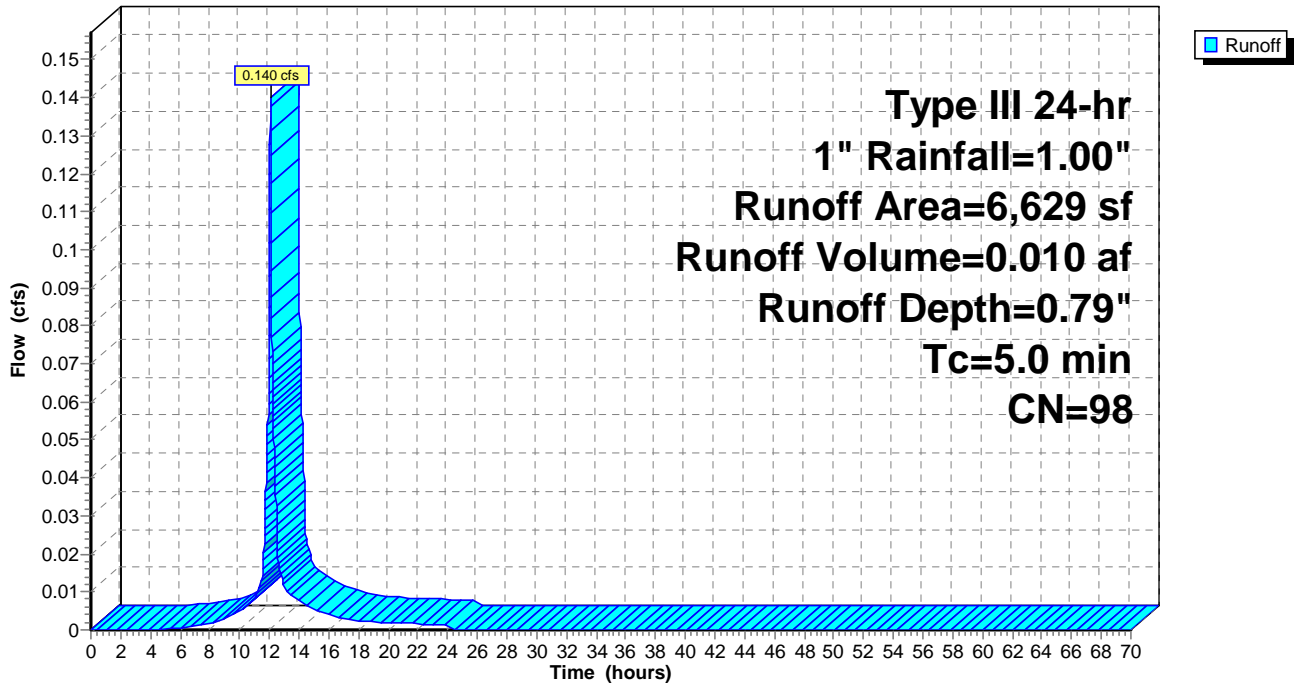
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
6,629	98	Water Surface, 0% imp
6,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 72S: Rain on Pond 58P**

Hydrograph



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**Summary for Subcatchment 73S: Rain on Pond 59P**

Runoff = 0.121 cfs @ 12.07 hrs, Volume= 0.009 af, Depth= 0.79"

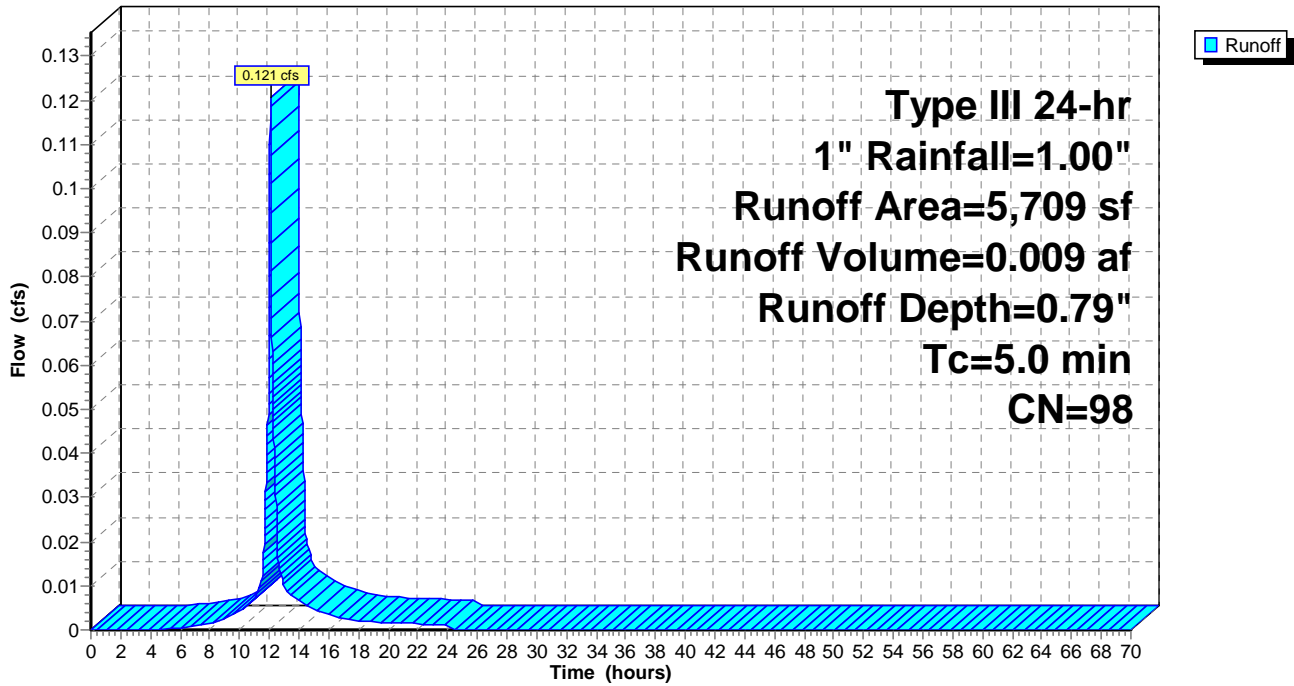
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" Rainfall=1.00"

Area (sf)	CN	Description
5,709	98	Water Surface, 0% imp
5,709		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 73S: Rain on Pond 59P**

Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Reach 45R: Rock Sandwich 1

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth = 0.39" for 1" event  
Inflow = 0.098 cfs @ 12.68 hrs, Volume= 0.097 af  
Outflow = 0.095 cfs @ 12.81 hrs, Volume= 0.097 af, Atten= 4%, Lag= 8.0 min

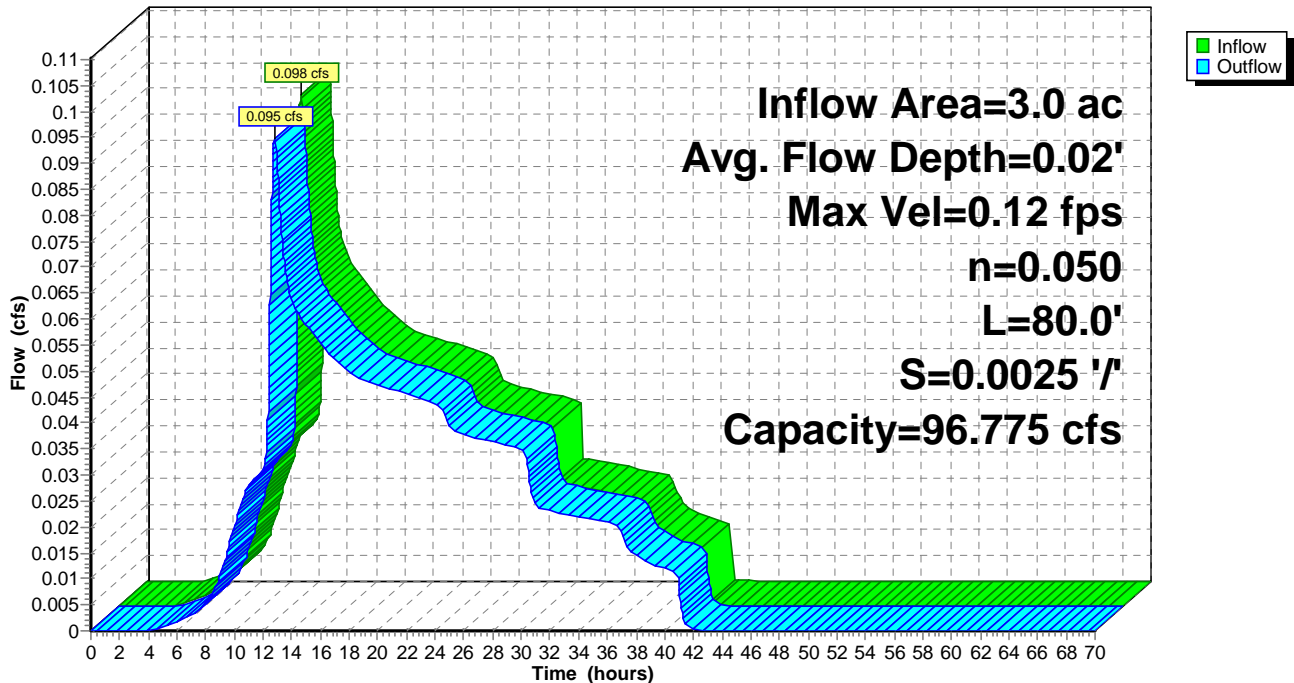
Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.12 fps, Min. Travel Time= 10.8 min  
Avg. Velocity = 0.09 fps, Avg. Travel Time= 14.5 min

Peak Storage= 61 cf @ 12.81 hrs  
Average Depth at Peak Storage= 0.02'  
Bank-Full Depth= 1.50' Flow Area= 52.5 sf, Capacity= 96.775 cfs

35.00' x 1.50' deep channel, n= 0.050  
Length= 80.0' Slope= 0.0025 '/'  
Inlet Invert= 64.80', Outlet Invert= 64.60'

## Reach 45R: Rock Sandwich 1

### Hydrograph





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## Summary for Reach 47R: Rock Sandwich 3

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 0.27" for 1" event  
Inflow = 0.205 cfs @ 12.79 hrs, Volume= 0.226 af  
Outflow = 0.203 cfs @ 13.96 hrs, Volume= 0.226 af, Atten= 1%, Lag= 70.2 min

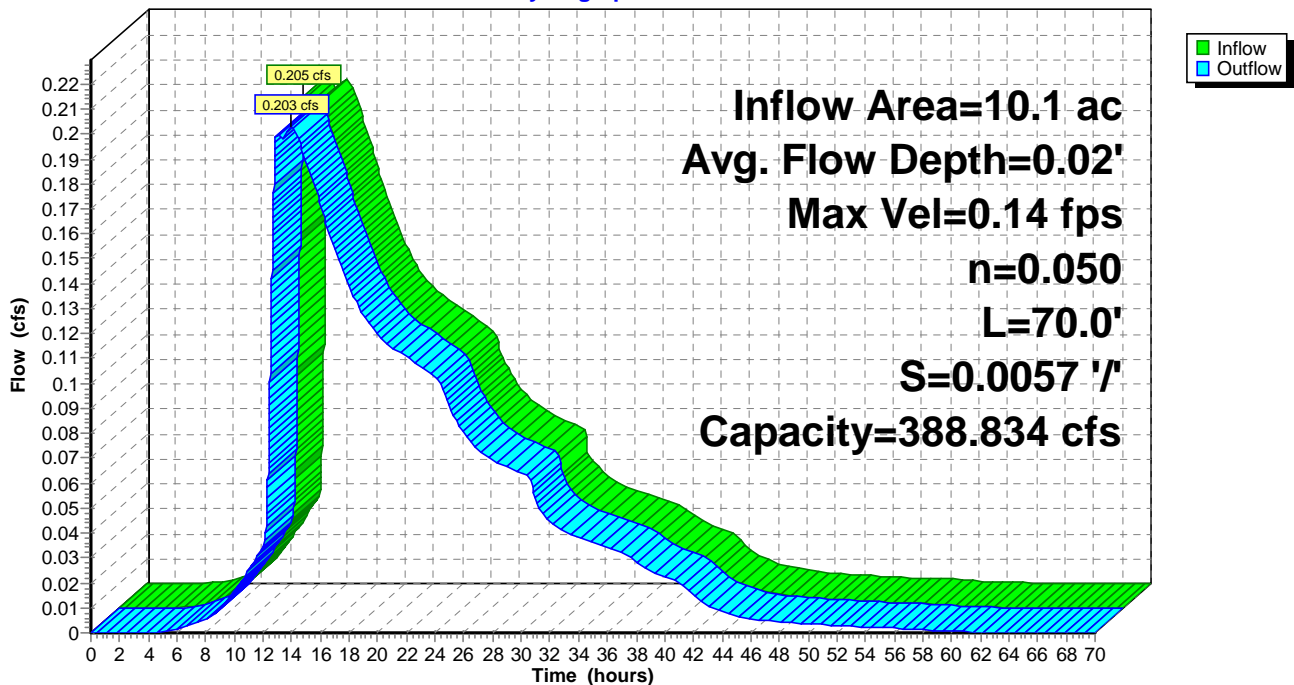
Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.14 fps, Min. Travel Time= 8.1 min  
Avg. Velocity = 0.14 fps, Avg. Travel Time= 8.5 min

Peak Storage= 99 cf @ 13.96 hrs  
Average Depth at Peak Storage= 0.02'  
Bank-Full Depth= 1.50' Flow Area= 135.0 sf, Capacity= 388.834 cfs

90.00' x 1.50' deep channel, n= 0.050  
Length= 70.0' Slope= 0.0057 '/'  
Inlet Invert= 62.40', Outlet Invert= 62.00'

## Reach 47R: Rock Sandwich 3

### Hydrograph



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Type III 24-hr 1" Rainfall=1.00"

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## Summary for Reach 50R: Rock Sandwich 2

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 0.24" for 1" event  
Inflow = 0.115 cfs @ 13.16 hrs, Volume= 0.080 af  
Outflow = 0.113 cfs @ 13.27 hrs, Volume= 0.080 af, Atten= 2%, Lag= 6.6 min

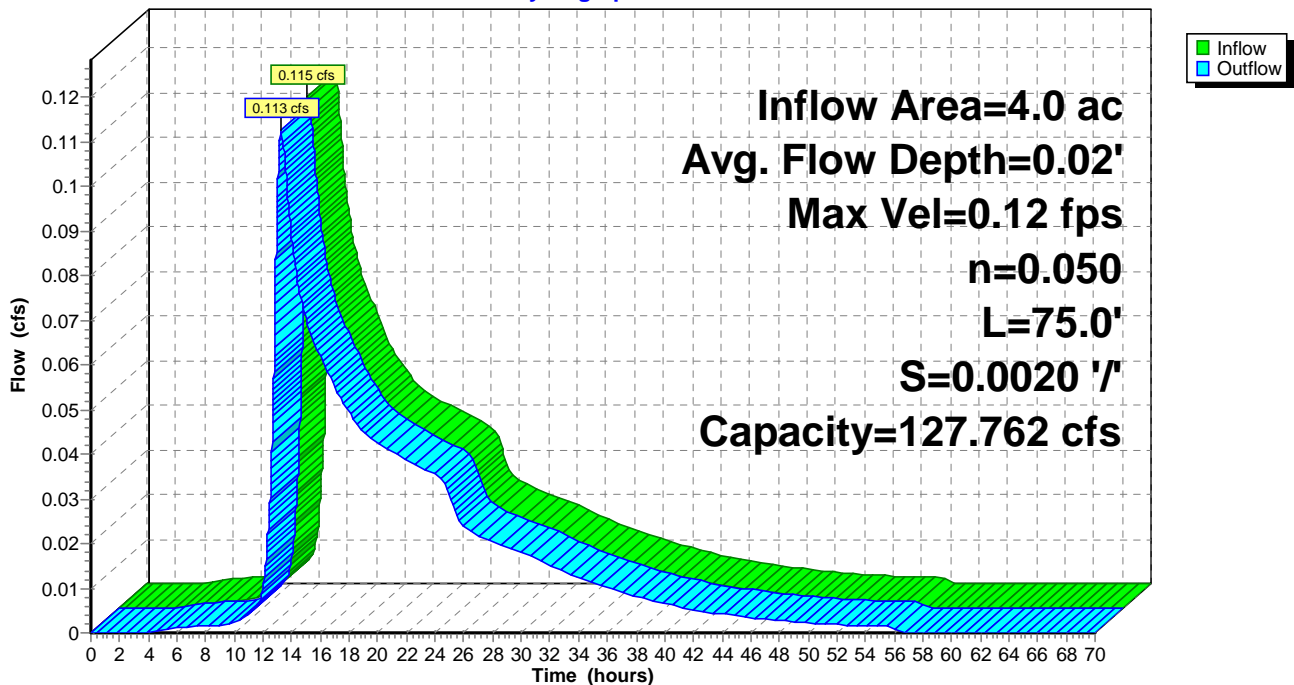
Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.12 fps, Min. Travel Time= 10.6 min  
Avg. Velocity = 0.09 fps, Avg. Travel Time= 13.8 min

Peak Storage= 72 cf @ 13.27 hrs  
Average Depth at Peak Storage= 0.02'  
Bank-Full Depth= 1.75' Flow Area= 70.0 sf, Capacity= 127.762 cfs

40.00' x 1.75' deep channel, n= 0.050  
Length= 75.0' Slope= 0.0020 '/'  
Inlet Invert= 65.90', Outlet Invert= 65.75'

## Reach 50R: Rock Sandwich 2

Hydrograph



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## Summary for Reach 54R: Rock Sandwich 4

Inflow Area = 1.7 ac, 0.00% Impervious, Inflow Depth = 0.11" for 1" event  
Inflow = 0.057 cfs @ 12.97 hrs, Volume= 0.016 af  
Outflow = 0.055 cfs @ 13.09 hrs, Volume= 0.016 af, Atten= 3%, Lag= 7.2 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.16 fps, Min. Travel Time= 6.1 min

Avg. Velocity = 0.16 fps, Avg. Travel Time= 6.1 min

Peak Storage= 20 cf @ 13.09 hrs

Average Depth at Peak Storage= 0.01'

Bank-Full Depth= 1.50' Flow Area= 45.0 sf, Capacity= 150.131 cfs

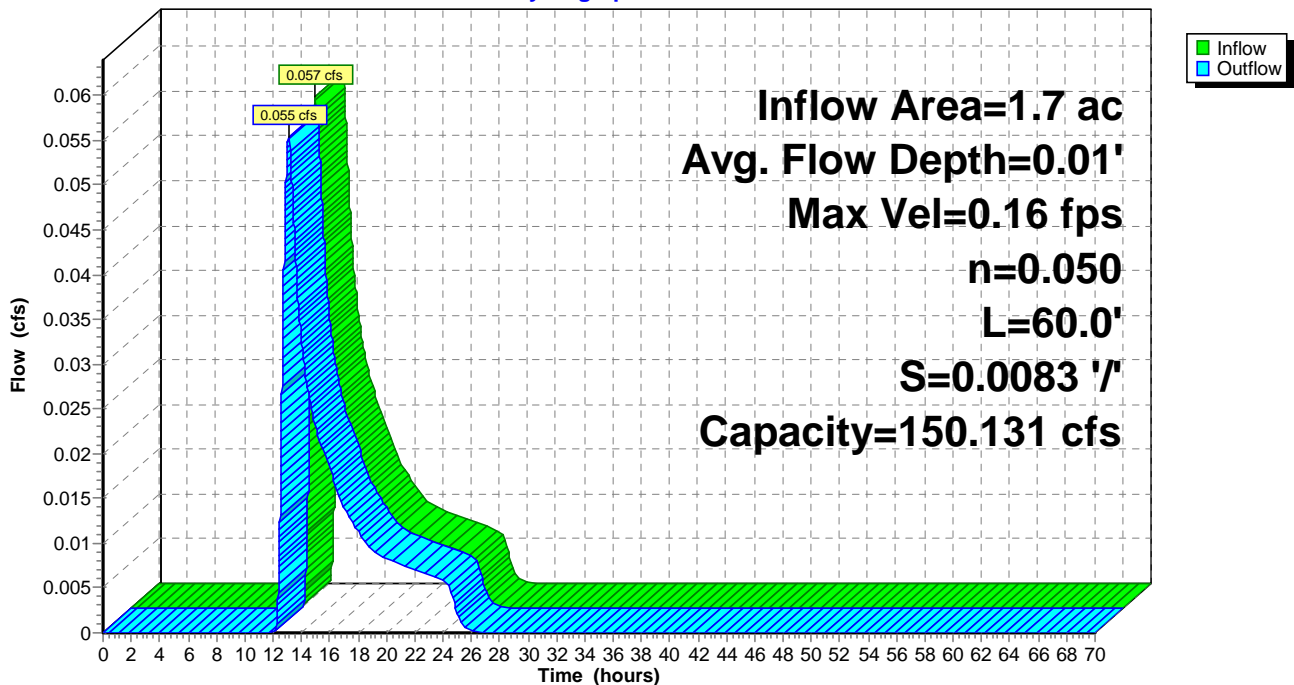
30.00' x 1.50' deep channel, n= 0.050

Length= 60.0' Slope= 0.0083 '/'

Inlet Invert= 66.50', Outlet Invert= 66.00'

## Reach 54R: Rock Sandwich 4

### Hydrograph



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## Summary for Reach 62R: RS1 to RS2

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth = 0.39" for 1" event  
Inflow = 0.095 cfs @ 12.81 hrs, Volume= 0.097 af  
Outflow = 0.064 cfs @ 14.04 hrs, Volume= 0.097 af, Atten= 33%, Lag= 74.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.09 fps, Min. Travel Time= 82.3 min

Avg. Velocity = 0.05 fps, Avg. Travel Time= 150.5 min

Peak Storage= 314 cf @ 14.04 hrs

Average Depth at Peak Storage= 0.08'

Bank-Full Depth= 1.00' Flow Area= 33.3 sf, Capacity= 16.893 cfs

50.00' x 1.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

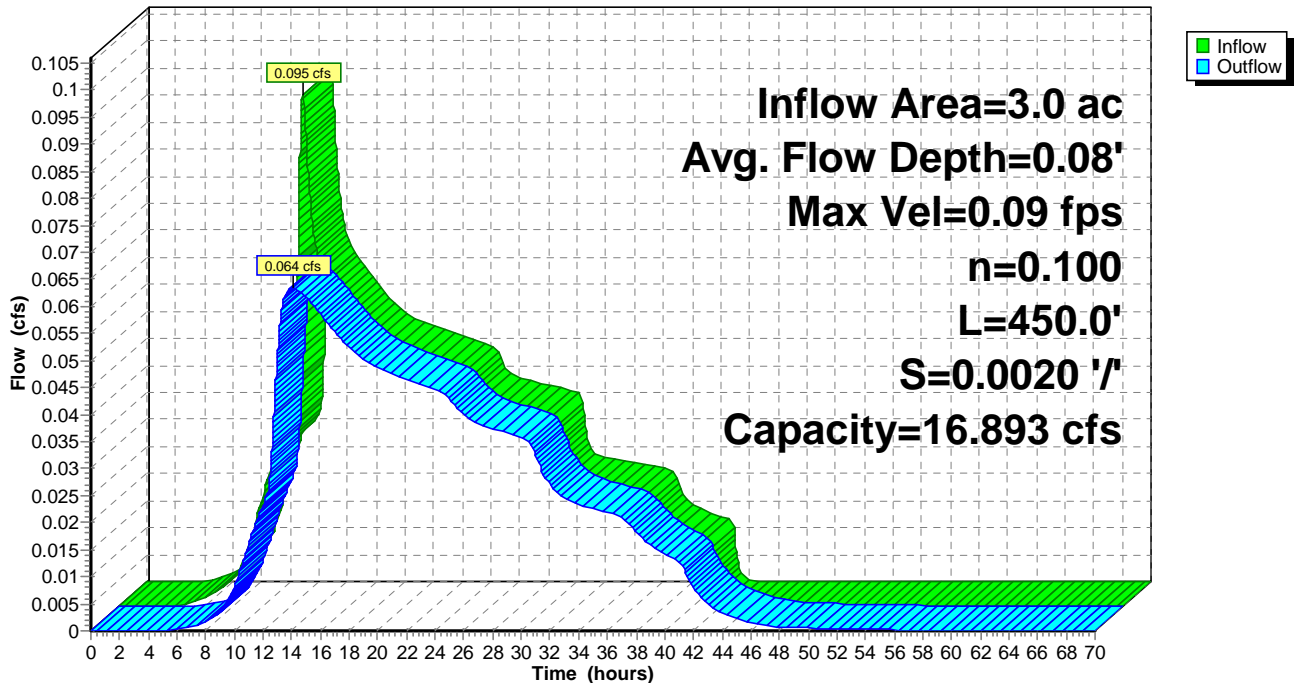
Length= 450.0' Slope= 0.0020 1/1

Inlet Invert= 63.50', Outlet Invert= 62.60'



## Reach 62R: RS1 to RS2

### Hydrograph



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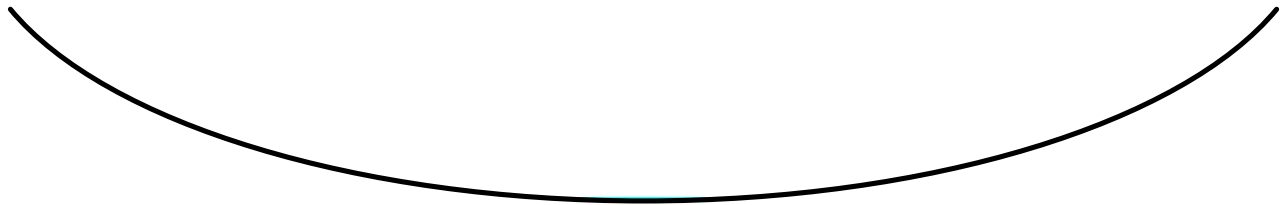
## Summary for Reach 67R: GW2 to RS1

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth = 0.66" for 1" event  
Inflow = 0.011 cfs @ 15.73 hrs, Volume= 0.023 af  
Outflow = 0.011 cfs @ 16.93 hrs, Volume= 0.023 af, Atten= 0%, Lag= 71.6 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.06 fps, Min. Travel Time= 63.1 min  
Avg. Velocity = 0.05 fps, Avg. Travel Time= 74.5 min

Peak Storage= 42 cf @ 16.93 hrs  
Average Depth at Peak Storage= 0.03'  
Bank-Full Depth= 1.50' Flow Area= 75.0 sf, Capacity= 62.120 cfs

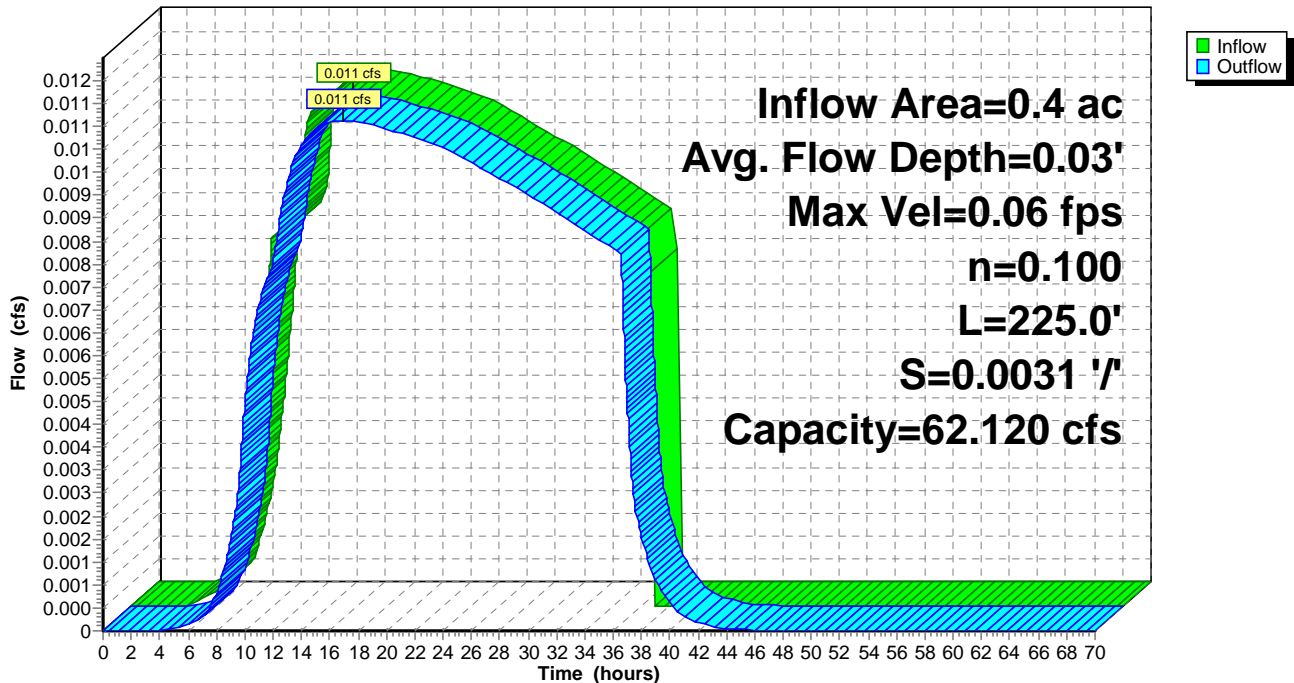
75.00' x 1.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 225.0' Slope= 0.0031 '/  
Inlet Invert= 66.80', Outlet Invert= 66.10'



‡

## Reach 67R: GW2 to RS1

### Hydrograph



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**Summary for Reach 68R: RS3 to SP5**

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 0.27" for 1" event  
 Inflow = 0.203 cfs @ 13.96 hrs, Volume= 0.226 af  
 Outflow = 0.199 cfs @ 14.40 hrs, Volume= 0.226 af, Atten= 2%, Lag= 26.2 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 0.19 fps, Min. Travel Time= 32.6 min  
 Avg. Velocity = 0.10 fps, Avg. Travel Time= 60.3 min

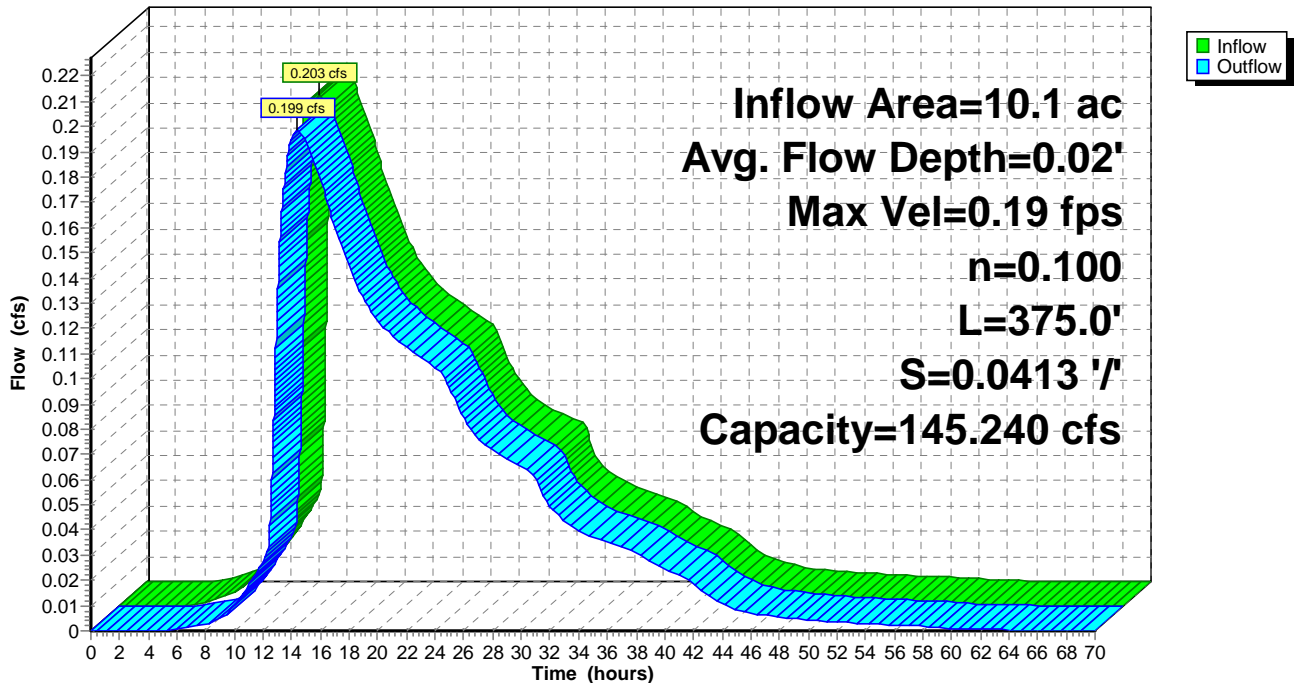
Peak Storage= 389 cf @ 14.40 hrs  
 Average Depth at Peak Storage= 0.02'  
 Bank-Full Depth= 0.50' Flow Area= 100.0 sf, Capacity= 145.240 cfs

300.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
 Length= 375.0' Slope= 0.0413 '/'  
 Inlet Invert= 61.50', Outlet Invert= 46.00'



**Reach 68R: RS3 to SP5**

Hydrograph



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## Summary for Reach 69R: RS2 to RS3

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 0.24" for 1" event  
Inflow = 0.113 cfs @ 13.27 hrs, Volume= 0.080 af  
Outflow = 0.079 cfs @ 14.41 hrs, Volume= 0.080 af, Atten= 30%, Lag= 68.6 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.09 fps, Min. Travel Time= 67.7 min  
Avg. Velocity = 0.05 fps, Avg. Travel Time= 123.6 min

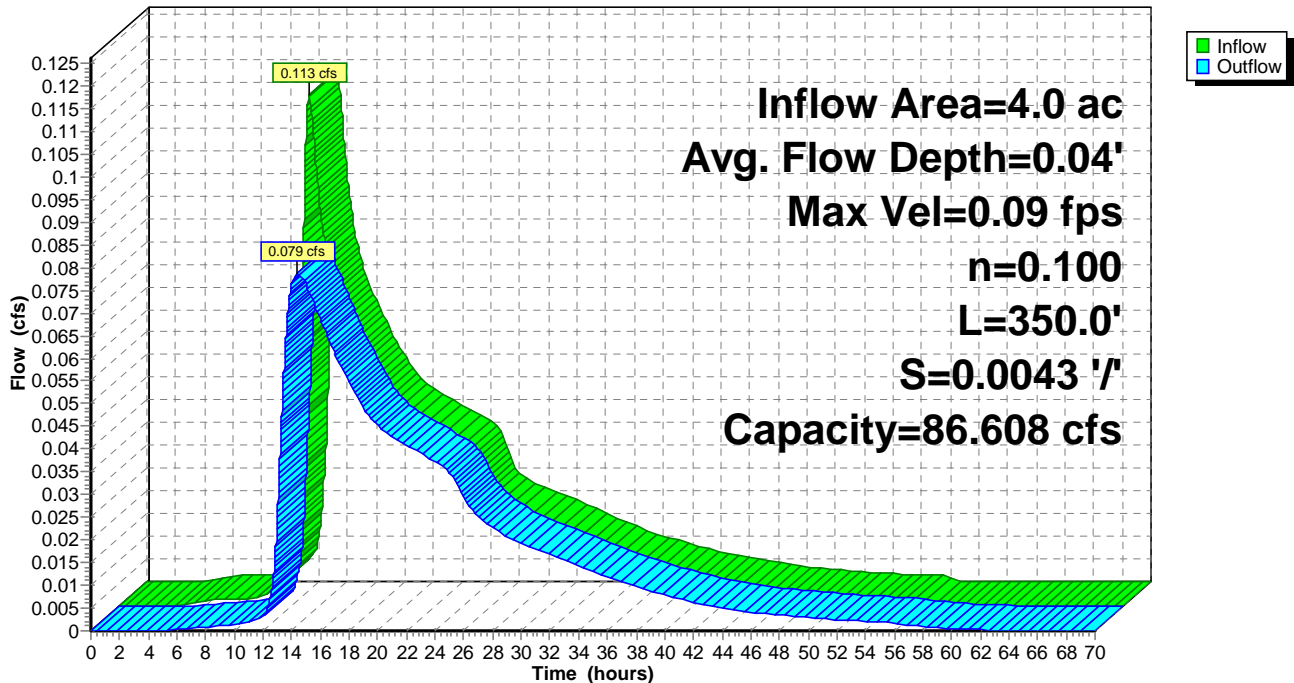
Peak Storage= 320 cf @ 14.41 hrs  
Average Depth at Peak Storage= 0.04'  
Bank-Full Depth= 1.00' Flow Area= 116.7 sf, Capacity= 86.608 cfs

175.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage  
Length= 350.0' Slope= 0.0043 '/'  
Inlet Invert= 65.00', Outlet Invert= 63.50'



## Reach 69R: RS2 to RS3

### Hydrograph



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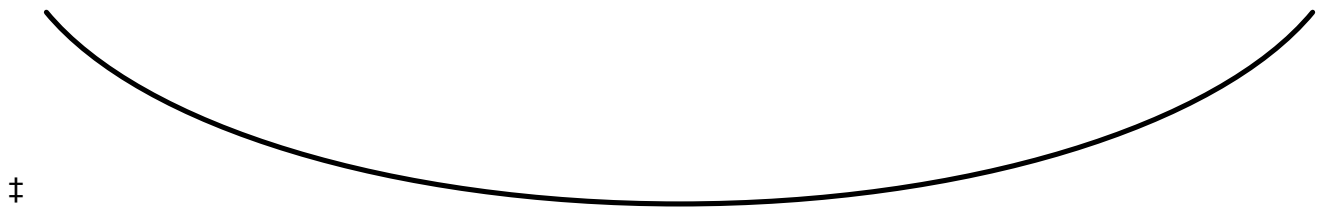
## Summary for Reach 70R: GW8 to RS4

Inflow = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af  
Outflow = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min  
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

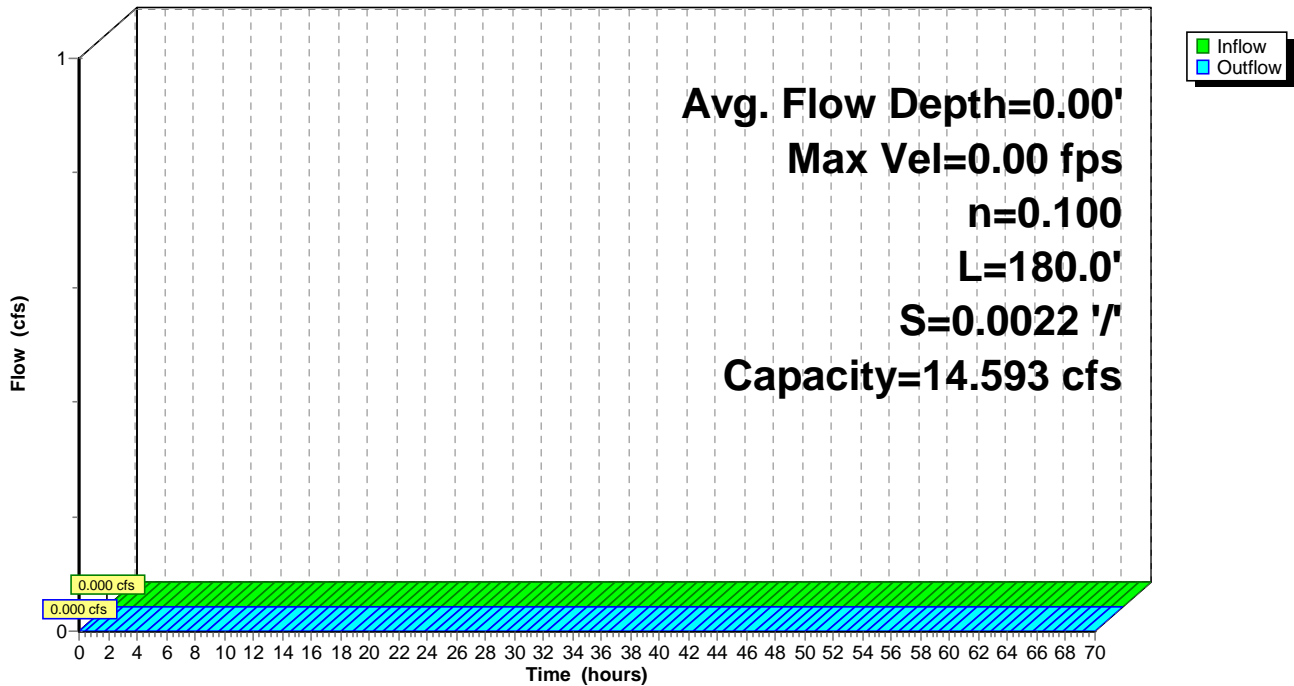
Peak Storage= 0 cf @ 0.00 hrs  
Average Depth at Peak Storage= 0.00'  
Bank-Full Depth= 0.50' Flow Area= 43.3 sf, Capacity= 14.593 cfs

130.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 180.0' Slope= 0.0022 '/  
Inlet Invert= 67.50', Outlet Invert= 67.10'



## Reach 70R: GW8 to RS4

Hydrograph





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## Summary for Reach 71R: RS4 to SP6

Inflow Area = 3.2 ac, 33.57% Impervious, Inflow Depth = 0.34" for 1" event  
Inflow = 0.139 cfs @ 13.10 hrs, Volume= 0.091 af  
Outflow = 0.116 cfs @ 13.91 hrs, Volume= 0.091 af, Atten= 16%, Lag= 48.5 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.19 fps, Min. Travel Time= 49.4 min

Avg. Velocity = 0.10 fps, Avg. Travel Time= 100.7 min

Peak Storage= 345 cf @ 13.91 hrs

Average Depth at Peak Storage= 0.03'

Bank-Full Depth= 0.50' Flow Area= 33.3 sf, Capacity= 38.460 cfs

100.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

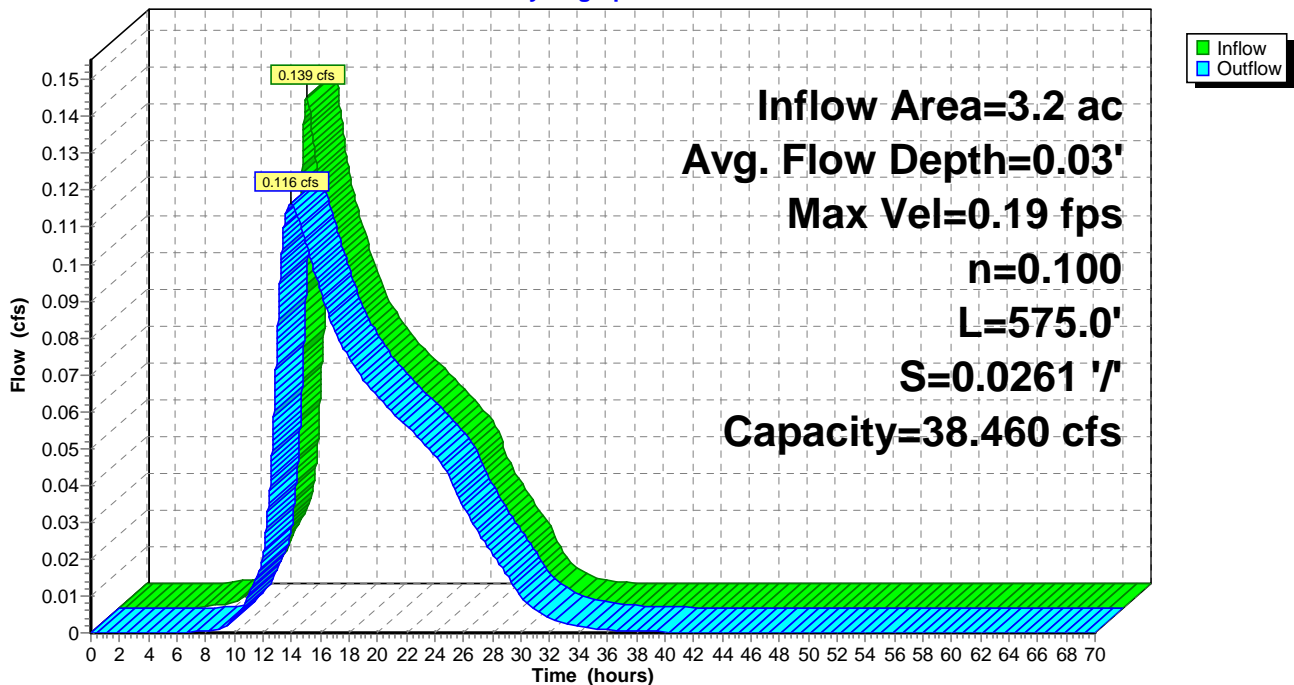
Length= 575.0' Slope= 0.0261 1/100'

Inlet Invert= 65.00', Outlet Invert= 50.00'



## Reach 71R: RS4 to SP6

### Hydrograph



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## Summary for Reach 73R: GW7 to SP6

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 0.67" for 1" event  
Inflow = 0.020 cfs @ 16.00 hrs, Volume= 0.045 af  
Outflow = 0.019 cfs @ 16.75 hrs, Volume= 0.045 af, Atten= 0%, Lag= 45.6 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.11 fps, Min. Travel Time= 54.2 min  
Avg. Velocity = 0.09 fps, Avg. Travel Time= 64.8 min

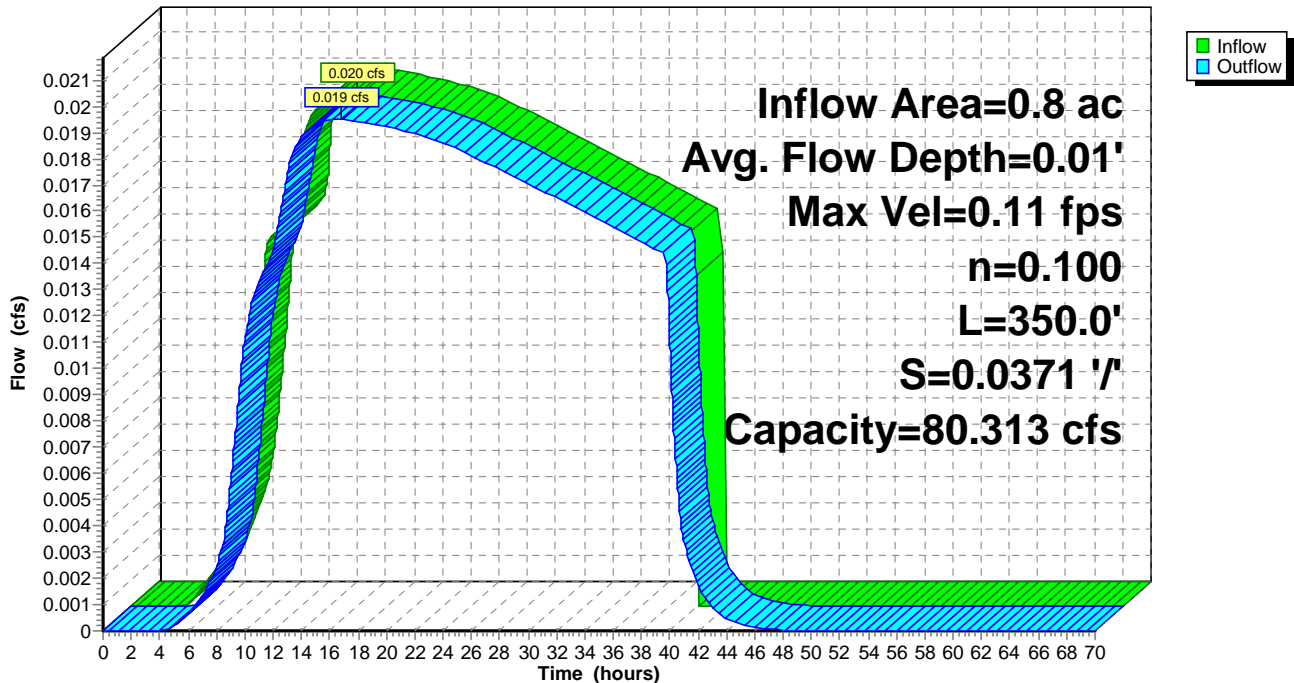
Peak Storage= 63 cf @ 16.75 hrs  
Average Depth at Peak Storage= 0.01'  
Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 80.313 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 350.0' Slope= 0.0371 1/'  
Inlet Invert= 63.00', Outlet Invert= 50.00'



## Reach 73R: GW7 to SP6

### Hydrograph



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## Summary for Reach 74R: GW6 to SP6

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth = 0.79" for 1" event  
Inflow = 0.020 cfs @ 15.14 hrs, Volume= 0.036 af  
Outflow = 0.020 cfs @ 16.16 hrs, Volume= 0.036 af, Atten= 0%, Lag= 61.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.10 fps, Min. Travel Time= 68.3 min  
Avg. Velocity = 0.08 fps, Avg. Travel Time= 85.7 min

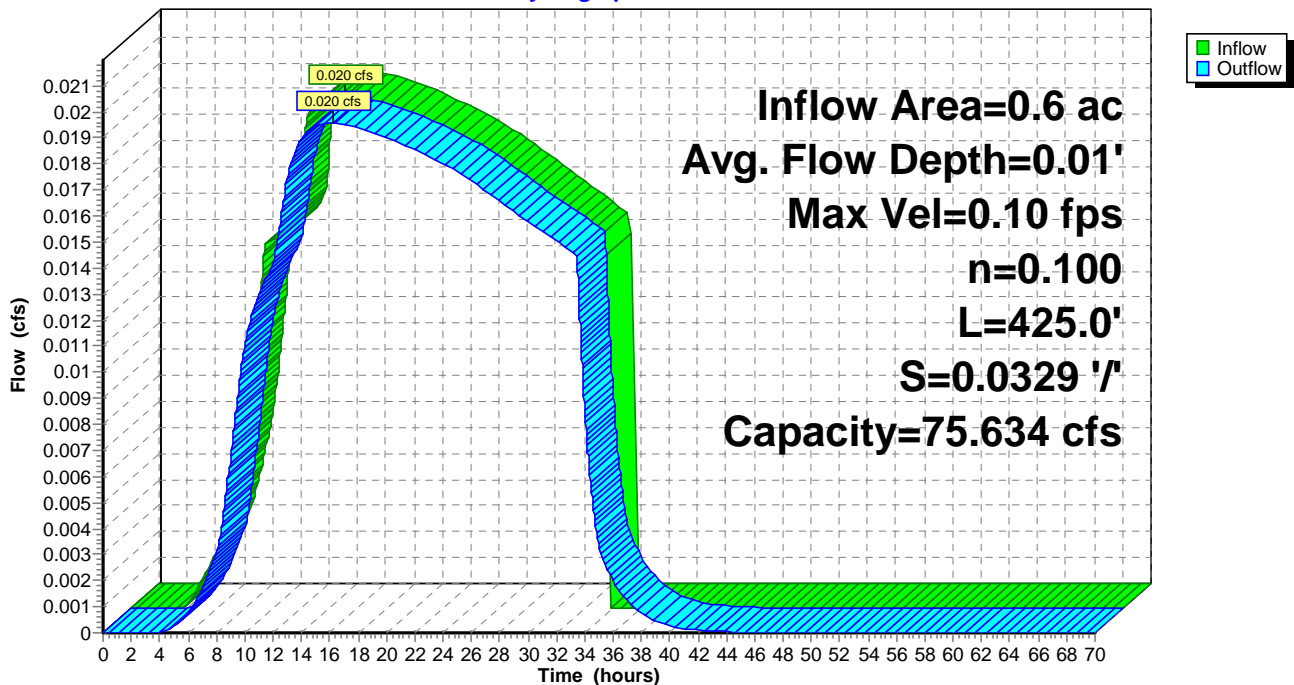
Peak Storage= 80 cf @ 16.16 hrs  
Average Depth at Peak Storage= 0.01'  
Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 75.634 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 425.0' Slope= 0.0329 '/'  
Inlet Invert= 64.00', Outlet Invert= 50.00'



## Reach 74R: GW6 to SP6

Hydrograph



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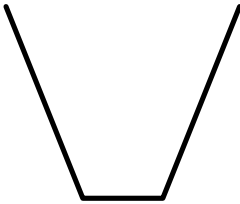
## Summary for Reach 75R: GW10 to SP6

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth = 0.60" for 1" event  
Inflow = 0.027 cfs @ 15.68 hrs, Volume= 0.052 af  
Outflow = 0.027 cfs @ 15.81 hrs, Volume= 0.052 af, Atten= 0%, Lag= 7.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.74 fps, Min. Travel Time= 7.3 min  
Avg. Velocity = 0.74 fps, Avg. Travel Time= 7.3 min

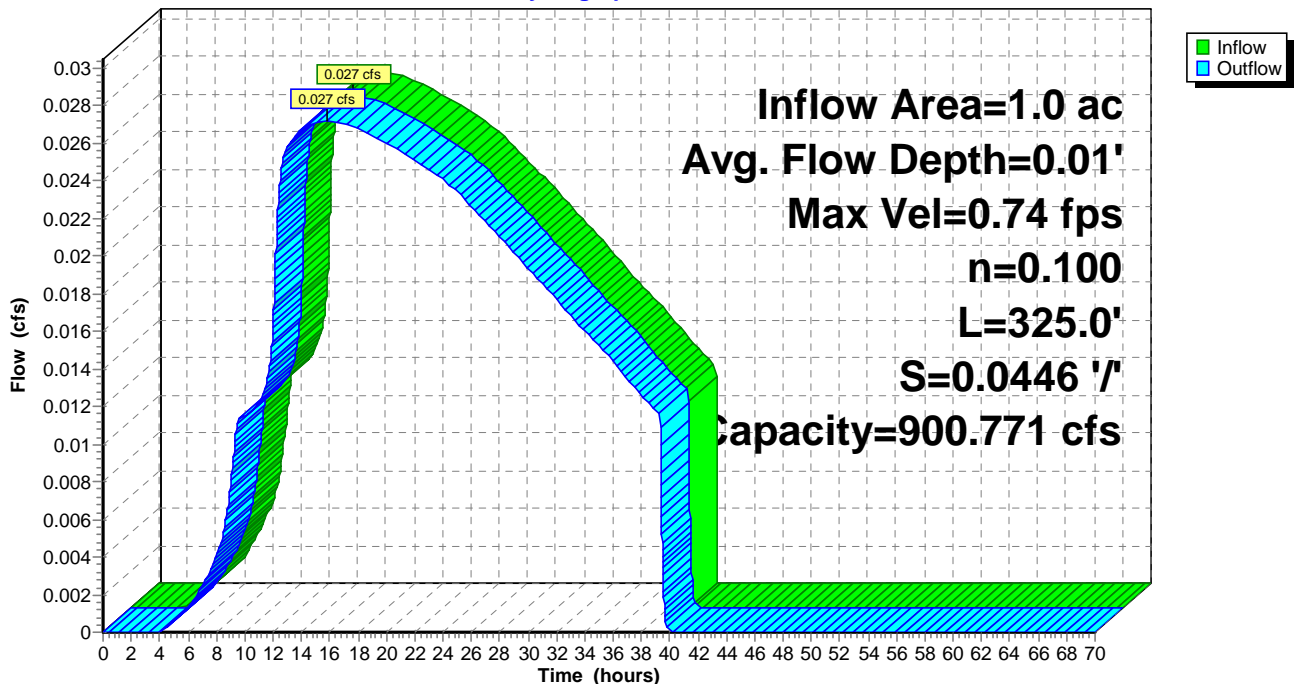
Peak Storage= 12 cf @ 15.81 hrs  
Average Depth at Peak Storage= 0.01'  
Bank-Full Depth= 12.00' Flow Area= 117.6 sf, Capacity= 900.771 cfs

5.00' x 12.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 0.4 '/ Top Width= 14.60'  
Length= 325.0' Slope= 0.0446 '/  
Inlet Invert= 64.50', Outlet Invert= 50.00'



## Reach 75R: GW10 to SP6

### Hydrograph



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## Summary for Reach 76R: GW12 to SP7

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth = 0.69" for 1" event  
Inflow = 0.023 cfs @ 15.08 hrs, Volume= 0.039 af  
Outflow = 0.023 cfs @ 16.85 hrs, Volume= 0.039 af, Atten= 1%, Lag= 106.2 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.14 fps, Min. Travel Time= 82.4 min

Avg. Velocity = 0.12 fps, Avg. Travel Time= 100.7 min

Peak Storage= 115 cf @ 16.85 hrs

Average Depth at Peak Storage= 0.04'

Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 131.872 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

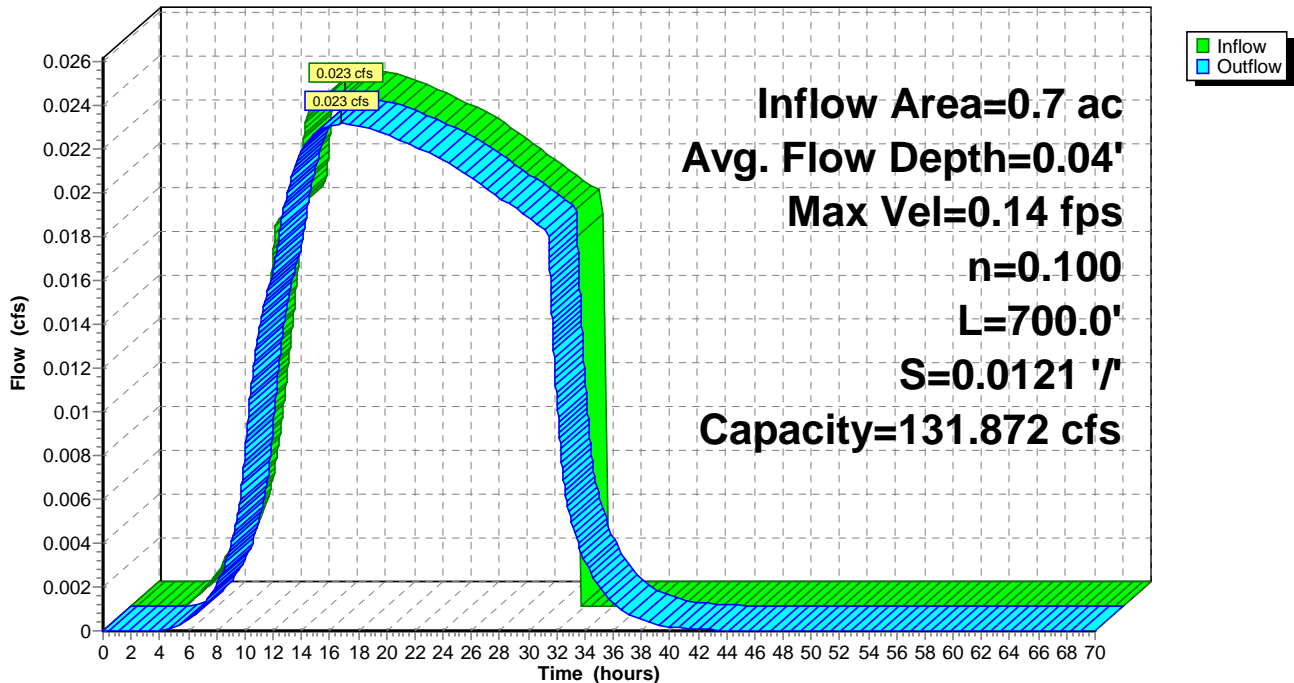
Length= 700.0' Slope= 0.0121 1/100

Inlet Invert= 67.50', Outlet Invert= 59.00'



## Reach 76R: GW12 to SP7

### Hydrograph



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**Summary for Pond 44P: Gravel Wetland 1**

Inflow Area = 0.4 ac, 54.15% Impervious, Inflow Depth = 0.59" for 1" event  
 Inflow = 0.303 cfs @ 12.07 hrs, Volume= 0.021 af  
 Outflow = 0.013 cfs @ 15.20 hrs, Volume= 0.021 af, Atten= 96%, Lag= 187.6 min  
 Primary = 0.013 cfs @ 15.20 hrs, Volume= 0.021 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.53' @ 15.20 hrs Surf.Area= 3,868 sf Storage= 479 cf

Plug-Flow detention time= 368.7 min calculated for 0.021 af (100% of inflow)  
 Center-of-Mass det. time= 368.7 min ( 1,182.0 - 813.3 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.48'	5,904 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.48	3,651	0.0	0	0
64.48	3,651	0.0	0	0
65.15	3,651	0.0	0	0
65.40	3,651	0.0	0	0
65.60	3,992	100.0	764	764
66.40	5,782	100.0	3,910	4,674
66.60	6,519	100.0	1,230	5,904

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.55'	<b>8.000" Round Culvert</b> L= 6.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.55' / 65.10' S= 0.0750 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Secondary	66.05'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.013 cfs @ 15.20 hrs HW=65.53' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.013 cfs @ 3.12 fps)
- ↓2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.48' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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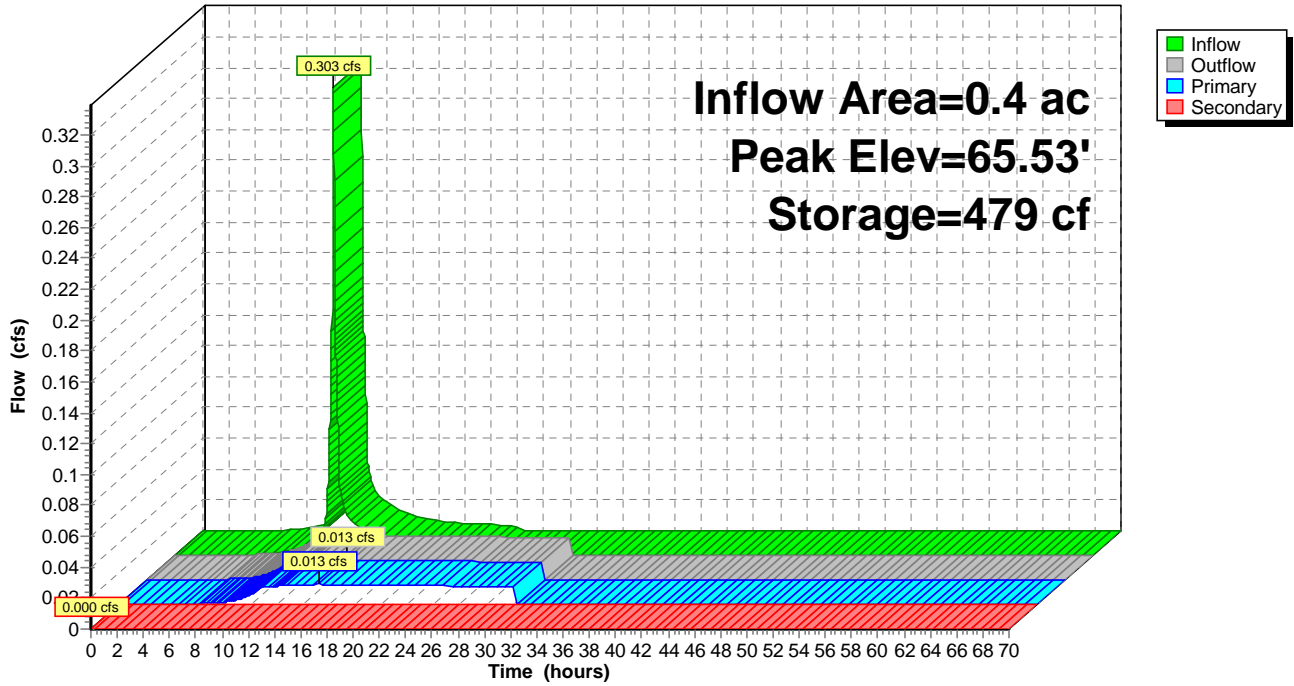
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**Pond 44P: Gravel Wetland 1**

Hydrograph



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**Summary for Pond 48P: Gravel Wetland 2**

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth = 0.66" for 1" event  
 Inflow = 0.327 cfs @ 12.07 hrs, Volume= 0.023 af  
 Outflow = 0.011 cfs @ 15.73 hrs, Volume= 0.023 af, Atten= 97%, Lag= 219.7 min  
 Primary = 0.011 cfs @ 15.73 hrs, Volume= 0.023 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.67' @ 15.73 hrs Surf.Area= 2,202 sf Storage= 575 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 528.9 min ( 1,335.6 - 806.8 )

Volume	Invert	Avail.Storage	Storage Description	
#1	64.48'	6,578 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.48	1,970	0.0	0	0
66.48	1,970	0.0	0	0
67.15	1,970	0.0	0	0
67.40	1,970	0.0	0	0
67.60	2,202	100.0	417	417
68.00	2,202	100.0	881	1,298
69.00	3,675	100.0	2,939	4,236
69.60	4,129	100.0	2,341	6,578

Device	Routing	Invert	Outlet Devices
#1	Primary	67.07'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	68.65'	<b>4.000" Round Culvert</b> L= 28.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.65' / 67.00' S= 0.0589 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	69.15'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.011 cfs @ 15.73 hrs HW=67.67' (Free Discharge)

- ↑ 1=Orifice/Grate (Orifice Controls 0.011 cfs @ 3.64 fps)
- └ 2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=64.48' (Free Discharge)

- ↑ 3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)



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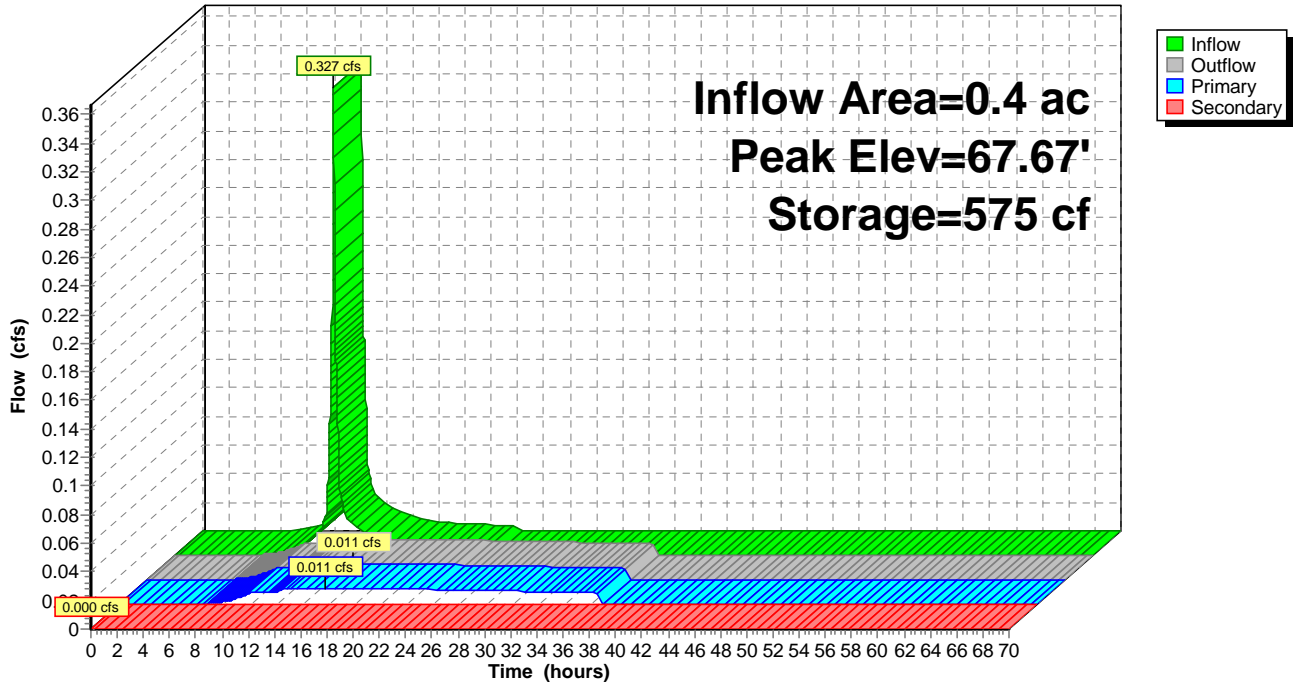
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**Pond 48P: Gravel Wetland 2**

Hydrograph



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**Summary for Pond 49P: Gravel Wetland 3**

Inflow Area = 0.8 ac, 75.86% Impervious, Inflow Depth = 0.63" for 1" event  
 Inflow = 0.559 cfs @ 12.07 hrs, Volume= 0.039 af  
 Outflow = 0.017 cfs @ 16.07 hrs, Volume= 0.039 af, Atten= 97%, Lag= 239.7 min  
 Primary = 0.017 cfs @ 16.07 hrs, Volume= 0.039 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.83' @ 16.07 hrs Surf.Area= 2,661 sf Storage= 1,035 cf

Plug-Flow detention time= 632.6 min calculated for 0.039 af (100% of inflow)  
 Center-of-Mass det. time= 632.7 min ( 1,440.3 - 807.6 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.48'	7,432 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.48	2,105	0.0	0	0
65.48	2,105	0.0	0	0
66.15	2,105	0.0	0	0
66.40	2,105	0.0	0	0
66.60	2,395	100.0	450	450
68.00	4,004	100.0	4,479	4,929
68.60	4,340	100.0	2,503	7,432

Device	Routing	Invert	Outlet Devices
#1	Primary	66.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.85'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.85' / 66.00' S= 0.0425 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.017 cfs @ 16.07 hrs HW=66.83' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.017 cfs @ 4.10 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.48' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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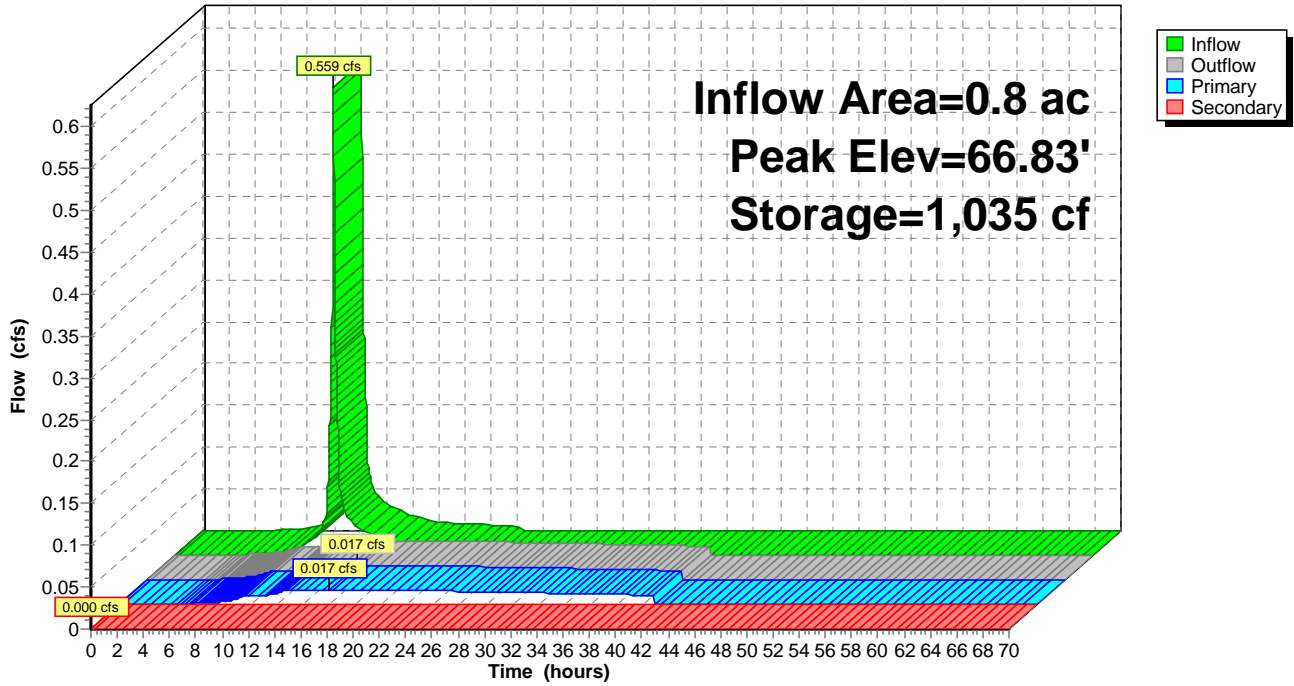
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**Pond 49P: Gravel Wetland 3**

Hydrograph



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**Summary for Pond 51P: Gravel Wetland 4**

Inflow Area = 1.2 ac, 63.82% Impervious, Inflow Depth = 0.52" for 1" event  
 Inflow = 0.757 cfs @ 12.08 hrs, Volume= 0.054 af  
 Outflow = 0.030 cfs @ 15.62 hrs, Volume= 0.054 af, Atten= 96%, Lag= 212.5 min  
 Primary = 0.030 cfs @ 15.62 hrs, Volume= 0.054 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.59' @ 15.62 hrs Surf.Area= 5,364 sf Storage= 1,444 cf

Plug-Flow detention time= 643.9 min calculated for 0.054 af (100% of inflow)  
 Center-of-Mass det. time= 644.1 min ( 1,463.1 - 818.9 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.38'	21,781 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.38	4,633	0.0	0	0
65.48	4,633	0.0	0	0
66.05	4,633	0.0	0	0
66.30	4,633	0.0	0	0
66.50	5,029	100.0	966	966
68.00	10,498	100.0	11,645	12,611
68.80	12,427	100.0	9,170	21,781

Device	Routing	Invert	Outlet Devices
#1	Primary	66.27'	<b>1.500" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.65'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.65' / 66.20' S= 0.0225 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	68.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.030 cfs @ 15.62 hrs HW=66.59' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.030 cfs @ 2.45 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.38' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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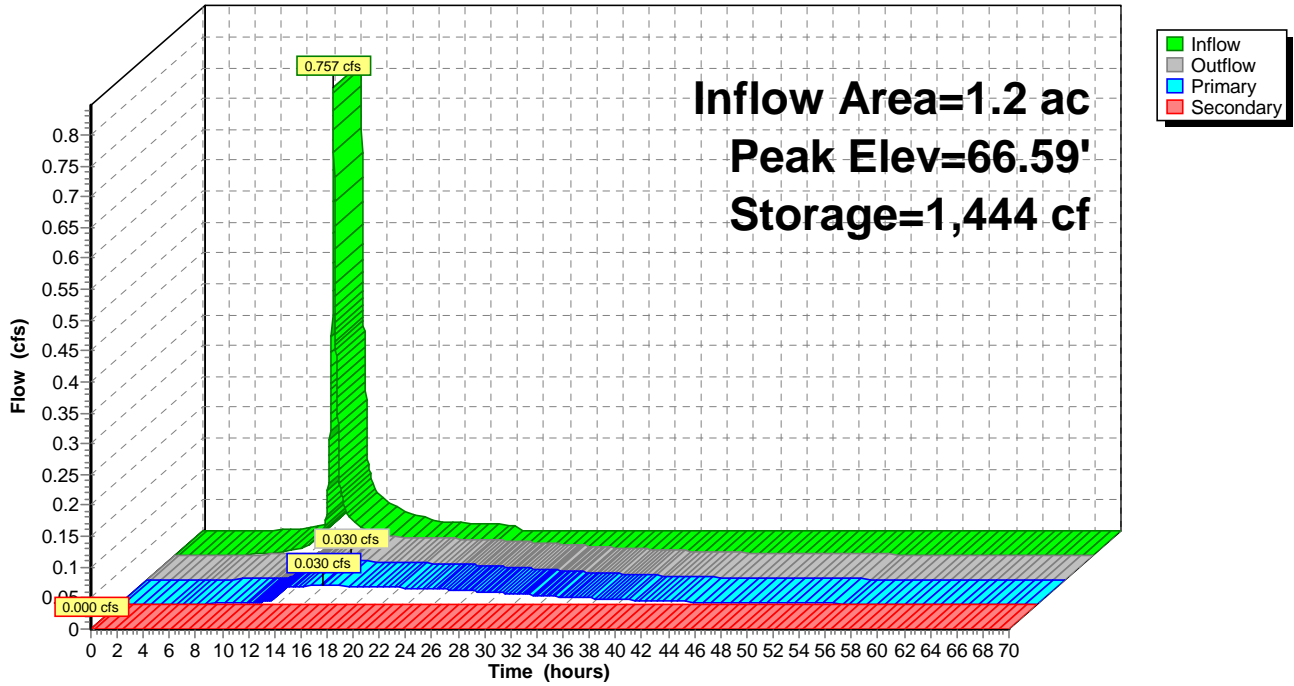
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**Pond 51P: Gravel Wetland 4**

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**Summary for Pond 52P: Gravel Wetland 5**

Inflow Area = 0.3 ac, 82.14% Impervious, Inflow Depth = 0.79" for 1" event  
 Inflow = 0.258 cfs @ 12.07 hrs, Volume= 0.018 af  
 Outflow = 0.011 cfs @ 14.72 hrs, Volume= 0.018 af, Atten= 96%, Lag= 158.7 min  
 Primary = 0.011 cfs @ 14.72 hrs, Volume= 0.018 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.88' @ 14.72 hrs Surf.Area= 1,553 sf Storage= 418 cf

Plug-Flow detention time= 365.1 min calculated for 0.018 af (100% of inflow)  
 Center-of-Mass det. time= 365.1 min ( 1,152.0 - 786.9 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	4,333 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	1,414	0.0	0	0
64.68	1,414	0.0	0	0
65.35	1,414	0.0	0	0
65.60	1,414	0.0	0	0
66.00	1,612	100.0	605	605
67.00	2,175	100.0	1,894	2,499
67.80	2,411	100.0	1,834	4,333

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.30'	<b>4.000" Round Culvert</b> L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.30' / 65.00' S= 0.1300 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	66.70'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.011 cfs @ 14.72 hrs HW=65.88' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.011 cfs @ 3.67 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.68' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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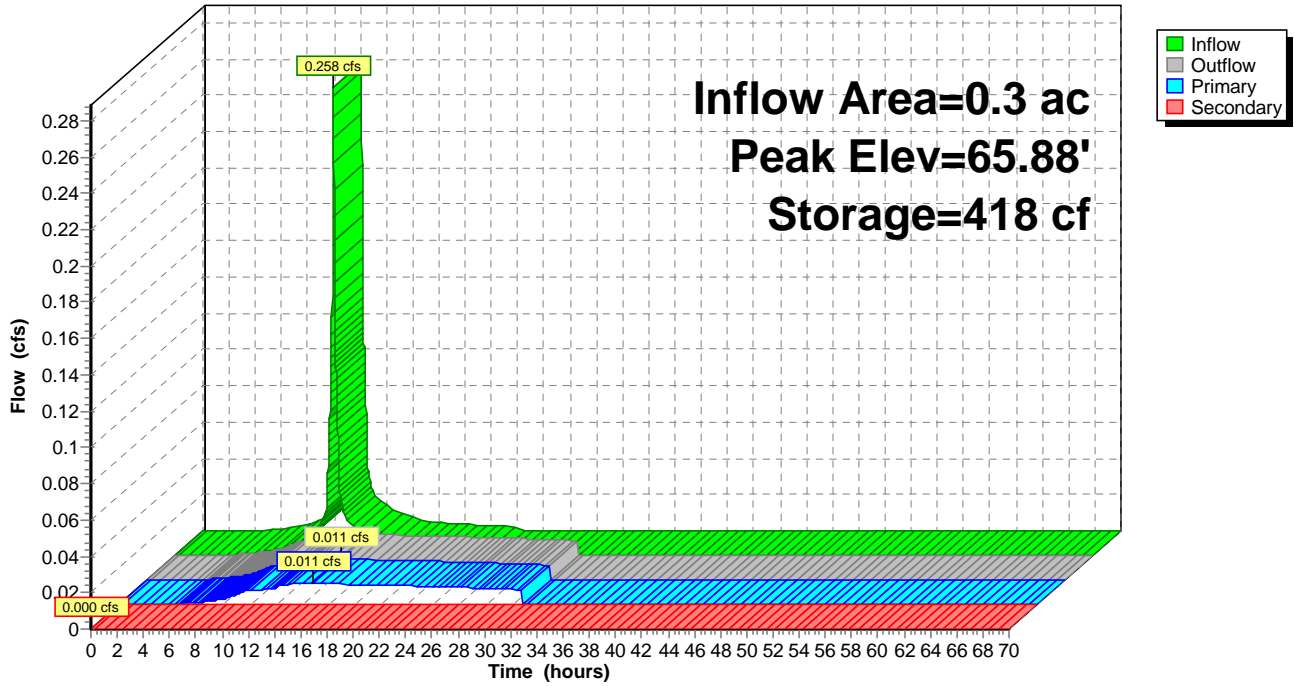
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**Pond 52P: Gravel Wetland 5**

Hydrograph



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**Summary for Pond 53P: Gravel Wetland 8**

Inflow Area = 1.5 ac, 70.96% Impervious, Inflow Depth = 0.60" for 1" event  
 Inflow = 1.092 cfs @ 12.07 hrs, Volume= 0.075 af  
 Outflow = 0.084 cfs @ 13.36 hrs, Volume= 0.075 af, Atten= 92%, Lag= 76.9 min  
 Primary = 0.084 cfs @ 13.36 hrs, Volume= 0.075 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.02' @ 13.36 hrs Surf.Area= 4,876 sf Storage= 1,649 cf  
 Flood Elev= 68.21' Surf.Area= 7,584 sf Storage= 9,188 cf

Plug-Flow detention time= 279.3 min calculated for 0.075 af (100% of inflow)  
 Center-of-Mass det. time= 279.4 min ( 1,095.0 - 815.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.60'	15,649 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.60	3,229	0	0
66.85	4,043	909	909
67.00	4,839	666	1,575
68.00	7,268	6,054	7,629
69.00	8,772	8,020	15,649

Device	Routing	Invert	Outlet Devices
#1	Primary	66.52'	<b>2.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.94'	<b>8.000" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.94' / 66.73' S= 0.0105 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#3	Secondary	67.60'	<b>15.0' long x 5.0' 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 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

**Primary OutFlow** Max=0.083 cfs @ 13.36 hrs HW=67.02' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.067 cfs @ 3.09 fps)

↑ **2=Culvert** (Inlet Controls 0.016 cfs @ 0.74 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=66.60' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)



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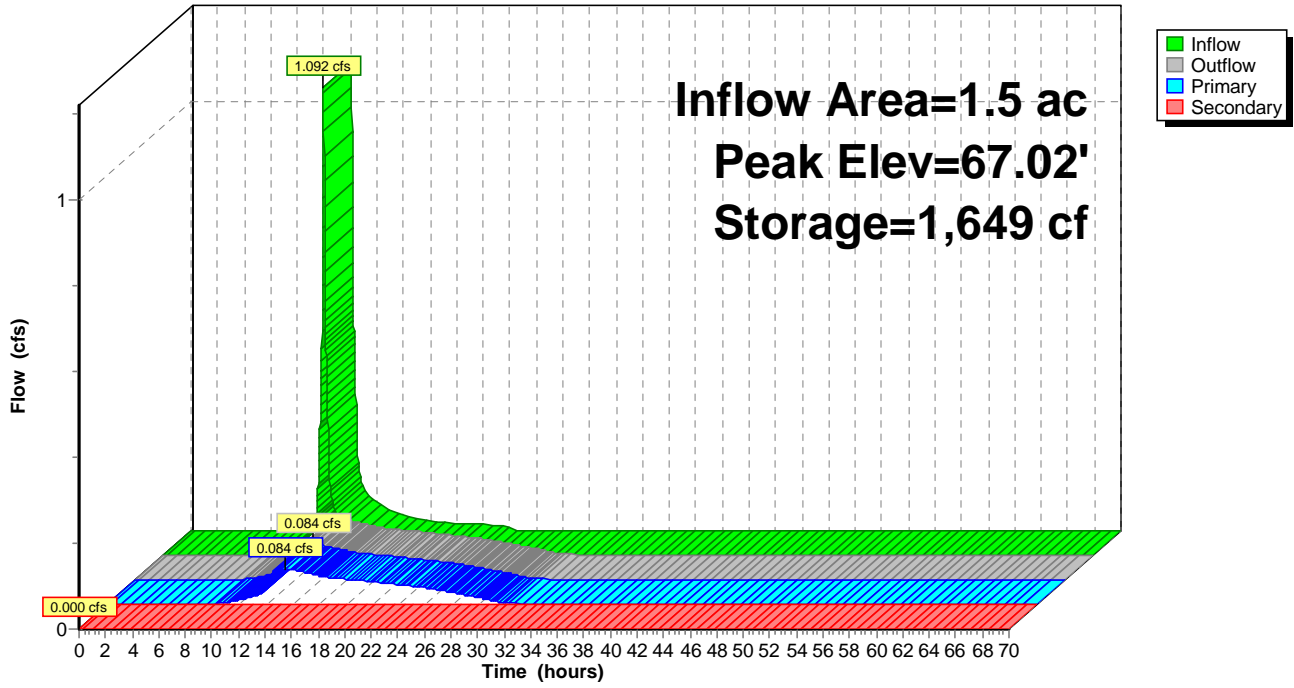
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**Pond 53P: Gravel Wetland 8**

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**Summary for Pond 58P: Gravel Wetland 7**

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 0.67" for 1" event  
 Inflow = 0.639 cfs @ 12.07 hrs, Volume= 0.045 af  
 Outflow = 0.020 cfs @ 16.00 hrs, Volume= 0.045 af, Atten= 97%, Lag= 235.4 min  
 Primary = 0.020 cfs @ 16.00 hrs, Volume= 0.045 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 64.86' @ 16.00 hrs Surf.Area= 4,563 sf Storage= 1,172 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 612.2 min ( 1,415.0 - 802.8 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.35'	11,555 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.35	4,339	0.0	0	0
64.20	4,339	0.0	0	0
64.60	4,339	0.0	0	0
65.00	4,680	100.0	1,804	1,804
66.00	6,629	100.0	5,655	7,458
66.60	7,026	100.0	4,096	11,555

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.20'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.20' / 64.00' S= 0.0600 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	65.90'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.020 cfs @ 16.00 hrs HW=64.86' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.020 cfs @ 3.58 fps)

└2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.35' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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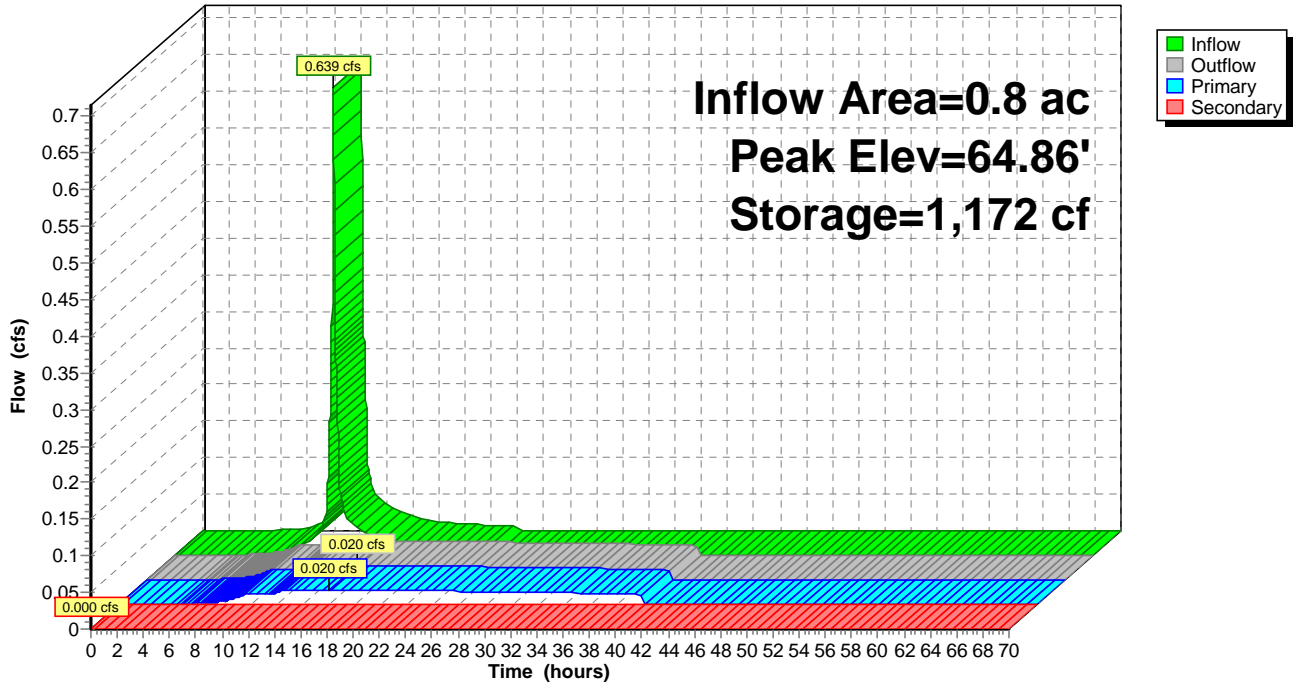
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**Pond 58P: Gravel Wetland 7**

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**Summary for Pond 59P: Gravel Wetland 6**

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth = 0.79" for 1" event  
 Inflow = 0.509 cfs @ 12.07 hrs, Volume= 0.036 af  
 Outflow = 0.020 cfs @ 15.14 hrs, Volume= 0.036 af, Atten= 96%, Lag= 184.3 min  
 Primary = 0.020 cfs @ 15.14 hrs, Volume= 0.036 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.87' @ 15.14 hrs Surf.Area= 3,370 sf Storage= 869 cf

Plug-Flow detention time= 437.8 min calculated for 0.036 af (100% of inflow)  
 Center-of-Mass det. time= 437.9 min ( 1,224.8 - 786.9 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	9,534 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	3,048	0.0	0	0
64.68	3,048	0.0	0	0
65.35	3,048	0.0	0	0
65.60	3,048	0.0	0	0
66.00	3,524	100.0	1,314	1,314
67.00	5,709	100.0	4,617	5,931
67.60	6,303	100.0	3,604	9,534

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.60'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.60' / 65.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	67.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.020 cfs @ 15.14 hrs HW=65.87' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.020 cfs @ 3.60 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.68' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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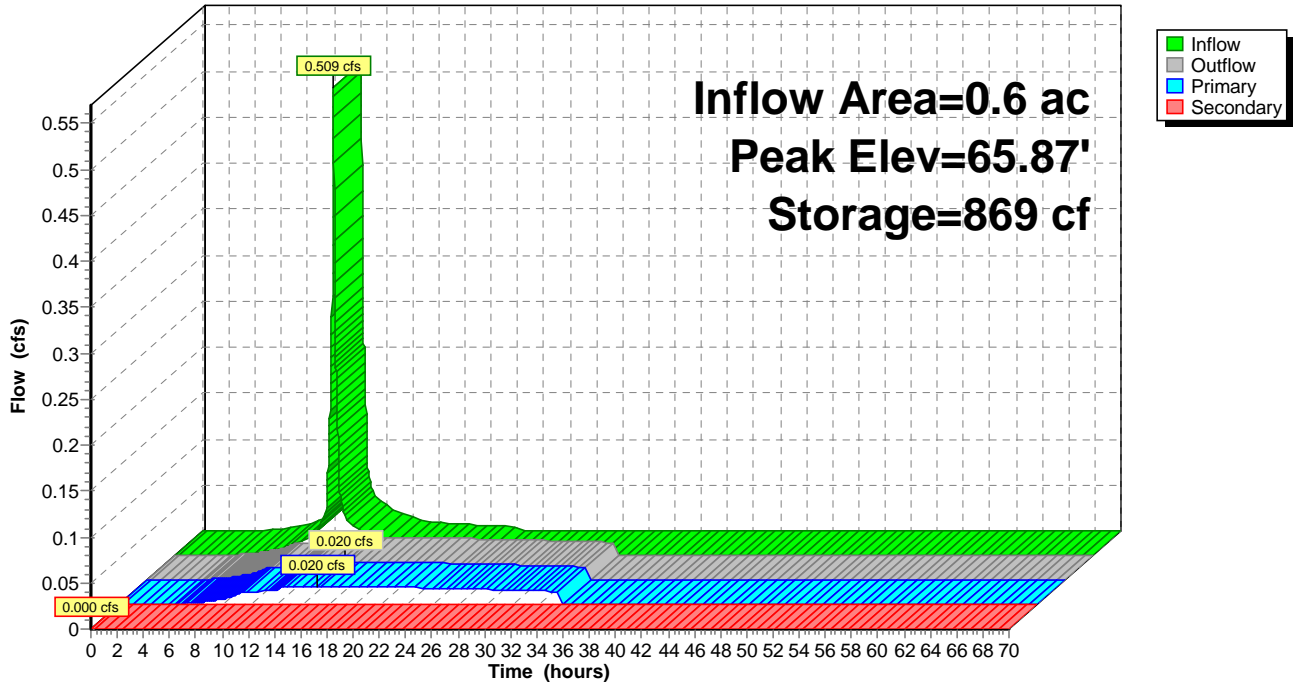
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**Pond 59P: Gravel Wetland 6**

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**Summary for Pond 60P: Gravel Wetland 12**

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth = 0.69" for 1" event  
 Inflow = 0.560 cfs @ 12.07 hrs, Volume= 0.039 af  
 Outflow = 0.023 cfs @ 15.08 hrs, Volume= 0.039 af, Atten= 96%, Lag= 180.6 min  
 Primary = 0.023 cfs @ 15.08 hrs, Volume= 0.039 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 68.81' @ 15.08 hrs Surf.Area= 4,388 sf Storage= 908 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 389.0 min ( 1,189.3 - 800.3 )

Volume	Invert	Avail.Storage	Storage Description	
#1	65.68'	11,160 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.68	4,209	0.0	0	0
67.68	4,209	0.0	0	0
68.35	4,209	0.0	0	0
68.60	4,209	0.0	0	0
69.00	4,547	100.0	1,751	1,751
70.00	6,384	100.0	5,466	7,217
70.60	6,760	100.0	3,943	11,160

Device	Routing	Invert	Outlet Devices
#1	Primary	68.27'	<b>1.125" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	69.70'	<b>6.000" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 69.70' / 68.00' S= 0.0425 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	70.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.023 cfs @ 15.08 hrs HW=68.81' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.023 cfs @ 3.39 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=65.68' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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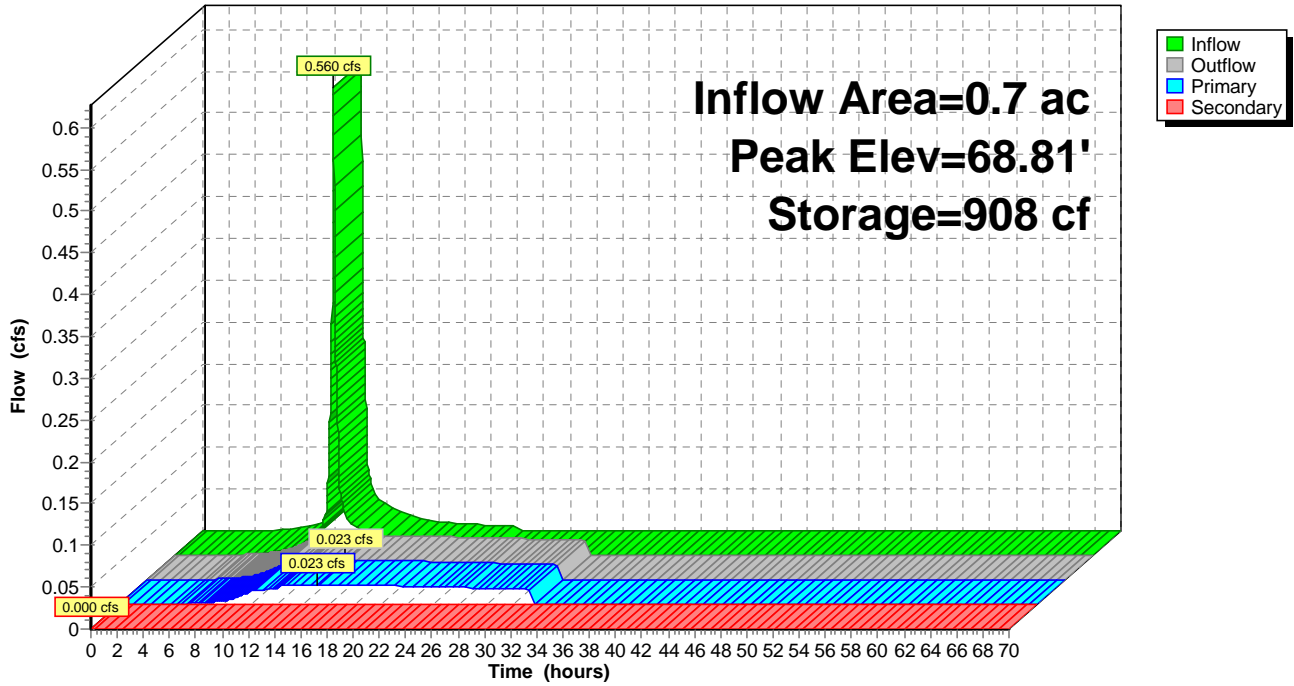
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**Pond 60P: Gravel Wetland 12**

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**Summary for Pond 62P: Gravel Wetland 10**

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth = 0.60" for 1" event  
 Inflow = 0.750 cfs @ 12.07 hrs, Volume= 0.052 af  
 Outflow = 0.027 cfs @ 15.68 hrs, Volume= 0.052 af, Atten= 96%, Lag= 216.6 min  
 Primary = 0.027 cfs @ 15.68 hrs, Volume= 0.052 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.56' @ 15.68 hrs Surf.Area= 3,936 sf Storage= 1,354 cf

Plug-Flow detention time= 559.0 min calculated for 0.052 af (100% of inflow)  
 Center-of-Mass det. time= 559.1 min ( 1,370.3 - 811.2 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.28'	17,061 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.28	3,476	0.0	0	0
64.28	3,476	0.0	0	0
64.95	3,476	0.0	0	0
65.20	3,476	0.0	0	0
65.40	3,804	100.0	728	728
68.00	5,931	100.0	12,655	13,383
68.60	6,329	100.0	3,678	17,061

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>1.250" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	67.00'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 67.00' / 65.00' S= 0.1000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.027 cfs @ 15.68 hrs HW=65.56' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.027 cfs @ 3.19 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.28' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)



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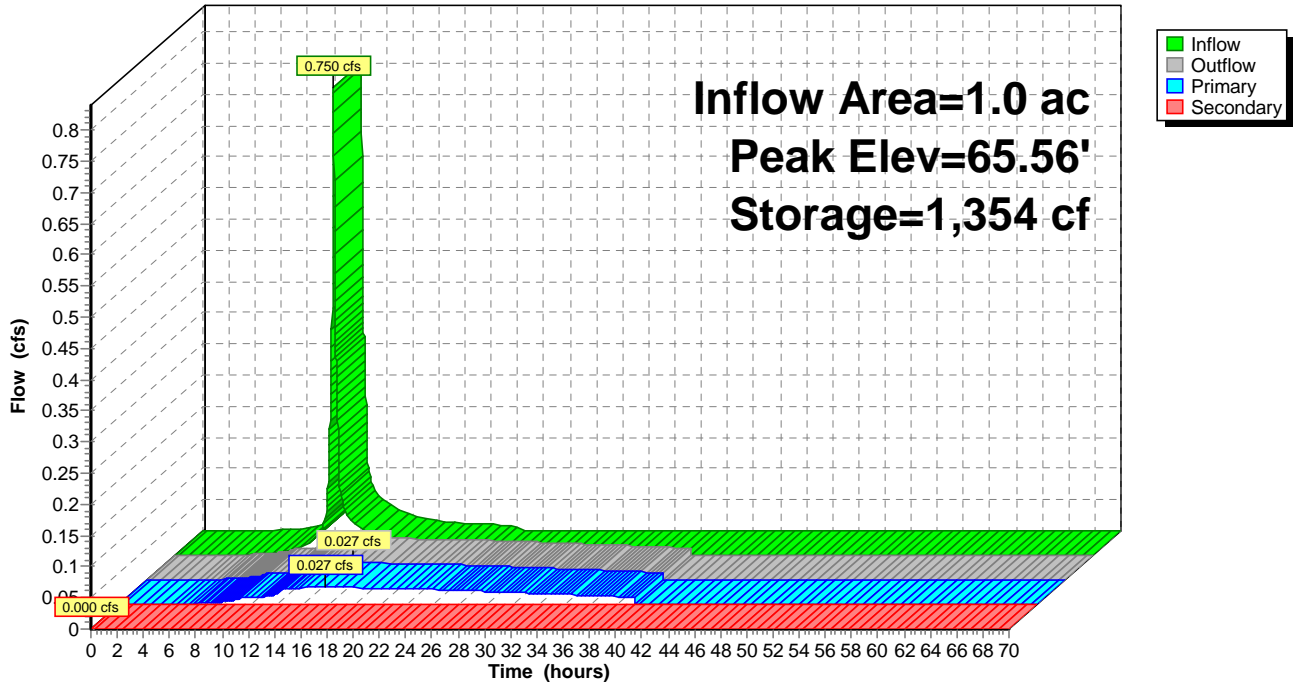
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**Pond 62P: Gravel Wetland 10**

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**Summary for Pond 63P: Gravel Wetland 11**

Inflow Area = 0.4 ac, 56.12% Impervious, Inflow Depth = 0.69" for 1" event  
 Inflow = 0.288 cfs @ 12.07 hrs, Volume= 0.020 af  
 Outflow = 0.010 cfs @ 15.69 hrs, Volume= 0.020 af, Atten= 97%, Lag= 217.0 min  
 Primary = 0.010 cfs @ 15.69 hrs, Volume= 0.020 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 64.75' @ 15.69 hrs Surf.Area= 3,504 sf Storage= 500 cf

Plug-Flow detention time= 504.2 min calculated for 0.020 af (100% of inflow)  
 Center-of-Mass det. time= 504.4 min ( 1,306.9 - 802.6 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.68'	9,324 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.68	3,385	0.0	0	0
63.68	3,385	0.0	0	0
64.35	3,385	0.0	0	0
64.60	3,385	0.0	0	0
65.00	3,712	100.0	1,419	1,419
66.00	5,399	100.0	4,556	5,975
66.60	5,765	100.0	3,349	9,324

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.60'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.60' / 64.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	66.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.010 cfs @ 15.69 hrs HW=64.75' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.010 cfs @ 3.21 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.68' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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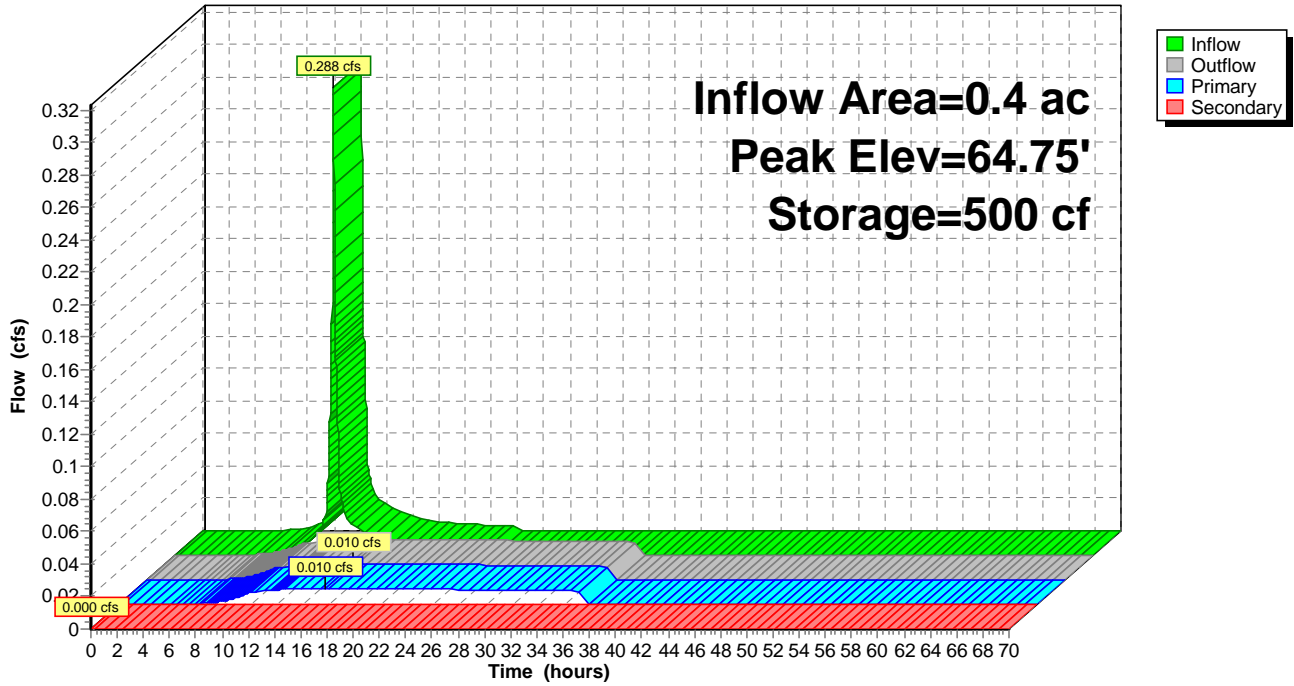
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**Pond 63P: Gravel Wetland 11**

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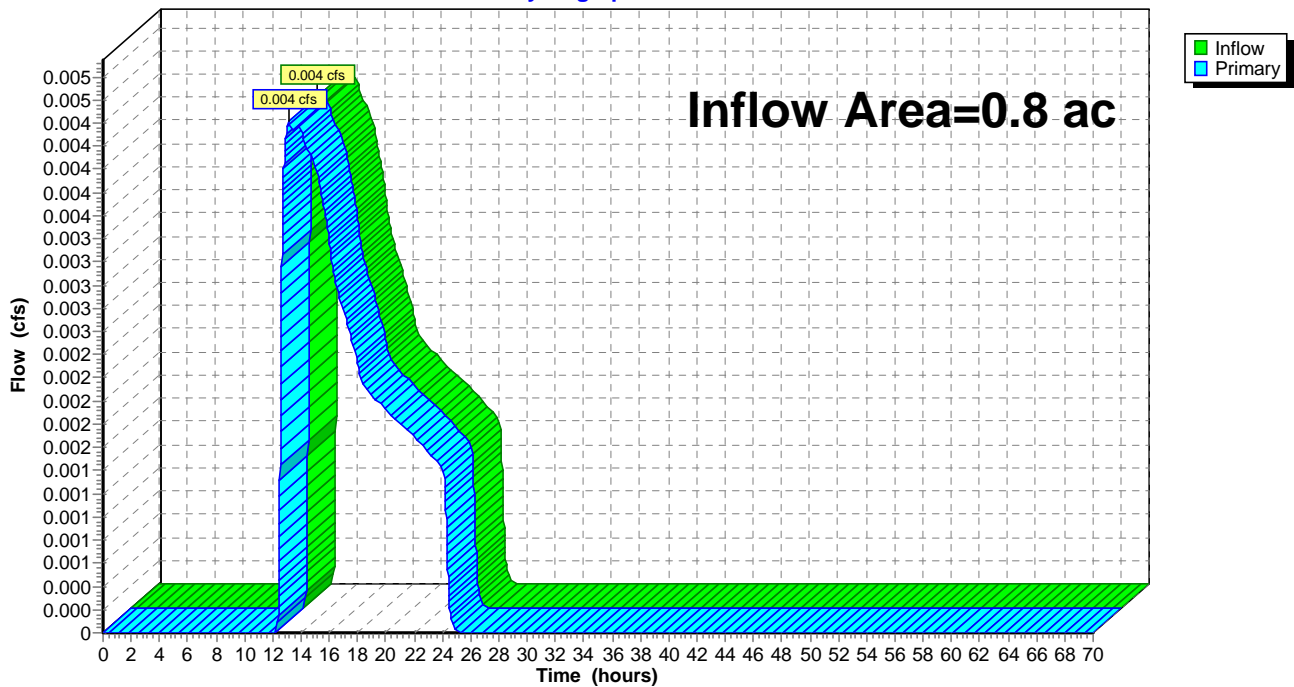
## Summary for Link 42L: Study Point 3

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth = 0.04" for 1" event  
Inflow = 0.004 cfs @ 13.10 hrs, Volume= 0.003 af  
Primary = 0.004 cfs @ 13.10 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

### Link 42L: Study Point 3

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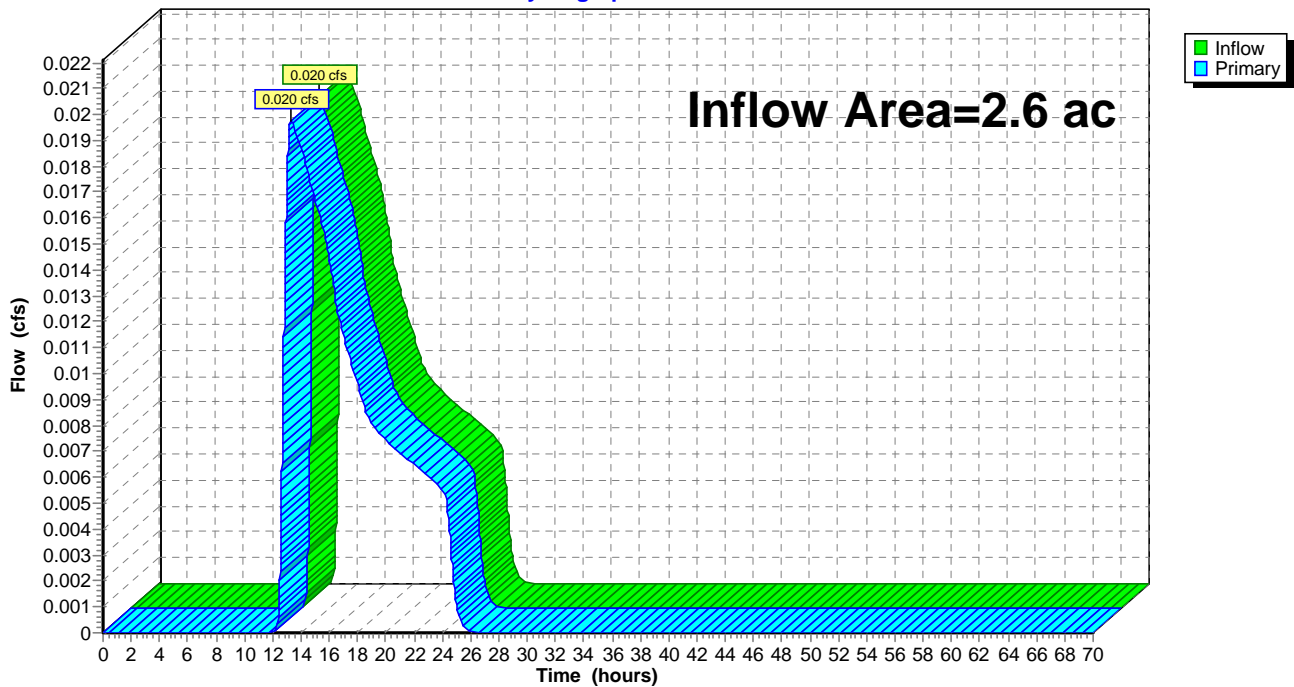
## Summary for Link 43L: Study Point 4

Inflow Area = 2.6 ac, 2.64% Impervious, Inflow Depth = 0.05" for 1" event  
Inflow = 0.020 cfs @ 13.36 hrs, Volume= 0.011 af  
Primary = 0.020 cfs @ 13.36 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 43L: Study Point 4

Hydrograph



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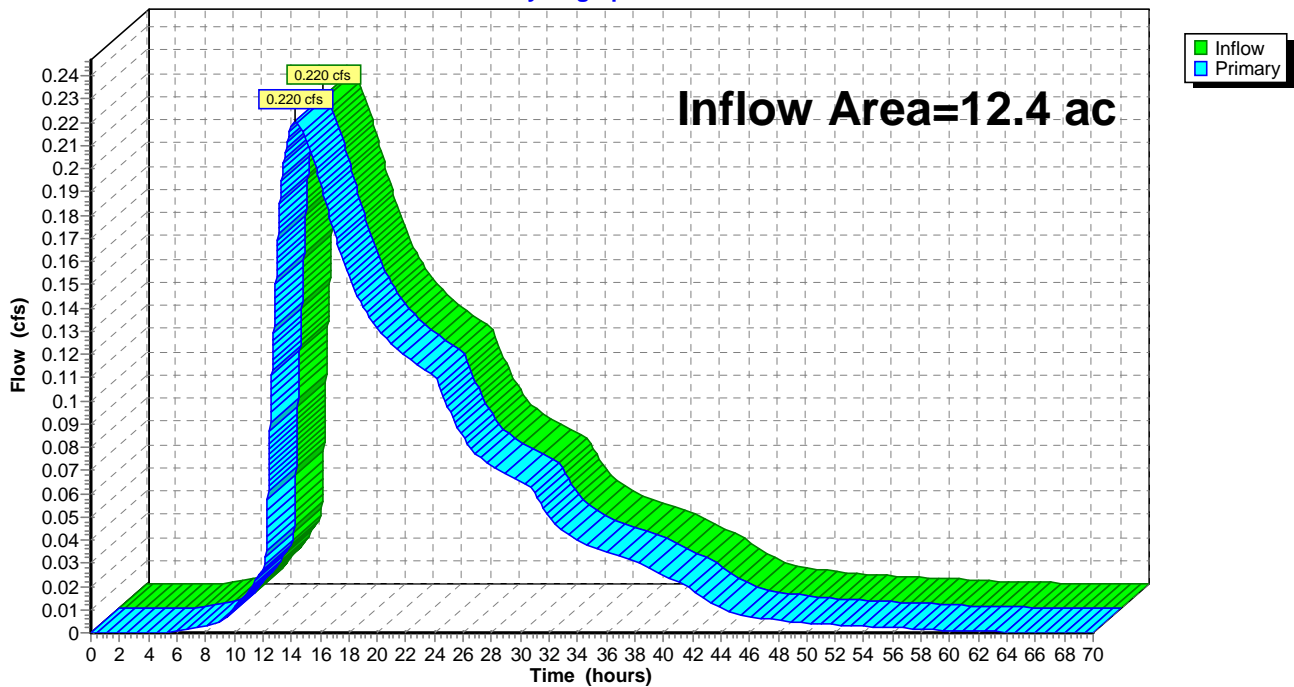
## Summary for Link 46L: Study Point 5

Inflow Area = 12.4 ac, 18.14% Impervious, Inflow Depth > 0.23" for 1" event  
Inflow = 0.220 cfs @ 14.28 hrs, Volume= 0.239 af  
Primary = 0.220 cfs @ 14.28 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 46L: Study Point 5

Hydrograph



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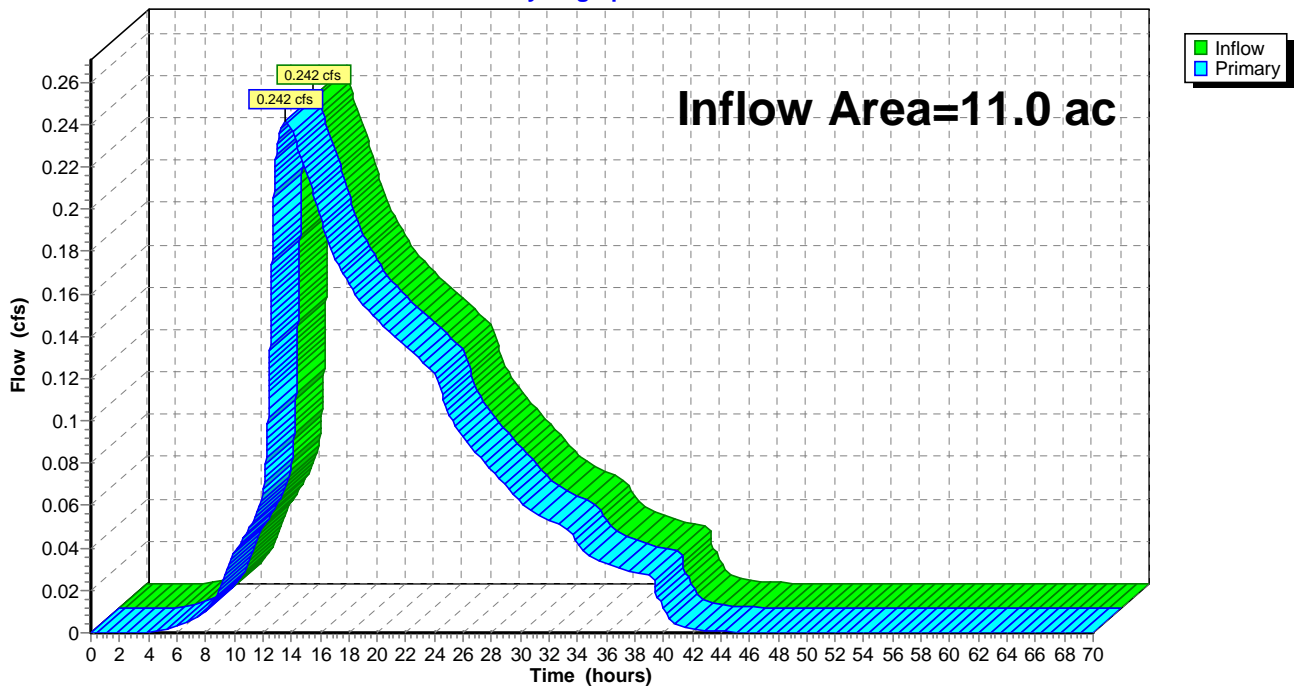
## Summary for Link 55L: Study Point 6

Inflow Area = 11.0 ac, 25.80% Impervious, Inflow Depth = 0.28" for 1" event  
Inflow = 0.242 cfs @ 13.51 hrs, Volume= 0.257 af  
Primary = 0.242 cfs @ 13.51 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 55L: Study Point 6

Hydrograph



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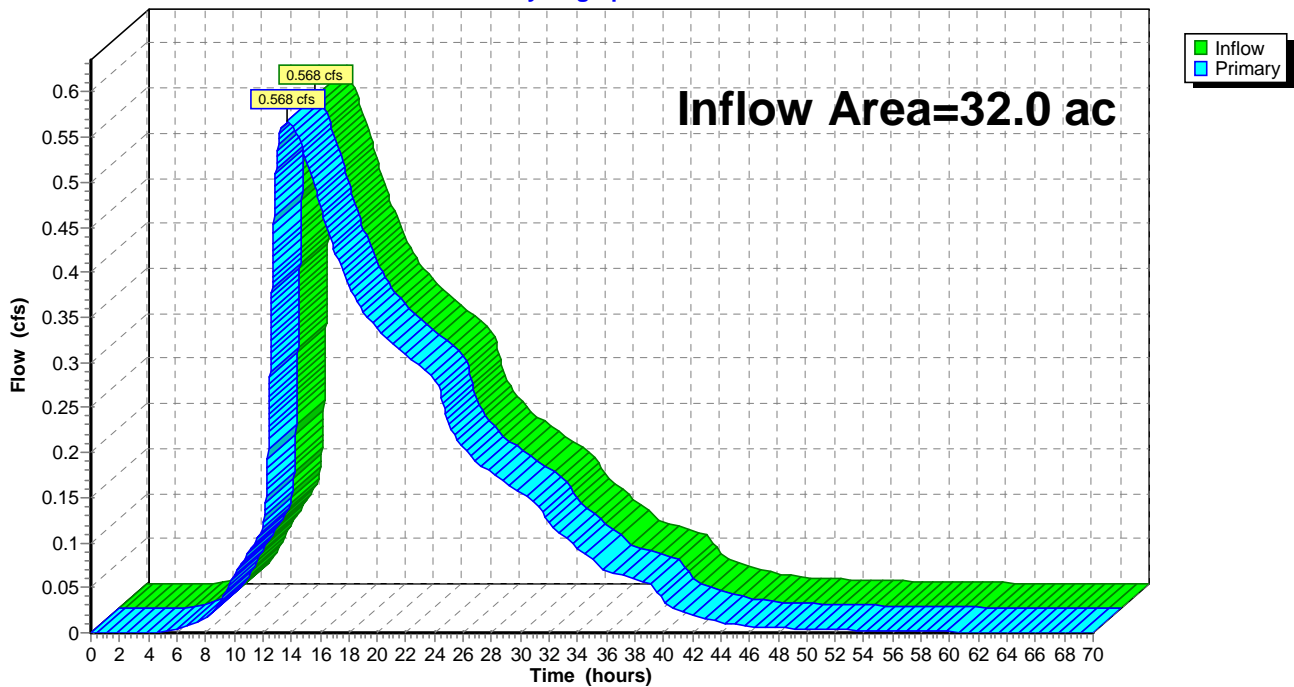
## Summary for Link 56L: Canal Subtotal

Inflow Area = 32.0 ac, 18.28% Impervious, Inflow Depth = 0.22" for 1" event  
Inflow = 0.568 cfs @ 13.68 hrs, Volume= 0.597 af  
Primary = 0.568 cfs @ 13.68 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 56L: Canal Subtotal

Hydrograph





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## Summary for Link 57L: Energy East Subtotal (Linked)

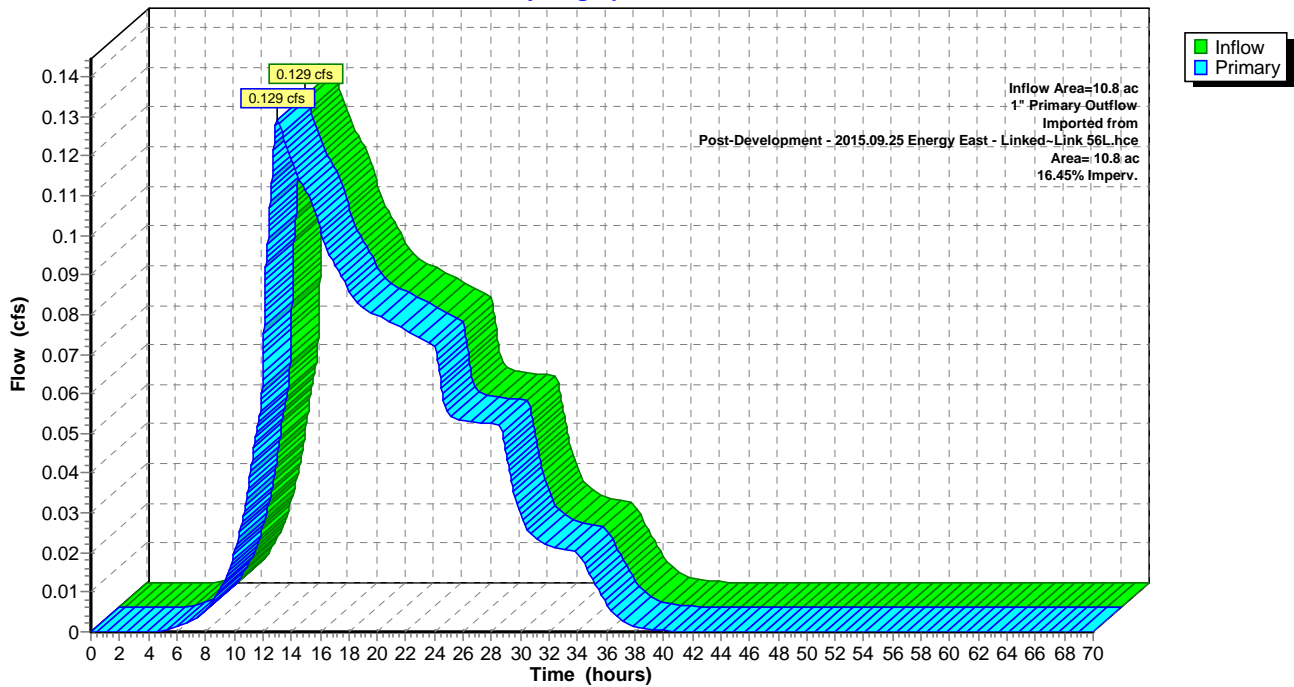
Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth = 0.15" for 1" event  
Inflow = 0.129 cfs @ 13.03 hrs, Volume= 0.136 af  
Primary = 0.129 cfs @ 13.03 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

1" Primary Outflow Imported from Post-Development - 2015.09.25 Energy East - Linked-Link 56L.hce

## Link 57L: Energy East Subtotal (Linked)

Hydrograph



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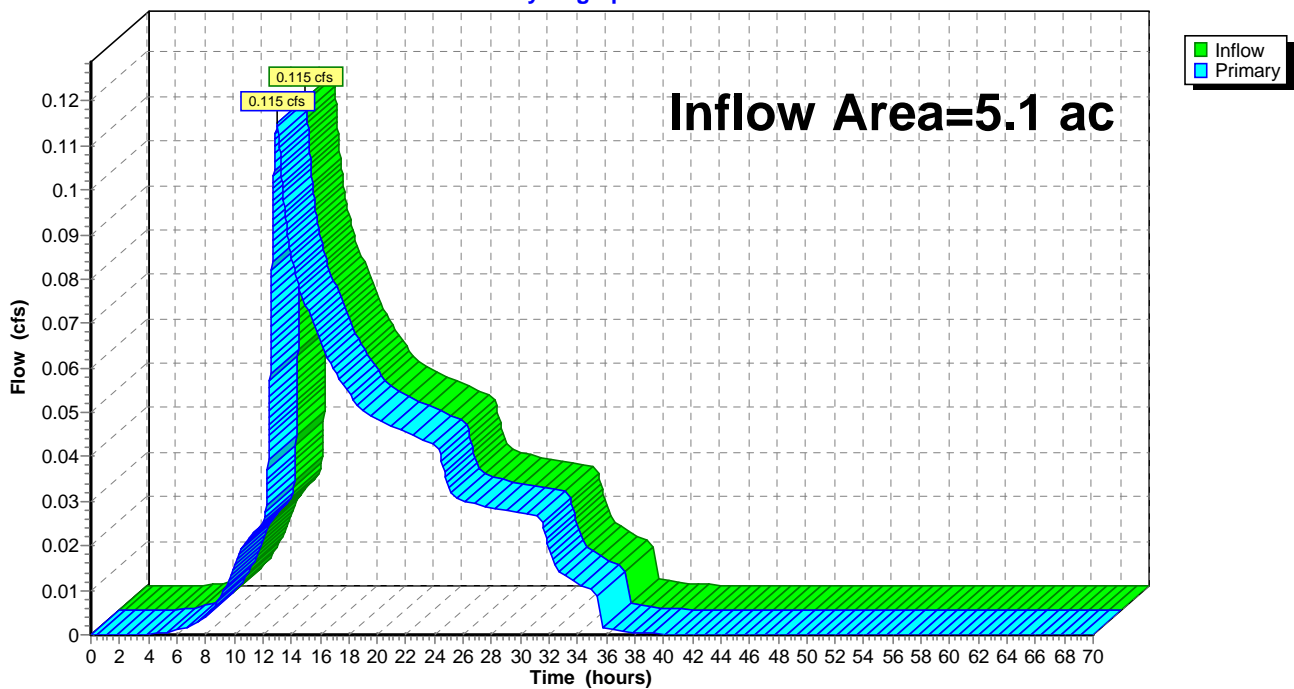
## Summary for Link 61L: Study Point 7

Inflow Area = 5.1 ac, 13.37% Impervious, Inflow Depth = 0.21" for 1" event  
Inflow = 0.115 cfs @ 13.00 hrs, Volume= 0.088 af  
Primary = 0.115 cfs @ 13.00 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 61L: Study Point 7

Hydrograph



# Post-Development - 2015.09.25 Canal and Total

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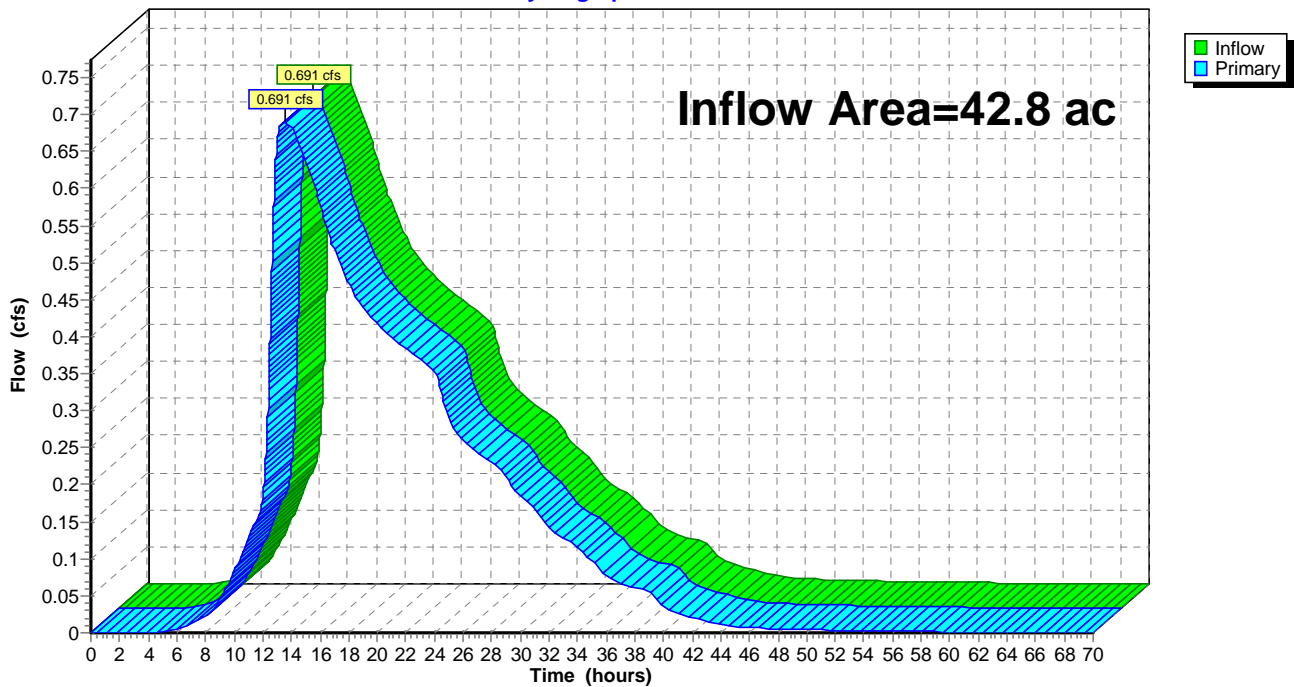
## Summary for Link 62L: Post-Development Total

Inflow Area = 42.8 ac, 17.82% Impervious, Inflow Depth = 0.21" for 1" event  
Inflow = 0.691 cfs @ 13.51 hrs, Volume= 0.733 af  
Primary = 0.691 cfs @ 13.51 hrs, Volume= 0.733 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 62L: Post-Development Total

Hydrograph



# Post-Development - 2015.09.25 Canal and Total

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Time span=0.00-70.00 hrs, dt=0.01 hrs, 7001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Subcatchment 10</b>	Runoff Area=12,862 sf 78.49% Impervious Runoff Depth=2.45" Tc=5.0 min CN=94 Runoff=0.843 cfs 0.060 af
<b>Subcatchment 12S: Subcatchment 12</b>	Runoff Area=14,246 sf 88.46% Impervious Runoff Depth=2.65" Tc=5.0 min CN=96 Runoff=0.982 cfs 0.072 af
<b>Subcatchment 13S: Subcatchment 13</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.715 cfs 0.055 af
<b>Subcatchment 14S: Subcatchment 14</b>	Runoff Area=18,696 sf 79.19% Impervious Runoff Depth=2.45" Tc=5.0 min CN=94 Runoff=1.225 cfs 0.088 af
<b>Subcatchment 15S: Subcatchment 15</b>	Runoff Area=61,581 sf 0.00% Impervious Runoff Depth=1.46" Flow Length=339' Tc=35.2 min CN=82 Runoff=1.258 cfs 0.172 af
<b>Subcatchment 16S: Subcatchment 16</b>	Runoff Area=121,629 sf 0.00% Impervious Runoff Depth=1.46" Flow Length=580' Tc=65.1 min CN=82 Runoff=1.765 cfs 0.339 af
<b>Subcatchment 17S: Subcatchment 17</b>	Runoff Area=34,853 sf 0.00% Impervious Runoff Depth=1.08" Flow Length=275' Tc=24.2 min CN=76 Runoff=0.604 cfs 0.072 af
<b>Subcatchment 18S: Subcatchment 18</b>	Runoff Area=115,135 sf 2.64% Impervious Runoff Depth=1.14" Flow Length=717' Tc=48.7 min CN=77 Runoff=1.513 cfs 0.251 af
<b>Subcatchment 19S: Subcatchment 19</b>	Runoff Area=120,933 sf 3.33% Impervious Runoff Depth=1.53" Flow Length=527' Tc=40.1 min CN=83 Runoff=2.432 cfs 0.353 af
<b>Subcatchment 20S: Subcatchment 20</b>	Runoff Area=9,481 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.678 cfs 0.052 af
<b>Subcatchment 21S: Subcatchment 21</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.715 cfs 0.055 af
<b>Subcatchment 22S: Subcatchment 22</b>	Runoff Area=32,114 sf 84.79% Impervious Runoff Depth=2.55" Tc=5.0 min CN=95 Runoff=2.162 cfs 0.156 af
<b>Subcatchment 23S: Subcatchment 23</b>	Runoff Area=36,758 sf 67.01% Impervious Runoff Depth=2.26" Tc=5.0 min CN=92 Runoff=2.263 cfs 0.159 af
<b>Subcatchment 24S: Subcatchment 24</b>	Runoff Area=73,357 sf 0.00% Impervious Runoff Depth=1.46" Flow Length=490' Tc=54.8 min CN=82 Runoff=1.184 cfs 0.205 af
<b>Subcatchment 25S: Subcatchment 25</b>	Runoff Area=23,474 sf 83.13% Impervious Runoff Depth=2.55" Tc=5.0 min CN=95 Runoff=1.580 cfs 0.114 af
<b>Subcatchment 26S: Subcatchment 26</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.715 cfs 0.055 af

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<b>Subcatchment 27S: Subcatchment 27</b>	Runoff Area=18,249 sf 85.83% Impervious Runoff Depth=2.55" Tc=5.0 min CN=95 Runoff=1.228 cfs 0.089 af
<b>Subcatchment 28S: Subcatchment 28</b>	Runoff Area=18,336 sf 98.31% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=1.311 cfs 0.101 af
<b>Subcatchment 29S: Subcatchment 29</b>	Runoff Area=102,124 sf 2.45% Impervious Runoff Depth=1.26" Flow Length=374' Tc=22.9 min CN=79 Runoff=2.162 cfs 0.247 af
<b>Subcatchment 30S: Subcatchment 30</b>	Runoff Area=236,639 sf 0.09% Impervious Runoff Depth=1.26" Flow Length=644' Tc=41.2 min CN=79 Runoff=3.826 cfs 0.571 af
<b>Subcatchment 31S: Subcatchment 31</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.715 cfs 0.055 af
<b>Subcatchment 32S: Subcatchment 32</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.715 cfs 0.055 af
<b>Subcatchment 33S: Subcatchment 33</b>	Runoff Area=13,542 sf 82.88% Impervious Runoff Depth=2.55" Tc=5.0 min CN=95 Runoff=0.912 cfs 0.066 af
<b>Subcatchment 34S: Subcatchment 34</b>	Runoff Area=29,429 sf 78.93% Impervious Runoff Depth=2.45" Tc=5.0 min CN=94 Runoff=1.928 cfs 0.138 af
<b>Subcatchment 35S: Subcatchment 35</b>	Runoff Area=9,946 sf 86.59% Impervious Runoff Depth=2.65" Tc=5.0 min CN=96 Runoff=0.686 cfs 0.050 af
<b>Subcatchment 36S: Subcatchment 36</b>	Runoff Area=177,857 sf 0.00% Impervious Runoff Depth=1.33" Flow Length=771' Tc=49.8 min CN=80 Runoff=2.732 cfs 0.451 af
<b>Subcatchment 62S: Rain on Pond 62P</b>	Runoff Area=5,931 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.424 cfs 0.033 af
<b>Subcatchment 63S: Rain on Pond 60P</b>	Runoff Area=6,384 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.457 cfs 0.035 af
<b>Subcatchment 64S: Rain on Pond 63P</b>	Runoff Area=5,399 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.386 cfs 0.030 af
<b>Subcatchment 65S: Rain on Pond 44P</b>	Runoff Area=5,782 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.413 cfs 0.032 af
<b>Subcatchment 66S: Rain on Pond 48P</b>	Runoff Area=3,675 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.263 cfs 0.020 af
<b>Subcatchment 67S: Rain on Pond 49P</b>	Runoff Area=4,004 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.286 cfs 0.022 af
<b>Subcatchment 68S: Rain on Pond 51P</b>	Runoff Area=7,212 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.516 cfs 0.040 af

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<b>Subcatchment 69S: Rain on Pond 53P</b>	Runoff Area=10,280 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.735 cfs 0.056 af
<b>Subcatchment 70S: Rain on Pond 52P</b>	Runoff Area=2,175 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.156 cfs 0.012 af
<b>Subcatchment 72S: Rain on Pond 58P</b>	Runoff Area=6,629 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.474 cfs 0.036 af
<b>Subcatchment 73S: Rain on Pond 59P</b>	Runoff Area=5,709 sf 0.00% Impervious Runoff Depth=2.87" Tc=5.0 min CN=98 Runoff=0.408 cfs 0.031 af
<b>Reach 45R: Rock Sandwich 1</b>	Avg. Flow Depth=0.15' Max Vel=0.42 fps Inflow=2.191 cfs 0.508 af n=0.050 L=80.0' S=0.0025 '/ Capacity=96.775 cfs Outflow=2.179 cfs 0.507 af
<b>Reach 47R: Rock Sandwich 3</b>	Avg. Flow Depth=0.11' Max Vel=0.51 fps Inflow=4.962 cfs 1.515 af n=0.050 L=70.0' S=0.0057 '/ Capacity=388.834 cfs Outflow=4.959 cfs 1.515 af
<b>Reach 50R: Rock Sandwich 2</b>	Avg. Flow Depth=0.14' Max Vel=0.36 fps Inflow=2.108 cfs 0.589 af n=0.050 L=75.0' S=0.0020 '/ Capacity=127.762 cfs Outflow=2.105 cfs 0.589 af
<b>Reach 54R: Rock Sandwich 4</b>	Avg. Flow Depth=0.09' Max Vel=0.54 fps Inflow=1.455 cfs 0.229 af n=0.050 L=60.0' S=0.0083 '/ Capacity=150.131 cfs Outflow=1.454 cfs 0.229 af
<b>Reach 62R: RS1 to RS2</b>	Avg. Flow Depth=0.34' Max Vel=0.25 fps Inflow=2.179 cfs 0.507 af n=0.100 L=450.0' S=0.0020 '/ Capacity=16.893 cfs Outflow=1.620 cfs 0.505 af
<b>Reach 67R: GW2 to RS1</b>	Avg. Flow Depth=0.03' Max Vel=0.07 fps Inflow=0.018 cfs 0.080 af n=0.100 L=225.0' S=0.0031 '/ Capacity=62.120 cfs Outflow=0.018 cfs 0.079 af
<b>Reach 68R: RS3 to SP5</b>	Avg. Flow Depth=0.10' Max Vel=0.51 fps Inflow=4.959 cfs 1.515 af n=0.100 L=375.0' S=0.0413 '/ Capacity=145.240 cfs Outflow=4.772 cfs 1.513 af
<b>Reach 69R: RS2 to RS3</b>	Avg. Flow Depth=0.17' Max Vel=0.23 fps Inflow=2.105 cfs 0.589 af n=0.100 L=350.0' S=0.0043 '/ Capacity=86.608 cfs Outflow=1.820 cfs 0.589 af
<b>Reach 70R: GW8 to RS4</b>	Avg. Flow Depth=0.10' Max Vel=0.11 fps Inflow=0.927 cfs 0.024 af n=0.100 L=180.0' S=0.0022 '/ Capacity=14.593 cfs Outflow=0.404 cfs 0.024 af
<b>Reach 71R: RS4 to SP6</b>	Avg. Flow Depth=0.13' Max Vel=0.47 fps Inflow=2.329 cfs 0.532 af n=0.100 L=575.0' S=0.0261 '/ Capacity=38.460 cfs Outflow=2.089 cfs 0.532 af
<b>Reach 73R: GW7 to SP6</b>	Avg. Flow Depth=0.03' Max Vel=0.21 fps Inflow=0.197 cfs 0.180 af n=0.100 L=350.0' S=0.0371 '/ Capacity=80.313 cfs Outflow=0.191 cfs 0.180 af
<b>Reach 74R: GW6 to SP6</b>	Avg. Flow Depth=0.01' Max Vel=0.13 fps Inflow=0.038 cfs 0.131 af n=0.100 L=425.0' S=0.0329 '/ Capacity=75.634 cfs Outflow=0.038 cfs 0.129 af
<b>Reach 75R: GW10 to SP6</b>	Avg. Flow Depth=0.01' Max Vel=0.74 fps Inflow=0.055 cfs 0.210 af n=0.100 L=325.0' S=0.0446 '/ Capacity=900.771 cfs Outflow=0.055 cfs 0.209 af

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<b>Reach 76R: GW12 to SP7</b>	Avg. Flow Depth=0.05' Max Vel=0.16 fps Inflow=0.038 cfs 0.156 af n=0.100 L=700.0' S=0.0121 '/ Capacity=131.872 cfs Outflow=0.038 cfs 0.154 af
<b>Pond 44P: Gravel Wetland 1</b>	Peak Elev=65.85' Storage=1,818 cf Inflow=1.256 cfs 0.092 af Primary=0.297 cfs 0.092 af Secondary=0.000 cfs 0.000 af Outflow=0.297 cfs 0.092 af
<b>Pond 48P: Gravel Wetland 2</b>	Peak Elev=68.65' Storage=3,045 cf Inflow=1.245 cfs 0.092 af Primary=0.018 cfs 0.080 af Secondary=0.000 cfs 0.000 af Outflow=0.018 cfs 0.080 af
<b>Pond 49P: Gravel Wetland 3</b>	Peak Elev=67.51' Storage=3,106 cf Inflow=2.226 cfs 0.164 af Primary=0.629 cfs 0.164 af Secondary=0.000 cfs 0.000 af Outflow=0.629 cfs 0.164 af
<b>Pond 51P: Gravel Wetland 4</b>	Peak Elev=67.28' Storage=5,982 cf Inflow=3.456 cfs 0.250 af Primary=0.343 cfs 0.250 af Secondary=0.000 cfs 0.000 af Outflow=0.343 cfs 0.250 af
<b>Pond 52P: Gravel Wetland 5</b>	Peak Elev=66.53' Storage=1,541 cf Inflow=0.871 cfs 0.067 af Primary=0.122 cfs 0.067 af Secondary=0.000 cfs 0.000 af Outflow=0.122 cfs 0.067 af
<b>Pond 53P: Gravel Wetland 8</b>	Peak Elev=67.69' Storage=5,481 cf Inflow=4.477 cfs 0.327 af Primary=0.964 cfs 0.303 af Secondary=0.927 cfs 0.024 af Outflow=1.891 cfs 0.327 af
<b>Pond 58P: Gravel Wetland 7</b>	Peak Elev=65.53' Storage=4,547 cf Inflow=2.417 cfs 0.180 af Primary=0.197 cfs 0.180 af Secondary=0.000 cfs 0.000 af Outflow=0.197 cfs 0.180 af
<b>Pond 59P: Gravel Wetland 6</b>	Peak Elev=66.65' Storage=4,077 cf Inflow=1.719 cfs 0.132 af Primary=0.038 cfs 0.131 af Secondary=0.000 cfs 0.000 af Outflow=0.038 cfs 0.131 af
<b>Pond 60P: Gravel Wetland 12</b>	Peak Elev=69.61' Storage=4,873 cf Inflow=2.083 cfs 0.156 af Primary=0.038 cfs 0.156 af Secondary=0.000 cfs 0.000 af Outflow=0.038 cfs 0.156 af
<b>Pond 62P: Gravel Wetland 10</b>	Peak Elev=66.89' Storage=7,313 cf Inflow=3.067 cfs 0.225 af Primary=0.055 cfs 0.210 af Secondary=0.000 cfs 0.000 af Outflow=0.055 cfs 0.210 af
<b>Pond 63P: Gravel Wetland 11</b>	Peak Elev=65.31' Storage=2,645 cf Inflow=1.072 cfs 0.080 af Primary=0.015 cfs 0.068 af Secondary=0.000 cfs 0.000 af Outflow=0.015 cfs 0.068 af
<b>Link 42L: Study Point 3</b>	Inflow=0.604 cfs 0.072 af Primary=0.604 cfs 0.072 af
<b>Link 43L: Study Point 4</b>	Inflow=1.513 cfs 0.251 af Primary=1.513 cfs 0.251 af
<b>Link 46L: Study Point 5</b>	Inflow=5.398 cfs 1.760 af Primary=5.398 cfs 1.760 af
<b>Link 55L: Study Point 6</b>	Inflow=5.792 cfs 1.622 af Primary=5.792 cfs 1.622 af
<b>Link 56L: Canal Subtotal</b>	Inflow=15.594 cfs 4.378 af Primary=15.594 cfs 4.378 af

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primary Outflow Link Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce Inflow=5.318 cfs 1.190 af  
Area= 10.8 ac 16.45% Imperv. Primary=5.318 cfs 1.190 af

**Link 61L: Study Point 7**

Inflow=2.774 cfs 0.672 af

Primary=2.774 cfs 0.672 af

**Link 62L: Post-Development Total**

Inflow=20.180 cfs 5.568 af

Primary=20.180 cfs 5.568 af

**Total Runoff Area = 32.0 ac Runoff Volume = 4.428 af Average Runoff Depth = 1.66"**  
**81.72% Pervious = 26.2 ac 18.28% Impervious = 5.9 ac**



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**Summary for Subcatchment 10S: Subcatchment 10**

Runoff = 0.843 cfs @ 12.07 hrs, Volume= 0.060 af, Depth= 2.45"

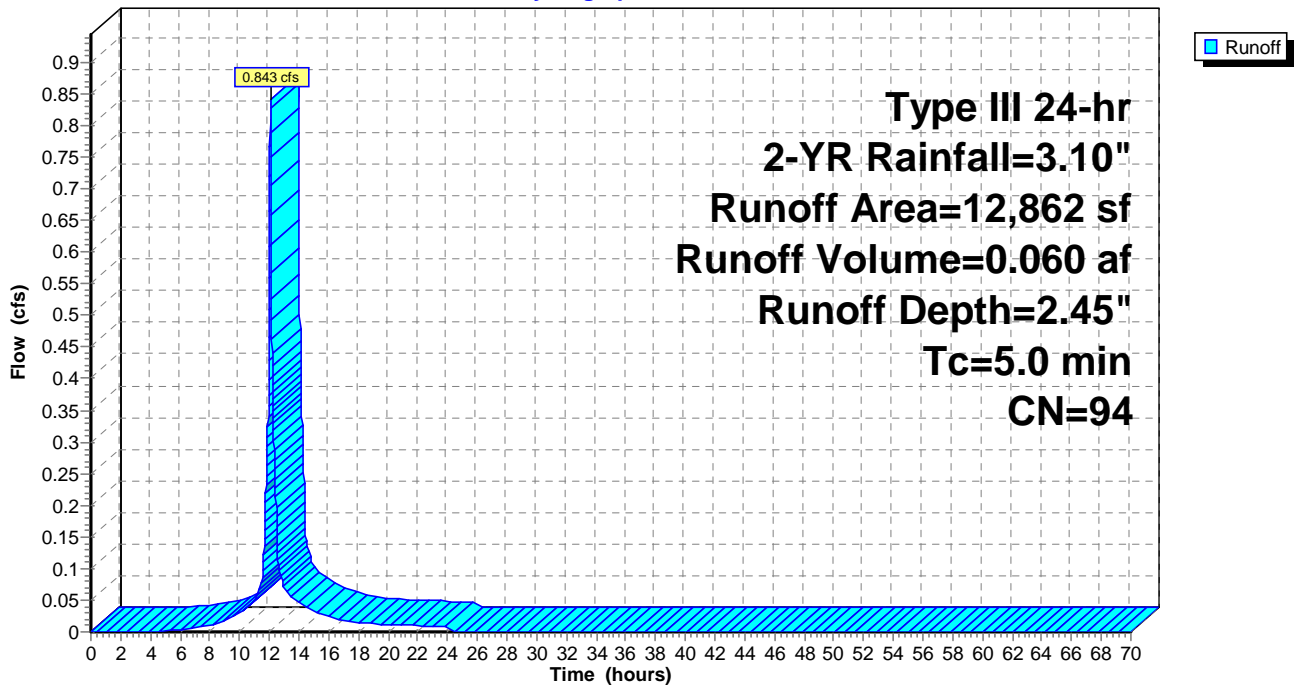
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,150	74	>75% Grass cover, Good, HSG C
1,617	80	>75% Grass cover, Good, HSG D
10,095	98	Paved parking & roofs
12,862	94	Weighted Average
2,767		21.51% Pervious Area
10,095		78.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 10

**Subcatchment 10S: Subcatchment 10**

Hydrograph



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**Summary for Subcatchment 12S: Subatchment 12**

Runoff = 0.982 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 2.65"

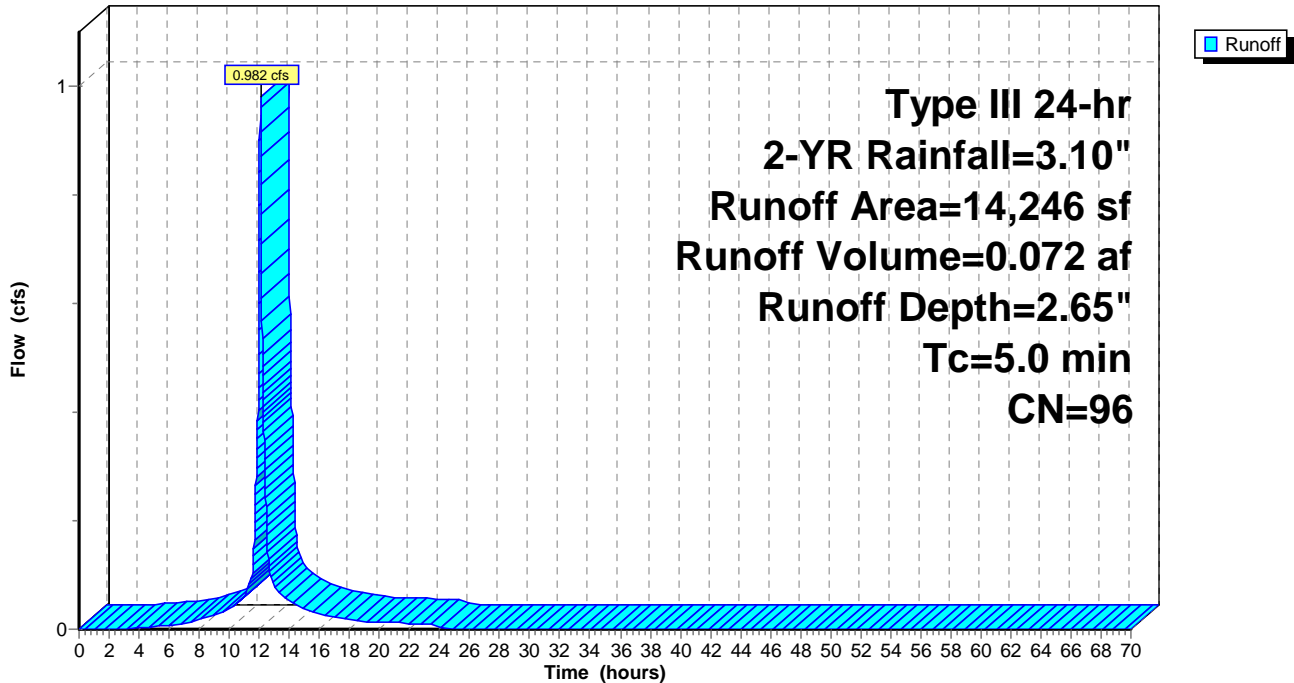
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,644	80	>75% Grass cover, Good, HSG D
12,602	98	Paved parking & roofs
14,246	96	Weighted Average
1,644		11.54% Pervious Area
12,602		88.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 12

**Subcatchment 12S: Subatchment 12**

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**Summary for Subcatchment 13S: Sucatchment 13**

Runoff = 0.715 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 2.87"

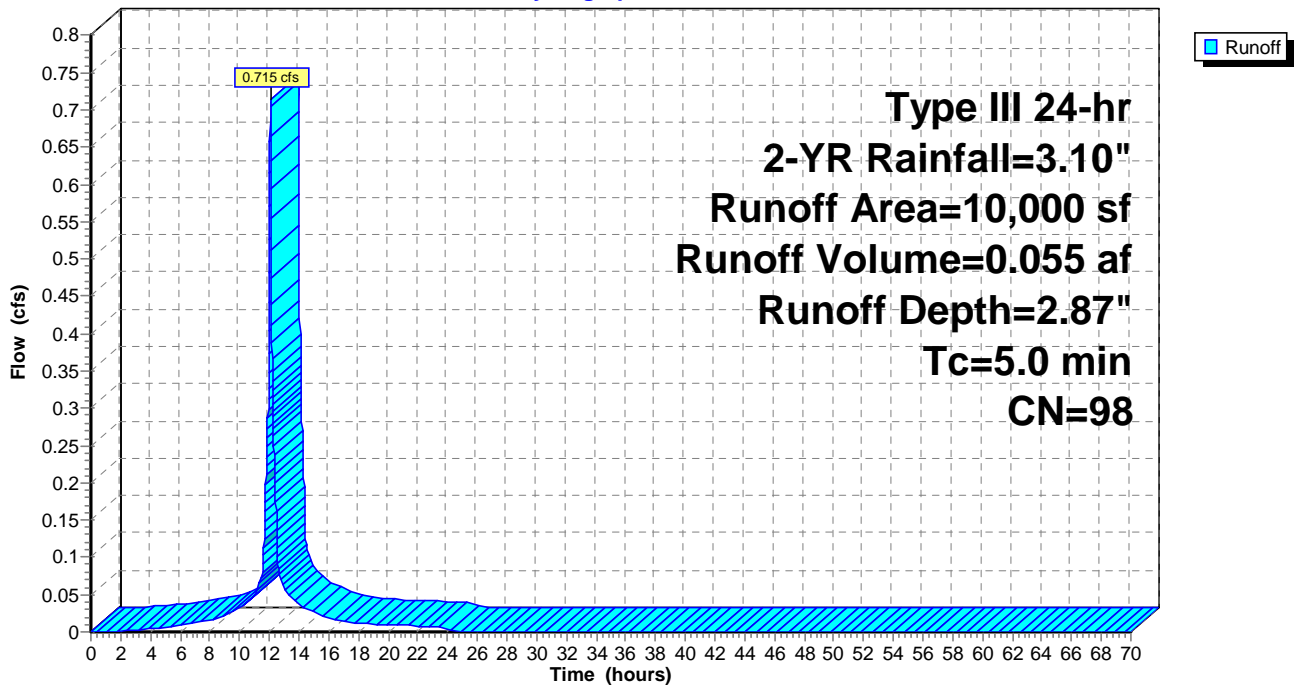
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 13

**Subcatchment 13S: Sucatchment 13**

Hydrograph



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

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**Summary for Subcatchment 14S: Subcatchment 14**

Runoff = 1.225 cfs @ 12.07 hrs, Volume= 0.088 af, Depth= 2.45"

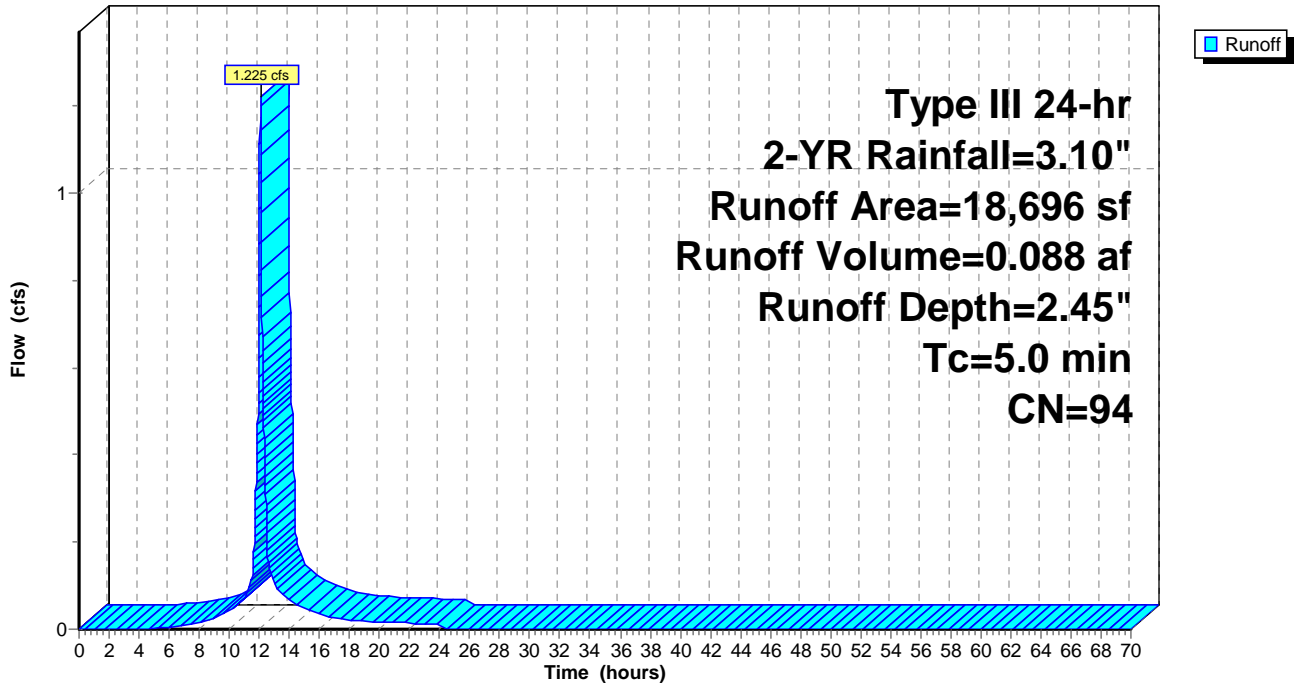
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
3,890	80	>75% Grass cover, Good, HSG D
14,806	98	Paved parking & roofs
18,696	94	Weighted Average
3,890		20.81% Pervious Area
14,806		79.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 14

**Subcatchment 14S: Subcatchment 14**

Hydrograph



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**Summary for Subcatchment 15S: Subcatchment 15**

Runoff = 1.258 cfs @ 12.48 hrs, Volume= 0.172 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

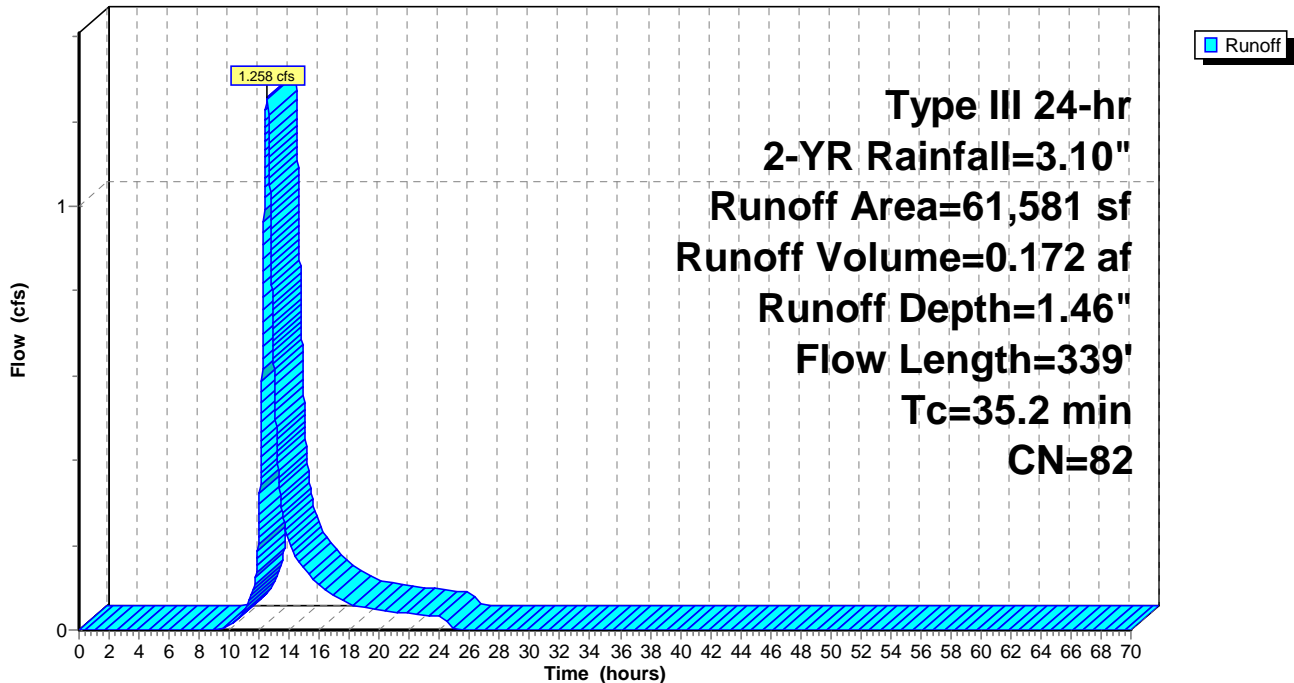
Area (sf)	CN	Description
61,581	82	Woods/grass comb., Fair, HSG D
61,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 15 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
10.3	239	0.0060	0.39		<b>Shallow Concentrated Flow, Subcatchment 15 SCF</b>
					Woodland Kv= 5.0 fps
35.2	339	Total			

**Subcatchment 15S: Subcatchment 15**

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**Summary for Subcatchment 16S: Subcatchment 16**

Runoff = 1.765 cfs @ 12.88 hrs, Volume= 0.339 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

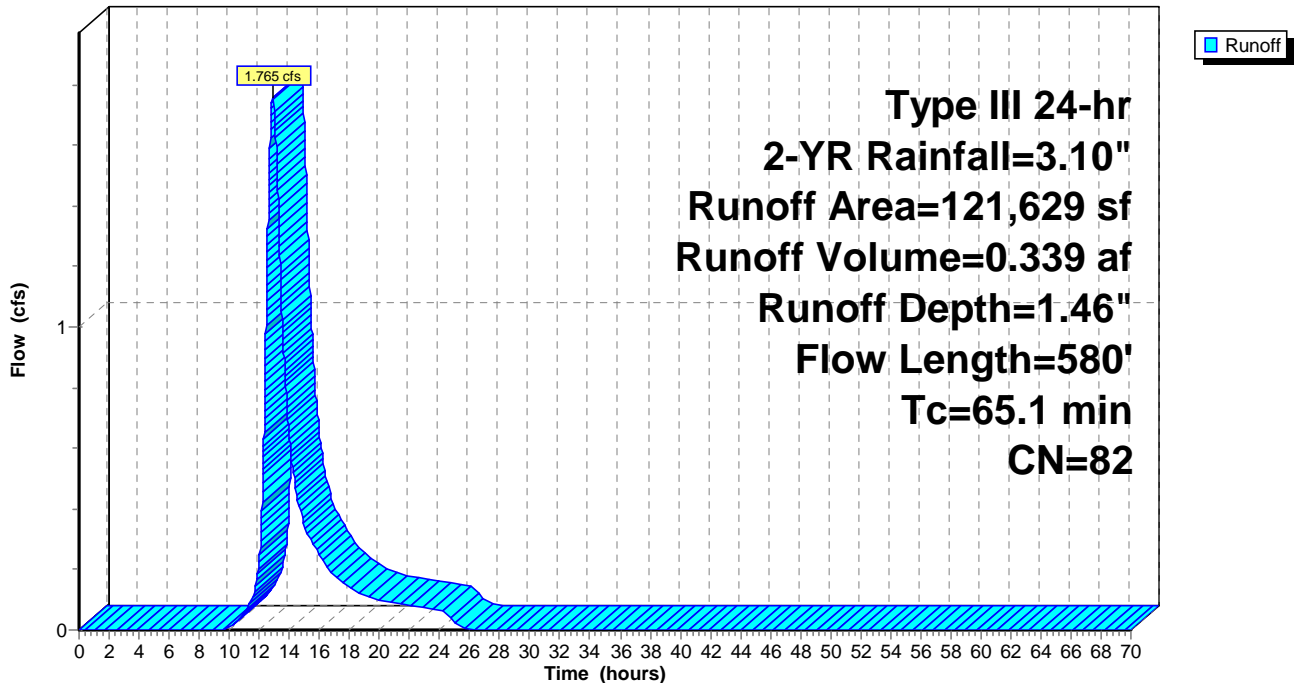
Area (sf)	CN	Description
121,629	82	Woods/grass comb., Fair, HSG D
121,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 16 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
35.8	480	0.0020	0.22		<b>Shallow Concentrated Flow, Subcatchment 16 SCF</b>
					Woodland Kv= 5.0 fps
65.1	580	Total			

**Subcatchment 16S: Subcatchment 16**

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

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**Summary for Subcatchment 17S: Subcatchment 17**

Runoff = 0.604 cfs @ 12.35 hrs, Volume= 0.072 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

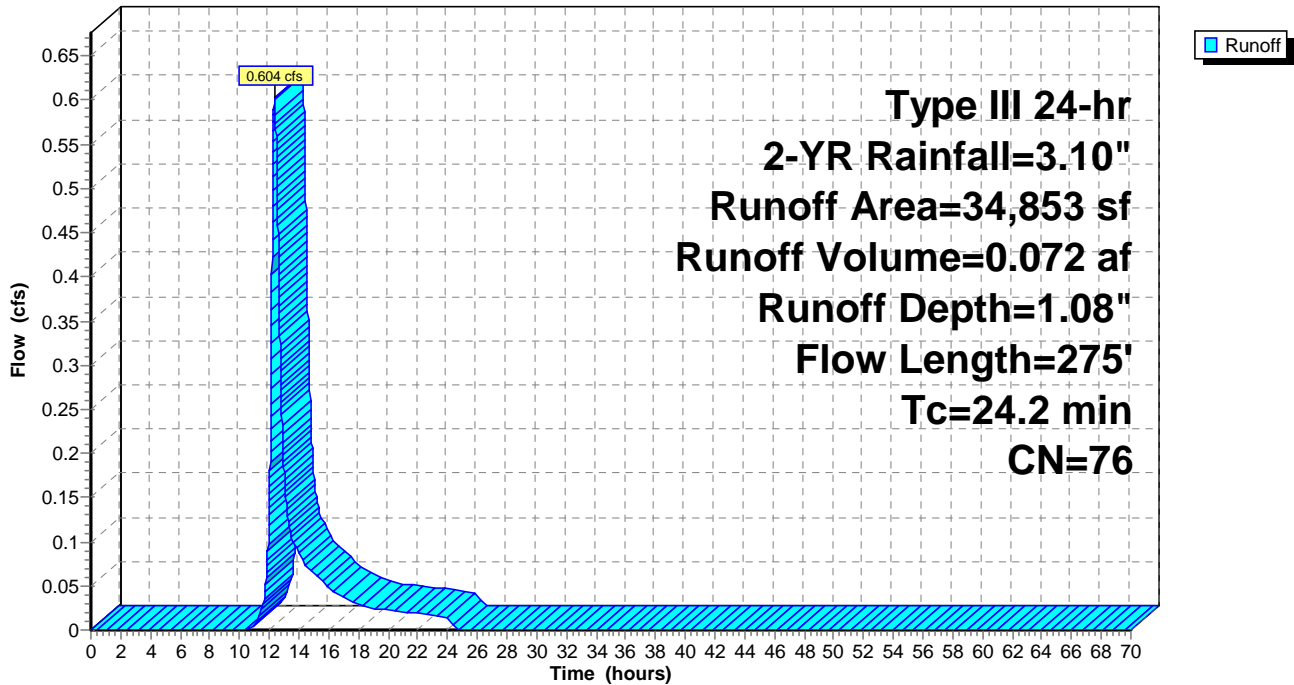
Area (sf)	CN	Description
34,853	76	Woods/grass comb., Fair, HSG C
34,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 17 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 17 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 17S: Subcatchment 17**

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**Summary for Subcatchment 18S: Subcatchment 18**

Runoff = 1.513 cfs @ 12.71 hrs, Volume= 0.251 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

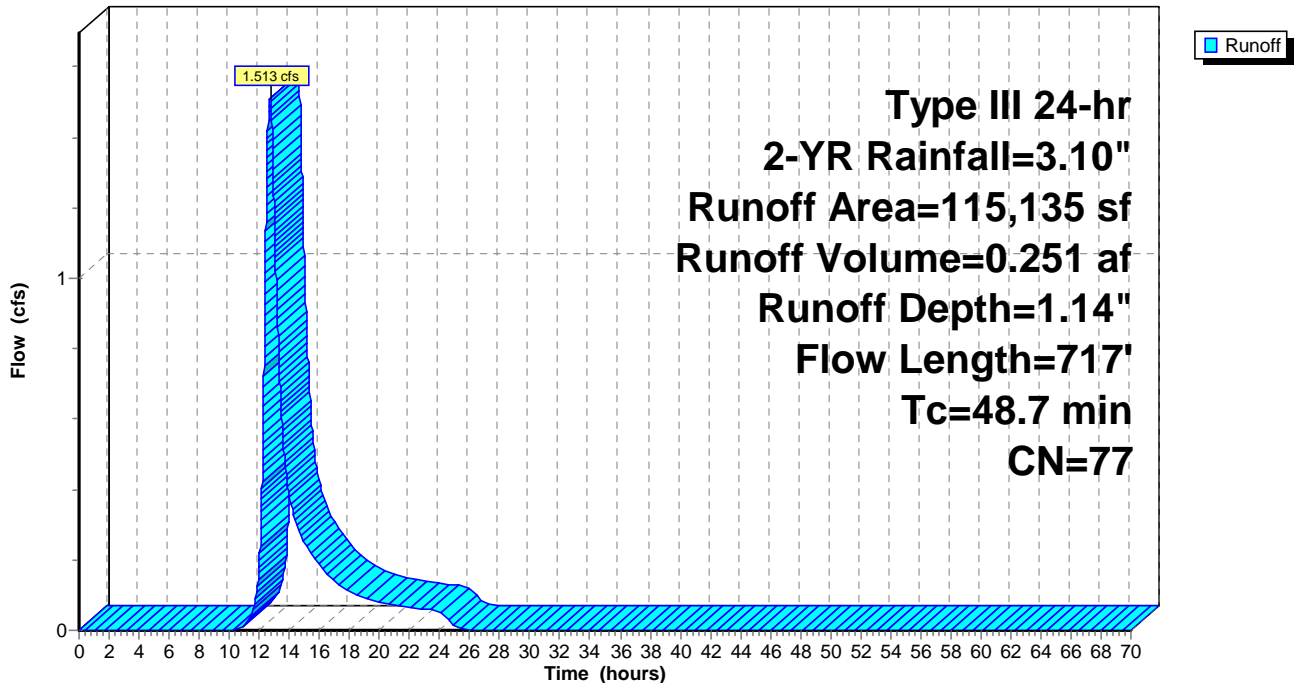
Area (sf)	CN	Description
41,712	80	>75% Grass cover, Good, HSG D
70,387	74	>75% Grass cover, Good, HSG C
3,036	98	Paved parking & roofs
115,135	77	Weighted Average
112,099		97.36% Pervious Area
3,036		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 18 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 18 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 18 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

**Subcatchment 18S: Subcatchment 18**

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**Summary for Subcatchment 19S: Subcatchment 19**

Runoff = 2.432 cfs @ 12.56 hrs, Volume= 0.353 af, Depth= 1.53"

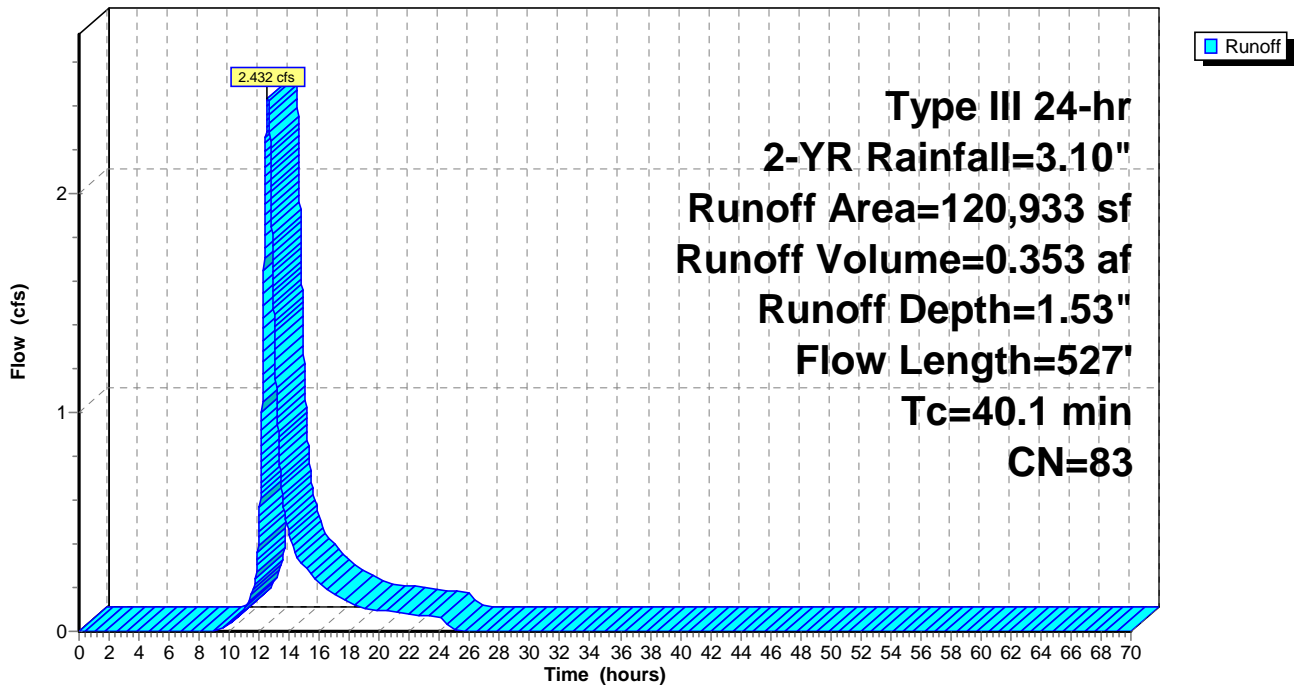
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
116,905	82	Woods/grass comb., Fair, HSG D
4,028	98	Paved parking & roofs
120,933	83	Weighted Average
116,905		96.67% Pervious Area
4,028		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0450	0.10		<b>Sheet Flow, Subcatchment 19 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
24.1	427	0.0035	0.30		<b>Shallow Concentrated Flow, Subcatchment 19 SCF</b>
					Woodland Kv= 5.0 fps
40.1	527	Total			

**Subcatchment 19S: Subcatchment 19**

Hydrograph



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**Summary for Subcatchment 20S: Subcatchment 20**

Runoff = 0.678 cfs @ 12.07 hrs, Volume= 0.052 af, Depth= 2.87"

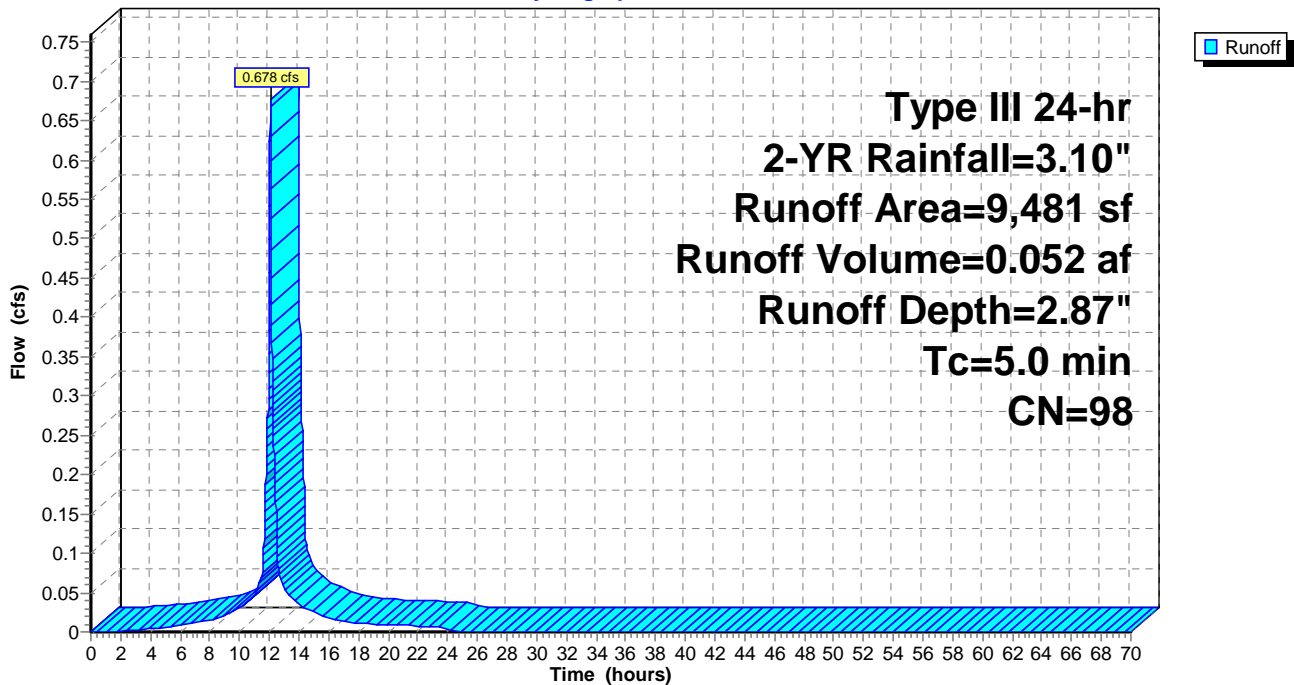
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
9,481	98	Paved parking & roofs
9,481		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 20

**Subcatchment 20S: Subcatchment 20**

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## Summary for Subcatchment 21S: Subcatchment 21

Runoff = 0.715 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 2.87"

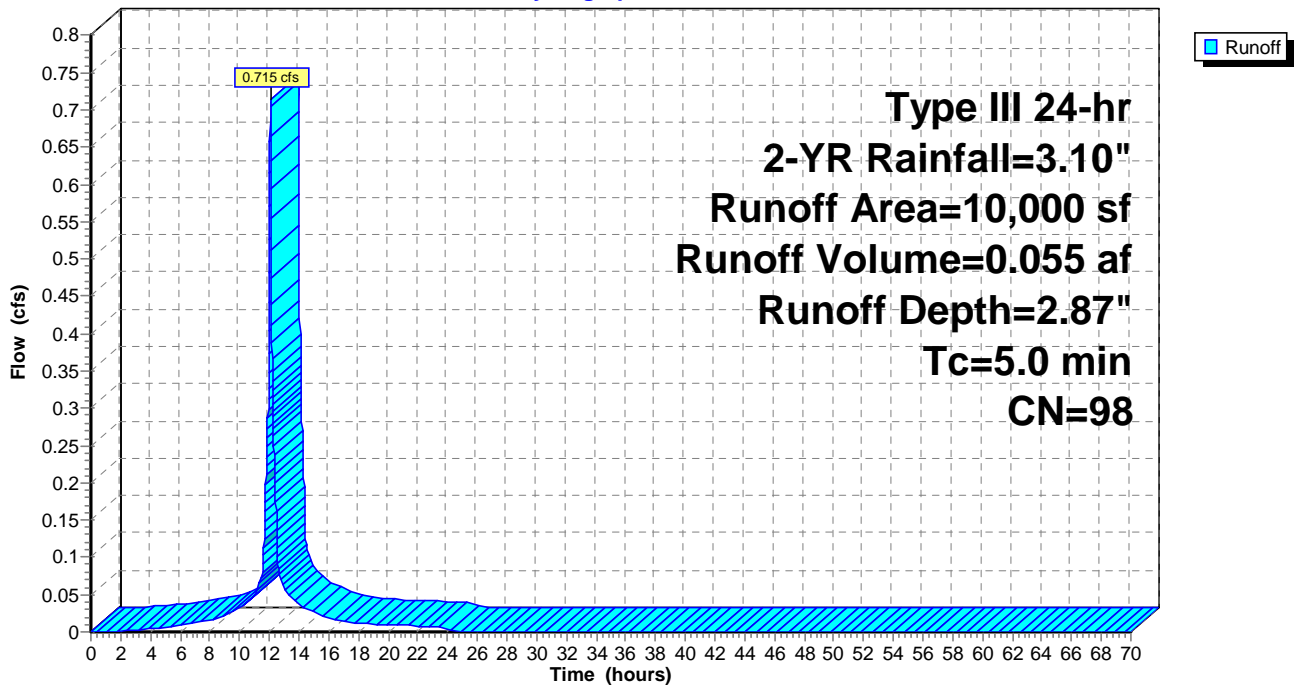
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 21

## Subcatchment 21S: Subcatchment 21

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**Summary for Subcatchment 22S: Subcatchment 22**

Runoff = 2.162 cfs @ 12.07 hrs, Volume= 0.156 af, Depth= 2.55"

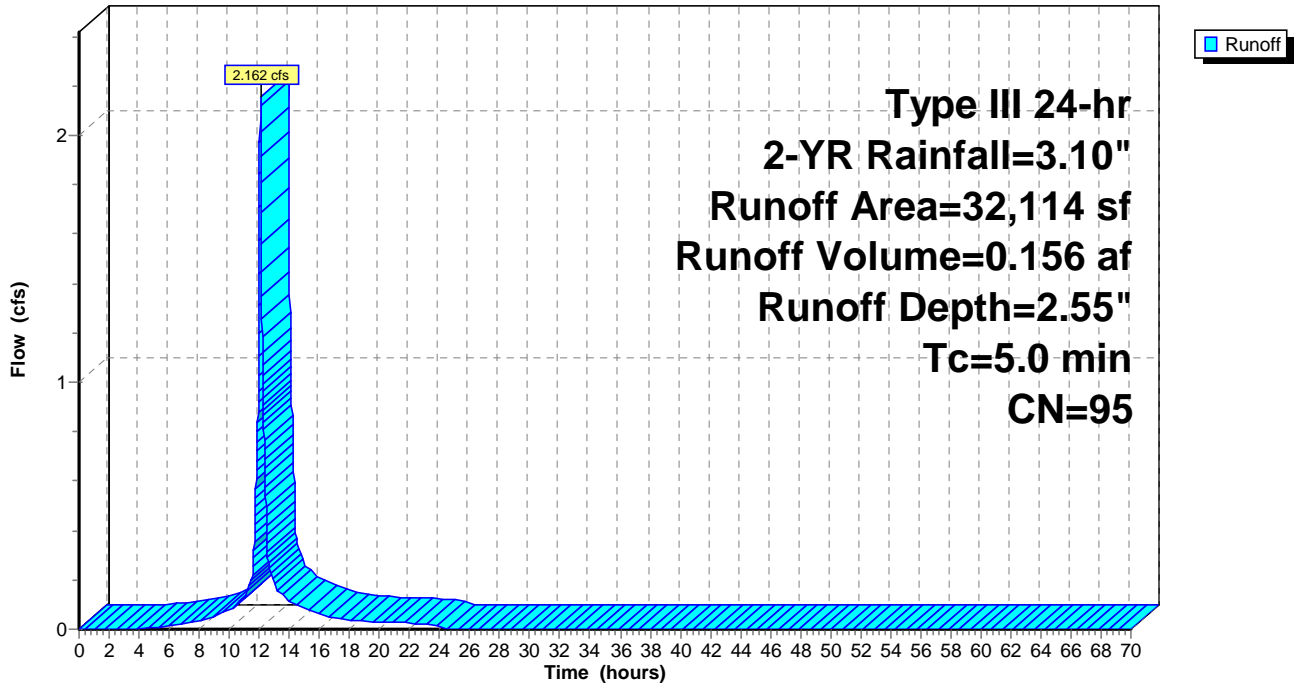
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
4,886	80	>75% Grass cover, Good, HSG D
27,228	98	Paved parking & roofs
32,114	95	Weighted Average
4,886		15.21% Pervious Area
27,228		84.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 22

**Subcatchment 22S: Subcatchment 22**

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**Summary for Subcatchment 23S: Subcatchment 23**

Runoff = 2.263 cfs @ 12.07 hrs, Volume= 0.159 af, Depth= 2.26"

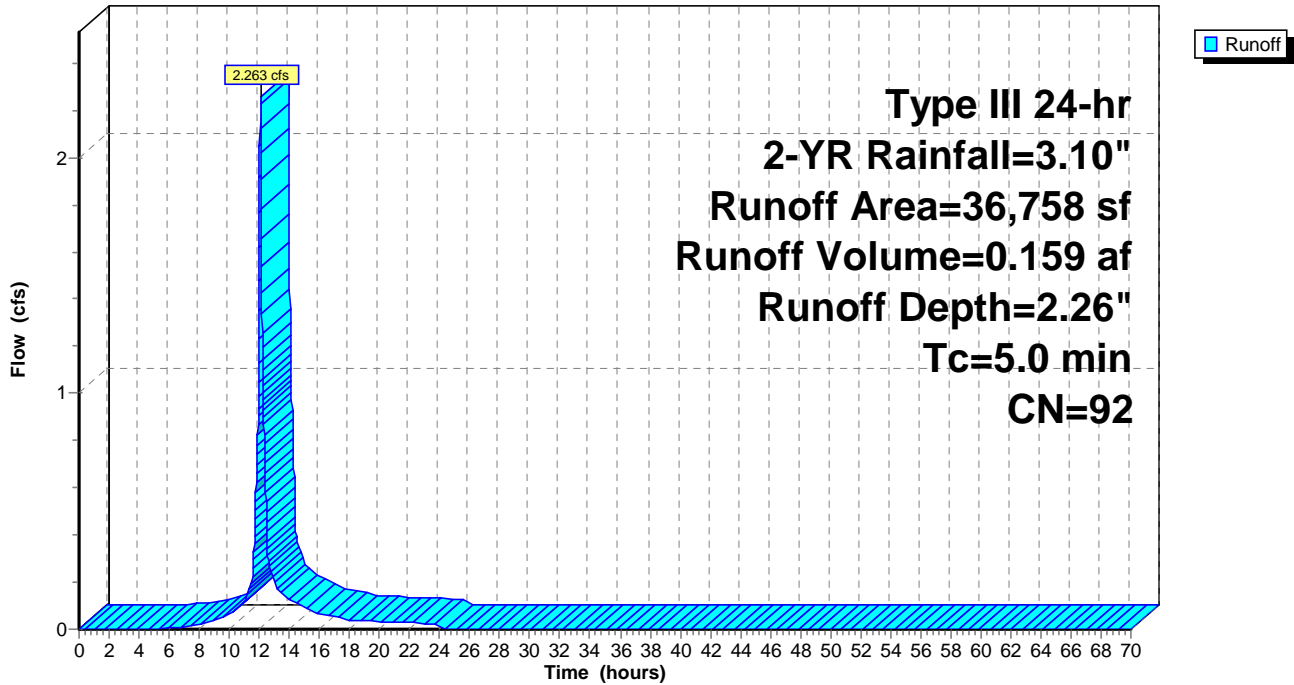
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
12,128	80	>75% Grass cover, Good, HSG D
24,630	98	Paved parking & roofs
36,758	92	Weighted Average
12,128		32.99% Pervious Area
24,630		67.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 23

**Subcatchment 23S: Subcatchment 23**

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**Summary for Subcatchment 24S: Subcatchment 24**

Runoff = 1.184 cfs @ 12.73 hrs, Volume= 0.205 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

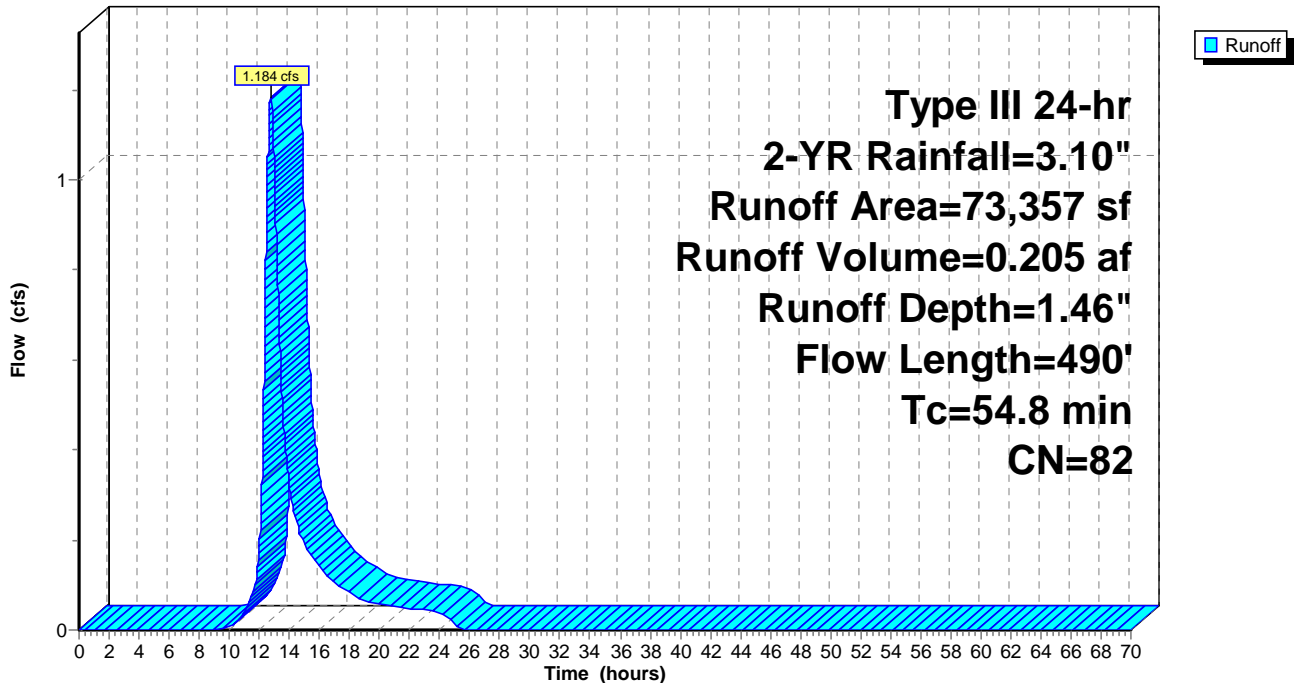
Area (sf)	CN	Description
73,357	82	Woods/grass comb., Fair, HSG D
73,357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 24 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
25.5	390	0.0026	0.25		<b>Shallow Concentrated Flow, Subcatchment 24 SCF</b>
					Woodland Kv= 5.0 fps
54.8	490	Total			

**Subcatchment 24S: Subcatchment 24**

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**Summary for Subcatchment 25S: Subcatchment 25**

Runoff = 1.580 cfs @ 12.07 hrs, Volume= 0.114 af, Depth= 2.55"

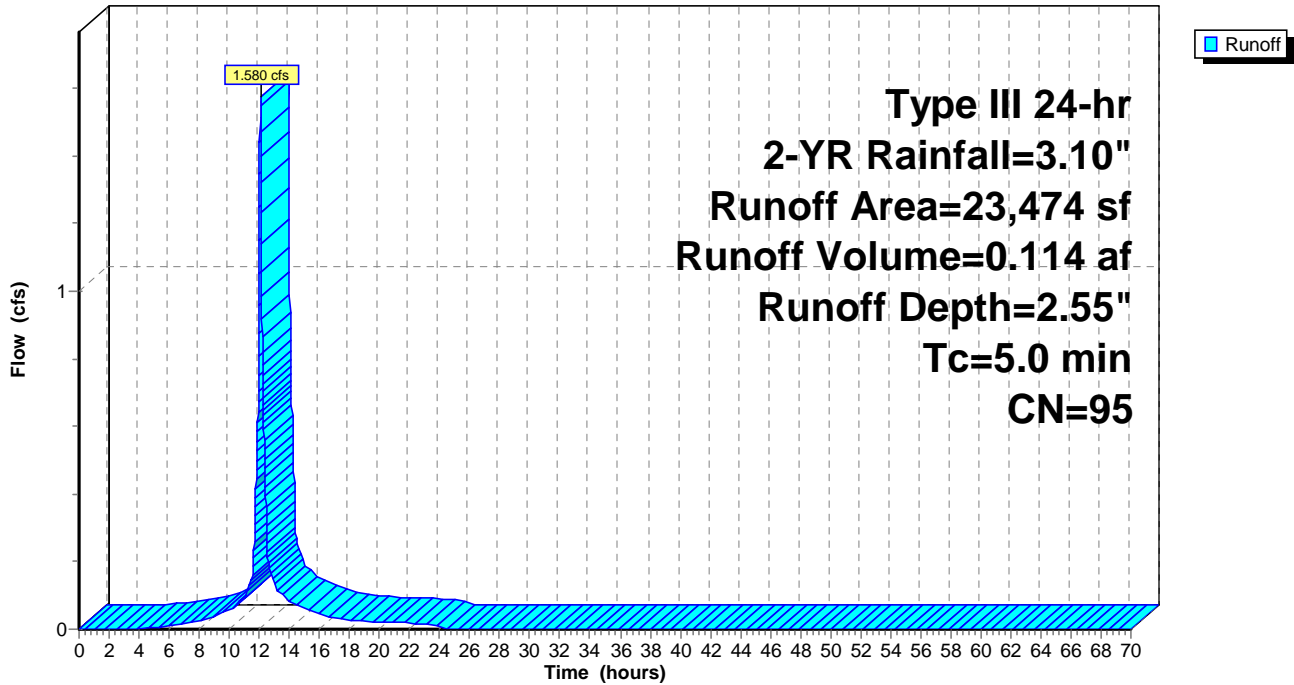
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
3,959	80	>75% Grass cover, Good, HSG D
19,515	98	Paved parking & roofs
23,474	95	Weighted Average
3,959		16.87% Pervious Area
19,515		83.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 25

**Subcatchment 25S: Subcatchment 25**

Hydrograph



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**Summary for Subcatchment 26S: Subcatchment 26**

Runoff = 0.715 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 2.87"

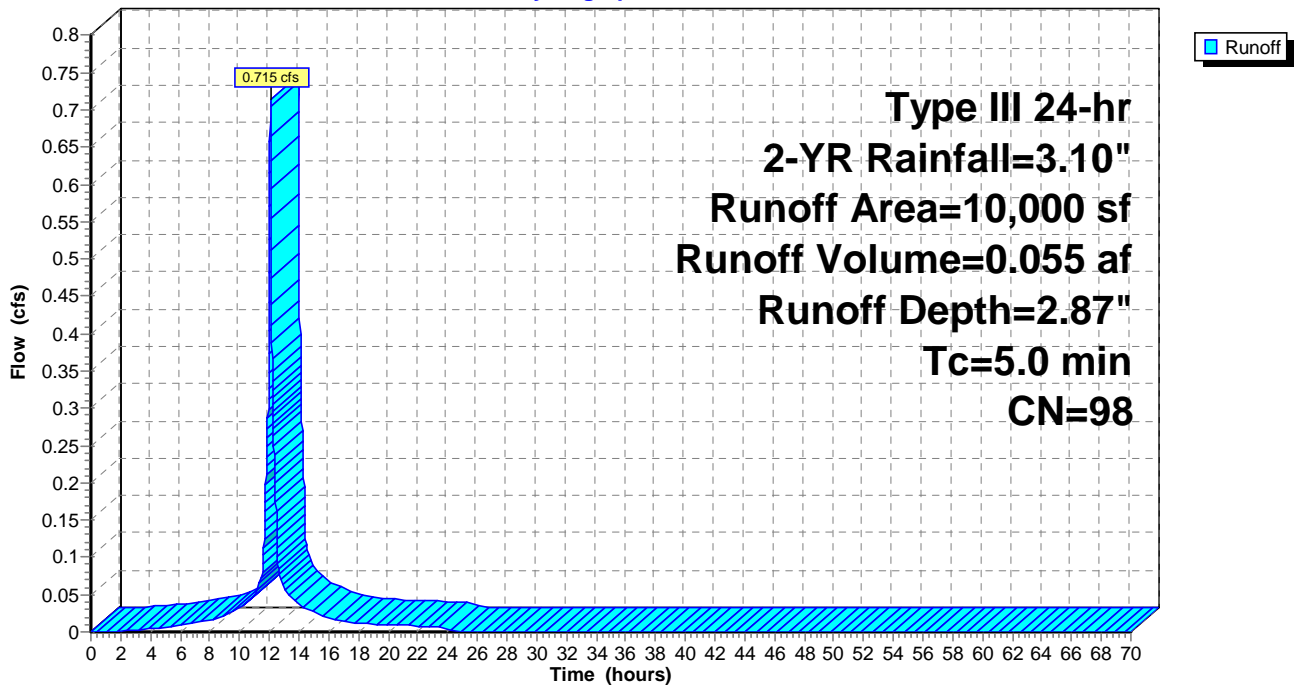
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 26

**Subcatchment 26S: Subcatchment 26**

Hydrograph





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**Summary for Subcatchment 27S: Subcatchment 27**

Runoff = 1.228 cfs @ 12.07 hrs, Volume= 0.089 af, Depth= 2.55"

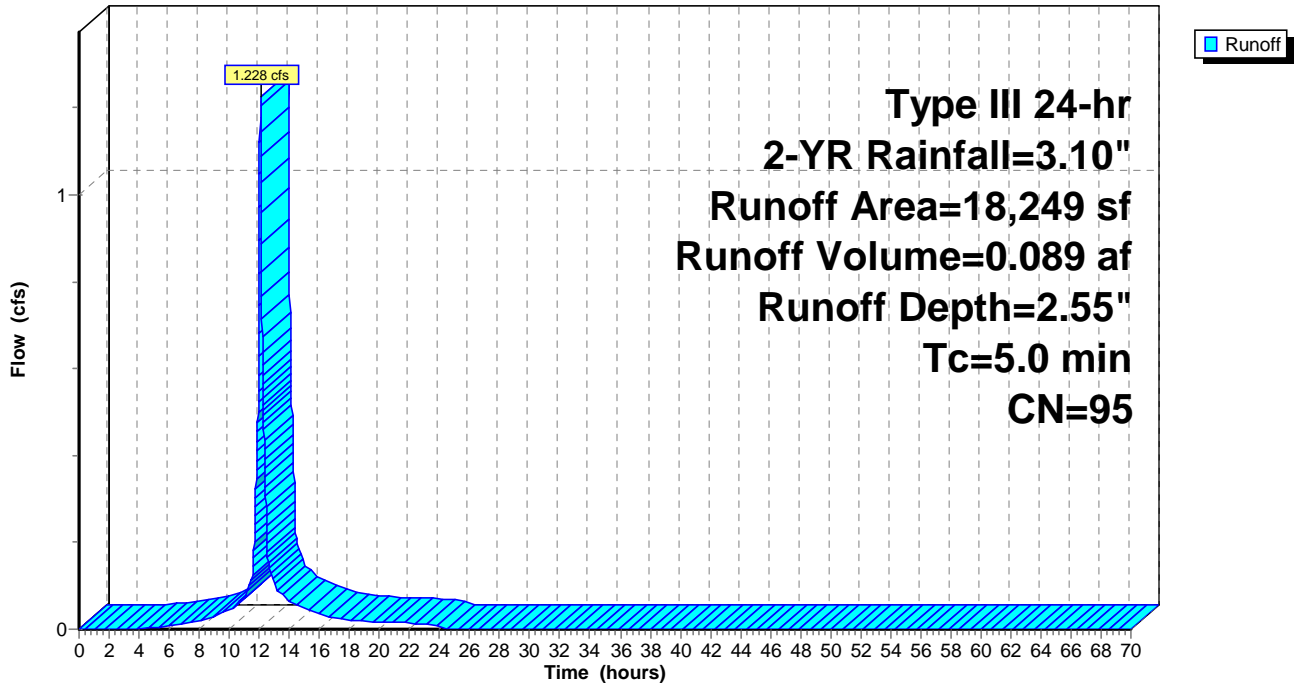
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
2,585	80	>75% Grass cover, Good, HSG D
15,664	98	Paved parking & roofs
18,249	95	Weighted Average
2,585		14.17% Pervious Area
15,664		85.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 27

**Subcatchment 27S: Subcatchment 27**

Hydrograph



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**Summary for Subcatchment 28S: Subcatchment 28**

Runoff = 1.311 cfs @ 12.07 hrs, Volume= 0.101 af, Depth= 2.87"

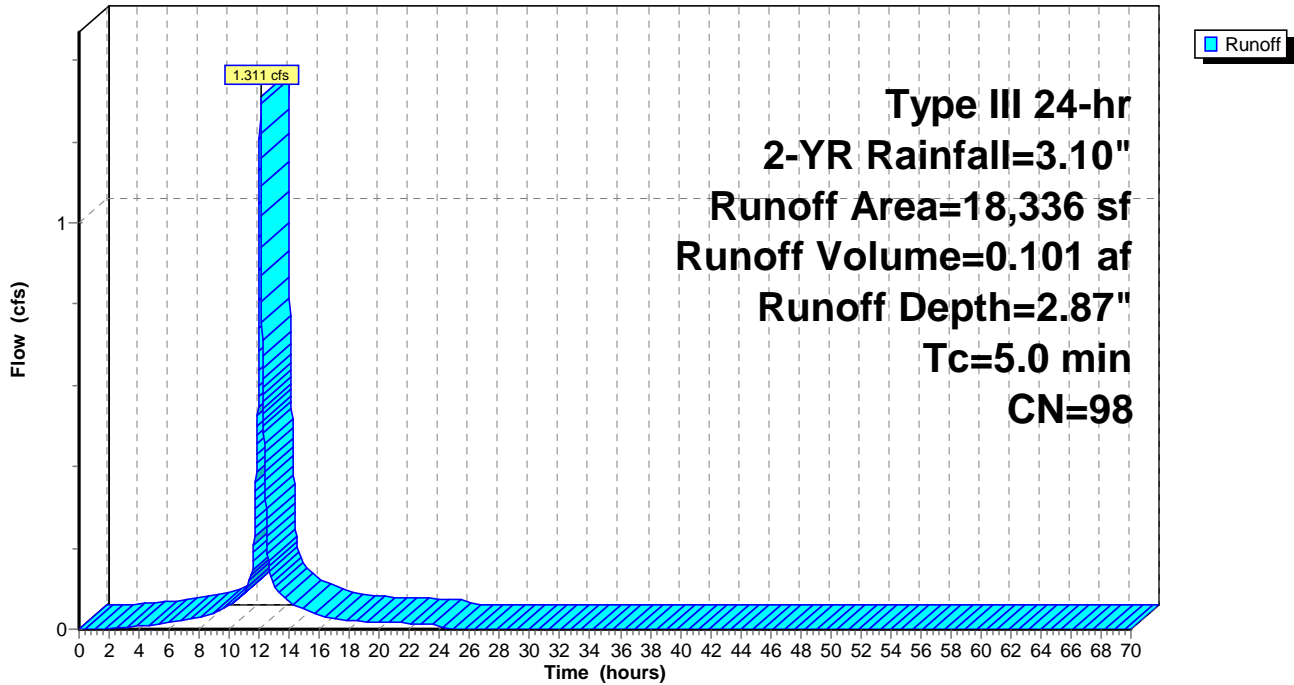
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
18,027	98	Paved parking & roofs
309	80	>75% Grass cover, Good, HSG D
18,336	98	Weighted Average
309		1.69% Pervious Area
18,027		98.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 28

**Subcatchment 28S: Subcatchment 28**

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**Summary for Subcatchment 29S: Subcatchment 29**

Runoff = 2.162 cfs @ 12.34 hrs, Volume= 0.247 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

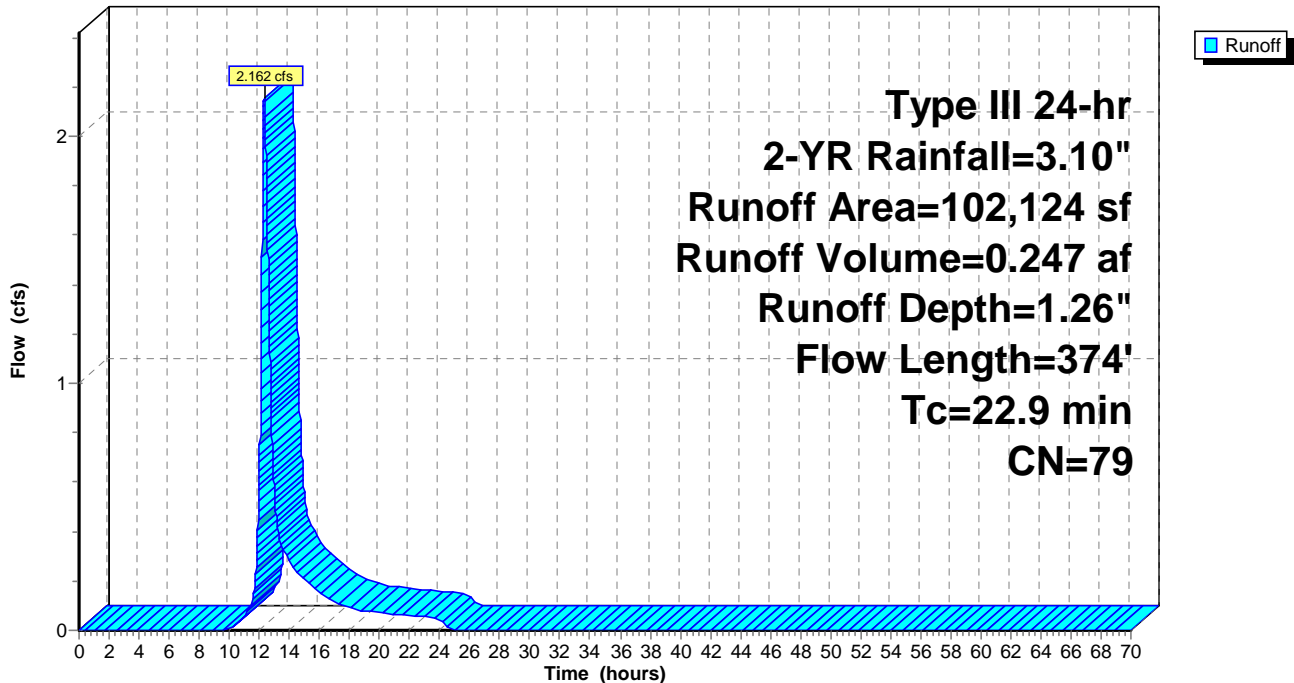
Area (sf)	CN	Description
30,457	74	>75% Grass cover, Good, HSG C
69,161	80	>75% Grass cover, Good, HSG D
2,506	98	Paved parking & roofs
102,124	79	Weighted Average
99,618		97.55% Pervious Area
2,506		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		<b>Sheet Flow, Subcatchment 29 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.9	207	0.0138	0.59		<b>Shallow Concentrated Flow, Subcatchment 29 SCF</b> Woodland Kv= 5.0 fps
0.2	67	0.1567	6.54	17.02	<b>Channel Flow, Subcatchment 29 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
22.9	374	Total			

**Subcatchment 29S: Subcatchment 29**

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**Summary for Subcatchment 30S: Subcatchment 30**

Runoff = 3.826 cfs @ 12.59 hrs, Volume= 0.571 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

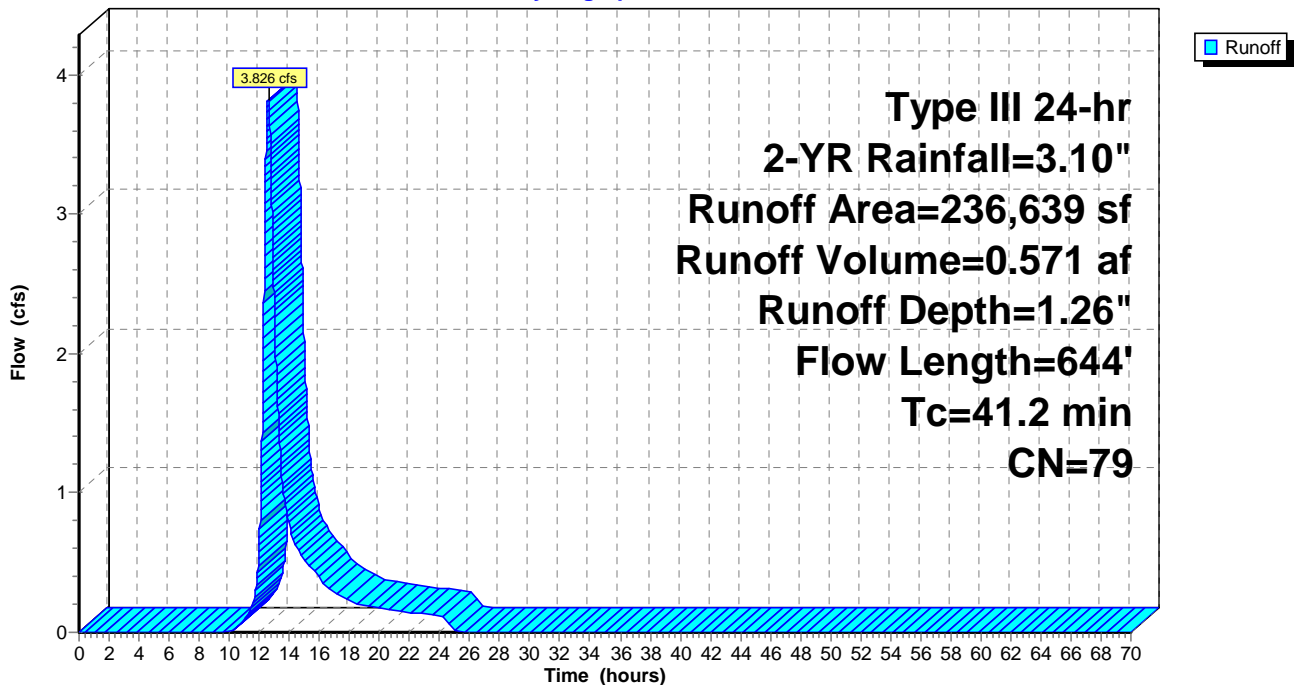
Area (sf)	CN	Description
26,475	74	>75% Grass cover, Good, HSG C
209,945	80	>75% Grass cover, Good, HSG D
219	98	Paved parking & roofs
236,639	79	Weighted Average
236,420		99.91% Pervious Area
219		0.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 30 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.2	357	0.0112	0.53		<b>Shallow Concentrated Flow, Subcatchment 30 SCF</b> Woodland Kv= 5.0 fps
0.7	187	0.0640	4.18	10.87	<b>Channel Flow, Subcatchment 30 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
41.2	644	Total			

**Subcatchment 30S: Subcatchment 30**

Hydrograph



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**Summary for Subcatchment 31S: Subcatchment 31**

Runoff = 0.715 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 2.87"

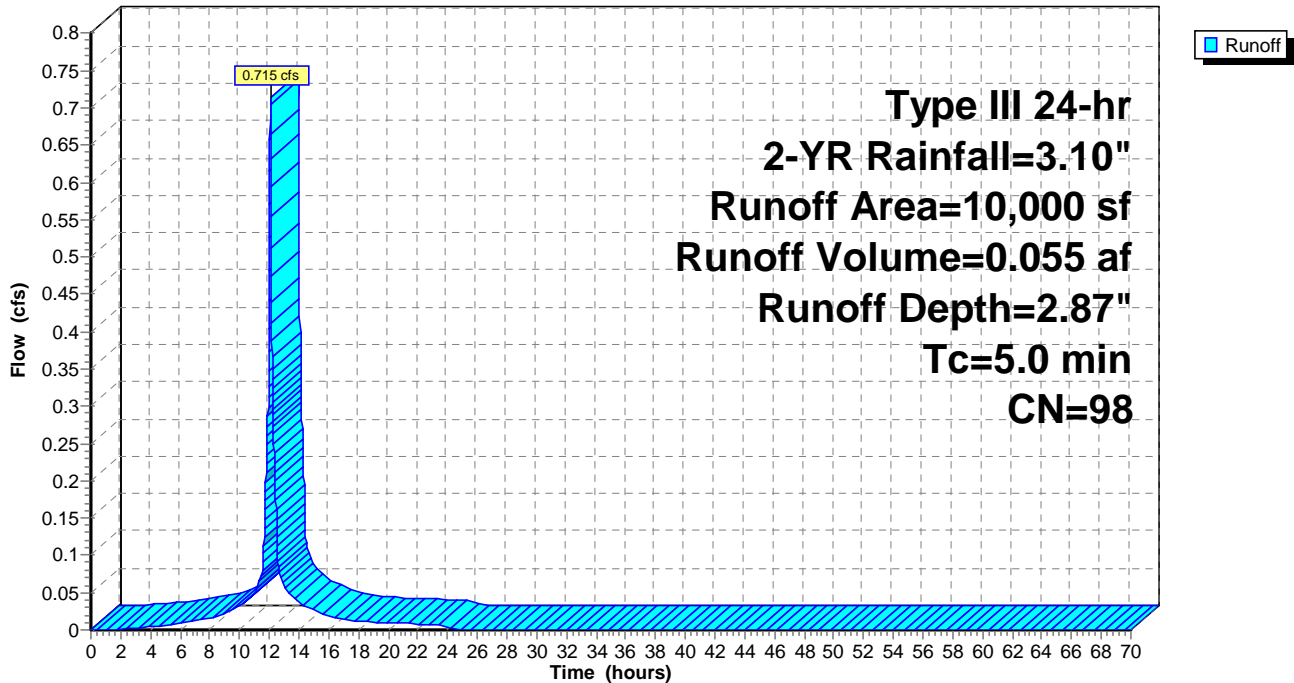
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 31

**Subcatchment 31S: Subcatchment 31**

Hydrograph



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

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**Summary for Subcatchment 32S: Subcatchment 32**

Runoff = 0.715 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 2.87"

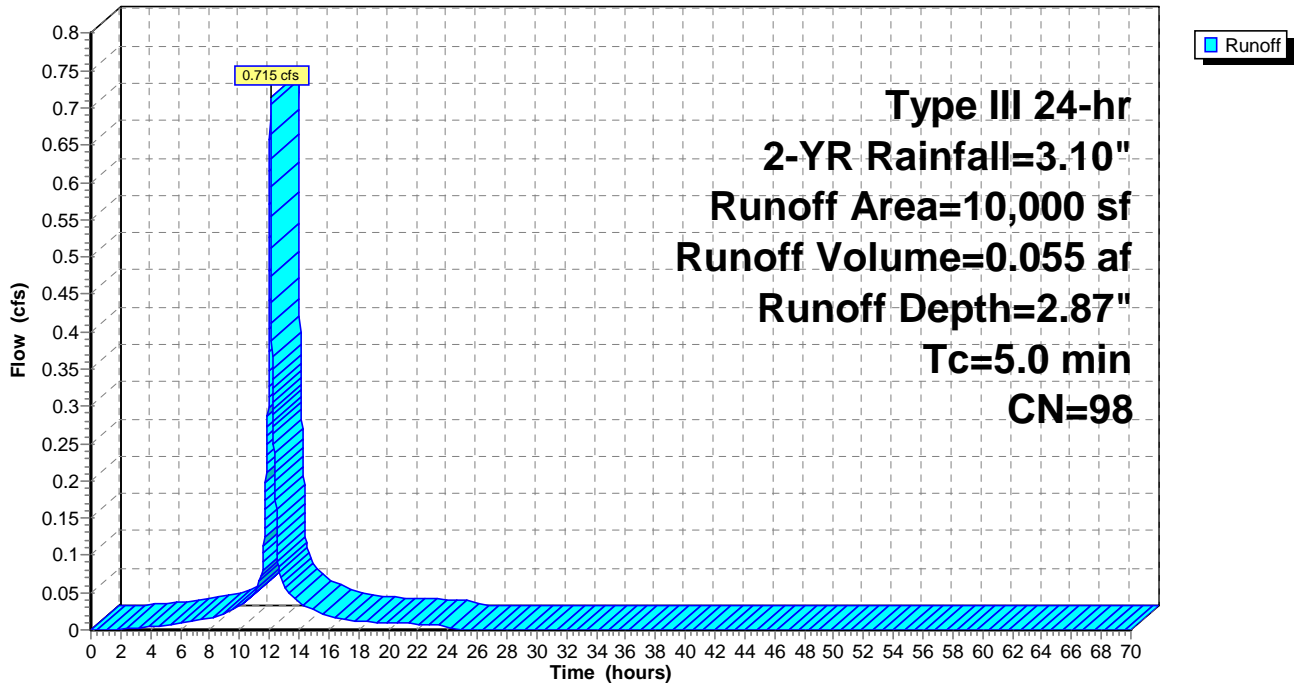
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 32

**Subcatchment 32S: Subcatchment 32**

Hydrograph



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

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**Summary for Subcatchment 33S: Subcatchment 33**

Runoff = 0.912 cfs @ 12.07 hrs, Volume= 0.066 af, Depth= 2.55"

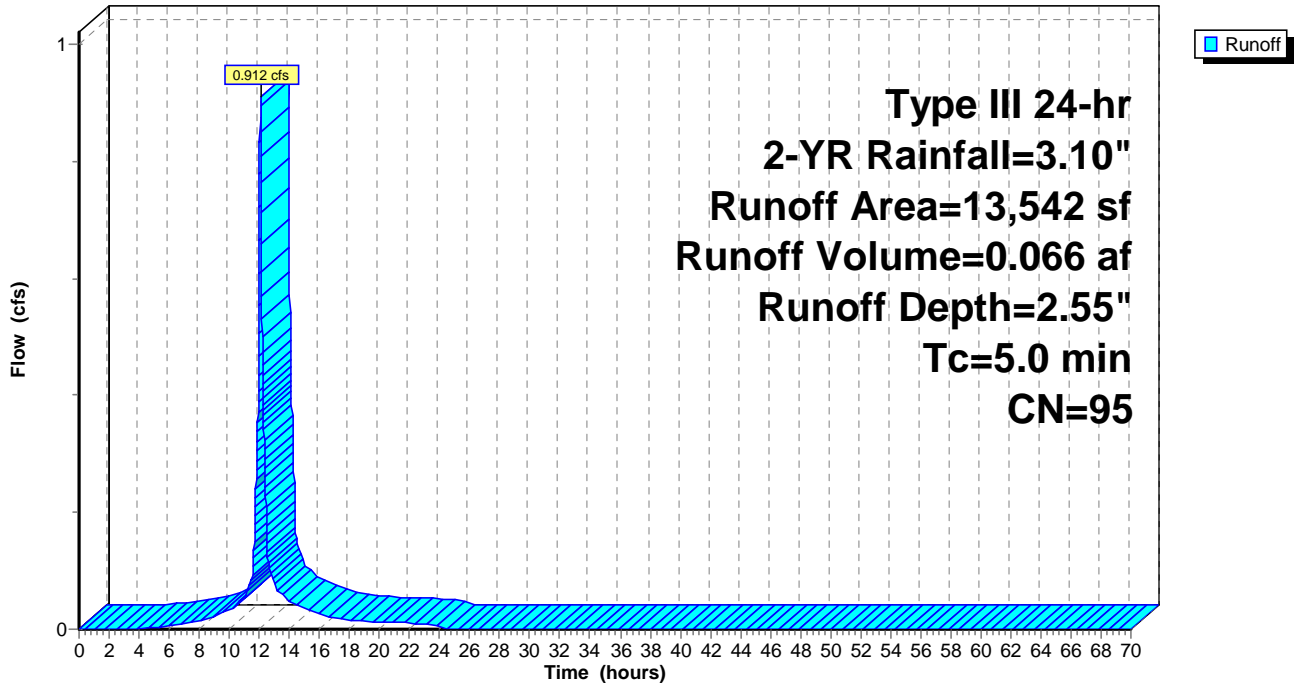
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
2,318	80	>75% Grass cover, Good, HSG D
11,224	98	Paved parking & roofs
13,542	95	Weighted Average
2,318		17.12% Pervious Area
11,224		82.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 33

**Subcatchment 33S: Subcatchment 33**

Hydrograph



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

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**Summary for Subcatchment 34S: Subcatchment 34**

Runoff = 1.928 cfs @ 12.07 hrs, Volume= 0.138 af, Depth= 2.45"

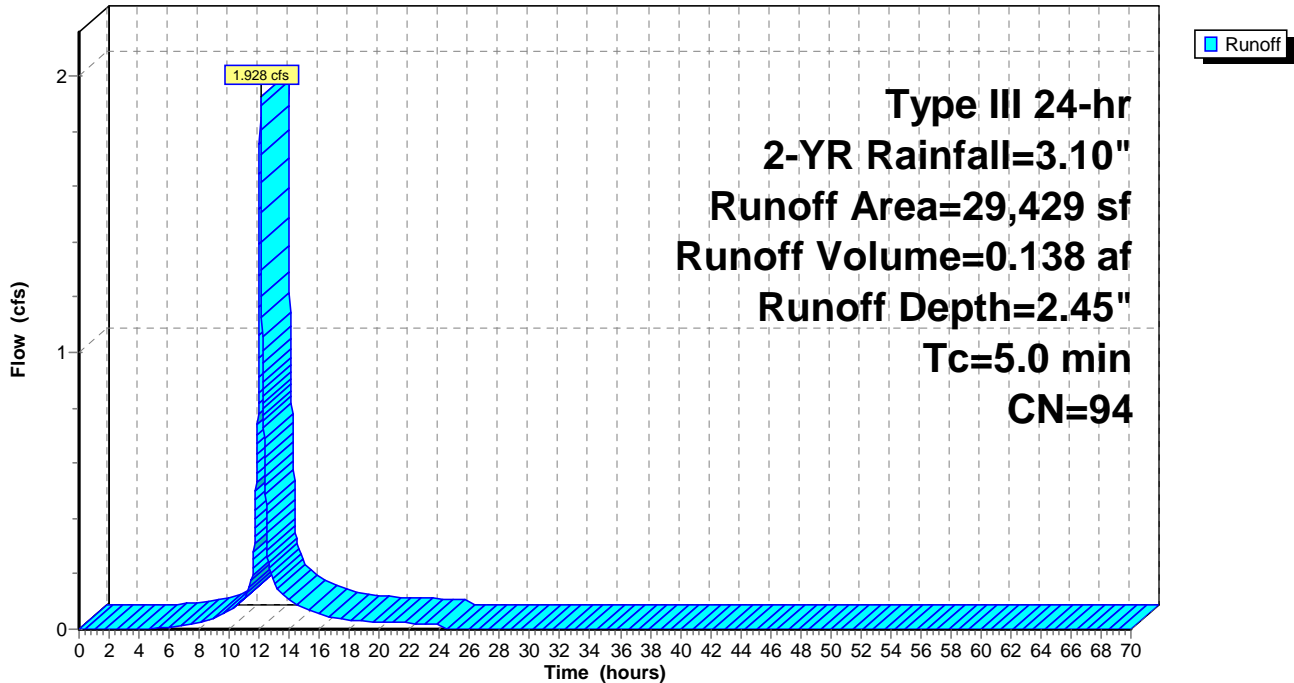
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
6,200	80	>75% Grass cover, Good, HSG D
23,229	98	Paved parking & roofs
29,429	94	Weighted Average
6,200		21.07% Pervious Area
23,229		78.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 34

**Subcatchment 34S: Subcatchment 34**

Hydrograph





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

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**Summary for Subcatchment 35S: Subcatchment 35**

Runoff = 0.686 cfs @ 12.07 hrs, Volume= 0.050 af, Depth= 2.65"

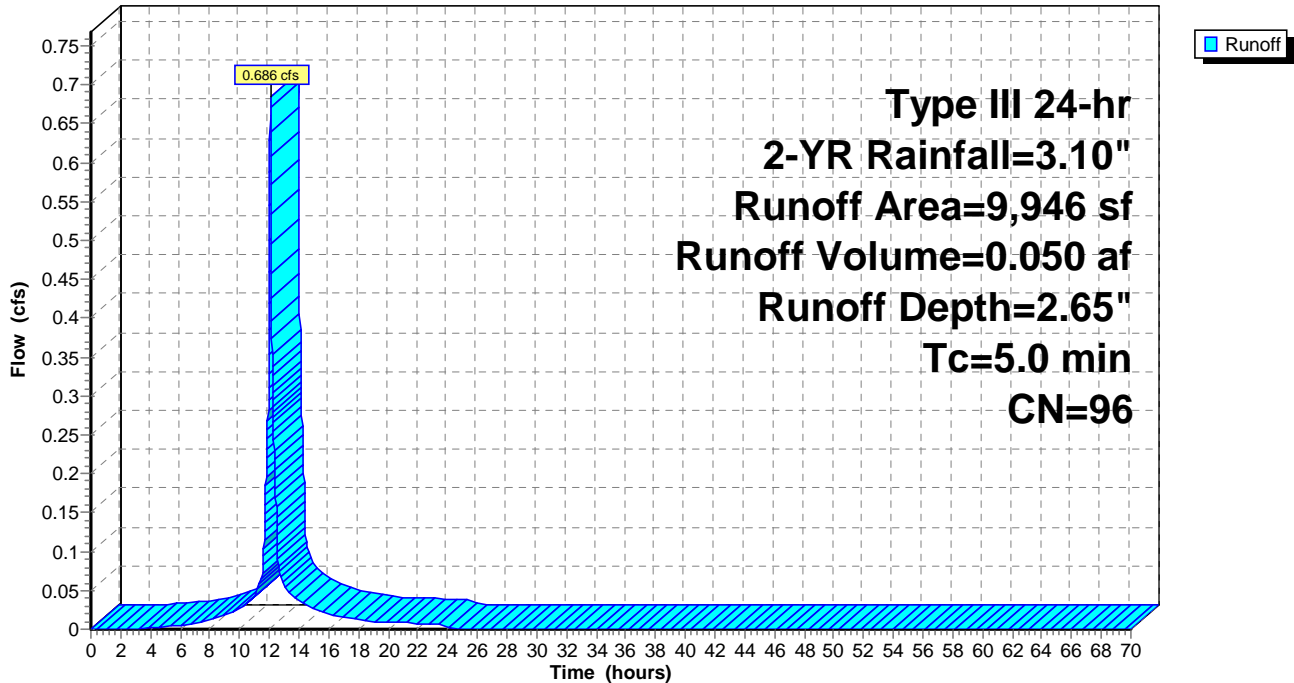
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,334	80	>75% Grass cover, Good, HSG D
8,612	98	Paved parking & roofs
9,946	96	Weighted Average
1,334		13.41% Pervious Area
8,612		86.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 35

**Subcatchment 35S: Subcatchment 35**

Hydrograph



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

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**Summary for Subcatchment 36S: Subcatchment 36**

Runoff = 2.732 cfs @ 12.68 hrs, Volume= 0.451 af, Depth= 1.33"

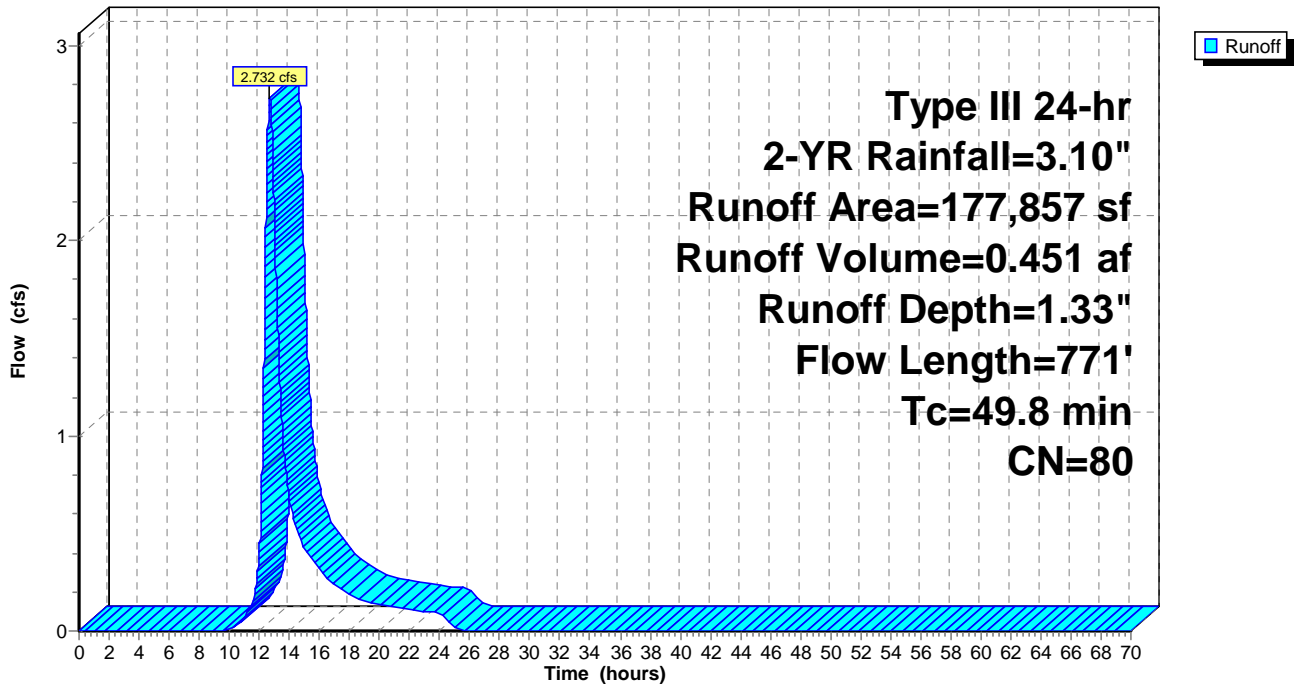
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
3,520	74	>75% Grass cover, Good, HSG C
174,337	80	>75% Grass cover, Good, HSG D
177,857	80	Weighted Average
177,857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 36 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
20.5	671	0.0119	0.55		<b>Shallow Concentrated Flow, Subcatchment 36 SCF</b>
					Woodland Kv= 5.0 fps
49.8	771	Total			

**Subcatchment 36S: Subcatchment 36**

Hydrograph



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**Summary for Subcatchment 62S: Rain on Pond 62P**

Runoff = 0.424 cfs @ 12.07 hrs, Volume= 0.033 af, Depth= 2.87"

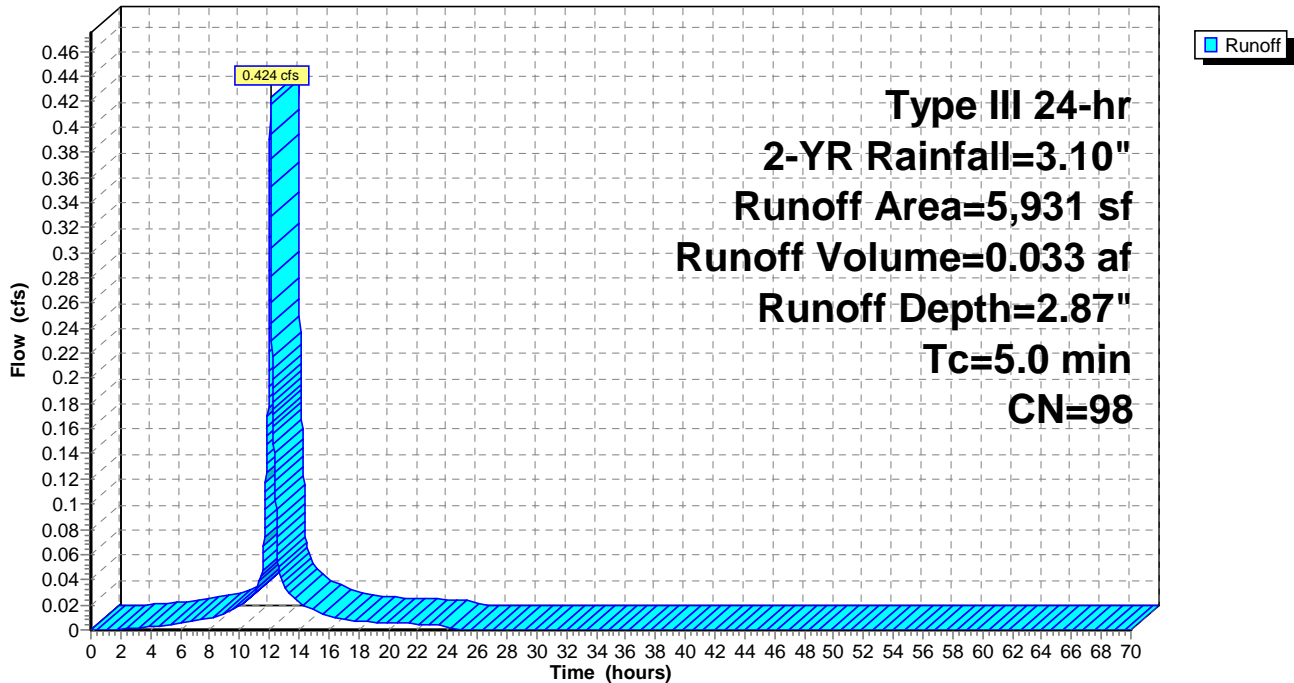
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
5,931	98	Water Surface, 0% imp
5,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 62S: Rain on Pond 62P**

Hydrograph



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**Summary for Subcatchment 63S: Rain on Pond 60P**

Runoff = 0.457 cfs @ 12.07 hrs, Volume= 0.035 af, Depth= 2.87"

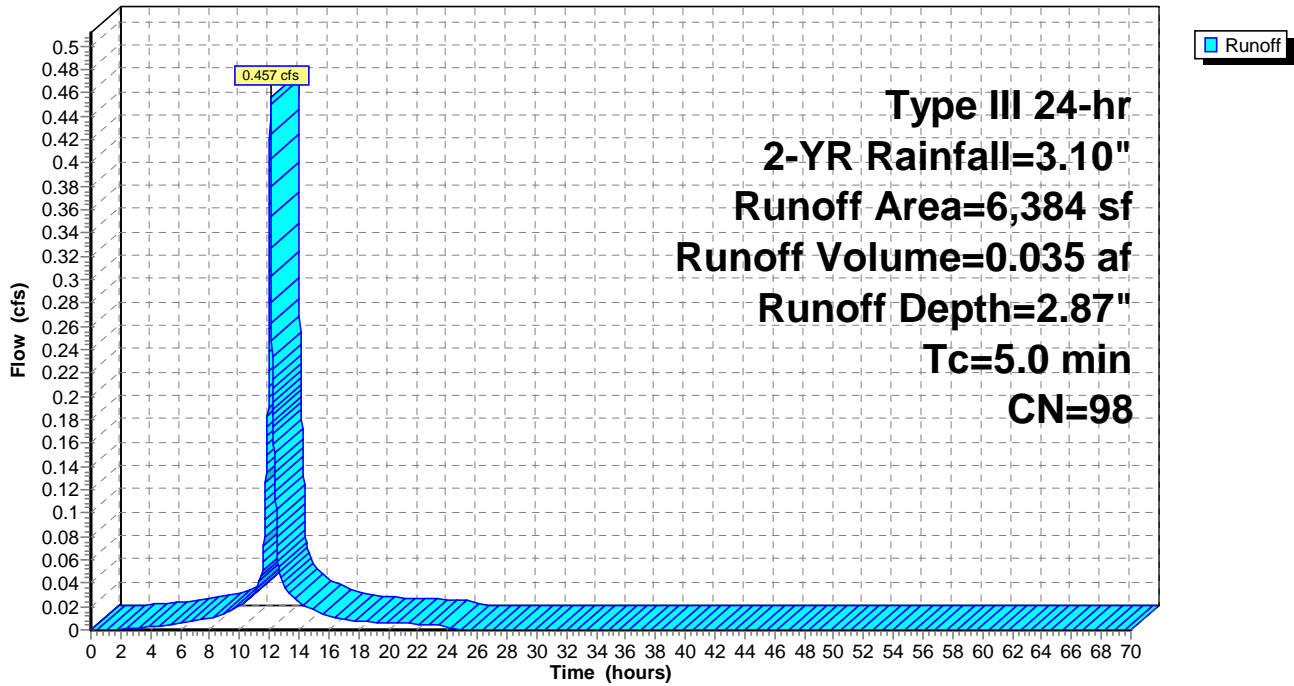
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
6,384	98	Water Surface, 0% imp
6,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 60P**

Hydrograph



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**Summary for Subcatchment 64S: Rain on Pond 63P**

Runoff = 0.386 cfs @ 12.07 hrs, Volume= 0.030 af, Depth= 2.87"

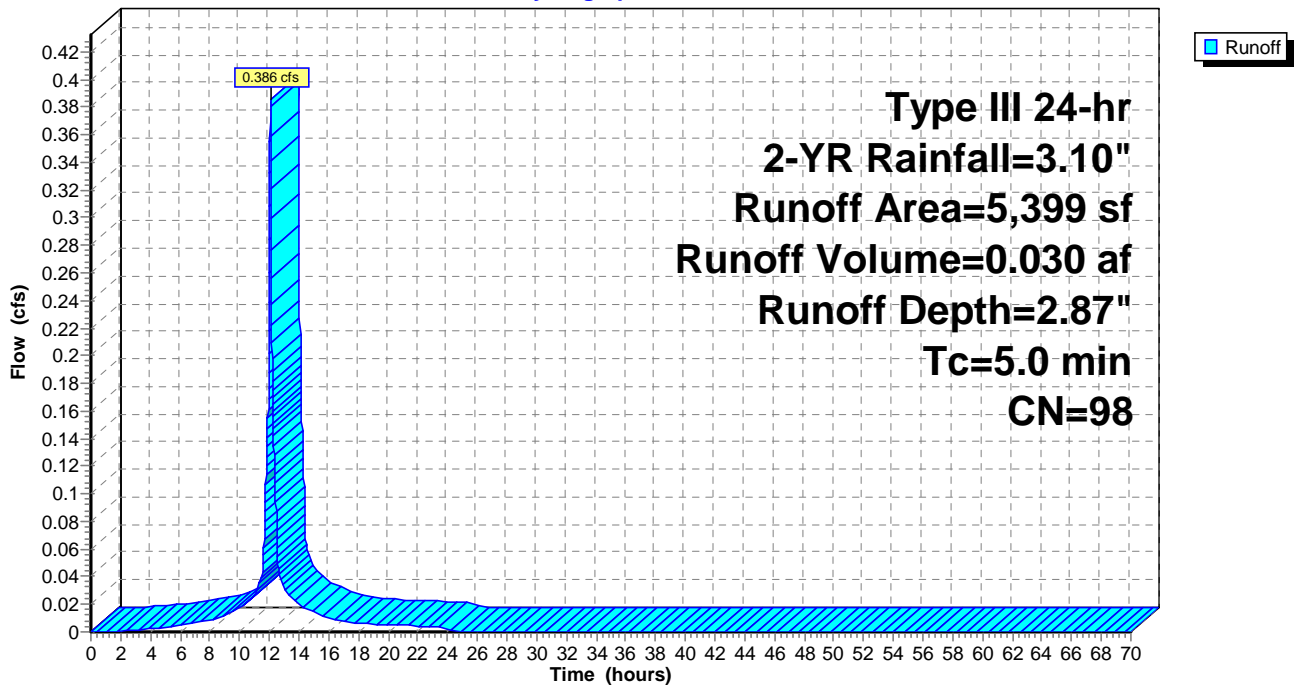
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
5,399	98	Water Surface, 0% imp
5,399		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 64S: Rain on Pond 63P**

Hydrograph



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**Summary for Subcatchment 65S: Rain on Pond 44P**

Runoff = 0.413 cfs @ 12.07 hrs, Volume= 0.032 af, Depth= 2.87"

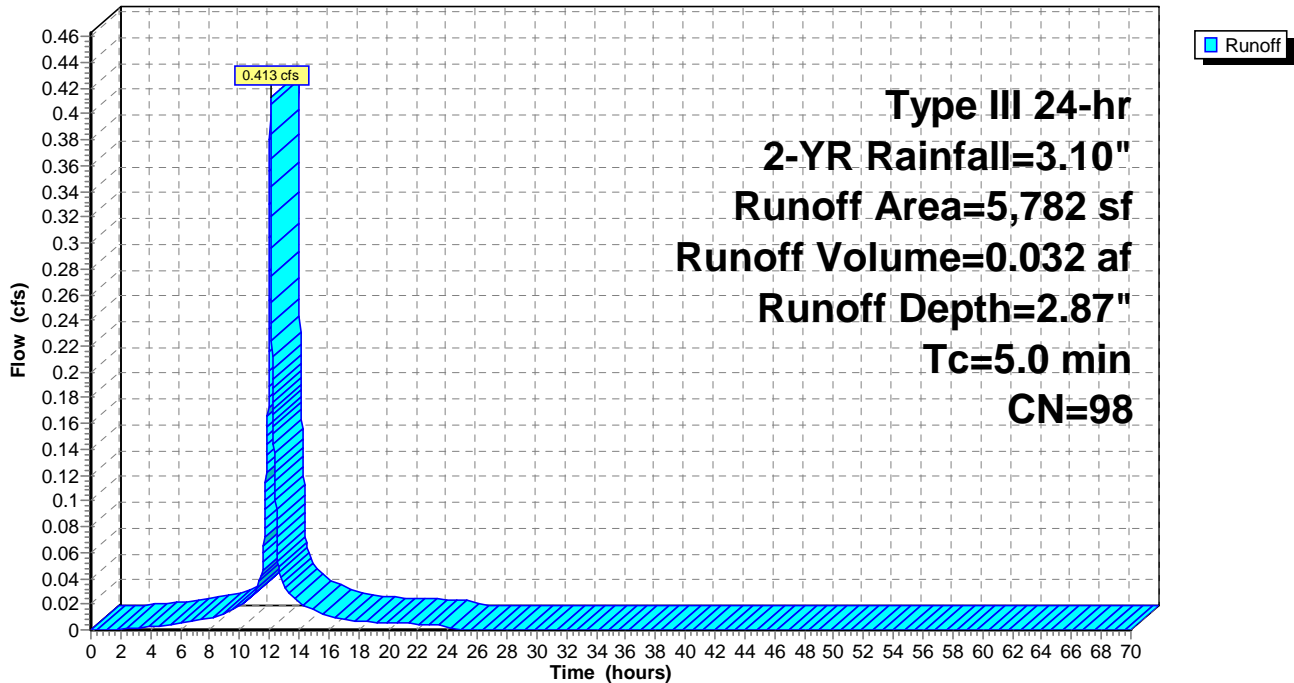
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
5,782	98	Water Surface, 0% imp
5,782		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 65S: Rain on Pond 44P**

Hydrograph



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**Summary for Subcatchment 66S: Rain on Pond 48P**

Runoff = 0.263 cfs @ 12.07 hrs, Volume= 0.020 af, Depth= 2.87"

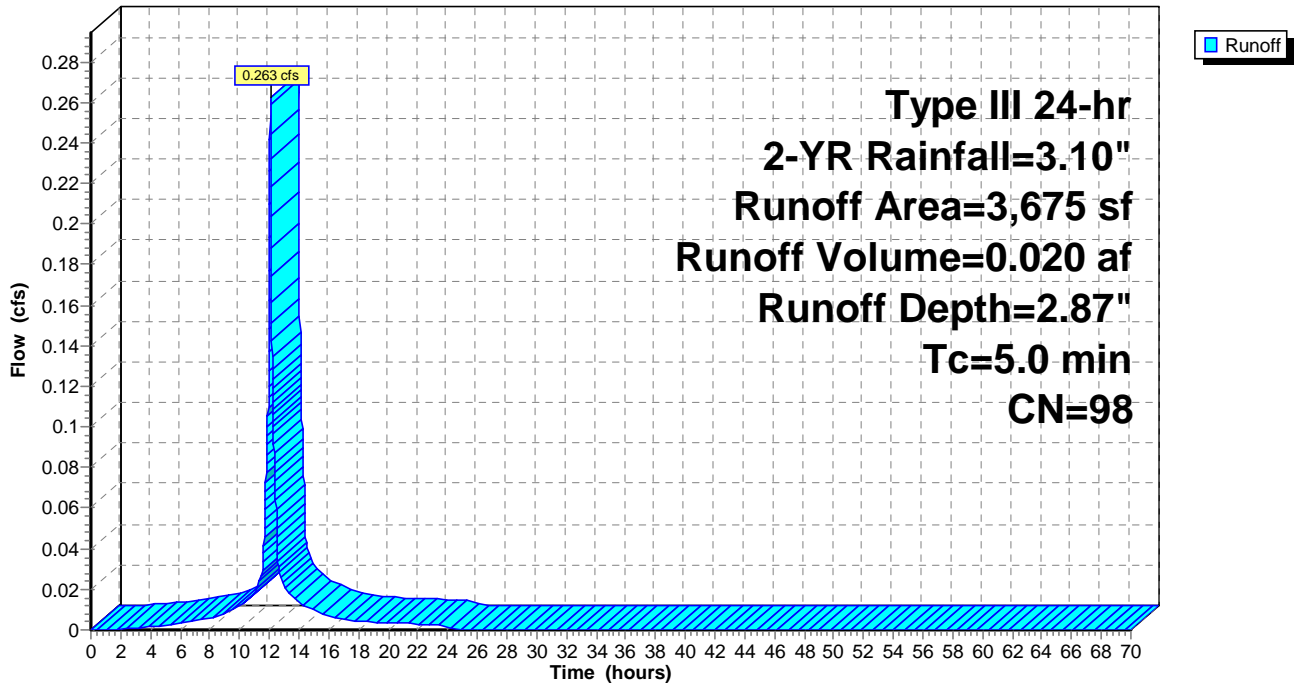
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
3,675	98	Water Surface, 0% imp
3,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 66S: Rain on Pond 48P**

Hydrograph



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**Summary for Subcatchment 67S: Rain on Pond 49P**

Runoff = 0.286 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 2.87"

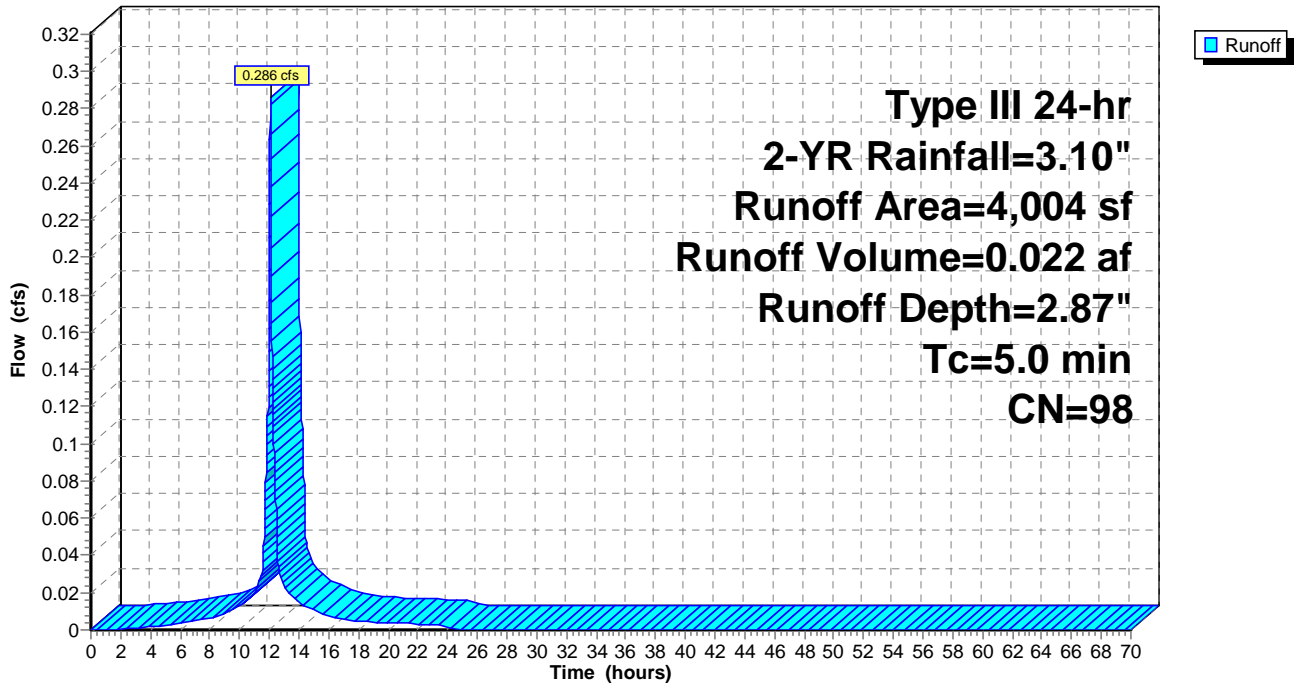
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
4,004	98	Water Surface, 0% imp
4,004		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 67S: Rain on Pond 49P**

Hydrograph





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**Summary for Subcatchment 68S: Rain on Pond 51P**

Runoff = 0.516 cfs @ 12.07 hrs, Volume= 0.040 af, Depth= 2.87"

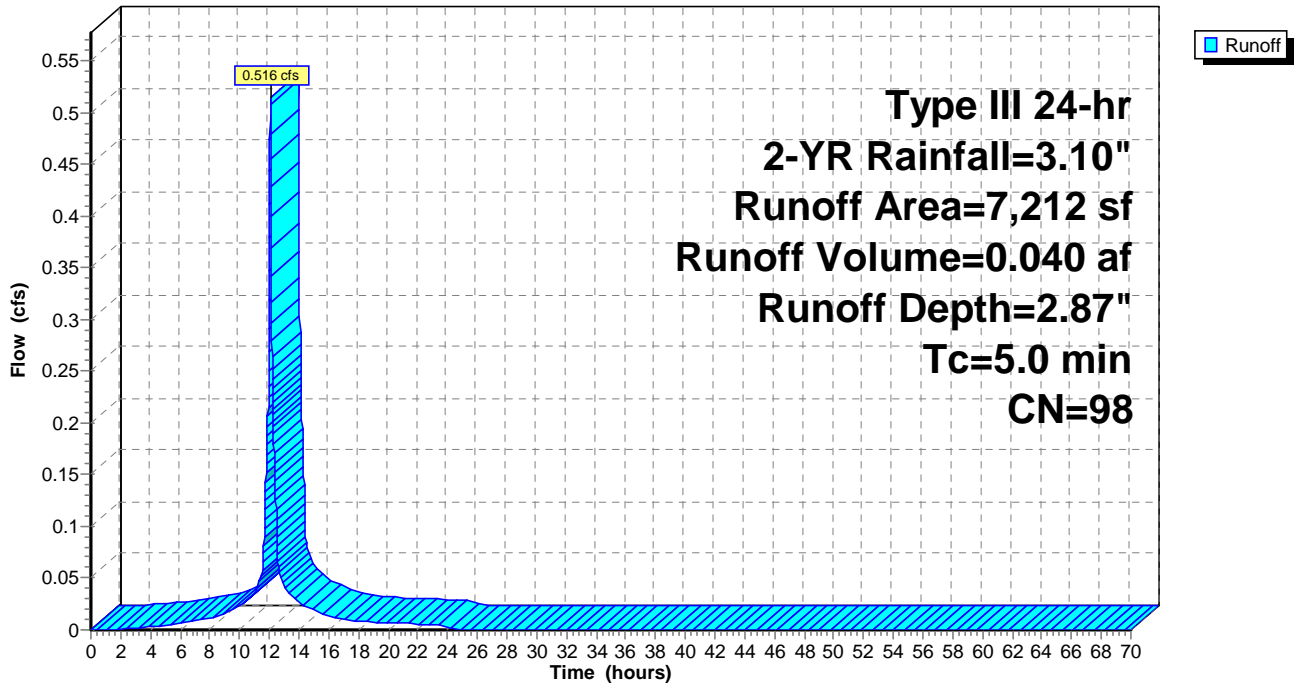
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
7,212	98	Water Surface, 0% imp
7,212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 68S: Rain on Pond 51P**

Hydrograph



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

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**Summary for Subcatchment 69S: Rain on Pond 53P**

Runoff = 0.735 cfs @ 12.07 hrs, Volume= 0.056 af, Depth= 2.87"

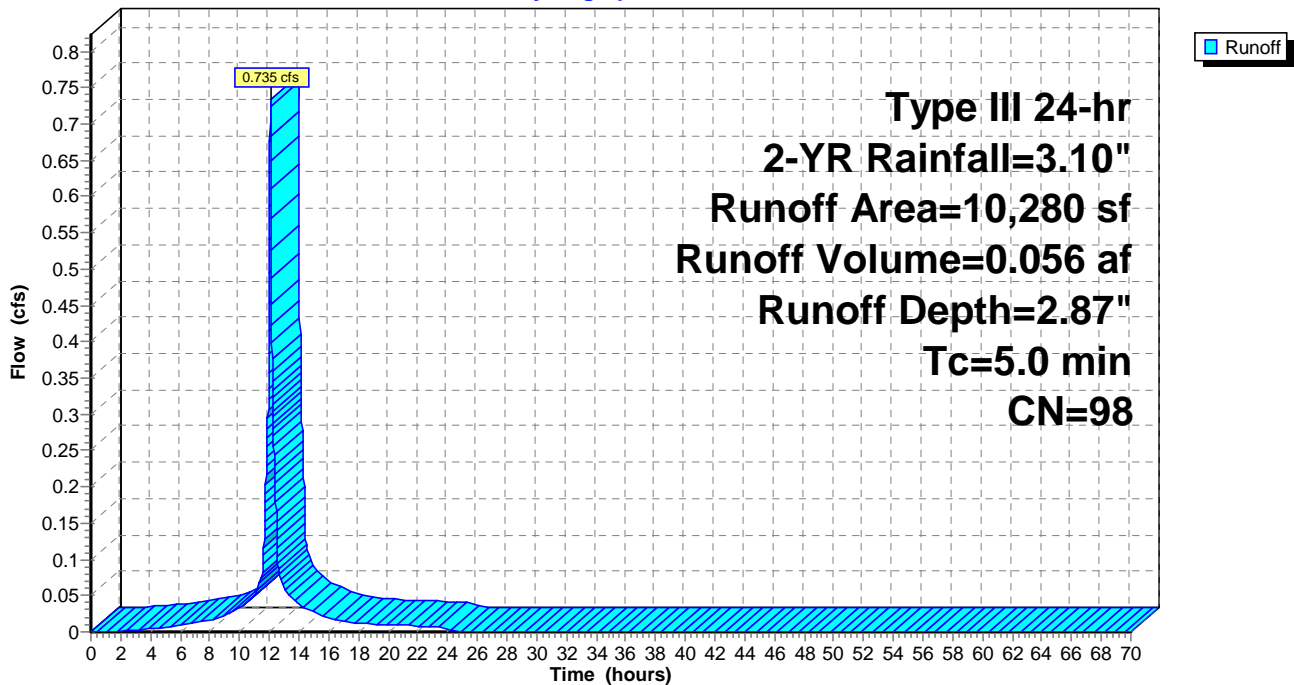
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,280	98	Water Surface, 0% imp
10,280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 69S: Rain on Pond 53P**

Hydrograph



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**Summary for Subcatchment 70S: Rain on Pond 52P**

Runoff = 0.156 cfs @ 12.07 hrs, Volume= 0.012 af, Depth= 2.87"

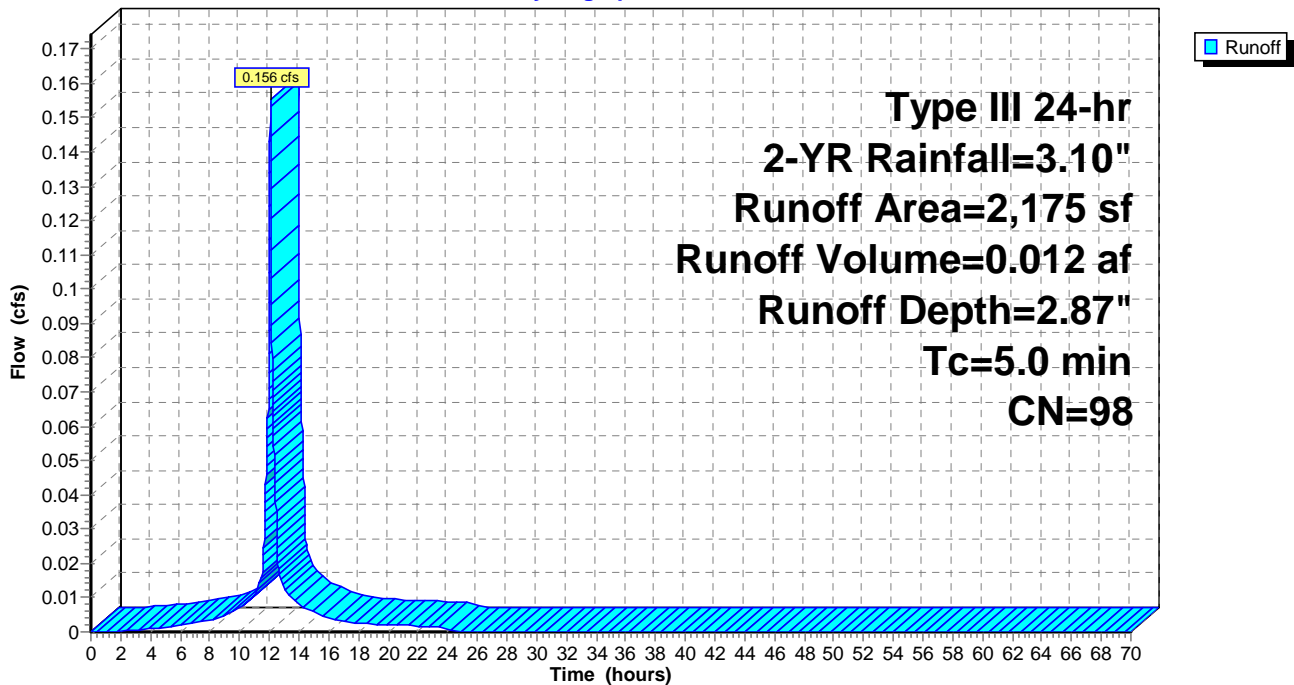
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
2,175	98	Water Surface, 0% imp
2,175		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 70S: Rain on Pond 52P**

Hydrograph



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**Summary for Subcatchment 72S: Rain on Pond 58P**

Runoff = 0.474 cfs @ 12.07 hrs, Volume= 0.036 af, Depth= 2.87"

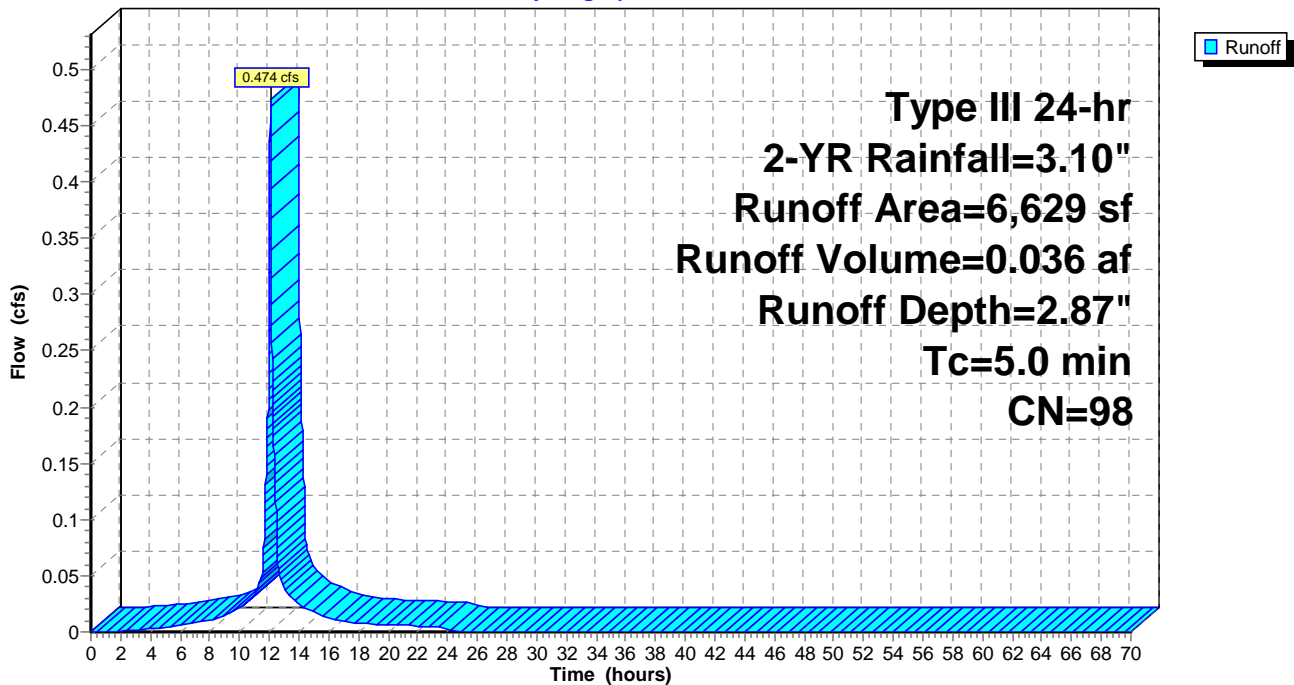
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
6,629	98	Water Surface, 0% imp
6,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 72S: Rain on Pond 58P**

Hydrograph



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**Summary for Subcatchment 73S: Rain on Pond 59P**

Runoff = 0.408 cfs @ 12.07 hrs, Volume= 0.031 af, Depth= 2.87"

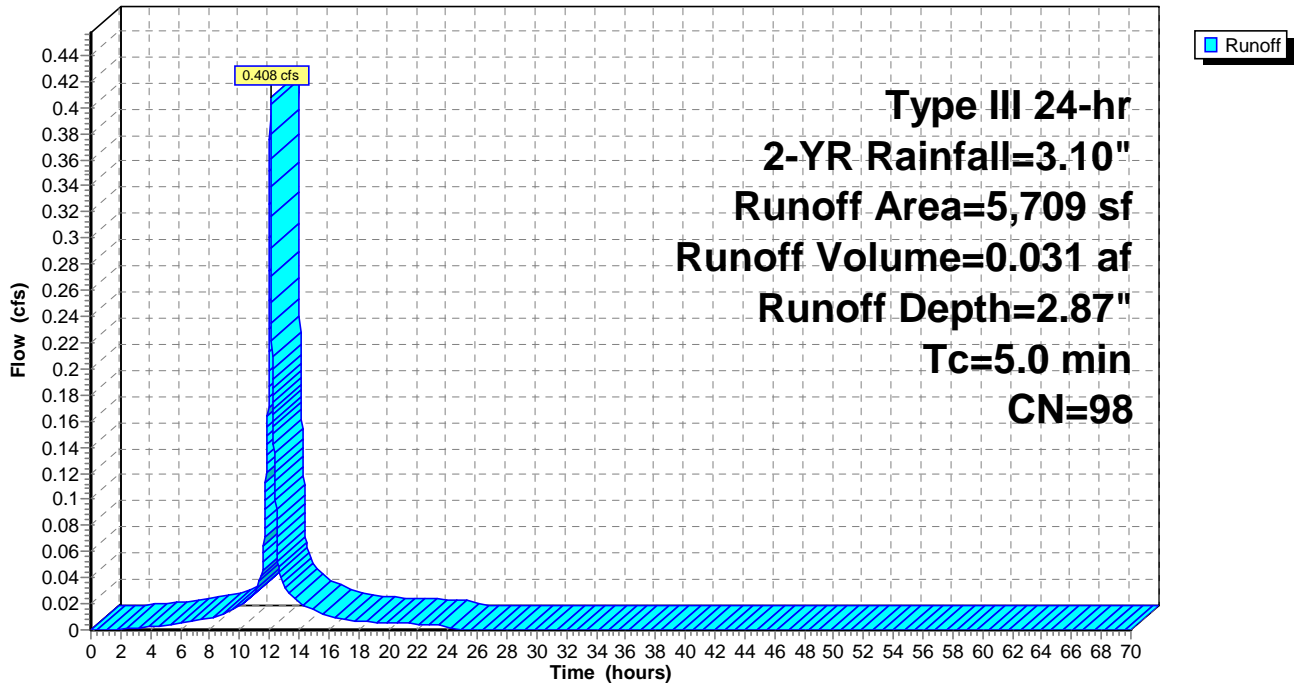
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
5,709	98	Water Surface, 0% imp
5,709		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 73S: Rain on Pond 59P**

Hydrograph



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## Summary for Reach 45R: Rock Sandwich 1

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth > 2.03" for 2-YR event  
Inflow = 2.191 cfs @ 12.48 hrs, Volume= 0.508 af  
Outflow = 2.179 cfs @ 12.52 hrs, Volume= 0.507 af, Atten= 1%, Lag= 2.4 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.42 fps, Min. Travel Time= 3.2 min

Avg. Velocity = 0.11 fps, Avg. Travel Time= 12.3 min

Peak Storage= 419 cf @ 12.52 hrs

Average Depth at Peak Storage= 0.15'

Bank-Full Depth= 1.50' Flow Area= 52.5 sf, Capacity= 96.775 cfs

35.00' x 1.50' deep channel, n= 0.050

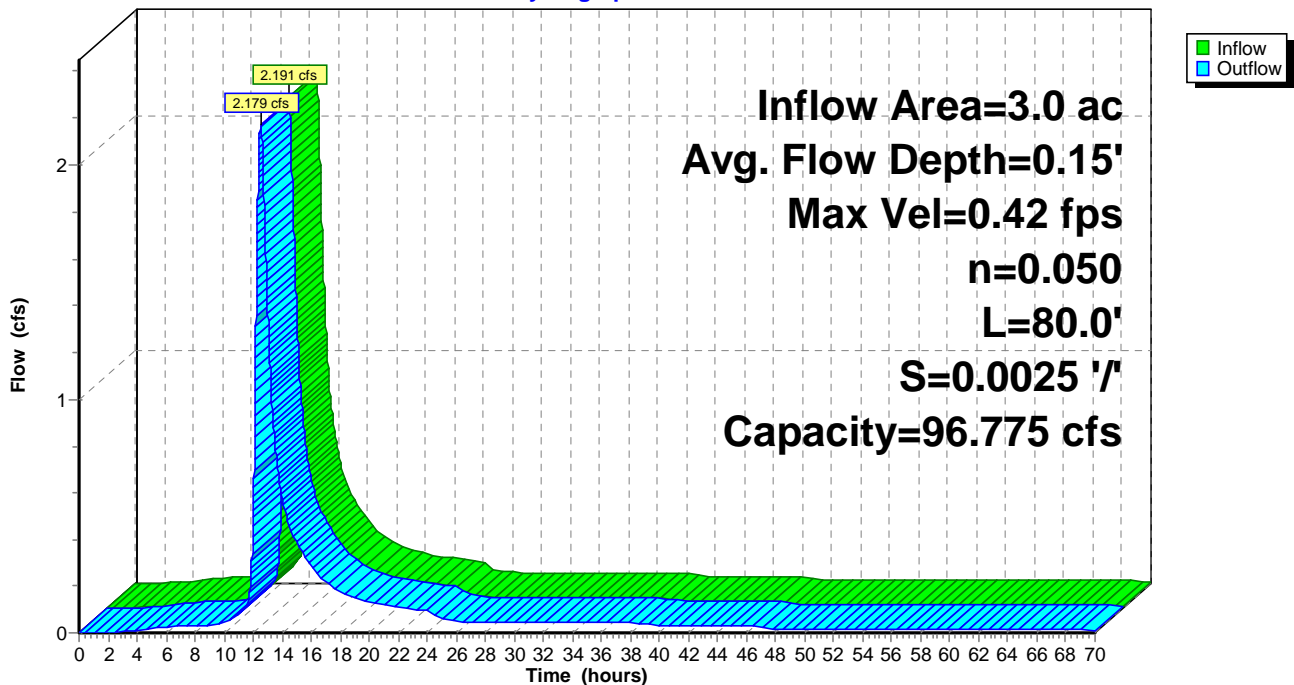
Length= 80.0' Slope= 0.0025 '/'

Inlet Invert= 64.80', Outlet Invert= 64.60'



## Reach 45R: Rock Sandwich 1

### Hydrograph



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

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## Summary for Reach 47R: Rock Sandwich 3

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 1.80" for 2-YR event  
Inflow = 4.962 cfs @ 12.77 hrs, Volume= 1.515 af  
Outflow = 4.959 cfs @ 12.79 hrs, Volume= 1.515 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.51 fps, Min. Travel Time= 2.3 min  
Avg. Velocity = 0.16 fps, Avg. Travel Time= 7.2 min

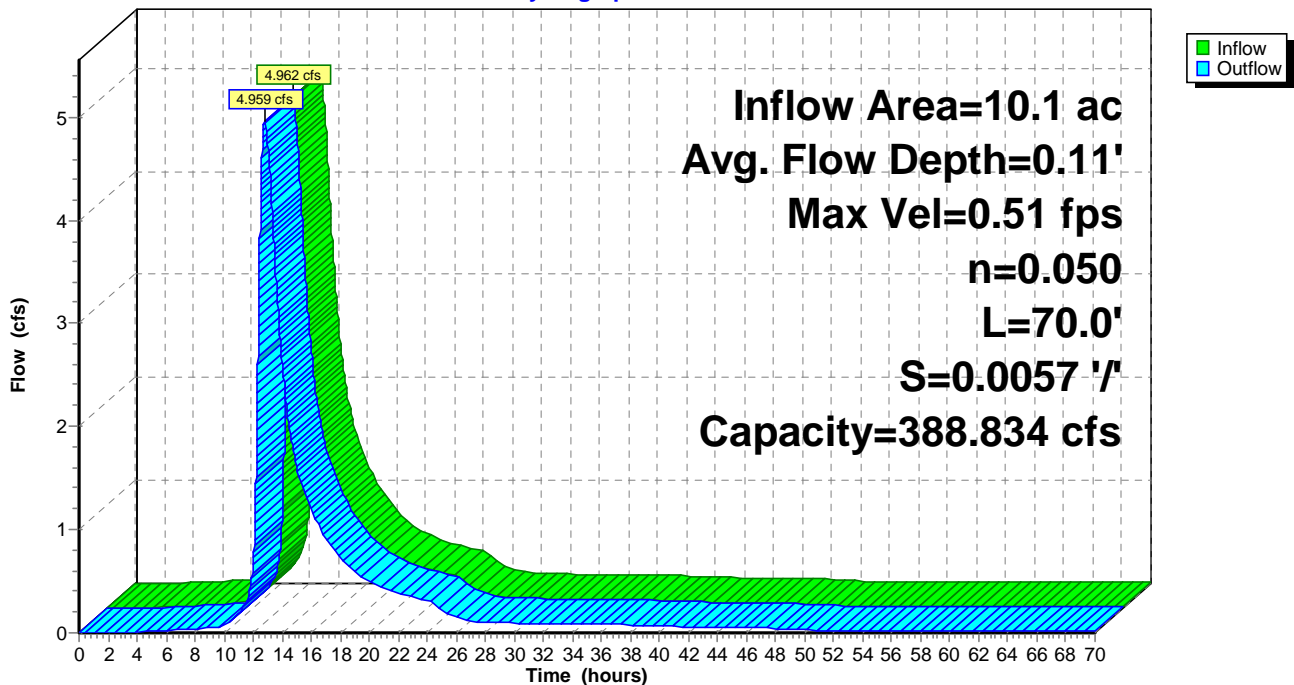
Peak Storage= 681 cf @ 12.79 hrs  
Average Depth at Peak Storage= 0.11'  
Bank-Full Depth= 1.50' Flow Area= 135.0 sf, Capacity= 388.834 cfs

90.00' x 1.50' deep channel, n= 0.050  
Length= 70.0' Slope= 0.0057 '/'  
Inlet Invert= 62.40', Outlet Invert= 62.00'



## Reach 47R: Rock Sandwich 3

Hydrograph



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

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## Summary for Reach 50R: Rock Sandwich 2

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 1.76" for 2-YR event  
Inflow = 2.108 cfs @ 12.88 hrs, Volume= 0.589 af  
Outflow = 2.105 cfs @ 12.95 hrs, Volume= 0.589 af, Atten= 0%, Lag= 3.8 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.36 fps, Min. Travel Time= 3.4 min  
Avg. Velocity = 0.11 fps, Avg. Travel Time= 11.4 min

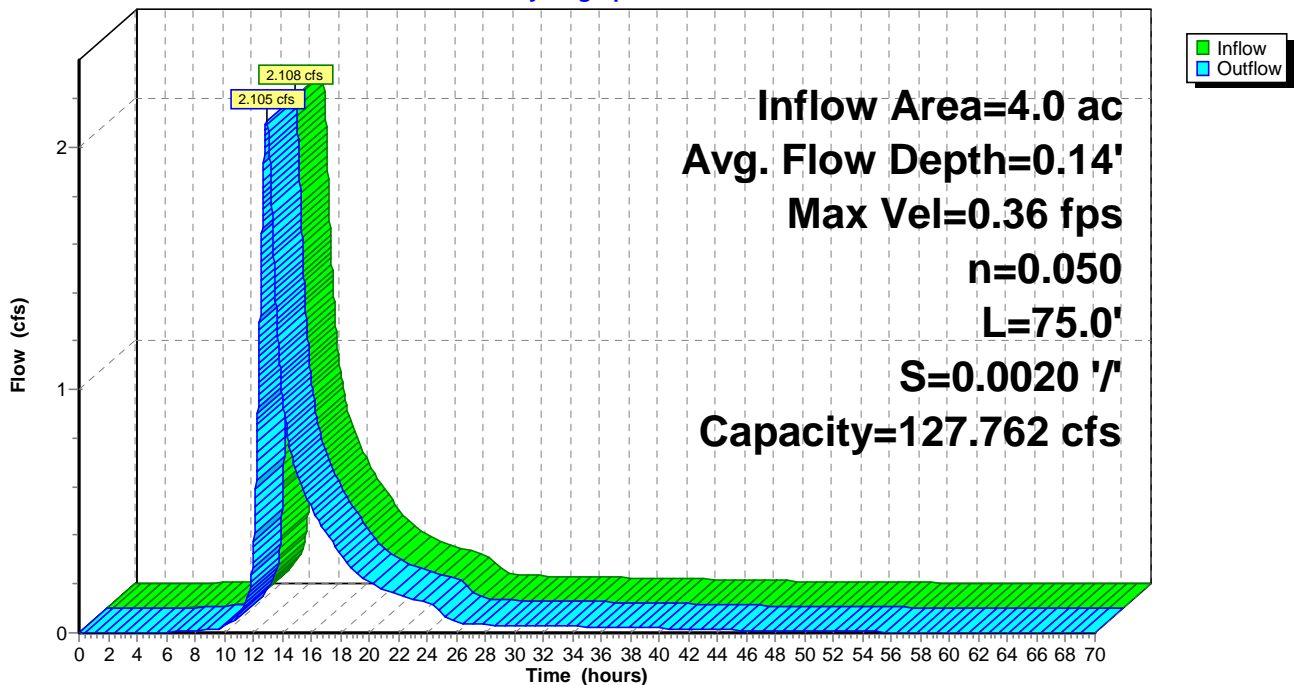
Peak Storage= 433 cf @ 12.95 hrs  
Average Depth at Peak Storage= 0.14'  
Bank-Full Depth= 1.75' Flow Area= 70.0 sf, Capacity= 127.762 cfs

40.00' x 1.75' deep channel, n= 0.050  
Length= 75.0' Slope= 0.0020 '/'  
Inlet Invert= 65.90', Outlet Invert= 65.75'



## Reach 50R: Rock Sandwich 2

Hydrograph





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## Summary for Reach 54R: Rock Sandwich 4

Inflow Area = 1.7 ac, 0.00% Impervious, Inflow Depth = 1.63" for 2-YR event  
Inflow = 1.455 cfs @ 12.66 hrs, Volume= 0.229 af  
Outflow = 1.454 cfs @ 12.67 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.54 fps, Min. Travel Time= 1.8 min  
Avg. Velocity = 0.20 fps, Avg. Travel Time= 5.0 min

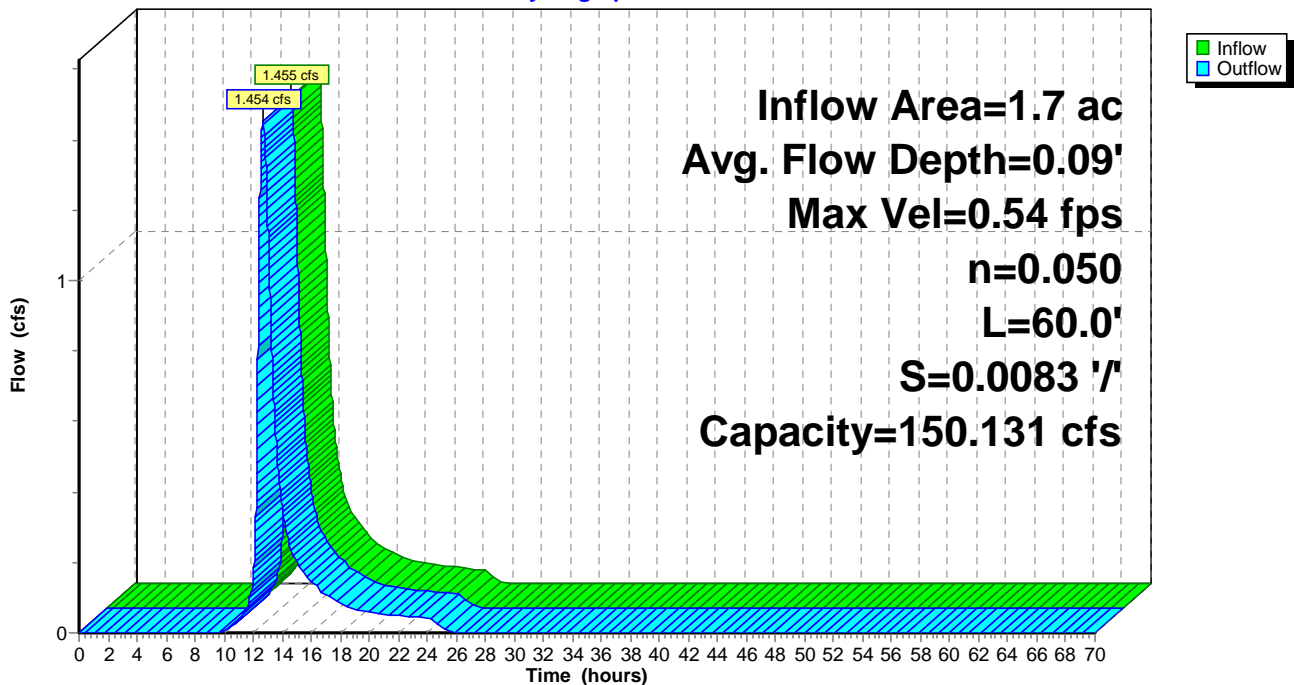
Peak Storage= 161 cf @ 12.67 hrs  
Average Depth at Peak Storage= 0.09'  
Bank-Full Depth= 1.50' Flow Area= 45.0 sf, Capacity= 150.131 cfs

30.00' x 1.50' deep channel, n= 0.050  
Length= 60.0' Slope= 0.0083 '/'  
Inlet Invert= 66.50', Outlet Invert= 66.00'



## Reach 54R: Rock Sandwich 4

Hydrograph



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## Summary for Reach 62R: RS1 to RS2

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth > 2.03" for 2-YR event  
Inflow = 2.179 cfs @ 12.52 hrs, Volume= 0.507 af  
Outflow = 1.620 cfs @ 12.87 hrs, Volume= 0.505 af, Atten= 26%, Lag= 20.8 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.25 fps, Min. Travel Time= 30.4 min

Avg. Velocity = 0.08 fps, Avg. Travel Time= 93.0 min

Peak Storage= 2,958 cf @ 12.87 hrs

Average Depth at Peak Storage= 0.34'

Bank-Full Depth= 1.00' Flow Area= 33.3 sf, Capacity= 16.893 cfs

50.00' x 1.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

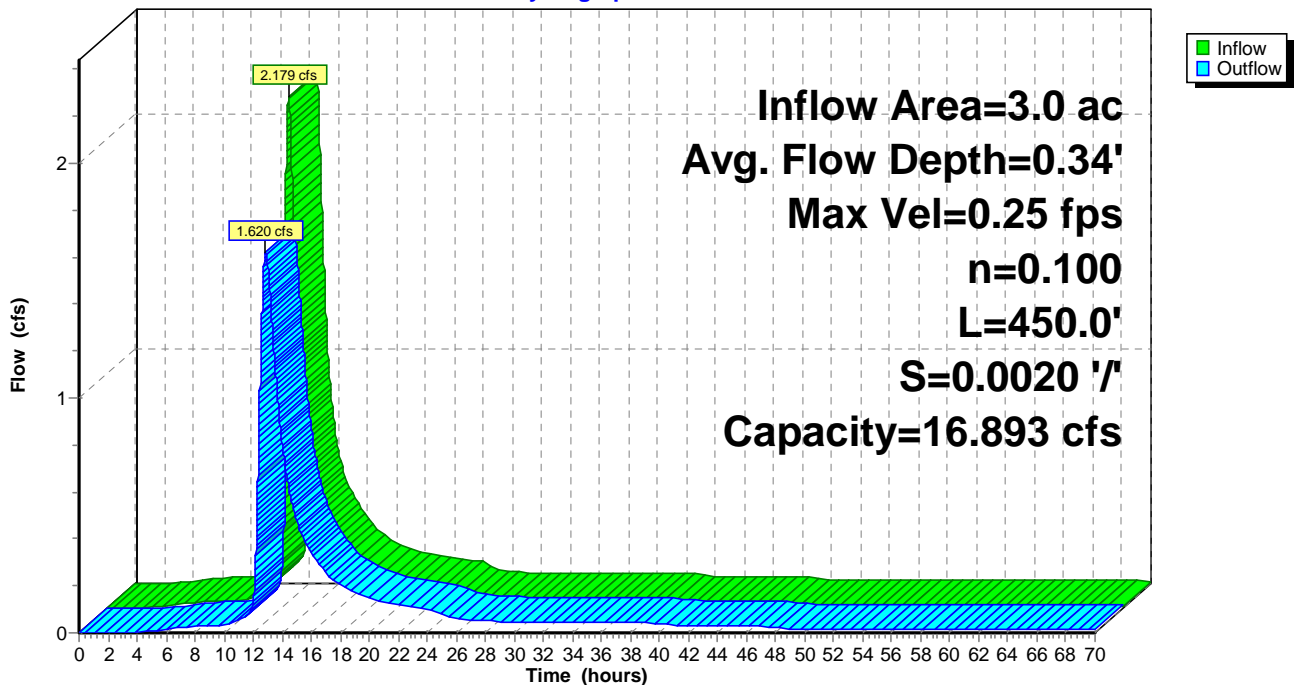
Length= 450.0' Slope= 0.0020 '/'

Inlet Invert= 63.50', Outlet Invert= 62.60'



## Reach 62R: RS1 to RS2

### Hydrograph



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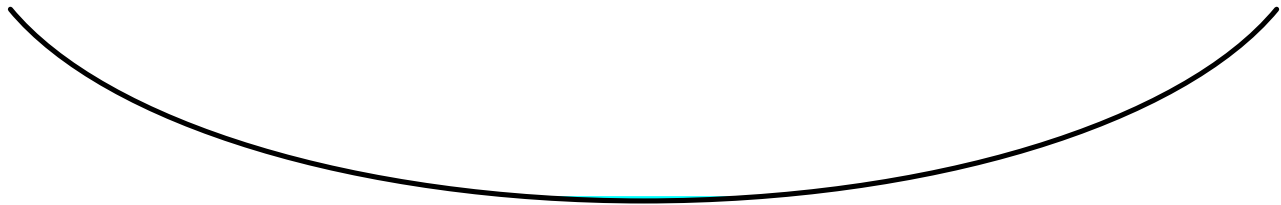
## Summary for Reach 67R: GW2 to RS1

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth > 2.35" for 2-YR event  
Inflow = 0.018 cfs @ 19.02 hrs, Volume= 0.080 af  
Outflow = 0.018 cfs @ 19.54 hrs, Volume= 0.079 af, Atten= 0%, Lag= 31.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.07 fps, Min. Travel Time= 54.0 min  
Avg. Velocity = 0.06 fps, Avg. Travel Time= 59.6 min

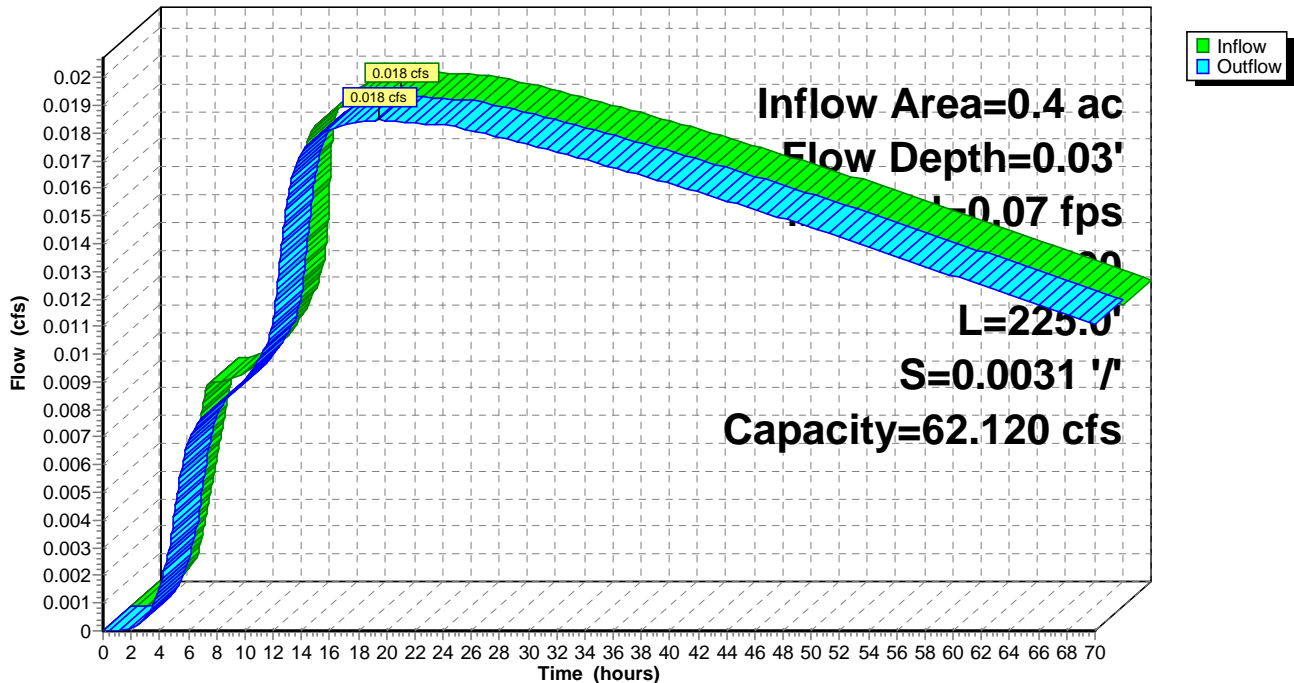
Peak Storage= 60 cf @ 19.54 hrs  
Average Depth at Peak Storage= 0.03'  
Bank-Full Depth= 1.50' Flow Area= 75.0 sf, Capacity= 62.120 cfs

75.00' x 1.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 225.0' Slope= 0.0031 1/'  
Inlet Invert= 66.80', Outlet Invert= 66.10'



## Reach 67R: GW2 to RS1

Hydrograph



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## Summary for Reach 68R: RS3 to SP5

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 1.80" for 2-YR event  
Inflow = 4.959 cfs @ 12.79 hrs, Volume= 1.515 af  
Outflow = 4.772 cfs @ 12.99 hrs, Volume= 1.513 af, Atten= 4%, Lag= 12.1 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.51 fps, Min. Travel Time= 12.3 min  
Avg. Velocity = 0.15 fps, Avg. Travel Time= 40.5 min

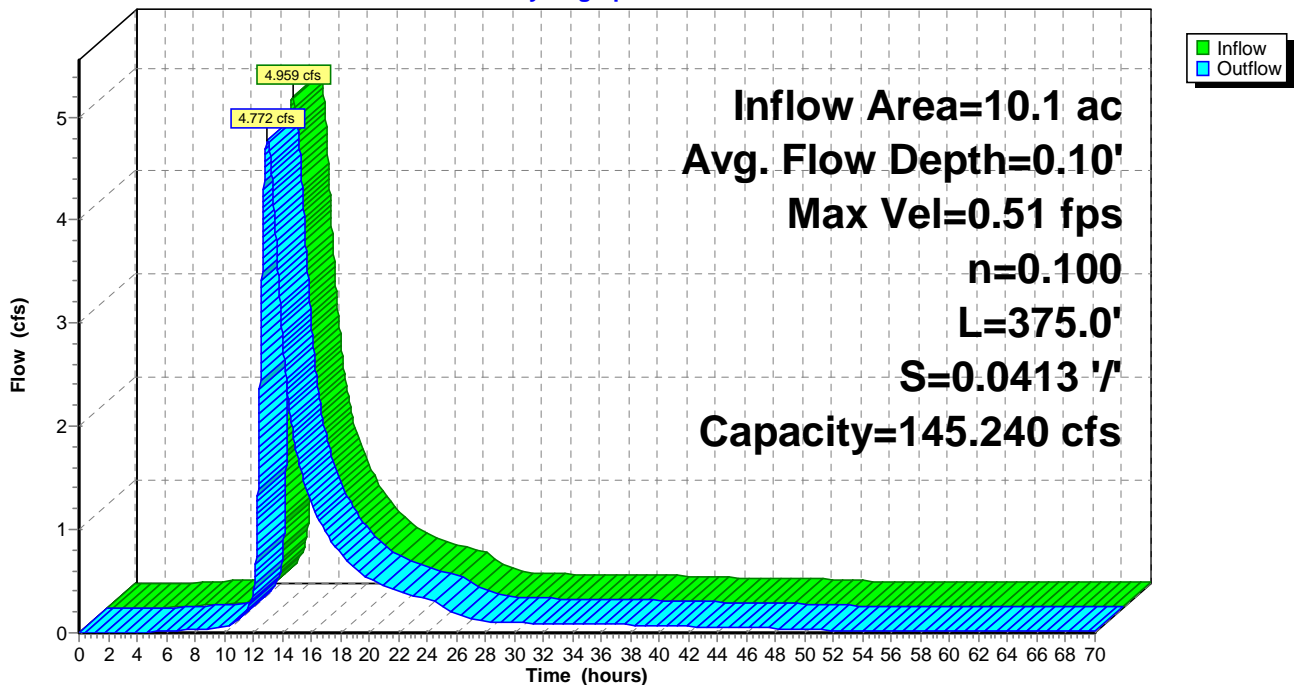
Peak Storage= 3,523 cf @ 12.99 hrs  
Average Depth at Peak Storage= 0.10'  
Bank-Full Depth= 0.50' Flow Area= 100.0 sf, Capacity= 145.240 cfs

300.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 375.0' Slope= 0.0413 '/'  
Inlet Invert= 61.50', Outlet Invert= 46.00'



## Reach 68R: RS3 to SP5

### Hydrograph



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## Summary for Reach 69R: RS2 to RS3

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 1.76" for 2-YR event  
Inflow = 2.105 cfs @ 12.95 hrs, Volume= 0.589 af  
Outflow = 1.820 cfs @ 13.24 hrs, Volume= 0.589 af, Atten= 14%, Lag= 17.9 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.23 fps, Min. Travel Time= 25.8 min  
Avg. Velocity = 0.07 fps, Avg. Travel Time= 88.7 min

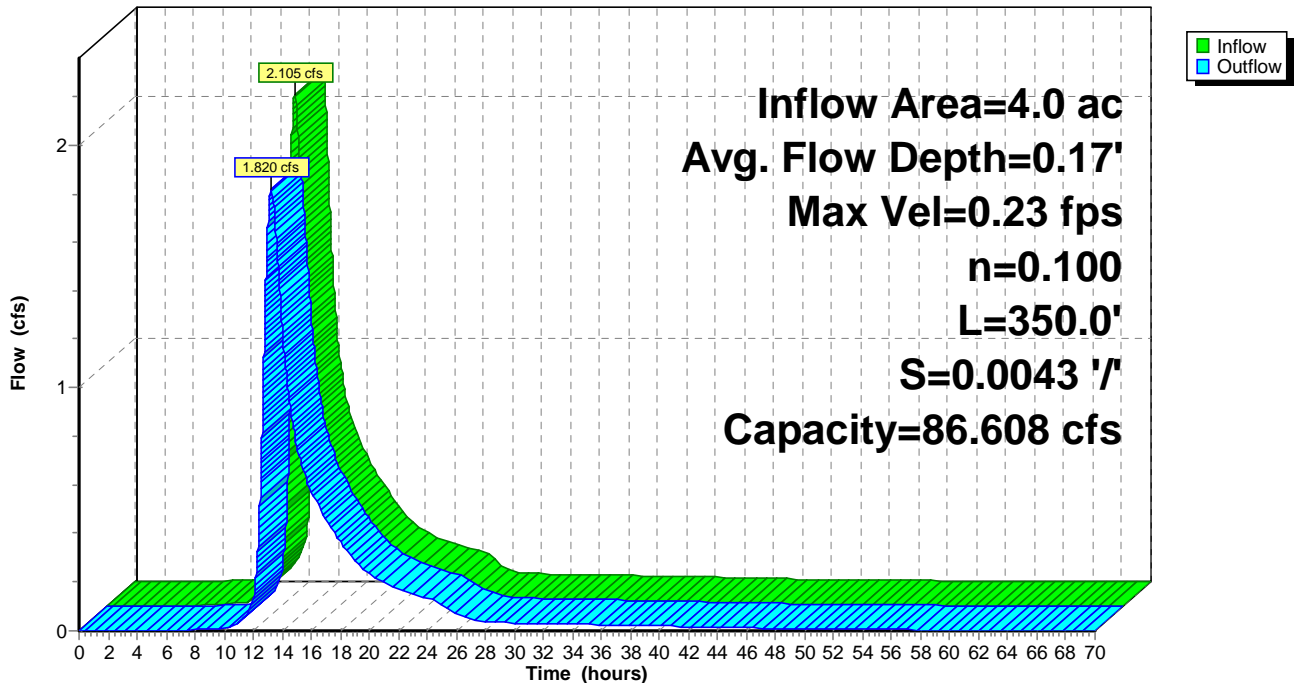
Peak Storage= 2,816 cf @ 13.24 hrs  
Average Depth at Peak Storage= 0.17'  
Bank-Full Depth= 1.00' Flow Area= 116.7 sf, Capacity= 86.608 cfs

175.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage  
Length= 350.0' Slope= 0.0043 '/'  
Inlet Invert= 65.00', Outlet Invert= 63.50'



## Reach 69R: RS2 to RS3

### Hydrograph



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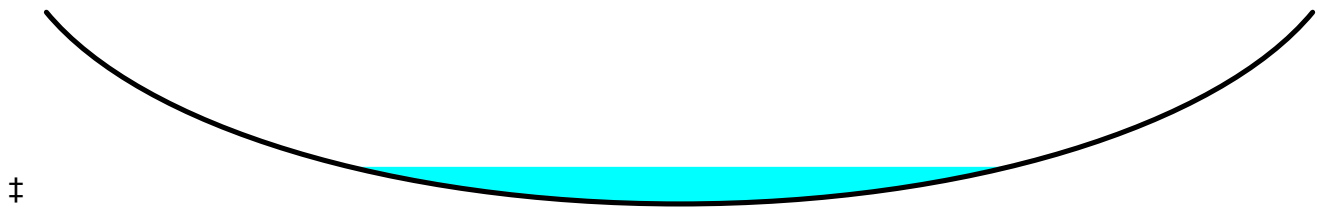
## Summary for Reach 70R: GW8 to RS4

Inflow = 0.927 cfs @ 12.25 hrs, Volume= 0.024 af  
Outflow = 0.404 cfs @ 12.49 hrs, Volume= 0.024 af, Atten= 56%, Lag= 14.4 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.11 fps, Min. Travel Time= 26.9 min  
Avg. Velocity = 0.02 fps, Avg. Travel Time= 137.4 min

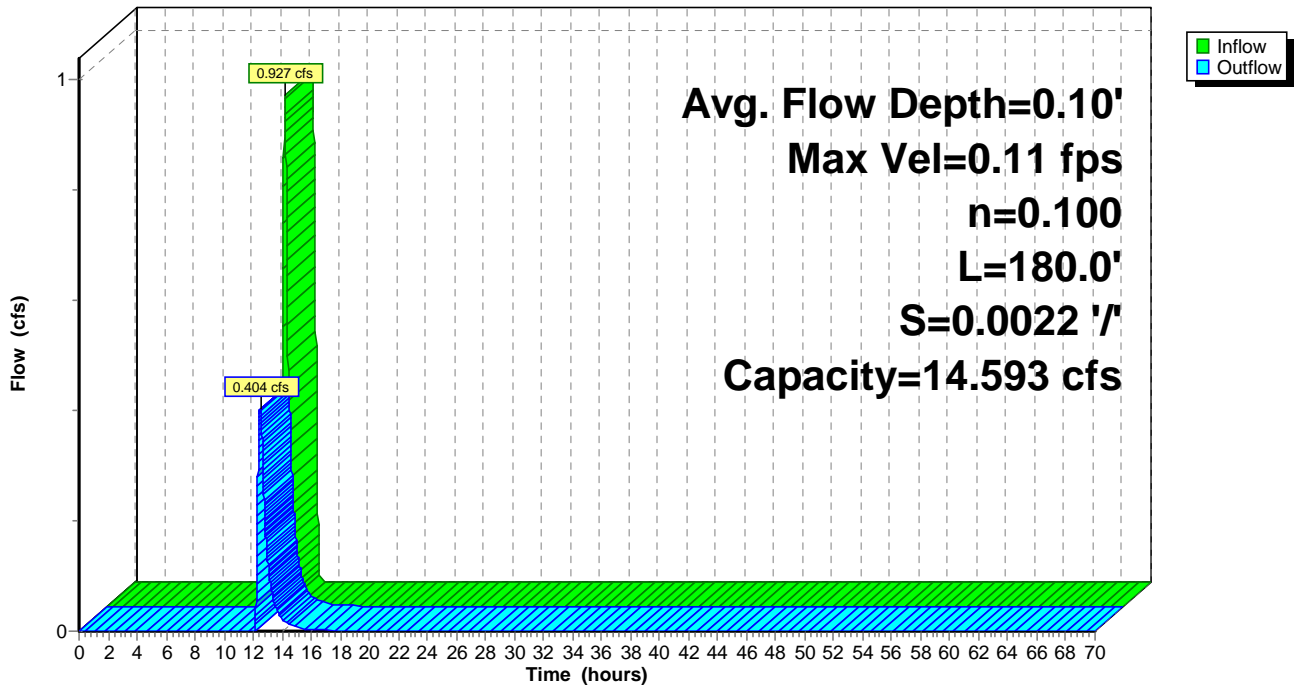
Peak Storage= 651 cf @ 12.49 hrs  
Average Depth at Peak Storage= 0.10'  
Bank-Full Depth= 0.50' Flow Area= 43.3 sf, Capacity= 14.593 cfs

130.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 180.0' Slope= 0.0022 '/'  
Inlet Invert= 67.50', Outlet Invert= 67.10'



## Reach 70R: GW8 to RS4

### Hydrograph



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## Summary for Reach 71R: RS4 to SP6

Inflow Area = 3.2 ac, 33.57% Impervious, Inflow Depth = 2.00" for 2-YR event  
Inflow = 2.329 cfs @ 12.63 hrs, Volume= 0.532 af  
Outflow = 2.089 cfs @ 12.92 hrs, Volume= 0.532 af, Atten= 10%, Lag= 17.5 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.47 fps, Min. Travel Time= 20.4 min  
Avg. Velocity = 0.13 fps, Avg. Travel Time= 74.0 min

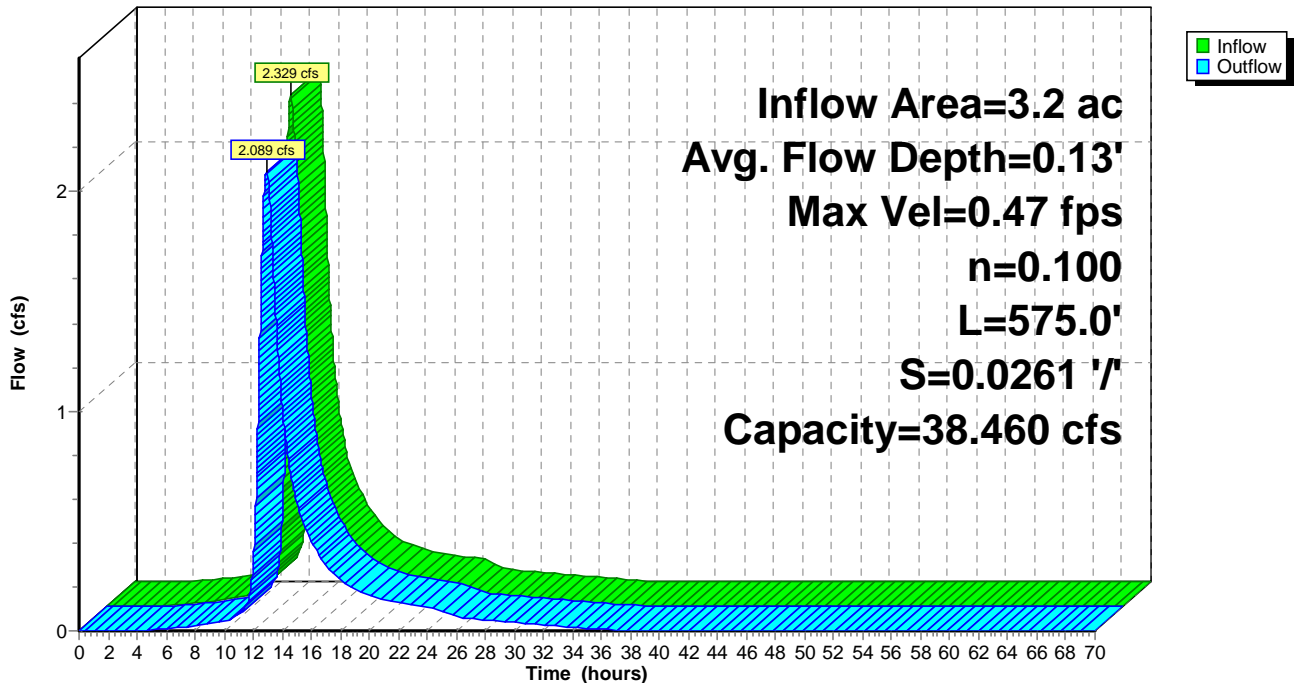
Peak Storage= 2,551 cf @ 12.92 hrs  
Average Depth at Peak Storage= 0.13'  
Bank-Full Depth= 0.50' Flow Area= 33.3 sf, Capacity= 38.460 cfs

100.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 575.0' Slope= 0.0261 '/'  
Inlet Invert= 65.00', Outlet Invert= 50.00'



## Reach 71R: RS4 to SP6

### Hydrograph



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## Summary for Reach 73R: GW7 to SP6

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 2.70" for 2-YR event  
Inflow = 0.197 cfs @ 12.99 hrs, Volume= 0.180 af  
Outflow = 0.191 cfs @ 13.66 hrs, Volume= 0.180 af, Atten= 3%, Lag= 40.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.21 fps, Min. Travel Time= 27.1 min

Avg. Velocity = 0.11 fps, Avg. Travel Time= 50.8 min

Peak Storage= 311 cf @ 13.66 hrs

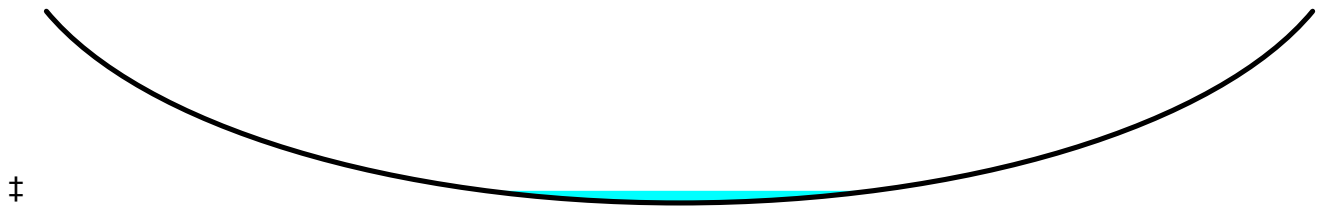
Average Depth at Peak Storage= 0.03'

Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 80.313 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

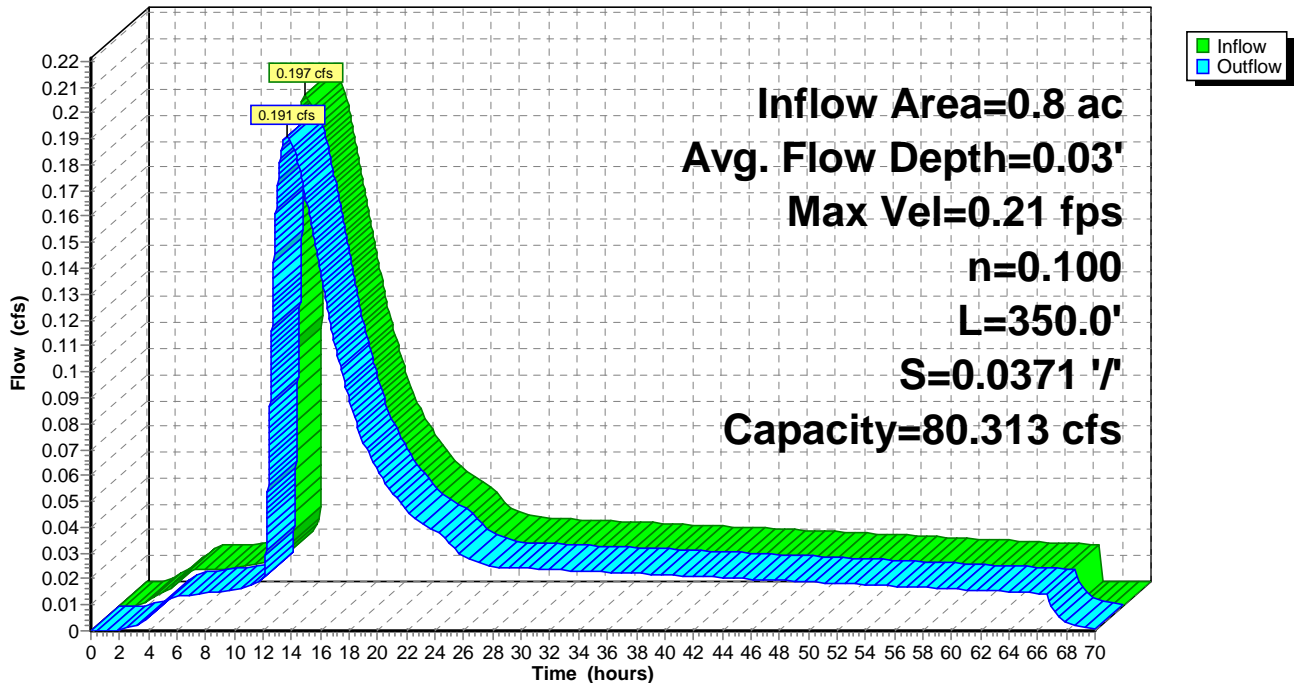
Length= 350.0' Slope= 0.0371 1/100'

Inlet Invert= 63.00', Outlet Invert= 50.00'



## Reach 73R: GW7 to SP6

### Hydrograph





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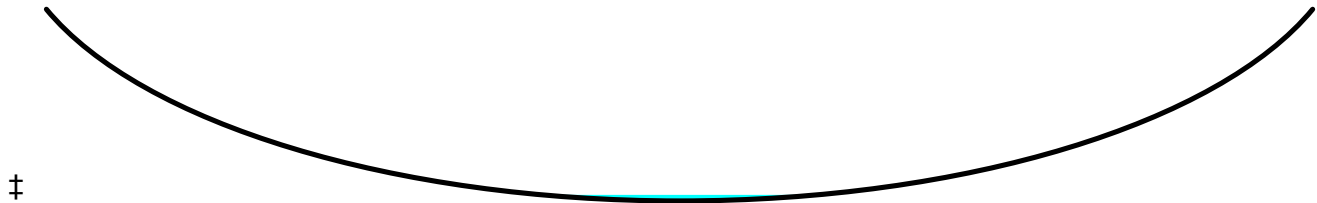
## Summary for Reach 74R: GW6 to SP6

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth > 2.85" for 2-YR event  
Inflow = 0.038 cfs @ 16.82 hrs, Volume= 0.131 af  
Outflow = 0.038 cfs @ 17.65 hrs, Volume= 0.129 af, Atten= 1%, Lag= 49.9 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.13 fps, Min. Travel Time= 56.6 min  
Avg. Velocity = 0.11 fps, Avg. Travel Time= 66.1 min

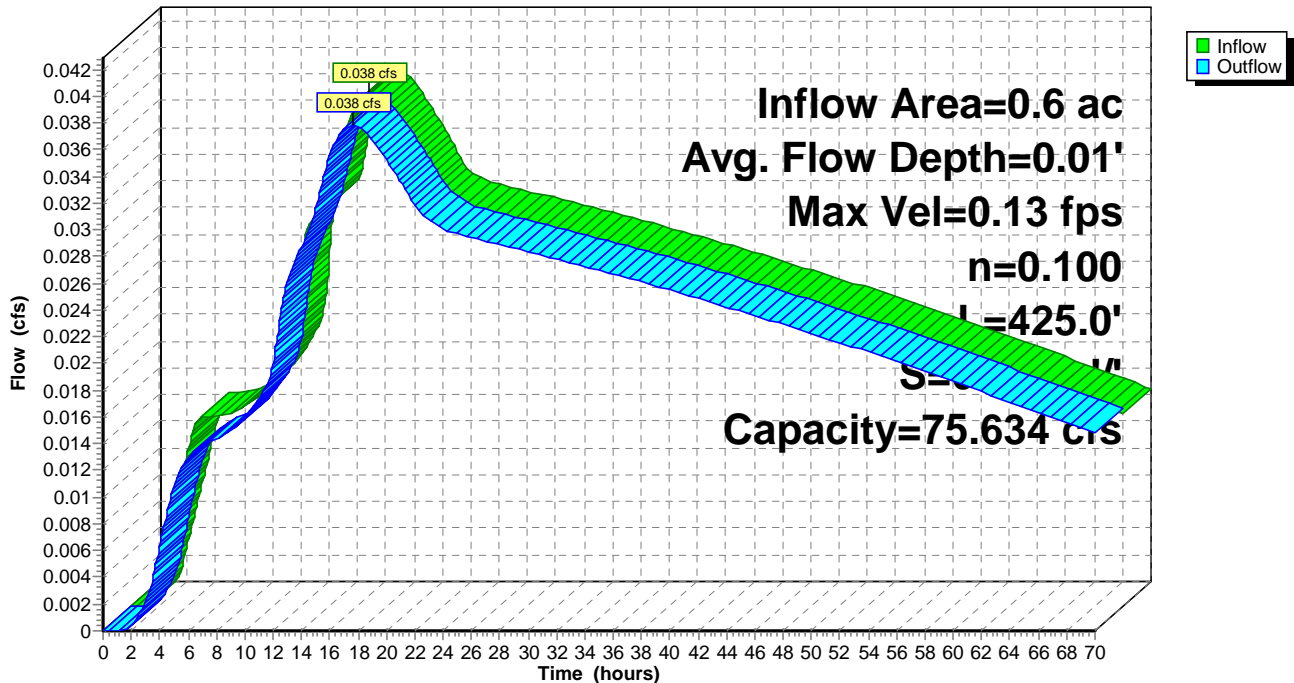
Peak Storage= 129 cf @ 17.65 hrs  
Average Depth at Peak Storage= 0.01'  
Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 75.634 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 425.0' Slope= 0.0329 1/100  
Inlet Invert= 64.00', Outlet Invert= 50.00'



## Reach 74R: GW6 to SP6

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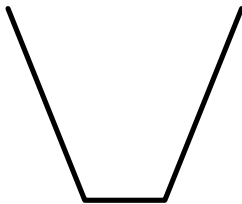
**Summary for Reach 75R: GW10 to SP6**

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth > 2.42" for 2-YR event  
 Inflow = 0.055 cfs @ 17.84 hrs, Volume= 0.210 af  
 Outflow = 0.055 cfs @ 17.96 hrs, Volume= 0.209 af, Atten= 0%, Lag= 7.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 0.74 fps, Min. Travel Time= 7.3 min  
 Avg. Velocity = 0.74 fps, Avg. Travel Time= 7.3 min

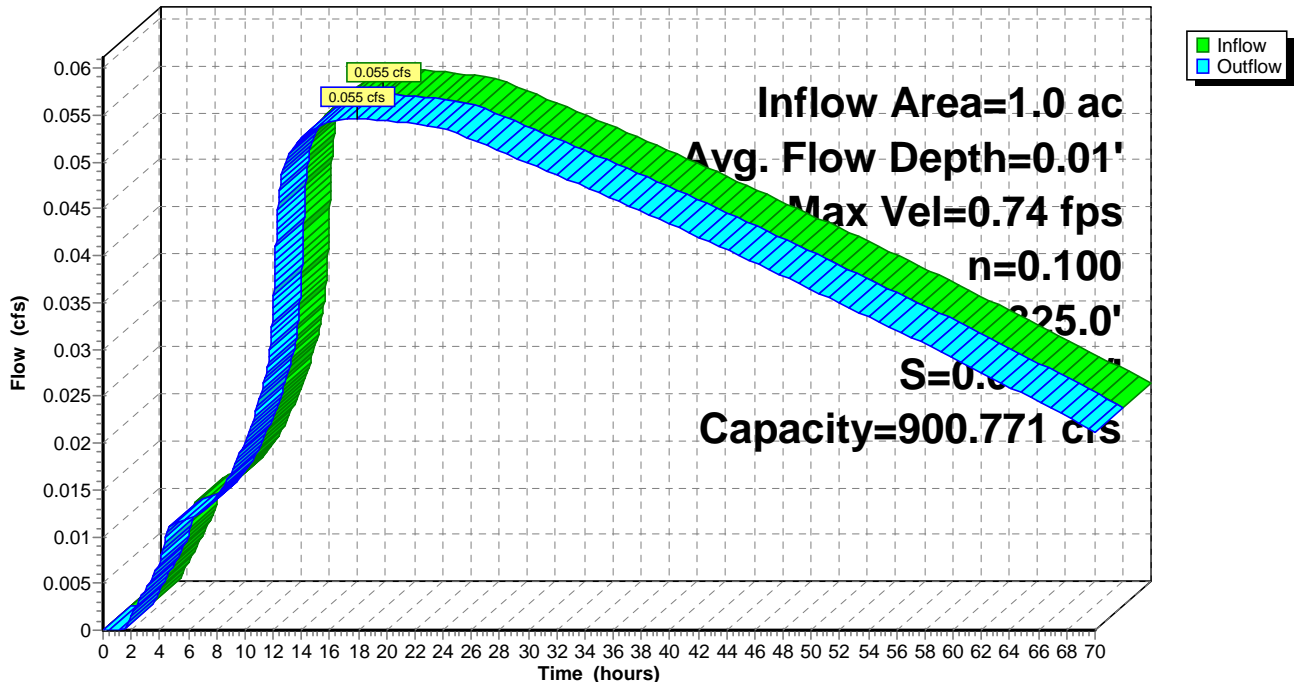
Peak Storage= 24 cf @ 17.96 hrs  
 Average Depth at Peak Storage= 0.01'  
 Bank-Full Depth= 12.00' Flow Area= 117.6 sf, Capacity= 900.771 cfs

5.00' x 12.00' deep channel, n= 0.100 Earth, dense brush, high stage  
 Side Slope Z-value= 0.4 '/' Top Width= 14.60'  
 Length= 325.0' Slope= 0.0446 '/'  
 Inlet Invert= 64.50', Outlet Invert= 50.00'



**Reach 75R: GW10 to SP6**

Hydrograph



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## Summary for Reach 76R: GW12 to SP7

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth > 2.72" for 2-YR event  
Inflow = 0.038 cfs @ 17.70 hrs, Volume= 0.156 af  
Outflow = 0.038 cfs @ 18.73 hrs, Volume= 0.154 af, Atten= 0%, Lag= 61.2 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.16 fps, Min. Travel Time= 71.1 min

Avg. Velocity = 0.15 fps, Avg. Travel Time= 79.7 min

Peak Storage= 161 cf @ 18.73 hrs

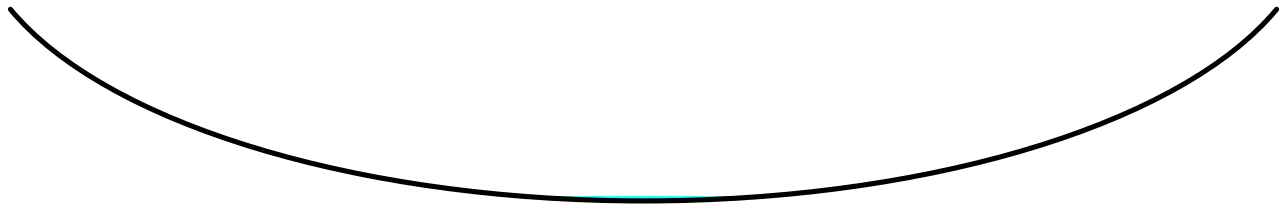
Average Depth at Peak Storage= 0.05'

Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 131.872 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

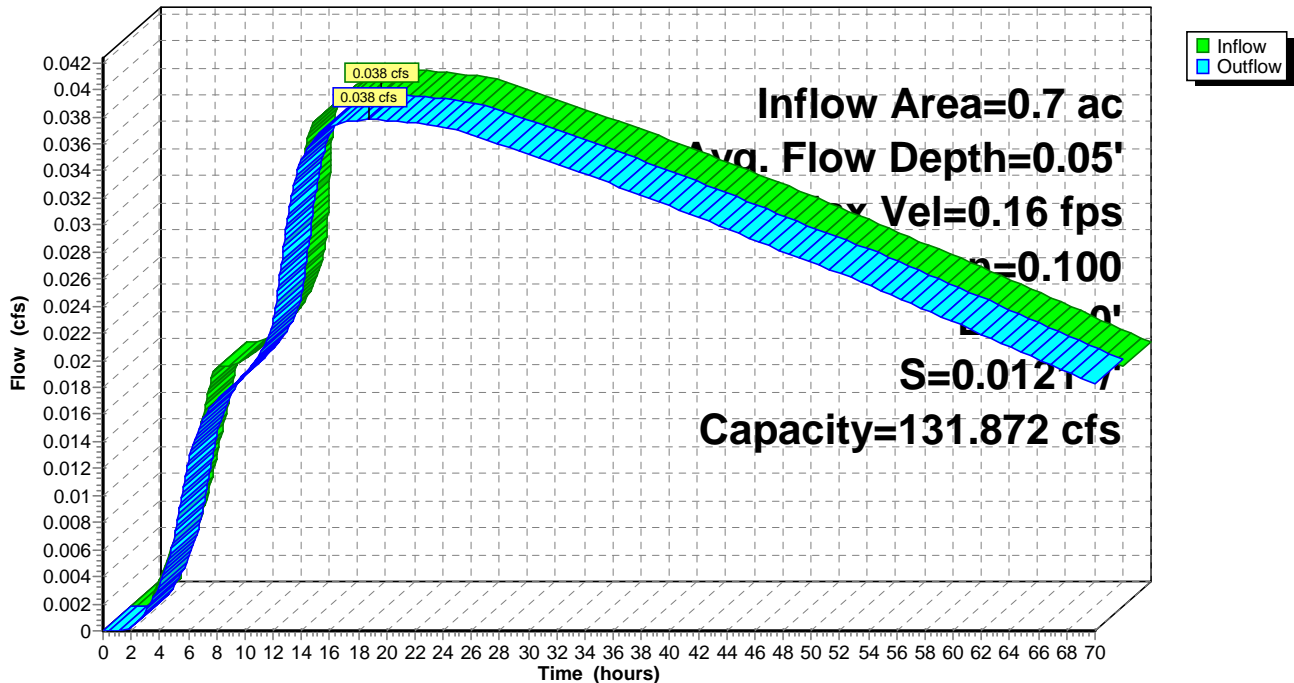
Length= 700.0' Slope= 0.0121 1/100'

Inlet Invert= 67.50', Outlet Invert= 59.00'



## Reach 76R: GW12 to SP7

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**Summary for Pond 44P: Gravel Wetland 1**

Inflow Area = 0.4 ac, 54.15% Impervious, Inflow Depth = 2.58" for 2-YR event  
 Inflow = 1.256 cfs @ 12.07 hrs, Volume= 0.092 af  
 Outflow = 0.297 cfs @ 12.45 hrs, Volume= 0.092 af, Atten= 76%, Lag= 22.7 min  
 Primary = 0.297 cfs @ 12.45 hrs, Volume= 0.092 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.85' @ 12.45 hrs Surf.Area= 4,545 sf Storage= 1,818 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 267.8 min ( 1,044.3 - 776.5 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.48'	5,904 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.48	3,651	0.0	0	0
64.48	3,651	0.0	0	0
65.15	3,651	0.0	0	0
65.40	3,651	0.0	0	0
65.60	3,992	100.0	764	764
66.40	5,782	100.0	3,910	4,674
66.60	6,519	100.0	1,230	5,904

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.55'	<b>8.000" Round Culvert</b> L= 6.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.55' / 65.10' S= 0.0750 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Secondary	66.05'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.296 cfs @ 12.45 hrs HW=65.85' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.017 cfs @ 4.14 fps)

↑ **2=Culvert** (Inlet Controls 0.279 cfs @ 1.86 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.48' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)

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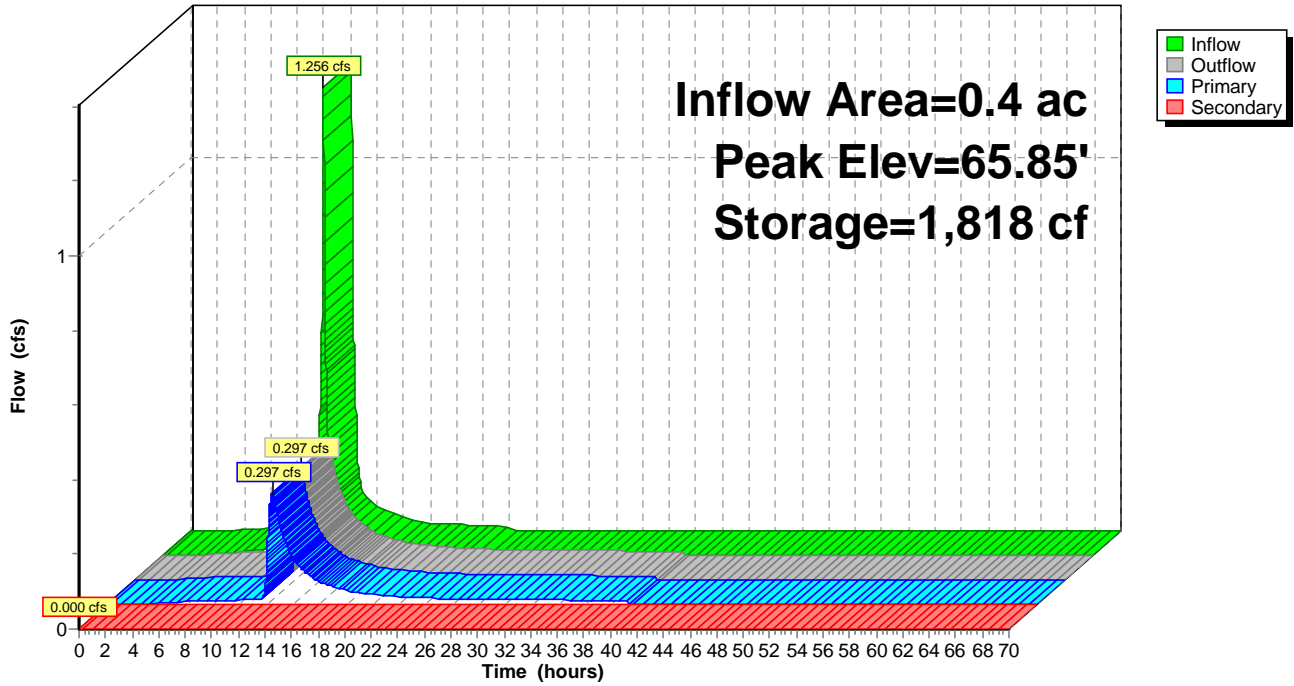
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**Pond 44P: Gravel Wetland 1**

Hydrograph



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**Summary for Pond 48P: Gravel Wetland 2**

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth = 2.70" for 2-YR event  
 Inflow = 1.245 cfs @ 12.07 hrs, Volume= 0.092 af  
 Outflow = 0.018 cfs @ 19.02 hrs, Volume= 0.080 af, Atten= 99%, Lag= 417.0 min  
 Primary = 0.018 cfs @ 19.02 hrs, Volume= 0.080 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 68.65' @ 19.02 hrs Surf.Area= 3,162 sf Storage= 3,045 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 1,405.8 min ( 2,175.9 - 770.1 )

Volume	Invert	Avail.Storage	Storage Description	
#1	64.48'	6,578 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.48	1,970	0.0	0	0
66.48	1,970	0.0	0	0
67.15	1,970	0.0	0	0
67.40	1,970	0.0	0	0
67.60	2,202	100.0	417	417
68.00	2,202	100.0	881	1,298
69.00	3,675	100.0	2,939	4,236
69.60	4,129	100.0	2,341	6,578

Device	Routing	Invert	Outlet Devices
#1	Primary	67.07'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	68.65'	<b>4.000" Round Culvert</b> L= 28.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.65' / 67.00' S= 0.0589 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	69.15'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.018 cfs @ 19.02 hrs HW=68.65' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.018 cfs @ 5.99 fps)

↑2=Culvert (Inlet Controls 0.000 cfs @ 0.13 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=64.48' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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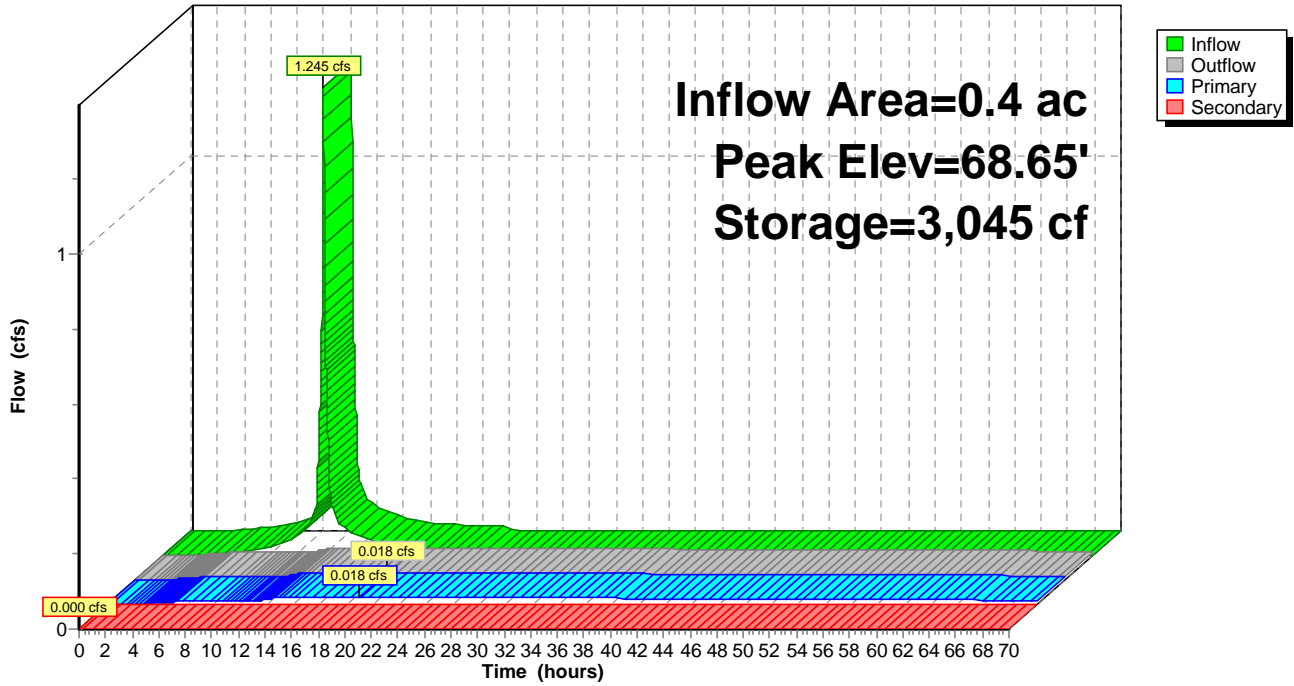
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**Pond 48P: Gravel Wetland 2**

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**Summary for Pond 49P: Gravel Wetland 3**

Inflow Area = 0.8 ac, 75.86% Impervious, Inflow Depth = 2.63" for 2-YR event  
 Inflow = 2.226 cfs @ 12.07 hrs, Volume= 0.164 af  
 Outflow = 0.629 cfs @ 12.40 hrs, Volume= 0.164 af, Atten= 72%, Lag= 19.5 min  
 Primary = 0.629 cfs @ 12.40 hrs, Volume= 0.164 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.51' @ 12.40 hrs Surf.Area= 3,441 sf Storage= 3,106 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 283.7 min ( 1,056.4 - 772.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.48'	7,432 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.48	2,105	0.0	0	0
65.48	2,105	0.0	0	0
66.15	2,105	0.0	0	0
66.40	2,105	0.0	0	0
66.60	2,395	100.0	450	450
68.00	4,004	100.0	4,479	4,929
68.60	4,340	100.0	2,503	7,432

Device	Routing	Invert	Outlet Devices
#1	Primary	66.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.85'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.85' / 66.00' S= 0.0425 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.629 cfs @ 12.40 hrs HW=67.51' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.024 cfs @ 5.70 fps)

↑2=Culvert (Inlet Controls 0.605 cfs @ 3.08 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.48' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)



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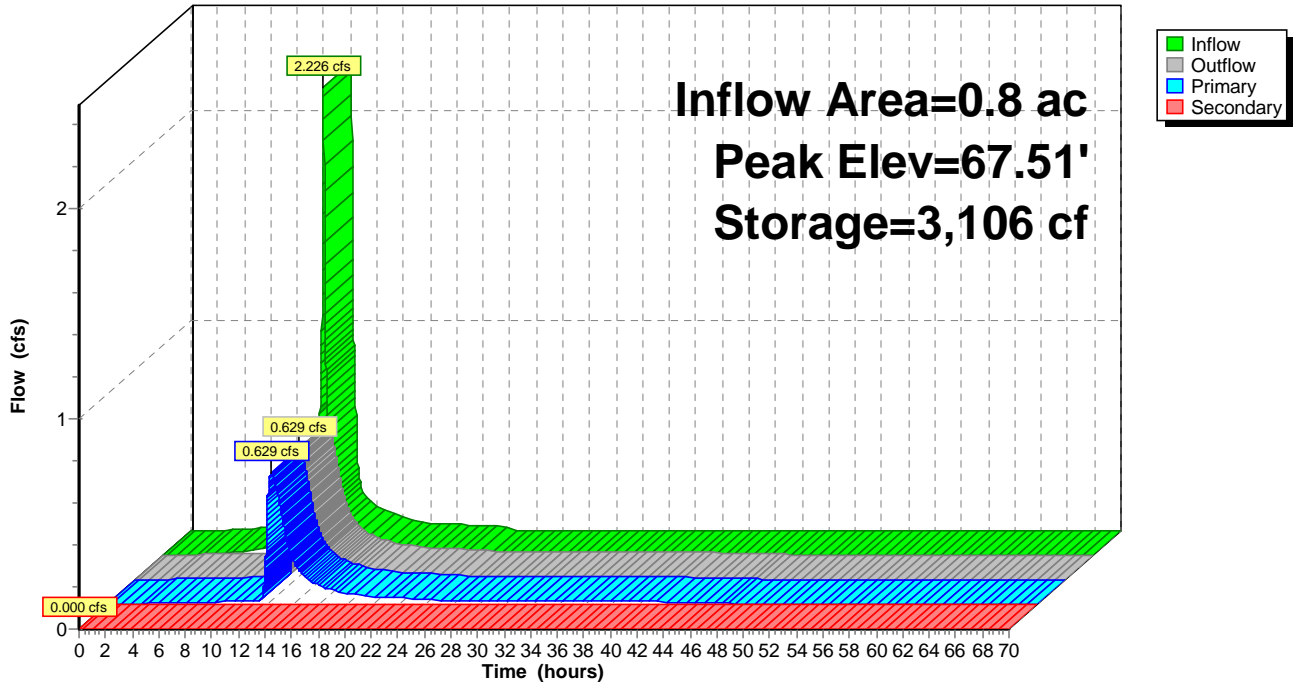
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**Pond 49P: Gravel Wetland 3**

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**Summary for Pond 51P: Gravel Wetland 4**

Inflow Area = 1.2 ac, 63.82% Impervious, Inflow Depth = 2.45" for 2-YR event  
 Inflow = 3.456 cfs @ 12.07 hrs, Volume= 0.250 af  
 Outflow = 0.343 cfs @ 12.84 hrs, Volume= 0.250 af, Atten= 90%, Lag= 45.8 min  
 Primary = 0.343 cfs @ 12.84 hrs, Volume= 0.250 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.28' @ 12.84 hrs Surf.Area= 7,865 sf Storage= 5,982 cf

Plug-Flow detention time= 411.5 min calculated for 0.250 af (100% of inflow)  
 Center-of-Mass det. time= 411.8 min ( 1,194.5 - 782.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.38'	21,781 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.38	4,633	0.0	0	0
65.48	4,633	0.0	0	0
66.05	4,633	0.0	0	0
66.30	4,633	0.0	0	0
66.50	5,029	100.0	966	966
68.00	10,498	100.0	11,645	12,611
68.80	12,427	100.0	9,170	21,781

Device	Routing	Invert	Outlet Devices
#1	Primary	66.27'	<b>1.500" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.65'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.65' / 66.20' S= 0.0225 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	68.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.343 cfs @ 12.84 hrs HW=67.28' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.057 cfs @ 4.68 fps)

↑ **2=Culvert** (Inlet Controls 0.285 cfs @ 3.27 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.38' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)

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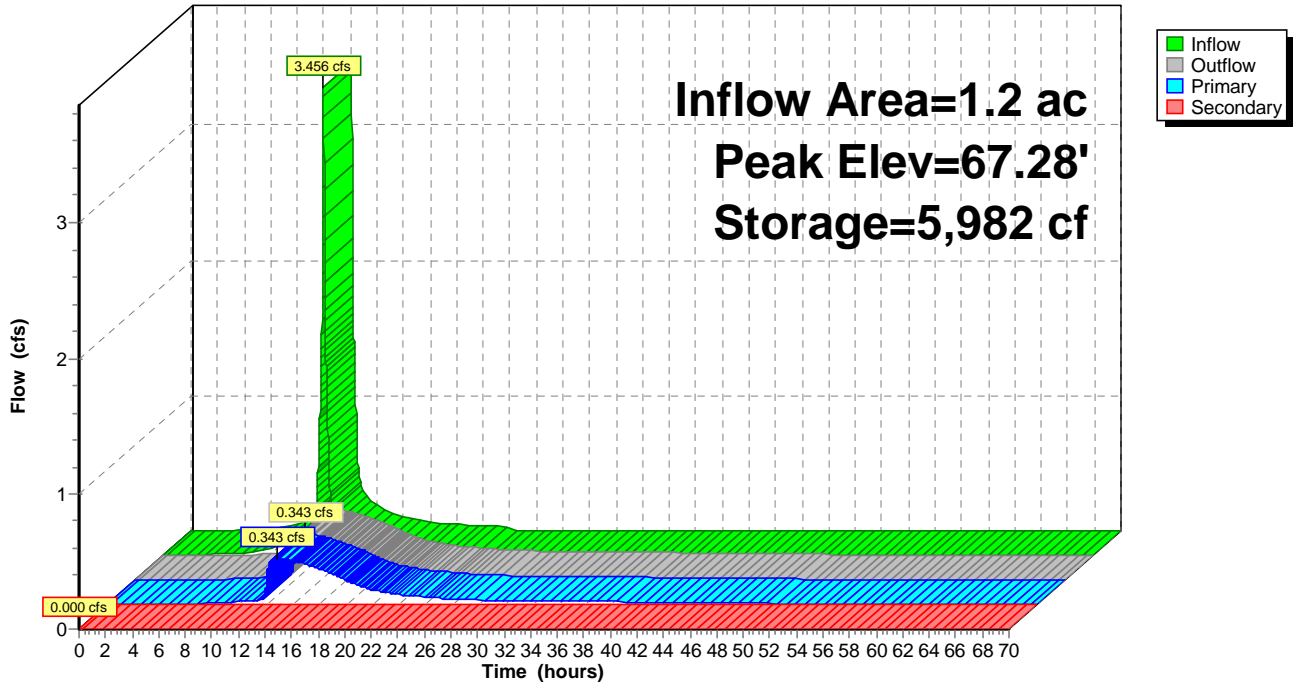
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**Pond 51P: Gravel Wetland 4**

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**Summary for Pond 52P: Gravel Wetland 5**

Inflow Area = 0.3 ac, 82.14% Impervious, Inflow Depth = 2.87" for 2-YR event  
 Inflow = 0.871 cfs @ 12.07 hrs, Volume= 0.067 af  
 Outflow = 0.122 cfs @ 12.56 hrs, Volume= 0.067 af, Atten= 86%, Lag= 29.2 min  
 Primary = 0.122 cfs @ 12.56 hrs, Volume= 0.067 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.53' @ 12.56 hrs Surf.Area= 1,911 sf Storage= 1,541 cf

Plug-Flow detention time= 587.7 min calculated for 0.067 af (100% of inflow)  
 Center-of-Mass det. time= 587.9 min ( 1,344.0 - 756.1 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	4,333 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	1,414	0.0	0	0
64.68	1,414	0.0	0	0
65.35	1,414	0.0	0	0
65.60	1,414	0.0	0	0
66.00	1,612	100.0	605	605
67.00	2,175	100.0	1,894	2,499
67.80	2,411	100.0	1,834	4,333

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.30'	<b>4.000" Round Culvert</b> L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.30' / 65.00' S= 0.1300 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	66.70'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.122 cfs @ 12.56 hrs HW=66.53' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.016 cfs @ 5.34 fps)

↑2=Culvert (Inlet Controls 0.106 cfs @ 1.64 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.68' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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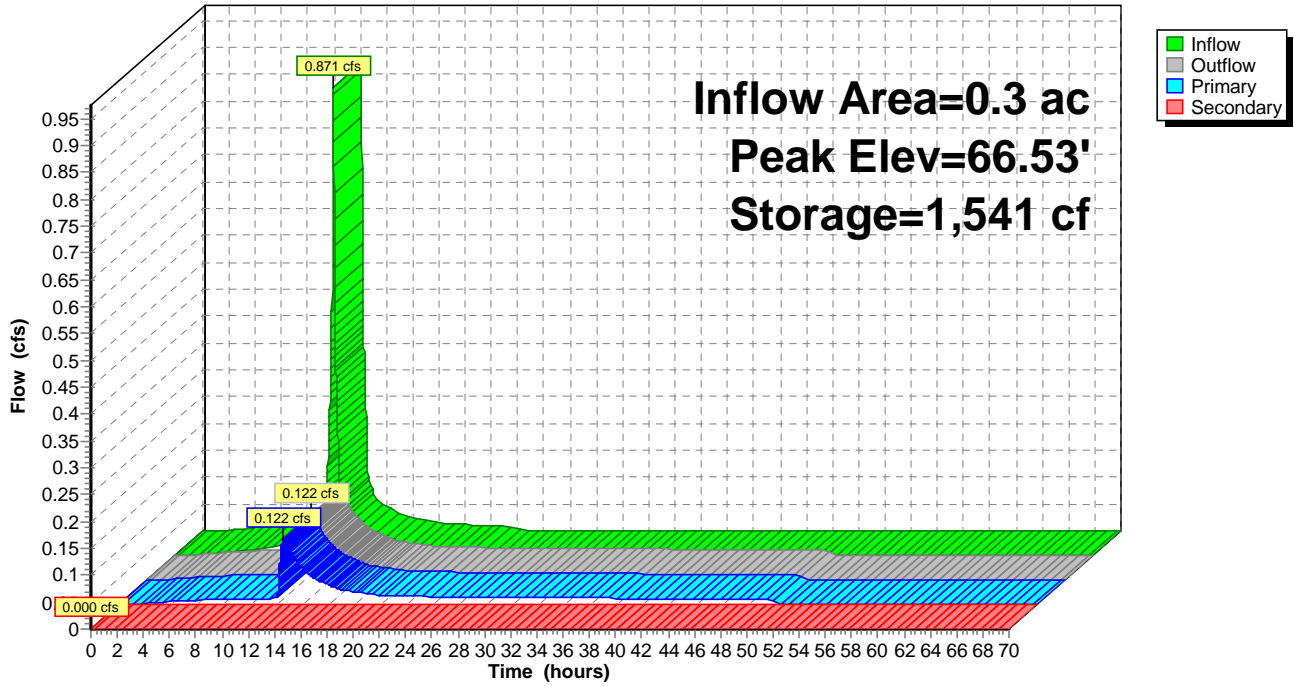
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**Pond 52P: Gravel Wetland 5**

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**Summary for Pond 53P: Gravel Wetland 8**

Inflow Area = 1.5 ac, 70.96% Impervious, Inflow Depth = 2.60" for 2-YR event  
 Inflow = 4.477 cfs @ 12.07 hrs, Volume= 0.327 af  
 Outflow = 1.891 cfs @ 12.25 hrs, Volume= 0.327 af, Atten= 58%, Lag= 10.6 min  
 Primary = 0.964 cfs @ 12.25 hrs, Volume= 0.303 af  
 Secondary = 0.927 cfs @ 12.25 hrs, Volume= 0.024 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.69' @ 12.25 hrs Surf.Area= 6,511 sf Storage= 5,481 cf  
 Flood Elev= 68.21' Surf.Area= 7,584 sf Storage= 9,188 cf

Plug-Flow detention time= 162.5 min calculated for 0.327 af (100% of inflow)  
 Center-of-Mass det. time= 162.4 min ( 939.2 - 776.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.60'	15,649 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.60	3,229	0	0
66.85	4,043	909	909
67.00	4,839	666	1,575
68.00	7,268	6,054	7,629
69.00	8,772	8,020	15,649

Device	Routing	Invert	Outlet Devices
#1	Primary	66.52'	<b>2.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.94'	<b>8.000" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.94' / 66.73' S= 0.0105 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#3	Secondary	67.60'	<b>15.0' long x 5.0' 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 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

**Primary OutFlow** Max=0.964 cfs @ 12.25 hrs HW=67.69' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.109 cfs @ 5.02 fps)

↑ **2=Culvert** (Inlet Controls 0.855 cfs @ 2.45 fps)

**Secondary OutFlow** Max=0.921 cfs @ 12.25 hrs HW=67.69' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 0.921 cfs @ 0.70 fps)

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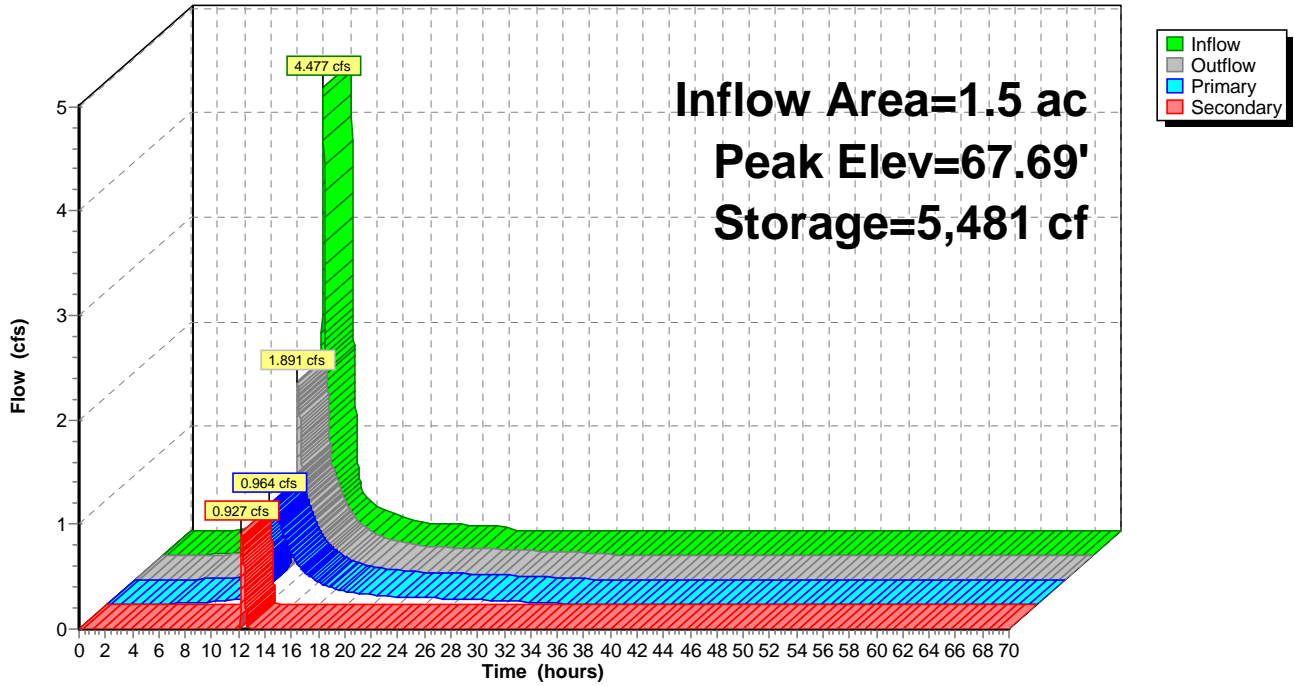
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**Pond 53P: Gravel Wetland 8**

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**Summary for Pond 58P: Gravel Wetland 7**

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 2.70" for 2-YR event  
 Inflow = 2.417 cfs @ 12.07 hrs, Volume= 0.180 af  
 Outflow = 0.197 cfs @ 12.99 hrs, Volume= 0.180 af, Atten= 92%, Lag= 55.3 min  
 Primary = 0.197 cfs @ 12.99 hrs, Volume= 0.180 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.53' @ 12.99 hrs Surf.Area= 5,709 sf Storage= 4,547 cf

Plug-Flow detention time= 812.2 min calculated for 0.180 af (100% of inflow)  
 Center-of-Mass det. time= 812.5 min ( 1,580.9 - 768.4 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.35'	11,555 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.35	4,339	0.0	0	0
64.20	4,339	0.0	0	0
64.60	4,339	0.0	0	0
65.00	4,680	100.0	1,804	1,804
66.00	6,629	100.0	5,655	7,458
66.60	7,026	100.0	4,096	11,555

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.20'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.20' / 64.00' S= 0.0600 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	65.90'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.199 cfs @ 12.99 hrs HW=65.53' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.029 cfs @ 5.31 fps)

└2=Culvert (Inlet Controls 0.170 cfs @ 1.95 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.35' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)



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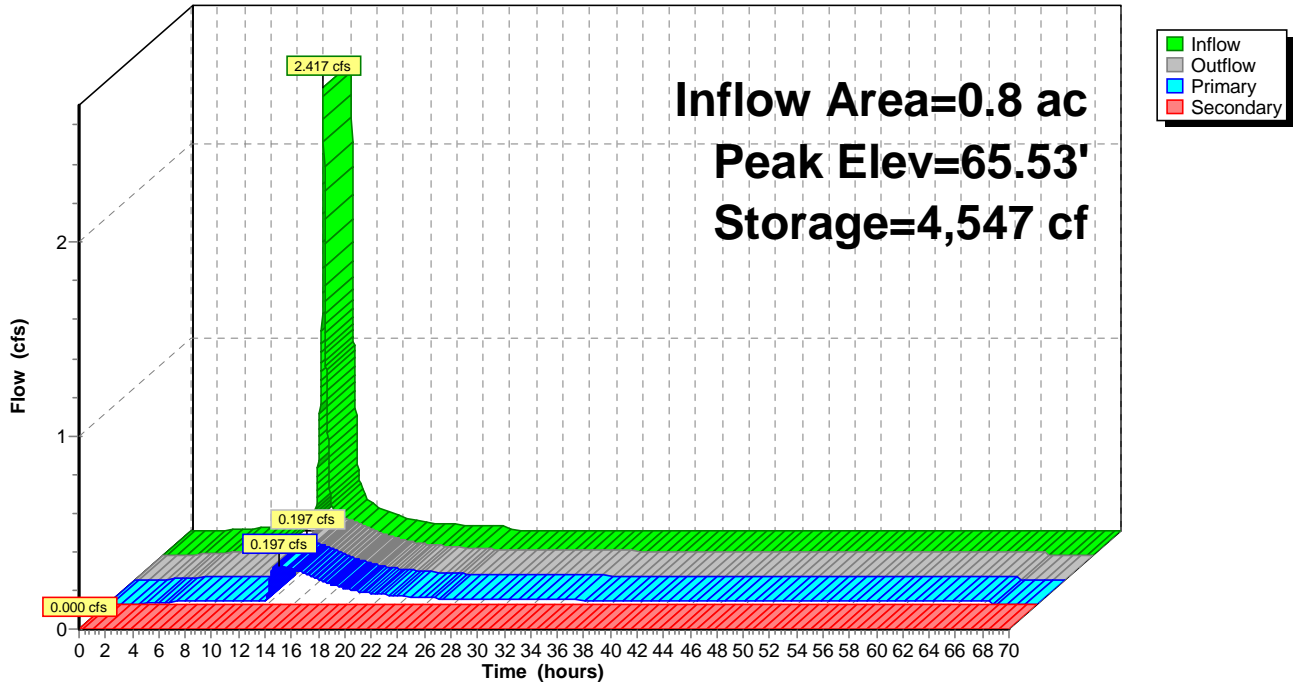
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**Pond 58P: Gravel Wetland 7**

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**Summary for Pond 59P: Gravel Wetland 6**

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth = 2.87" for 2-YR event  
 Inflow = 1.719 cfs @ 12.07 hrs, Volume= 0.132 af  
 Outflow = 0.038 cfs @ 16.82 hrs, Volume= 0.131 af, Atten= 98%, Lag= 285.0 min  
 Primary = 0.038 cfs @ 16.82 hrs, Volume= 0.131 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.65' @ 16.82 hrs Surf.Area= 4,949 sf Storage= 4,077 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 1,313.6 min ( 2,069.7 - 756.1 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	9,534 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	3,048	0.0	0	0
64.68	3,048	0.0	0	0
65.35	3,048	0.0	0	0
65.60	3,048	0.0	0	0
66.00	3,524	100.0	1,314	1,314
67.00	5,709	100.0	4,617	5,931
67.60	6,303	100.0	3,604	9,534

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.60'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.60' / 65.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	67.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.037 cfs @ 16.82 hrs HW=66.65' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.030 cfs @ 5.57 fps)

↑2=Culvert (Inlet Controls 0.007 cfs @ 0.78 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.68' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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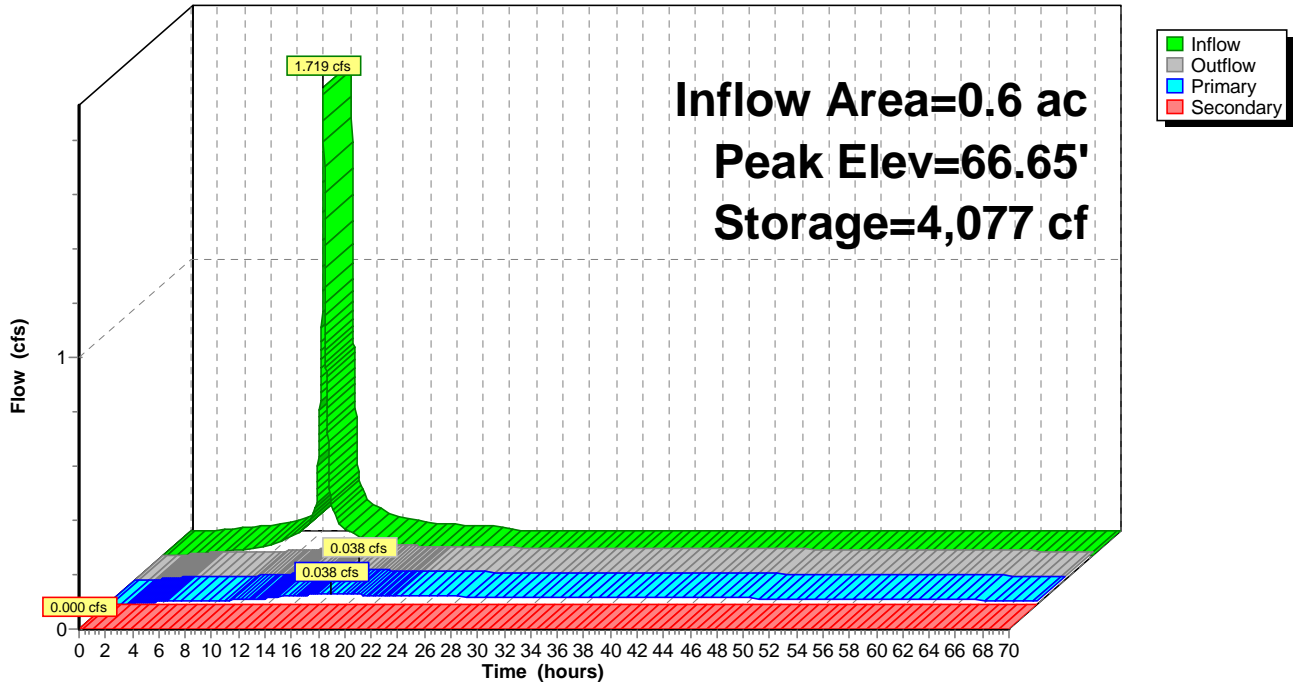
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**Pond 59P: Gravel Wetland 6**

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**Summary for Pond 60P: Gravel Wetland 12**

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth = 2.72" for 2-YR event  
 Inflow = 2.083 cfs @ 12.07 hrs, Volume= 0.156 af  
 Outflow = 0.038 cfs @ 17.70 hrs, Volume= 0.156 af, Atten= 98%, Lag= 338.1 min  
 Primary = 0.038 cfs @ 17.70 hrs, Volume= 0.156 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 69.61' @ 17.70 hrs Surf.Area= 5,670 sf Storage= 4,873 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 1,338.5 min ( 2,105.1 - 766.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	65.68'	11,160 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.68	4,209	0.0	0	0
67.68	4,209	0.0	0	0
68.35	4,209	0.0	0	0
68.60	4,209	0.0	0	0
69.00	4,547	100.0	1,751	1,751
70.00	6,384	100.0	5,466	7,217
70.60	6,760	100.0	3,943	11,160

Device	Routing	Invert	Outlet Devices
#1	Primary	68.27'	<b>1.125" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	69.70'	<b>6.000" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 69.70' / 68.00' S= 0.0425 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	70.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.038 cfs @ 17.70 hrs HW=69.61' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.038 cfs @ 5.48 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=65.68' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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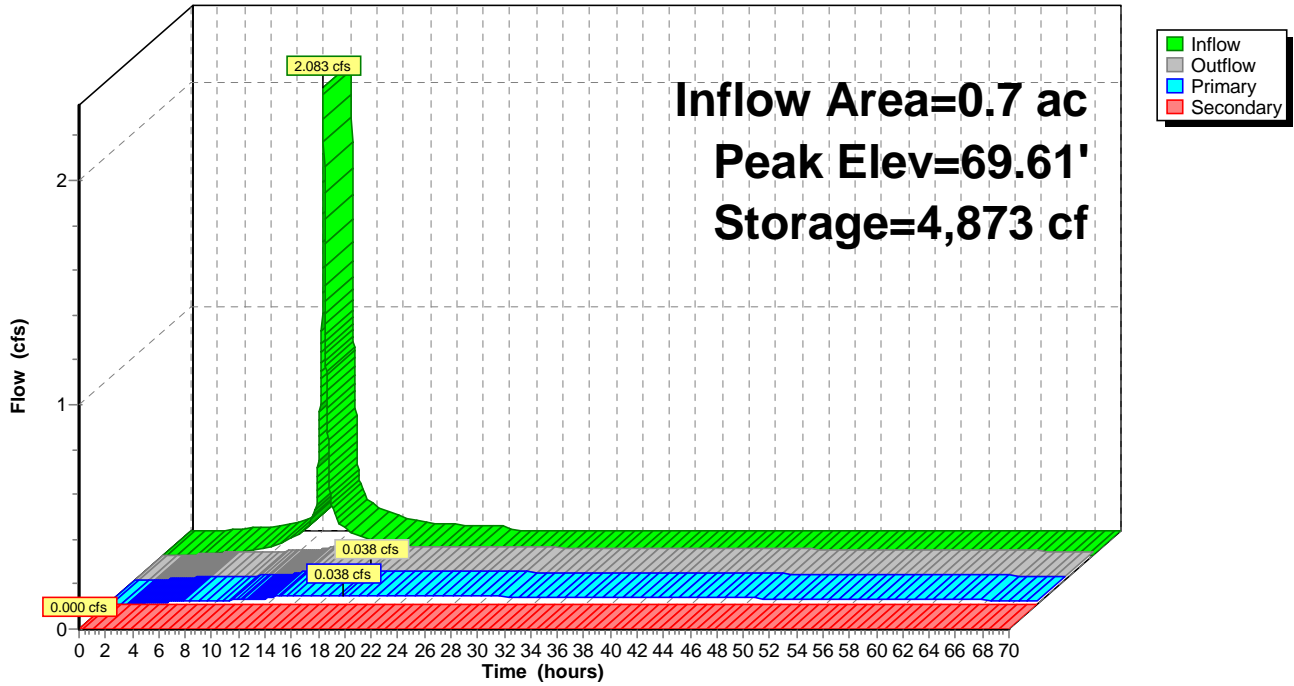
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**Pond 60P: Gravel Wetland 12**

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**Summary for Pond 62P: Gravel Wetland 10**

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth = 2.59" for 2-YR event  
 Inflow = 3.067 cfs @ 12.07 hrs, Volume= 0.225 af  
 Outflow = 0.055 cfs @ 17.84 hrs, Volume= 0.210 af, Atten= 98%, Lag= 346.0 min  
 Primary = 0.055 cfs @ 17.84 hrs, Volume= 0.210 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.89' @ 17.84 hrs Surf.Area= 5,024 sf Storage= 7,313 cf

Plug-Flow detention time= 1,375.9 min calculated for 0.210 af (93% of inflow)  
 Center-of-Mass det. time= 1,339.0 min ( 2,114.2 - 775.2 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.28'	17,061 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.28	3,476	0.0	0	0
64.28	3,476	0.0	0	0
64.95	3,476	0.0	0	0
65.20	3,476	0.0	0	0
65.40	3,804	100.0	728	728
68.00	5,931	100.0	12,655	13,383
68.60	6,329	100.0	3,678	17,061

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>1.250" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	67.00'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 67.00' / 65.00' S= 0.1000 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.055 cfs @ 17.84 hrs HW=66.89' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.055 cfs @ 6.41 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.28' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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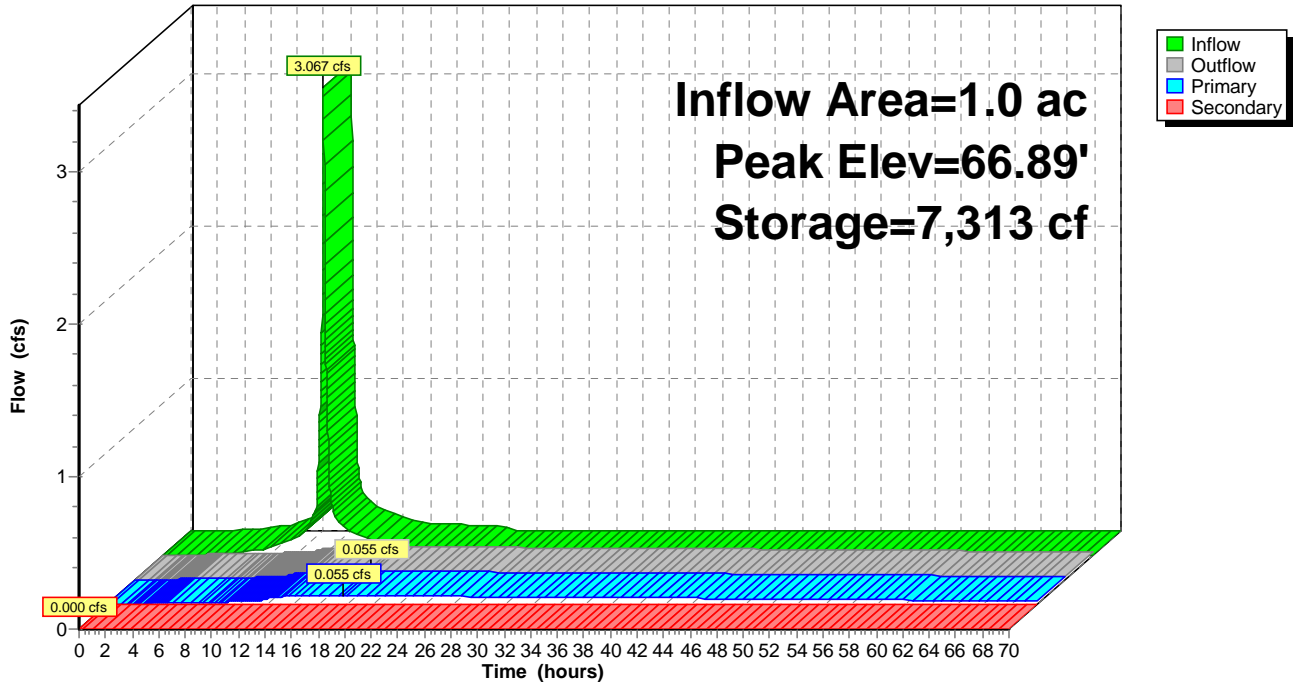
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**Pond 62P: Gravel Wetland 10**

Hydrograph



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**Summary for Pond 63P: Gravel Wetland 11**

Inflow Area = 0.4 ac, 56.12% Impervious, Inflow Depth = 2.73" for 2-YR event  
 Inflow = 1.072 cfs @ 12.07 hrs, Volume= 0.080 af  
 Outflow = 0.015 cfs @ 19.66 hrs, Volume= 0.068 af, Atten= 99%, Lag= 455.4 min  
 Primary = 0.015 cfs @ 19.66 hrs, Volume= 0.068 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.31' @ 19.66 hrs Surf.Area= 4,232 sf Storage= 2,645 cf

Plug-Flow detention time= 1,483.3 min calculated for 0.068 af (84% of inflow)  
 Center-of-Mass det. time= 1,417.9 min ( 2,185.3 - 767.4 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.68'	9,324 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.68	3,385	0.0	0	0
63.68	3,385	0.0	0	0
64.35	3,385	0.0	0	0
64.60	3,385	0.0	0	0
65.00	3,712	100.0	1,419	1,419
66.00	5,399	100.0	4,556	5,975
66.60	5,765	100.0	3,349	9,324

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.60'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.60' / 64.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	66.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.015 cfs @ 19.66 hrs HW=65.31' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.015 cfs @ 4.83 fps)
- └2=Culvert ( Controls 0.000 cfs)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.68' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)



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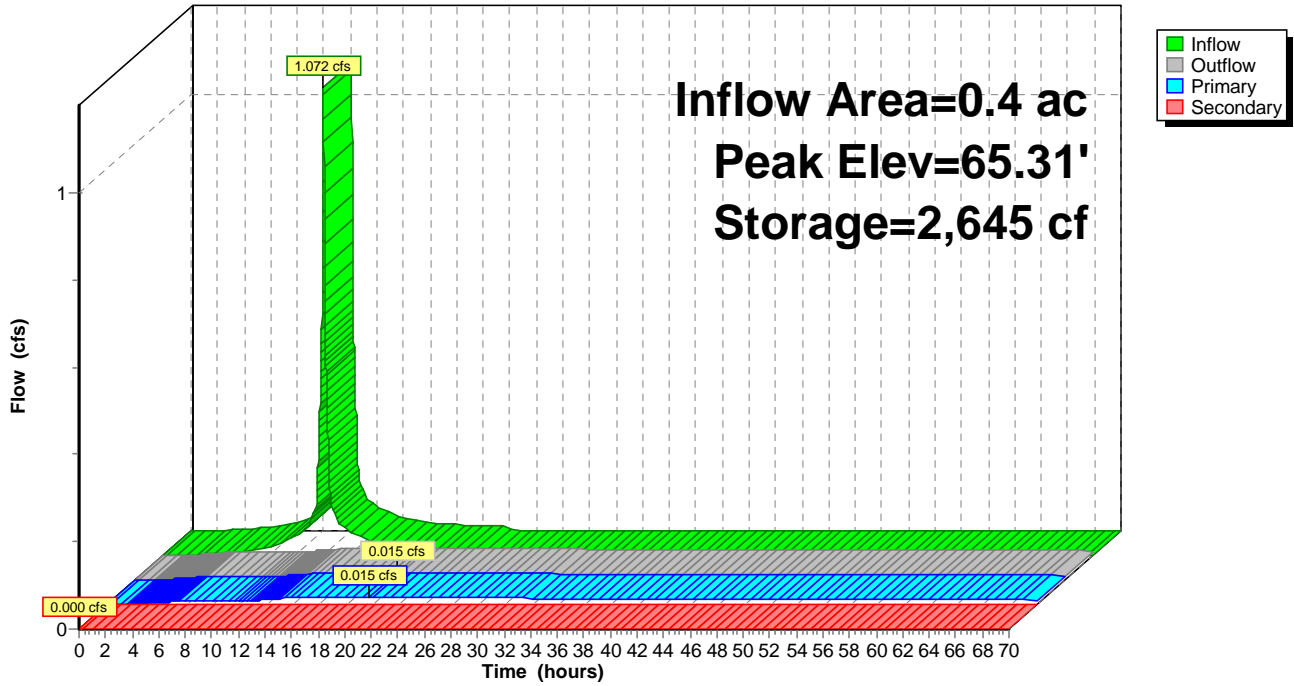
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**Pond 63P: Gravel Wetland 11**

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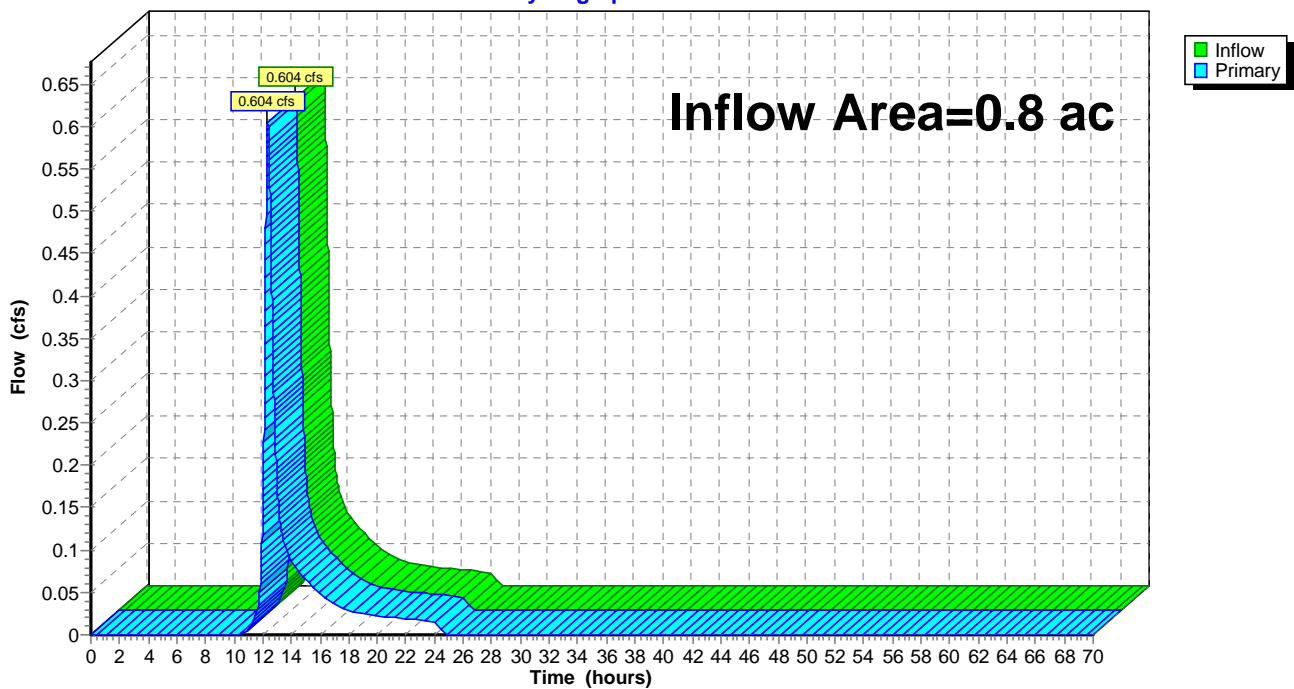
## Summary for Link 42L: Study Point 3

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth = 1.08" for 2-YR event  
Inflow = 0.604 cfs @ 12.35 hrs, Volume= 0.072 af  
Primary = 0.604 cfs @ 12.35 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 42L: Study Point 3

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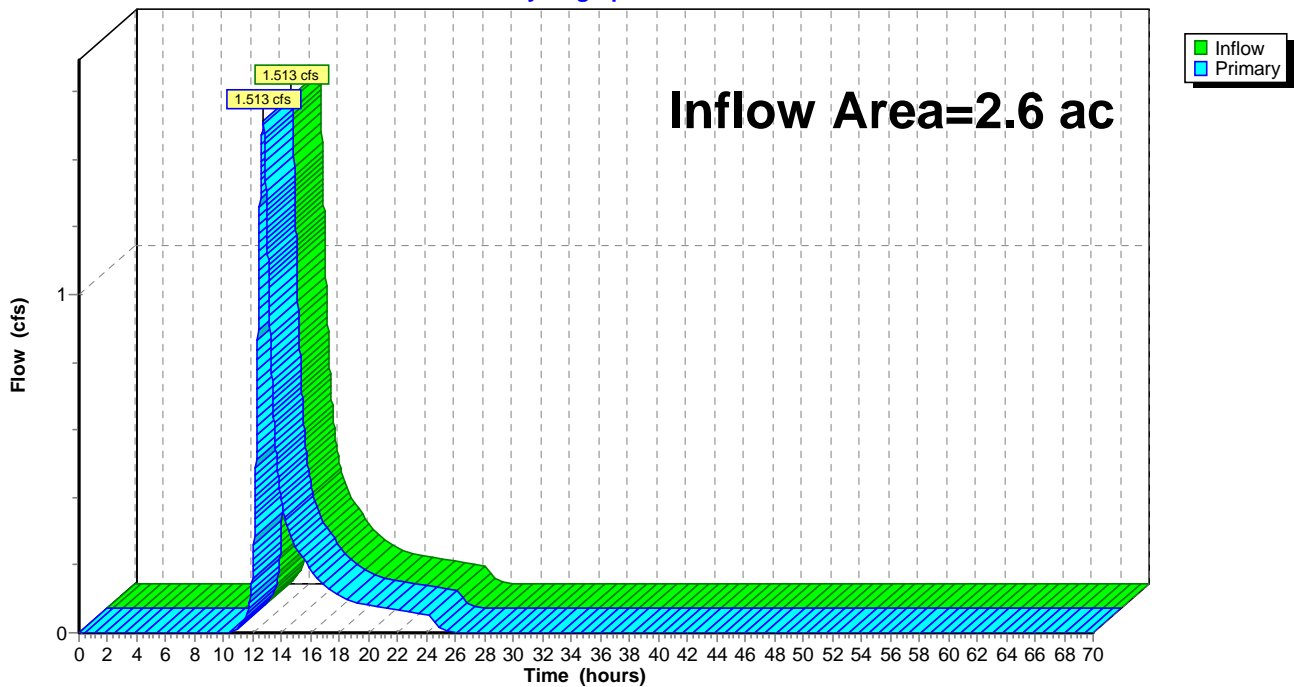
## Summary for Link 43L: Study Point 4

Inflow Area = 2.6 ac, 2.64% Impervious, Inflow Depth = 1.14" for 2-YR event  
Inflow = 1.513 cfs @ 12.71 hrs, Volume= 0.251 af  
Primary = 1.513 cfs @ 12.71 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 43L: Study Point 4

Hydrograph



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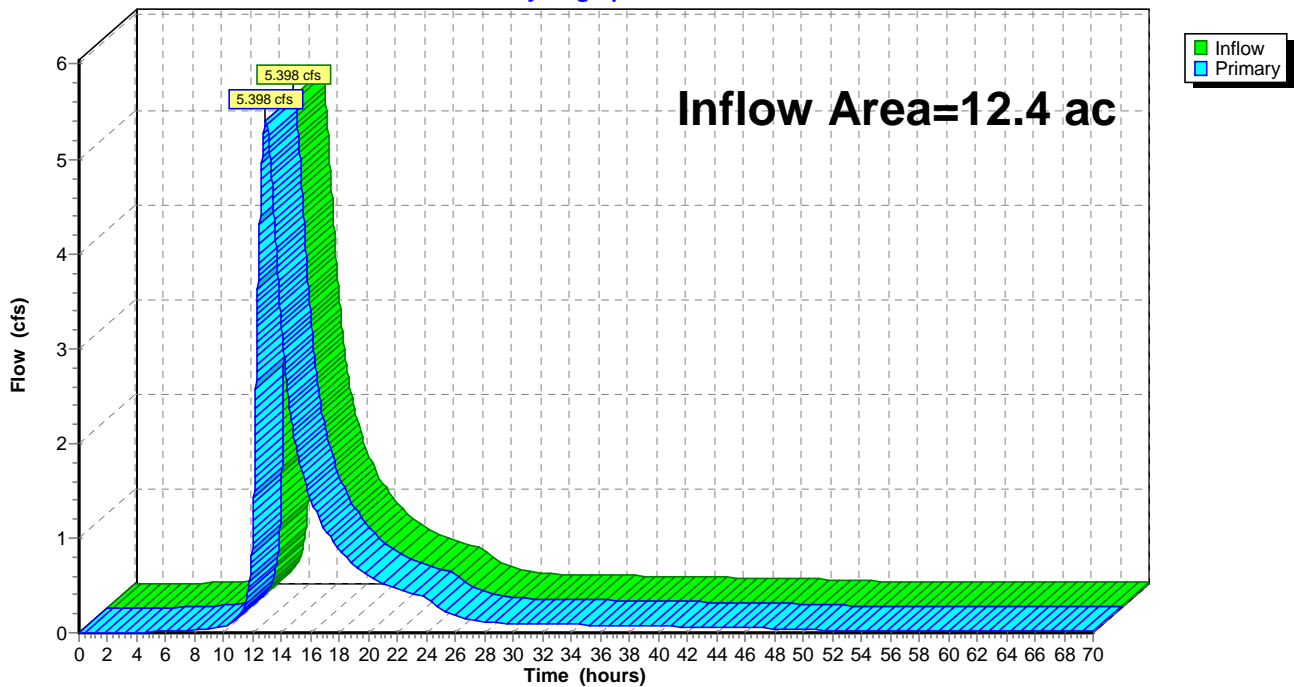
## Summary for Link 46L: Study Point 5

Inflow Area = 12.4 ac, 18.14% Impervious, Inflow Depth > 1.70" for 2-YR event  
Inflow = 5.398 cfs @ 12.89 hrs, Volume= 1.760 af  
Primary = 5.398 cfs @ 12.89 hrs, Volume= 1.760 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 46L: Study Point 5

Hydrograph



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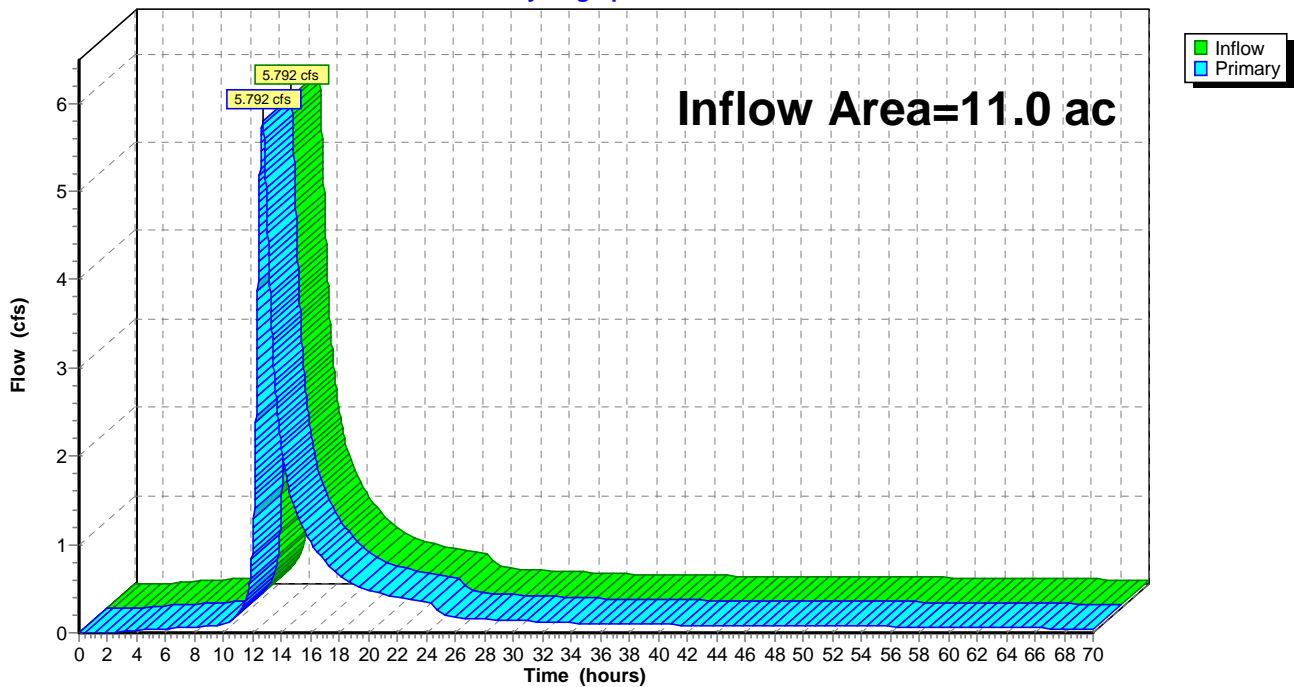
## Summary for Link 55L: Study Point 6

Inflow Area = 11.0 ac, 25.80% Impervious, Inflow Depth > 1.77" for 2-YR event  
Inflow = 5.792 cfs @ 12.68 hrs, Volume= 1.622 af  
Primary = 5.792 cfs @ 12.68 hrs, Volume= 1.622 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 55L: Study Point 6

Hydrograph



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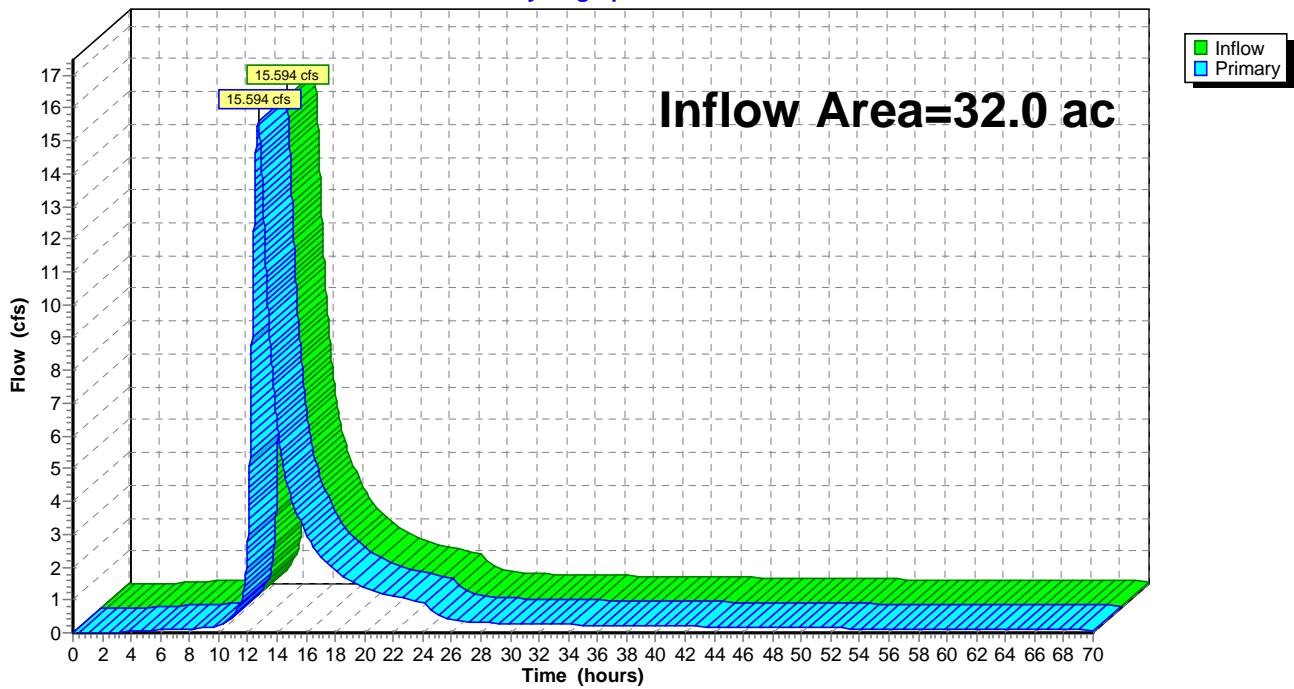
## Summary for Link 56L: Canal Subtotal

Inflow Area = 32.0 ac, 18.28% Impervious, Inflow Depth > 1.64" for 2-YR event  
Inflow = 15.594 cfs @ 12.71 hrs, Volume= 4.378 af  
Primary = 15.594 cfs @ 12.71 hrs, Volume= 4.378 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 56L: Canal Subtotal

Hydrograph



# Post-Development - 2015.09.25 Canal and Total

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## Summary for Link 57L: Energy East Subtotal (Linked)

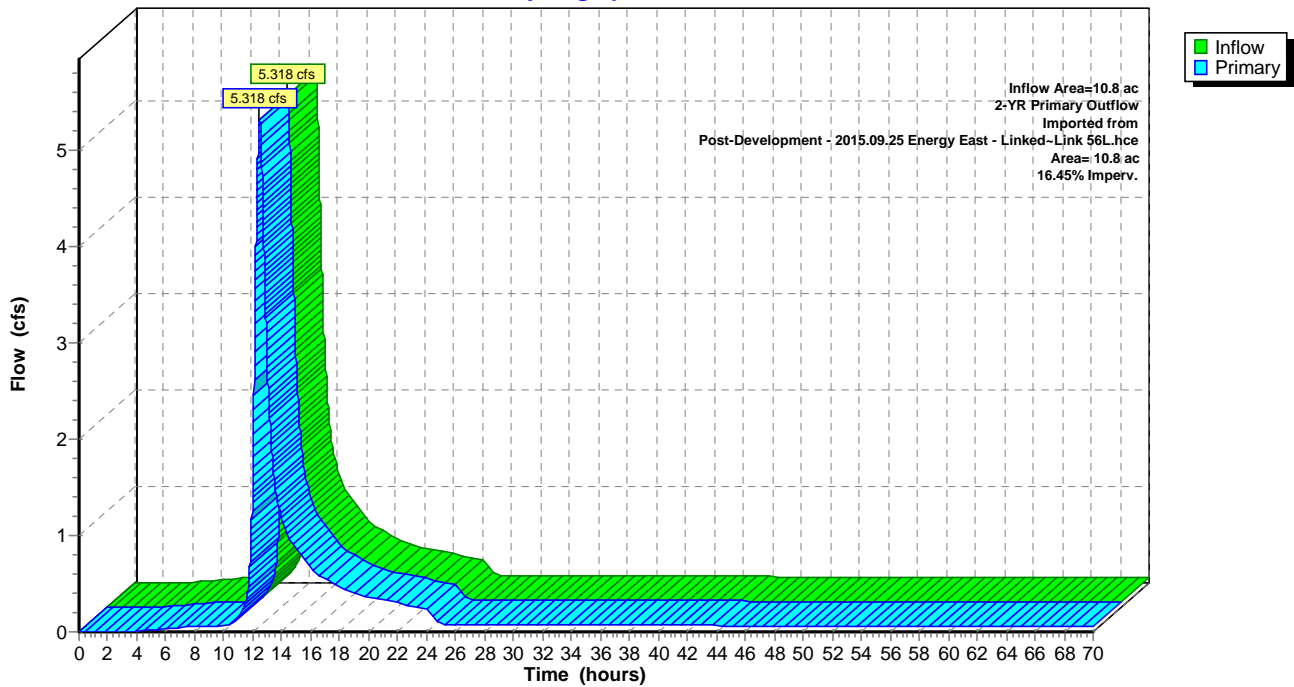
Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth > 1.32" for 2-YR event  
Inflow = 5.318 cfs @ 12.49 hrs, Volume= 1.190 af  
Primary = 5.318 cfs @ 12.49 hrs, Volume= 1.190 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

2-YR Primary Outflow Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce

## Link 57L: Energy East Subtotal (Linked)

Hydrograph



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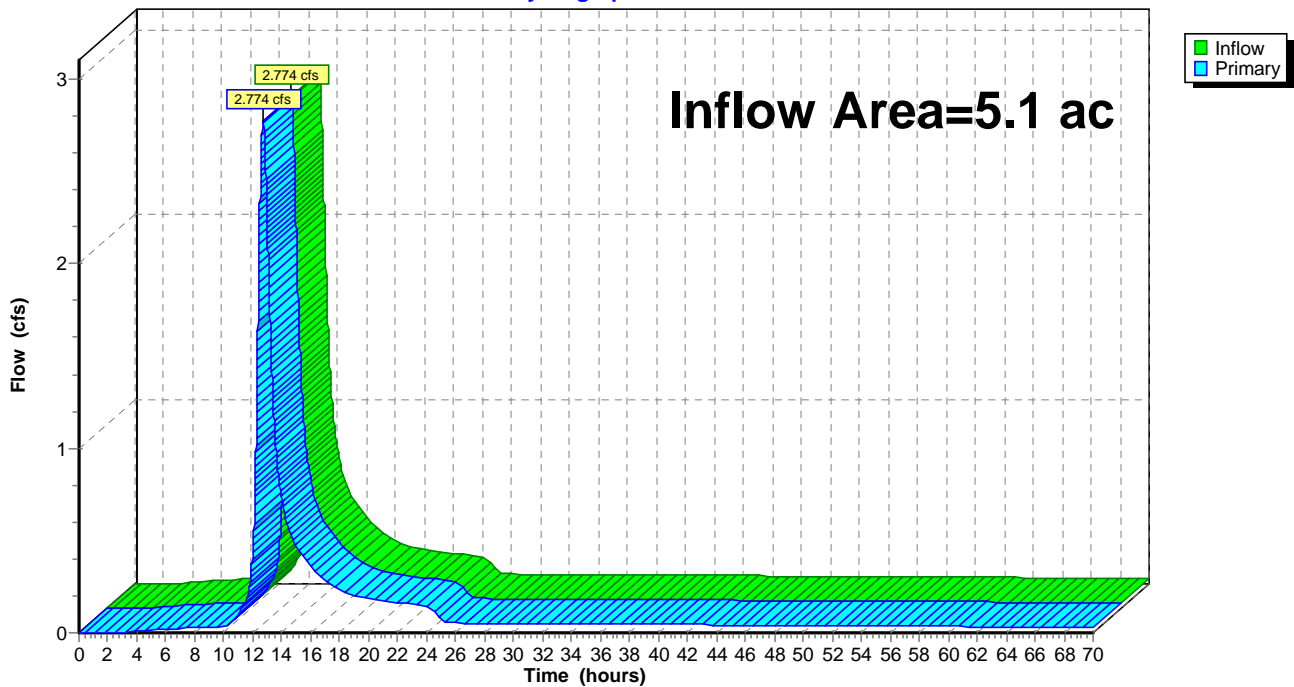
## Summary for Link 61L: Study Point 7

Inflow Area = 5.1 ac, 13.37% Impervious, Inflow Depth > 1.57" for 2-YR event  
Inflow = 2.774 cfs @ 12.68 hrs, Volume= 0.672 af  
Primary = 2.774 cfs @ 12.68 hrs, Volume= 0.672 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 61L: Study Point 7

Hydrograph





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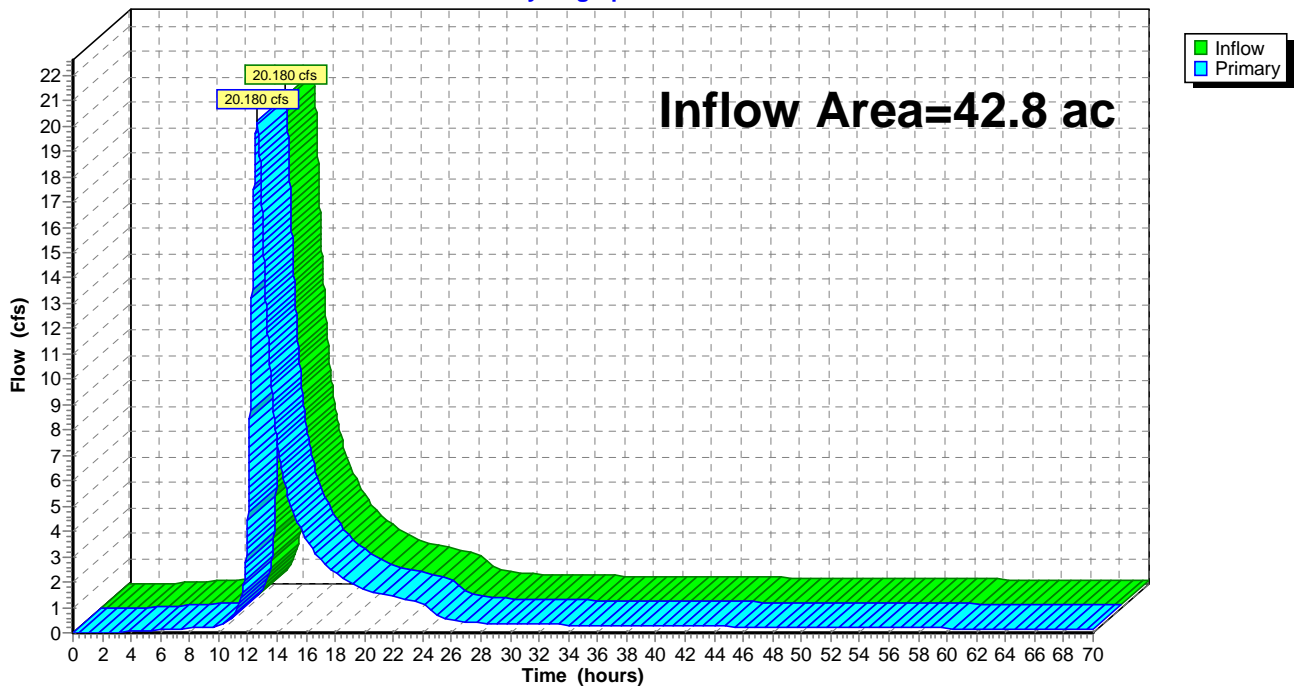
## Summary for Link 62L: Post-Development Total

Inflow Area = 42.8 ac, 17.82% Impervious, Inflow Depth > 1.56" for 2-YR event  
Inflow = 20.180 cfs @ 12.64 hrs, Volume= 5.568 af  
Primary = 20.180 cfs @ 12.64 hrs, Volume= 5.568 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 62L: Post-Development Total

Hydrograph



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Time span=0.00-70.00 hrs, dt=0.01 hrs, 7001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Subcatchment 10</b>	Runoff Area=12,862 sf 78.49% Impervious Runoff Depth=3.91" Tc=5.0 min CN=94 Runoff=1.312 cfs 0.096 af
<b>Subcatchment 12S: Subcatchment 12</b>	Runoff Area=14,246 sf 88.46% Impervious Runoff Depth=4.14" Tc=5.0 min CN=96 Runoff=1.495 cfs 0.113 af
<b>Subcatchment 13S: Subcatchment 13</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.069 cfs 0.083 af
<b>Subcatchment 14S: Subcatchment 14</b>	Runoff Area=18,696 sf 79.19% Impervious Runoff Depth=3.91" Tc=5.0 min CN=94 Runoff=1.907 cfs 0.140 af
<b>Subcatchment 15S: Subcatchment 15</b>	Runoff Area=61,581 sf 0.00% Impervious Runoff Depth=2.72" Flow Length=339' Tc=35.2 min CN=82 Runoff=2.372 cfs 0.321 af
<b>Subcatchment 16S: Subcatchment 16</b>	Runoff Area=121,629 sf 0.00% Impervious Runoff Depth=2.72" Flow Length=580' Tc=65.1 min CN=82 Runoff=3.335 cfs 0.634 af
<b>Subcatchment 17S: Subcatchment 17</b>	Runoff Area=34,853 sf 0.00% Impervious Runoff Depth=2.21" Flow Length=275' Tc=24.2 min CN=76 Runoff=1.283 cfs 0.147 af
<b>Subcatchment 18S: Subcatchment 18</b>	Runoff Area=115,135 sf 2.64% Impervious Runoff Depth=2.29" Flow Length=717' Tc=48.7 min CN=77 Runoff=3.132 cfs 0.505 af
<b>Subcatchment 19S: Subcatchment 19</b>	Runoff Area=120,933 sf 3.33% Impervious Runoff Depth=2.81" Flow Length=527' Tc=40.1 min CN=83 Runoff=4.498 cfs 0.651 af
<b>Subcatchment 20S: Subcatchment 20</b>	Runoff Area=9,481 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.014 cfs 0.079 af
<b>Subcatchment 21S: Subcatchment 21</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.069 cfs 0.083 af
<b>Subcatchment 22S: Subcatchment 22</b>	Runoff Area=32,114 sf 84.79% Impervious Runoff Depth=4.02" Tc=5.0 min CN=95 Runoff=3.326 cfs 0.247 af
<b>Subcatchment 23S: Subcatchment 23</b>	Runoff Area=36,758 sf 67.01% Impervious Runoff Depth=3.70" Tc=5.0 min CN=92 Runoff=3.620 cfs 0.260 af
<b>Subcatchment 24S: Subcatchment 24</b>	Runoff Area=73,357 sf 0.00% Impervious Runoff Depth=2.72" Flow Length=490' Tc=54.8 min CN=82 Runoff=2.239 cfs 0.382 af
<b>Subcatchment 25S: Subcatchment 25</b>	Runoff Area=23,474 sf 83.13% Impervious Runoff Depth=4.02" Tc=5.0 min CN=95 Runoff=2.431 cfs 0.181 af
<b>Subcatchment 26S: Subcatchment 26</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.069 cfs 0.083 af

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<b>Subcatchment 27S: Subcatchment 27</b>	Runoff Area=18,249 sf 85.83% Impervious Runoff Depth=4.02" Tc=5.0 min CN=95 Runoff=1.890 cfs 0.140 af
<b>Subcatchment 28S: Subcatchment 28</b>	Runoff Area=18,336 sf 98.31% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.960 cfs 0.153 af
<b>Subcatchment 29S: Subcatchment 29</b>	Runoff Area=102,124 sf 2.45% Impervious Runoff Depth=2.46" Flow Length=374' Tc=22.9 min CN=79 Runoff=4.299 cfs 0.481 af
<b>Subcatchment 30S: Subcatchment 30</b>	Runoff Area=236,639 sf 0.09% Impervious Runoff Depth=2.46" Flow Length=644' Tc=41.2 min CN=79 Runoff=7.608 cfs 1.114 af
<b>Subcatchment 31S: Subcatchment 31</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.069 cfs 0.083 af
<b>Subcatchment 32S: Subcatchment 32</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.069 cfs 0.083 af
<b>Subcatchment 33S: Subcatchment 33</b>	Runoff Area=13,542 sf 82.88% Impervious Runoff Depth=4.02" Tc=5.0 min CN=95 Runoff=1.403 cfs 0.104 af
<b>Subcatchment 34S: Subcatchment 34</b>	Runoff Area=29,429 sf 78.93% Impervious Runoff Depth=3.91" Tc=5.0 min CN=94 Runoff=3.003 cfs 0.220 af
<b>Subcatchment 35S: Subcatchment 35</b>	Runoff Area=9,946 sf 86.59% Impervious Runoff Depth=4.14" Tc=5.0 min CN=96 Runoff=1.044 cfs 0.079 af
<b>Subcatchment 36S: Subcatchment 36</b>	Runoff Area=177,857 sf 0.00% Impervious Runoff Depth=2.55" Flow Length=771' Tc=49.8 min CN=80 Runoff=5.356 cfs 0.867 af
<b>Subcatchment 62S: Rain on Pond 62P</b>	Runoff Area=5,931 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.634 cfs 0.050 af
<b>Subcatchment 63S: Rain on Pond 60P</b>	Runoff Area=6,384 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.683 cfs 0.053 af
<b>Subcatchment 64S: Rain on Pond 63P</b>	Runoff Area=5,399 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.577 cfs 0.045 af
<b>Subcatchment 65S: Rain on Pond 44P</b>	Runoff Area=5,782 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.618 cfs 0.048 af
<b>Subcatchment 66S: Rain on Pond 48P</b>	Runoff Area=3,675 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.393 cfs 0.031 af
<b>Subcatchment 67S: Rain on Pond 49P</b>	Runoff Area=4,004 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.428 cfs 0.033 af
<b>Subcatchment 68S: Rain on Pond 51P</b>	Runoff Area=7,212 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.771 cfs 0.060 af

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<b>Subcatchment 69S: Rain on Pond 53P</b>	Runoff Area=10,280 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=1.099 cfs 0.086 af
<b>Subcatchment 70S: Rain on Pond 52P</b>	Runoff Area=2,175 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.233 cfs 0.018 af
<b>Subcatchment 72S: Rain on Pond 58P</b>	Runoff Area=6,629 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.709 cfs 0.055 af
<b>Subcatchment 73S: Rain on Pond 59P</b>	Runoff Area=5,709 sf 0.00% Impervious Runoff Depth=4.36" Tc=5.0 min CN=98 Runoff=0.610 cfs 0.048 af
<b>Reach 45R: Rock Sandwich 1</b>	Avg. Flow Depth=0.21' Max Vel=0.52 fps Inflow=3.876 cfs 0.850 af n=0.050 L=80.0' S=0.0025 '/ Capacity=96.775 cfs Outflow=3.862 cfs 0.850 af
<b>Reach 47R: Rock Sandwich 3</b>	Avg. Flow Depth=0.16' Max Vel=0.66 fps Inflow=9.662 cfs 2.634 af n=0.050 L=70.0' S=0.0057 '/ Capacity=388.834 cfs Outflow=9.652 cfs 2.633 af
<b>Reach 50R: Rock Sandwich 2</b>	Avg. Flow Depth=0.21' Max Vel=0.46 fps Inflow=3.801 cfs 1.033 af n=0.050 L=75.0' S=0.0020 '/ Capacity=127.762 cfs Outflow=3.794 cfs 1.033 af
<b>Reach 54R: Rock Sandwich 4</b>	Avg. Flow Depth=0.15' Max Vel=0.77 fps Inflow=3.514 cfs 0.491 af n=0.050 L=60.0' S=0.0083 '/ Capacity=150.131 cfs Outflow=3.512 cfs 0.491 af
<b>Reach 62R: RS1 to RS2</b>	Avg. Flow Depth=0.46' Max Vel=0.30 fps Inflow=3.862 cfs 0.850 af n=0.100 L=450.0' S=0.0020 '/ Capacity=16.893 cfs Outflow=3.124 cfs 0.848 af
<b>Reach 67R: GW2 to RS1</b>	Avg. Flow Depth=0.09' Max Vel=0.12 fps Inflow=0.136 cfs 0.129 af n=0.100 L=225.0' S=0.0031 '/ Capacity=62.120 cfs Outflow=0.129 cfs 0.128 af
<b>Reach 68R: RS3 to SP5</b>	Avg. Flow Depth=0.14' Max Vel=0.63 fps Inflow=9.652 cfs 2.633 af n=0.100 L=375.0' S=0.0413 '/ Capacity=145.240 cfs Outflow=9.384 cfs 2.632 af
<b>Reach 69R: RS2 to RS3</b>	Avg. Flow Depth=0.22' Max Vel=0.27 fps Inflow=3.794 cfs 1.033 af n=0.100 L=350.0' S=0.0043 '/ Capacity=86.608 cfs Outflow=3.414 cfs 1.033 af
<b>Reach 70R: GW8 to RS4</b>	Avg. Flow Depth=0.20' Max Vel=0.19 fps Inflow=4.119 cfs 0.109 af n=0.100 L=180.0' S=0.0022 '/ Capacity=14.593 cfs Outflow=2.109 cfs 0.109 af
<b>Reach 71R: RS4 to SP6</b>	Avg. Flow Depth=0.18' Max Vel=0.58 fps Inflow=4.483 cfs 0.896 af n=0.100 L=575.0' S=0.0261 '/ Capacity=38.460 cfs Outflow=4.048 cfs 0.896 af
<b>Reach 73R: GW7 to SP6</b>	Avg. Flow Depth=0.04' Max Vel=0.27 fps Inflow=0.444 cfs 0.279 af n=0.100 L=350.0' S=0.0371 '/ Capacity=80.313 cfs Outflow=0.385 cfs 0.279 af
<b>Reach 74R: GW6 to SP6</b>	Avg. Flow Depth=0.03' Max Vel=0.20 fps Inflow=0.180 cfs 0.197 af n=0.100 L=425.0' S=0.0329 '/ Capacity=75.634 cfs Outflow=0.172 cfs 0.195 af
<b>Reach 75R: GW10 to SP6</b>	Avg. Flow Depth=0.09' Max Vel=0.74 fps Inflow=0.332 cfs 0.327 af n=0.100 L=325.0' S=0.0446 '/ Capacity=900.771 cfs Outflow=0.331 cfs 0.327 af

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<b>Reach 76R: GW12 to SP7</b>	Avg. Flow Depth=0.09' Max Vel=0.25 fps Inflow=0.171 cfs 0.229 af n=0.100 L=700.0' S=0.0121 '/ Capacity=131.872 cfs Outflow=0.162 cfs 0.227 af
<b>Pond 44P: Gravel Wetland 1</b>	Peak Elev=66.01' Storage=2,593 cf Inflow=1.930 cfs 0.145 af Primary=0.614 cfs 0.145 af Secondary=0.000 cfs 0.000 af Outflow=0.614 cfs 0.145 af
<b>Pond 48P: Gravel Wetland 2</b>	Peak Elev=68.90' Storage=3,863 cf Inflow=1.888 cfs 0.143 af Primary=0.136 cfs 0.129 af Secondary=0.000 cfs 0.000 af Outflow=0.136 cfs 0.129 af
<b>Pond 49P: Gravel Wetland 3</b>	Peak Elev=67.91' Storage=4,578 cf Inflow=3.405 cfs 0.257 af Primary=0.878 cfs 0.257 af Secondary=0.000 cfs 0.000 af Outflow=0.878 cfs 0.257 af
<b>Pond 51P: Gravel Wetland 4</b>	Peak Elev=67.71' Storage=9,713 cf Inflow=5.404 cfs 0.399 af Primary=0.466 cfs 0.399 af Secondary=0.000 cfs 0.000 af Outflow=0.466 cfs 0.399 af
<b>Pond 52P: Gravel Wetland 5</b>	Peak Elev=66.75' Storage=1,970 cf Inflow=1.302 cfs 0.102 af Primary=0.241 cfs 0.094 af Secondary=0.370 cfs 0.008 af Outflow=0.611 cfs 0.102 af
<b>Pond 53P: Gravel Wetland 8</b>	Peak Elev=67.84' Storage=6,479 cf Inflow=6.856 cfs 0.514 af Primary=1.113 cfs 0.405 af Secondary=4.119 cfs 0.109 af Outflow=5.232 cfs 0.514 af
<b>Pond 58P: Gravel Wetland 7</b>	Peak Elev=65.92' Storage=6,935 cf Inflow=3.668 cfs 0.279 af Primary=0.346 cfs 0.276 af Secondary=0.098 cfs 0.003 af Outflow=0.444 cfs 0.279 af
<b>Pond 59P: Gravel Wetland 6</b>	Peak Elev=66.89' Storage=5,320 cf Inflow=2.571 cfs 0.201 af Primary=0.180 cfs 0.197 af Secondary=0.000 cfs 0.000 af Outflow=0.180 cfs 0.197 af
<b>Pond 60P: Gravel Wetland 12</b>	Peak Elev=69.92' Storage=6,686 cf Inflow=3.154 cfs 0.241 af Primary=0.171 cfs 0.229 af Secondary=0.000 cfs 0.000 af Outflow=0.171 cfs 0.229 af
<b>Pond 62P: Gravel Wetland 10</b>	Peak Elev=67.33' Storage=9,601 cf Inflow=4.706 cfs 0.353 af Primary=0.332 cfs 0.327 af Secondary=0.000 cfs 0.000 af Outflow=0.332 cfs 0.327 af
<b>Pond 63P: Gravel Wetland 11</b>	Peak Elev=65.65' Storage=4,207 cf Inflow=1.621 cfs 0.124 af Primary=0.027 cfs 0.087 af Secondary=0.000 cfs 0.000 af Outflow=0.027 cfs 0.087 af
<b>Link 42L: Study Point 3</b>	Inflow=1.283 cfs 0.147 af Primary=1.283 cfs 0.147 af
<b>Link 43L: Study Point 4</b>	Inflow=3.132 cfs 0.505 af Primary=3.132 cfs 0.505 af
<b>Link 46L: Study Point 5</b>	Inflow=10.938 cfs 3.113 af Primary=10.938 cfs 3.113 af
<b>Link 55L: Study Point 6</b>	Inflow=12.120 cfs 2.811 af Primary=12.120 cfs 2.811 af
<b>Link 56L: Canal Subtotal</b>	Inflow=32.215 cfs 7.757 af Primary=32.215 cfs 7.757 af

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Link 56L: Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce Inflow=11.534 cfs 2.161 af  
Area= 10.8 ac 16.45% Imperv. Primary=11.534 cfs 2.161 af

**Link 61L: Study Point 7**

Inflow=5.424 cfs 1.180 af

Primary=5.424 cfs 1.180 af

**Link 62L: Post-Development Total**

Inflow=42.615 cfs 9.918 af

Primary=42.615 cfs 9.918 af

**Total Runoff Area = 32.0 ac Runoff Volume = 7.859 af Average Runoff Depth = 2.95"**  
**81.72% Pervious = 26.2 ac 18.28% Impervious = 5.9 ac**

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**Summary for Subcatchment 10S: Subcatchment 10**

Runoff = 1.312 cfs @ 12.07 hrs, Volume= 0.096 af, Depth= 3.91"

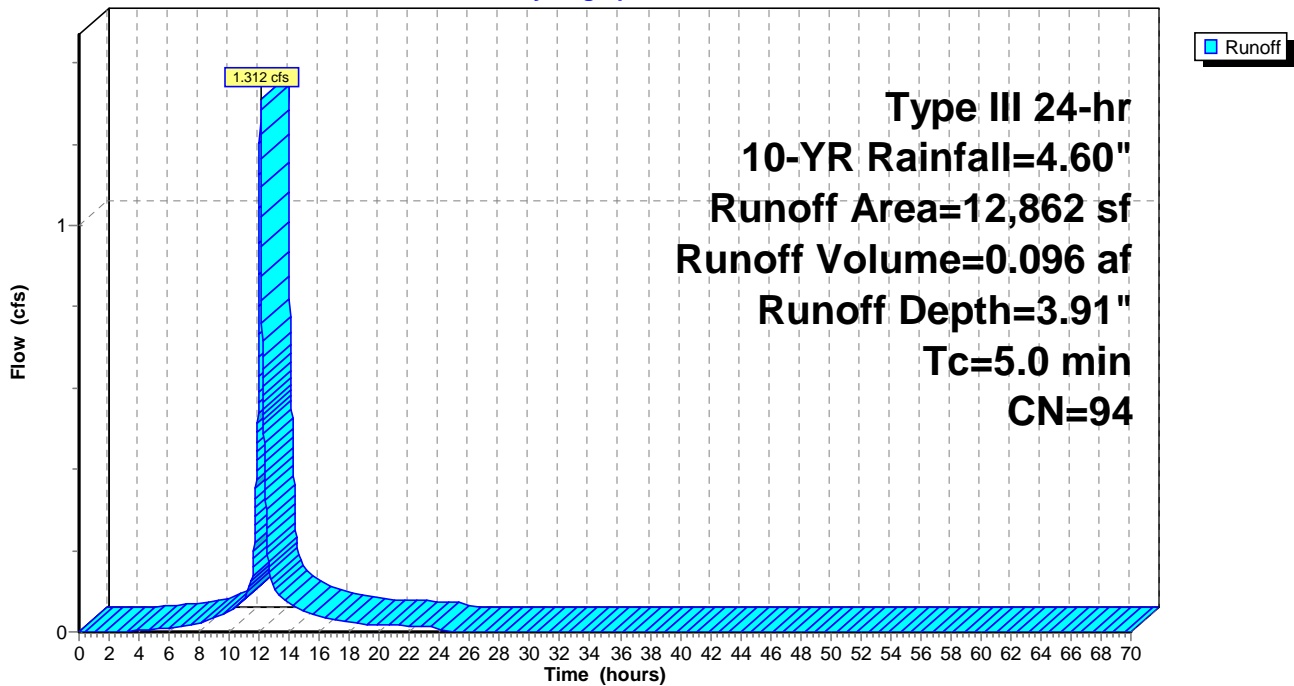
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,150	74	>75% Grass cover, Good, HSG C
1,617	80	>75% Grass cover, Good, HSG D
10,095	98	Paved parking & roofs
12,862	94	Weighted Average
2,767		21.51% Pervious Area
10,095		78.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 10

**Subcatchment 10S: Subcatchment 10**

Hydrograph



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**Summary for Subcatchment 12S: Subbatchment 12**

Runoff = 1.495 cfs @ 12.07 hrs, Volume= 0.113 af, Depth= 4.14"

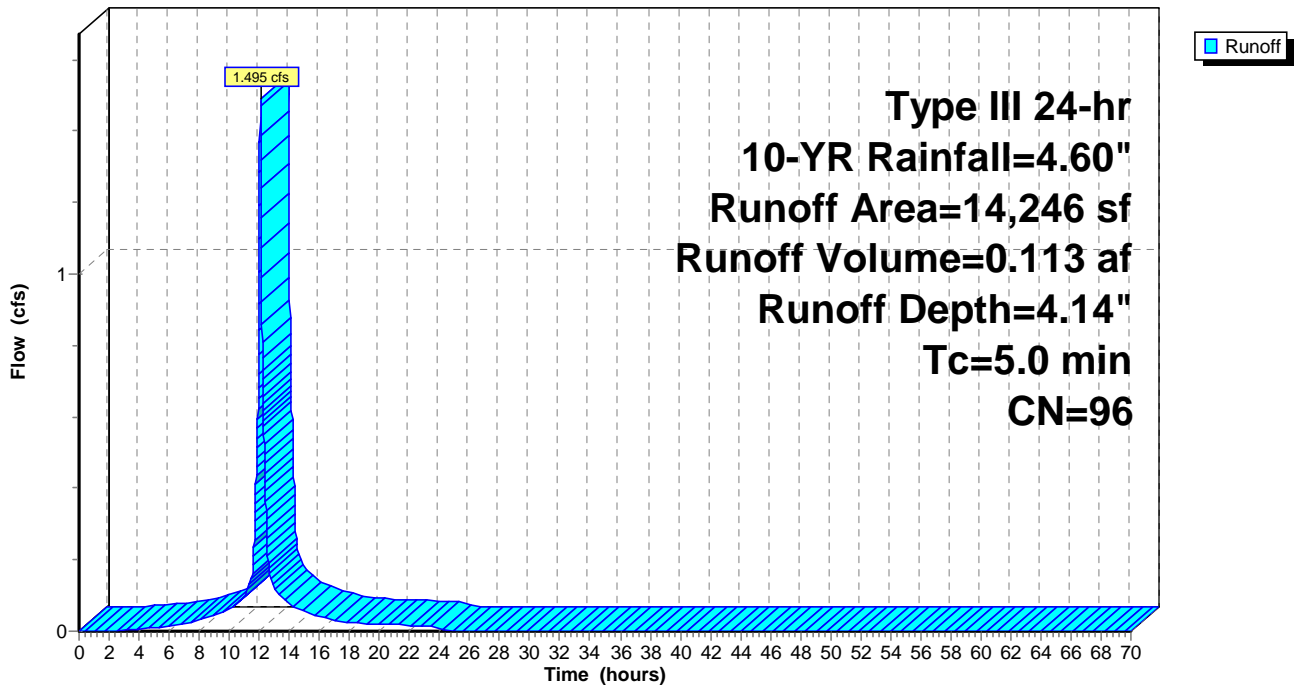
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,644	80	>75% Grass cover, Good, HSG D
12,602	98	Paved parking & roofs
14,246	96	Weighted Average
1,644		11.54% Pervious Area
12,602		88.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 12

**Subcatchment 12S: Subbatchment 12**

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## Summary for Subcatchment 13S: Sucatchment 13

Runoff = 1.069 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 4.36"

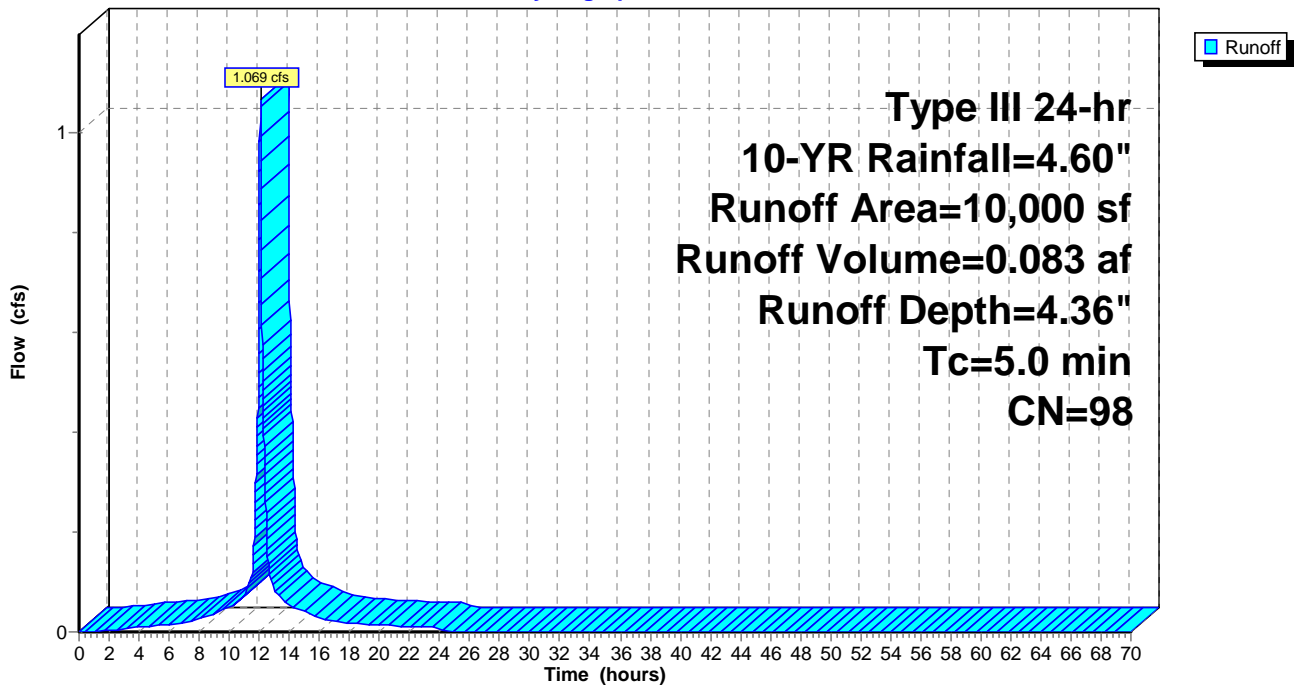
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 13

## Subcatchment 13S: Sucatchment 13

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**Summary for Subcatchment 14S: Subcatchment 14**

Runoff = 1.907 cfs @ 12.07 hrs, Volume= 0.140 af, Depth= 3.91"

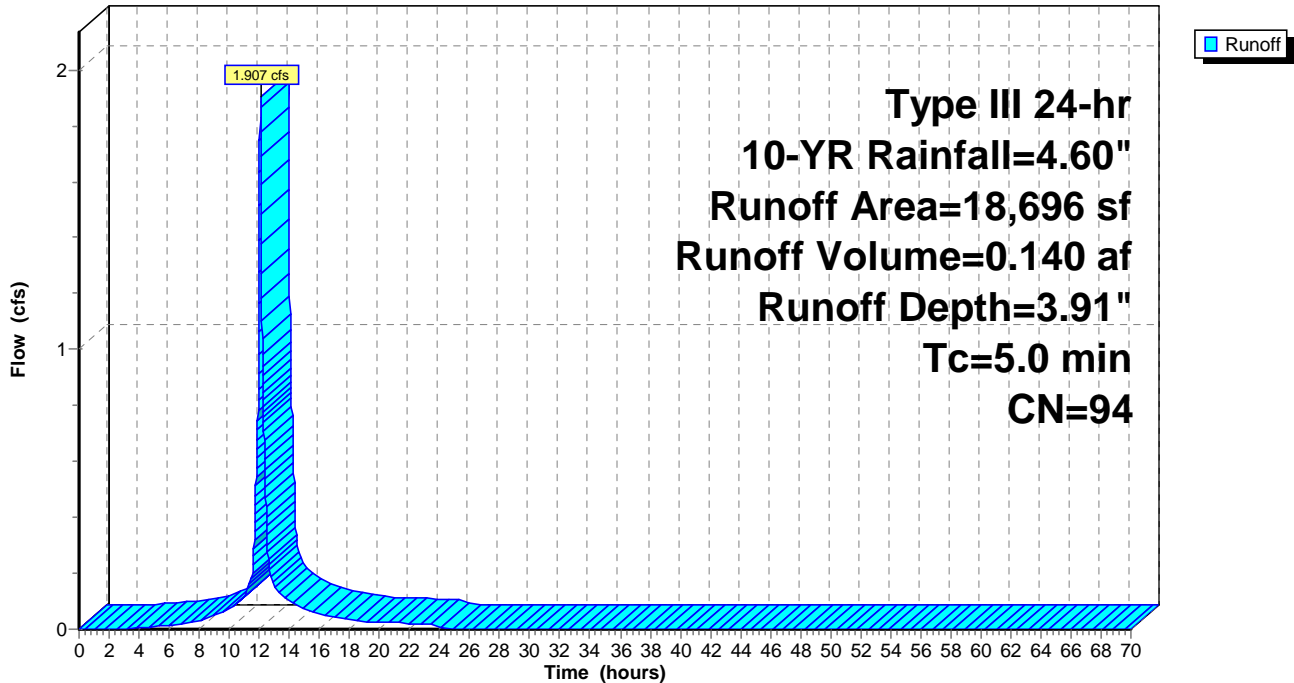
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
3,890	80	>75% Grass cover, Good, HSG D
14,806	98	Paved parking & roofs
18,696	94	Weighted Average
3,890		20.81% Pervious Area
14,806		79.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 14

**Subcatchment 14S: Subcatchment 14**

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**Summary for Subcatchment 15S: Subcatchment 15**

Runoff = 2.372 cfs @ 12.48 hrs, Volume= 0.321 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

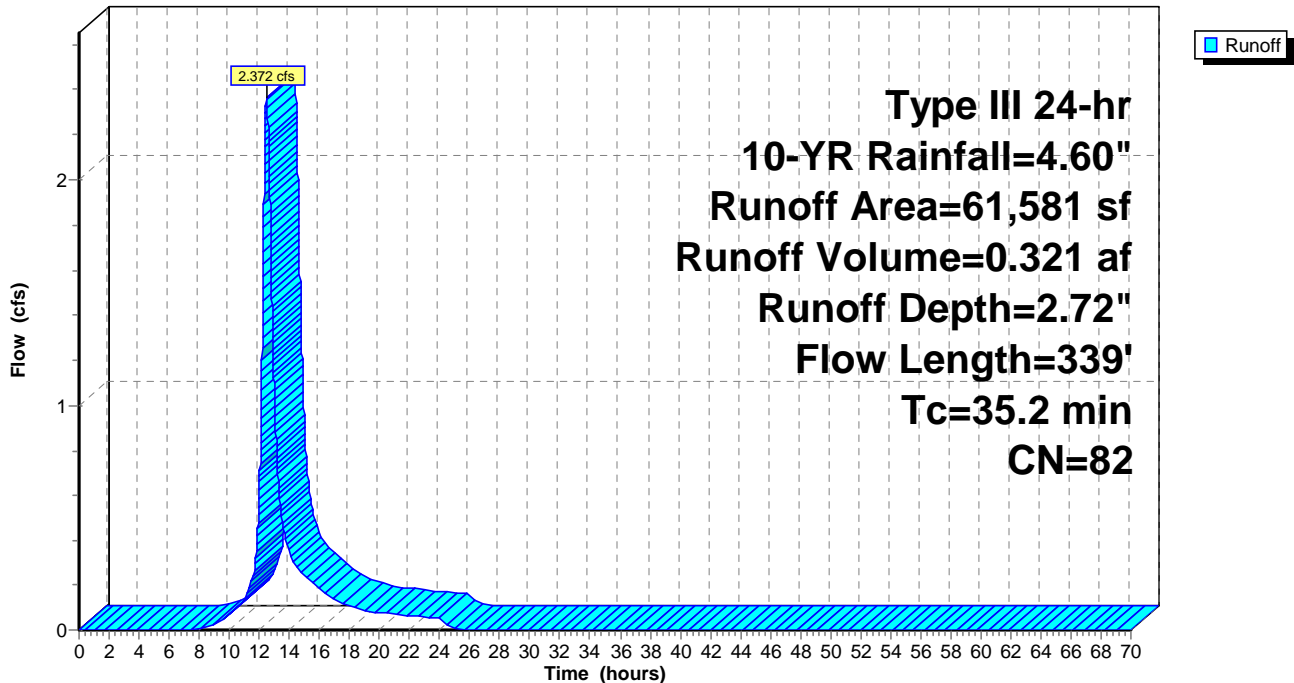
Area (sf)	CN	Description
61,581	82	Woods/grass comb., Fair, HSG D
61,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 15 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
10.3	239	0.0060	0.39		<b>Shallow Concentrated Flow, Subcatchment 15 SCF</b>
					Woodland Kv= 5.0 fps
35.2	339	Total			

**Subcatchment 15S: Subcatchment 15**

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**Summary for Subcatchment 16S: Subcatchment 16**

Runoff = 3.335 cfs @ 12.88 hrs, Volume= 0.634 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

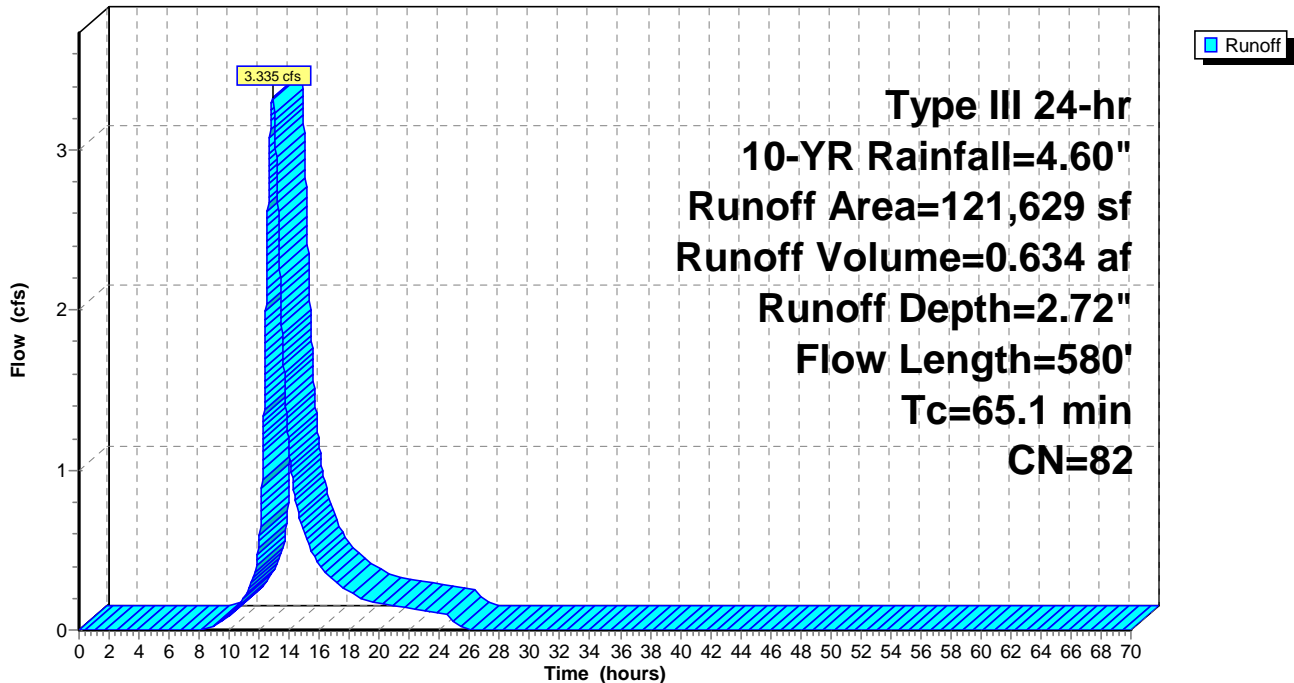
Area (sf)	CN	Description
121,629	82	Woods/grass comb., Fair, HSG D
121,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 16 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
35.8	480	0.0020	0.22		<b>Shallow Concentrated Flow, Subcatchment 16 SCF</b>
					Woodland Kv= 5.0 fps
65.1	580	Total			

**Subcatchment 16S: Subcatchment 16**

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**Summary for Subcatchment 17S: Subcatchment 17**

Runoff = 1.283 cfs @ 12.34 hrs, Volume= 0.147 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

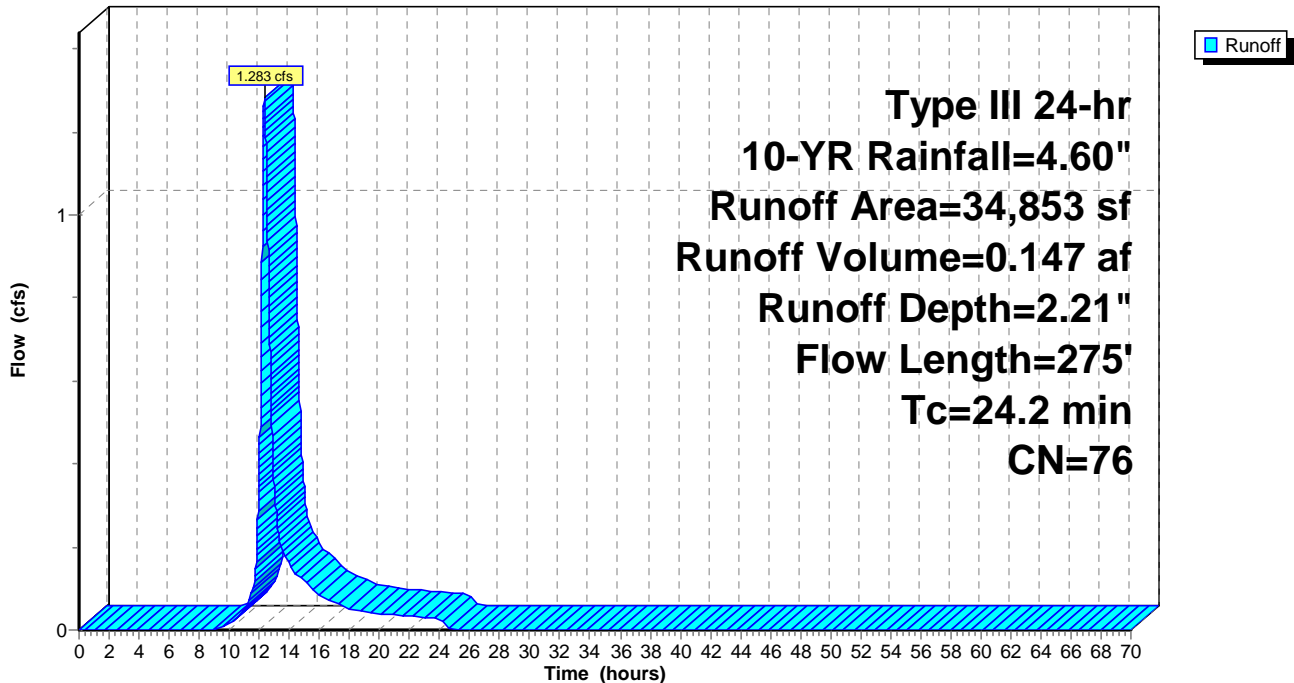
Area (sf)	CN	Description
34,853	76	Woods/grass comb., Fair, HSG C
34,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 17 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 17 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 17S: Subcatchment 17**

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**Summary for Subcatchment 18S: Subcatchment 18**

Runoff = 3.132 cfs @ 12.67 hrs, Volume= 0.505 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

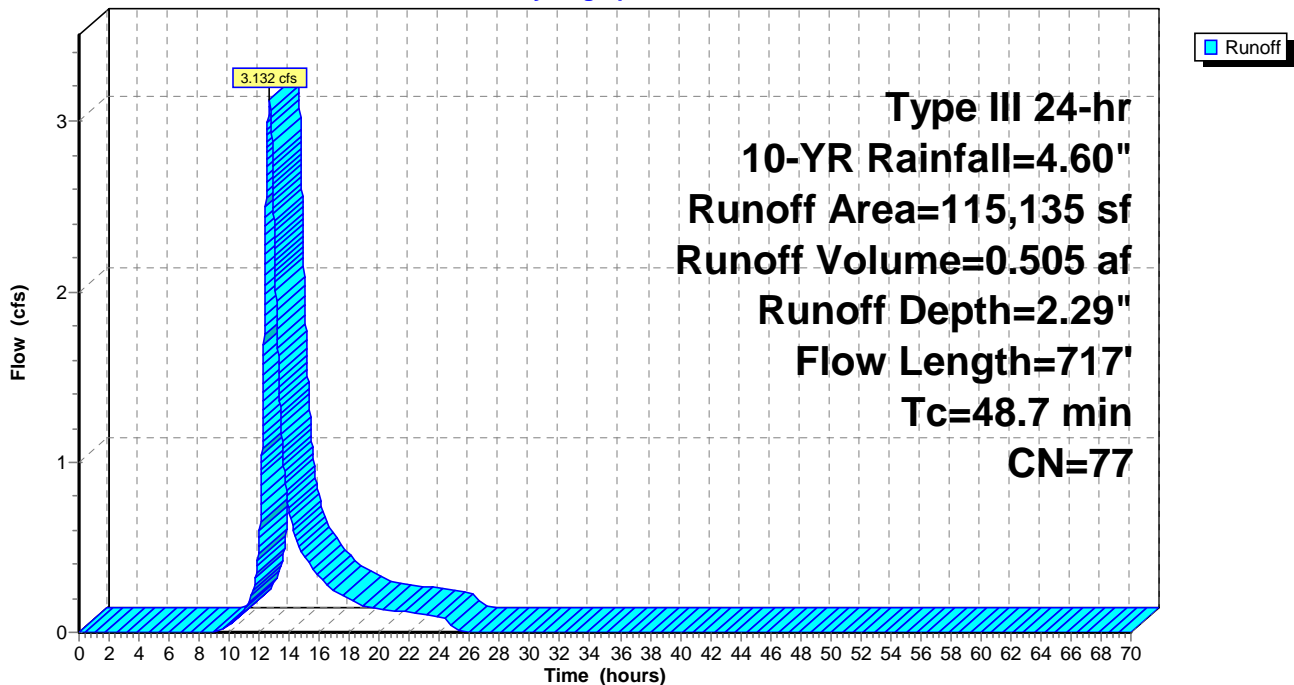
Area (sf)	CN	Description
41,712	80	>75% Grass cover, Good, HSG D
70,387	74	>75% Grass cover, Good, HSG C
3,036	98	Paved parking & roofs
115,135	77	Weighted Average
112,099		97.36% Pervious Area
3,036		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 18 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 18 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 18 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

**Subcatchment 18S: Subcatchment 18**

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**Summary for Subcatchment 19S: Subcatchment 19**

Runoff = 4.498 cfs @ 12.53 hrs, Volume= 0.651 af, Depth= 2.81"

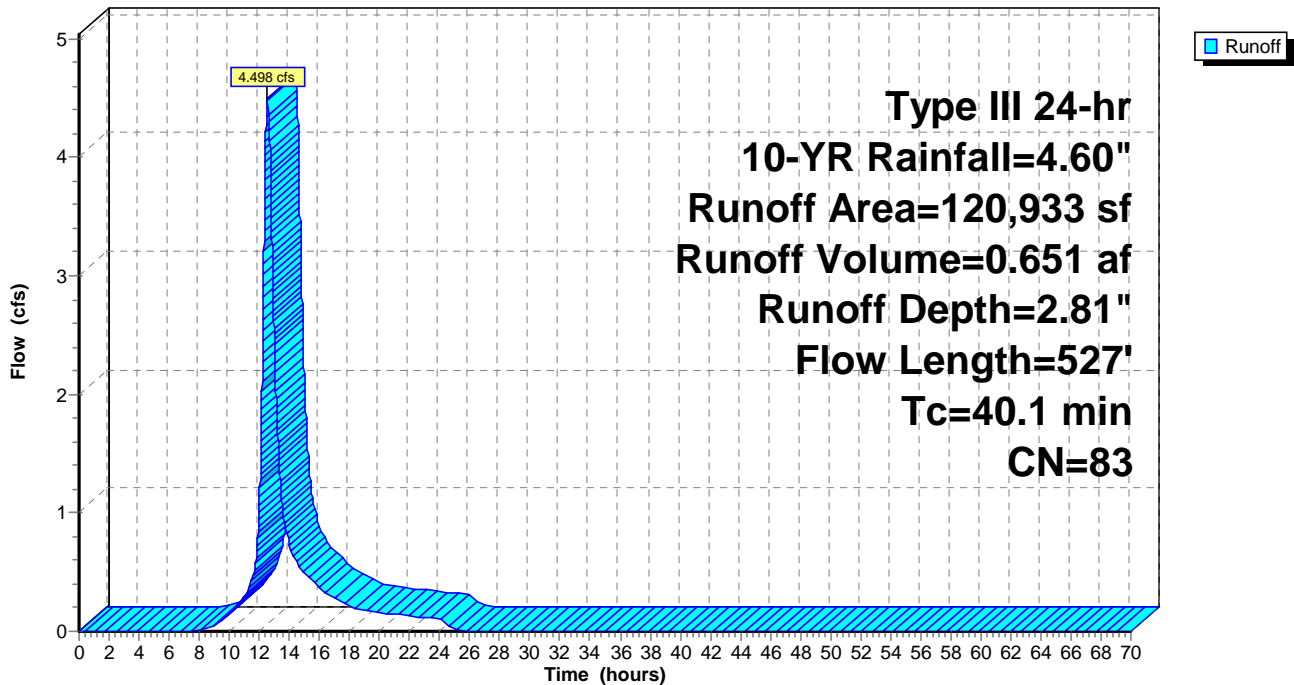
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
116,905	82	Woods/grass comb., Fair, HSG D
4,028	98	Paved parking & roofs
120,933	83	Weighted Average
116,905		96.67% Pervious Area
4,028		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0450	0.10		<b>Sheet Flow, Subcatchment 19 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
24.1	427	0.0035	0.30		<b>Shallow Concentrated Flow, Subcatchment 19 SCF</b>
					Woodland Kv= 5.0 fps
40.1	527	Total			

**Subcatchment 19S: Subcatchment 19**

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**Summary for Subcatchment 20S: Subcatchment 20**

Runoff = 1.014 cfs @ 12.07 hrs, Volume= 0.079 af, Depth= 4.36"

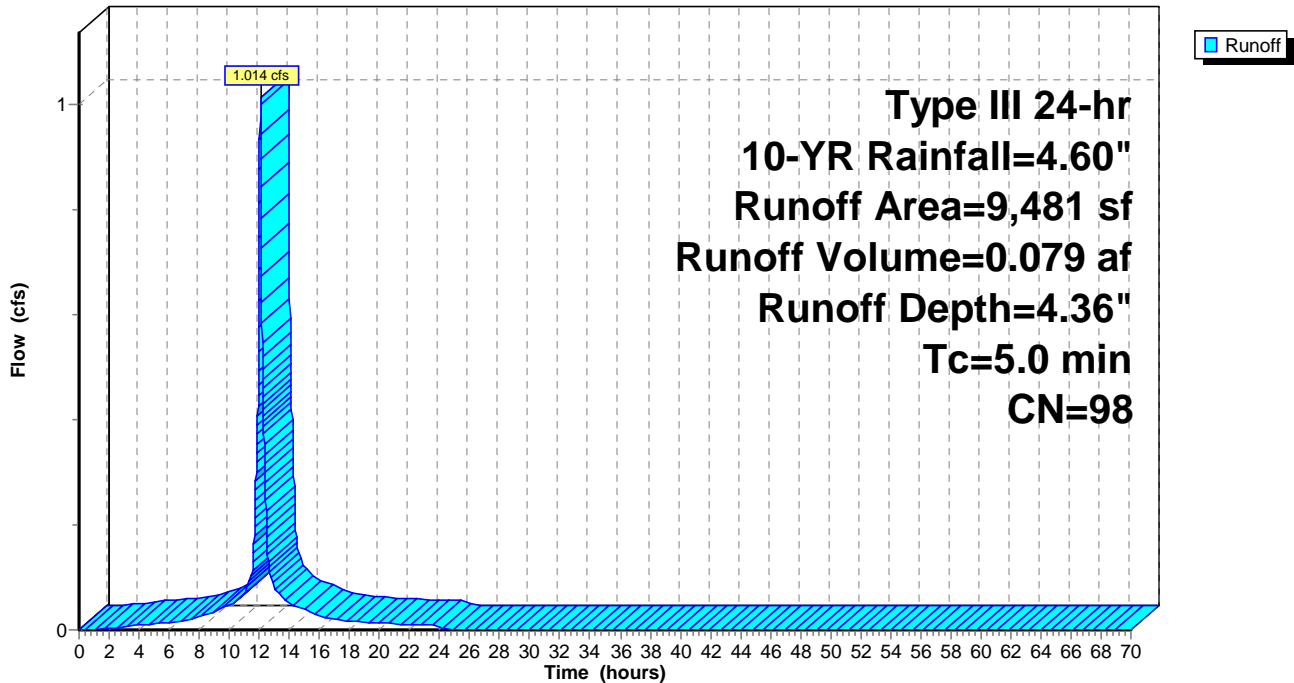
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
9,481	98	Paved parking & roofs
9,481		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 20

**Subcatchment 20S: Subcatchment 20**

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## Summary for Subcatchment 21S: Subcatchment 21

Runoff = 1.069 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 4.36"

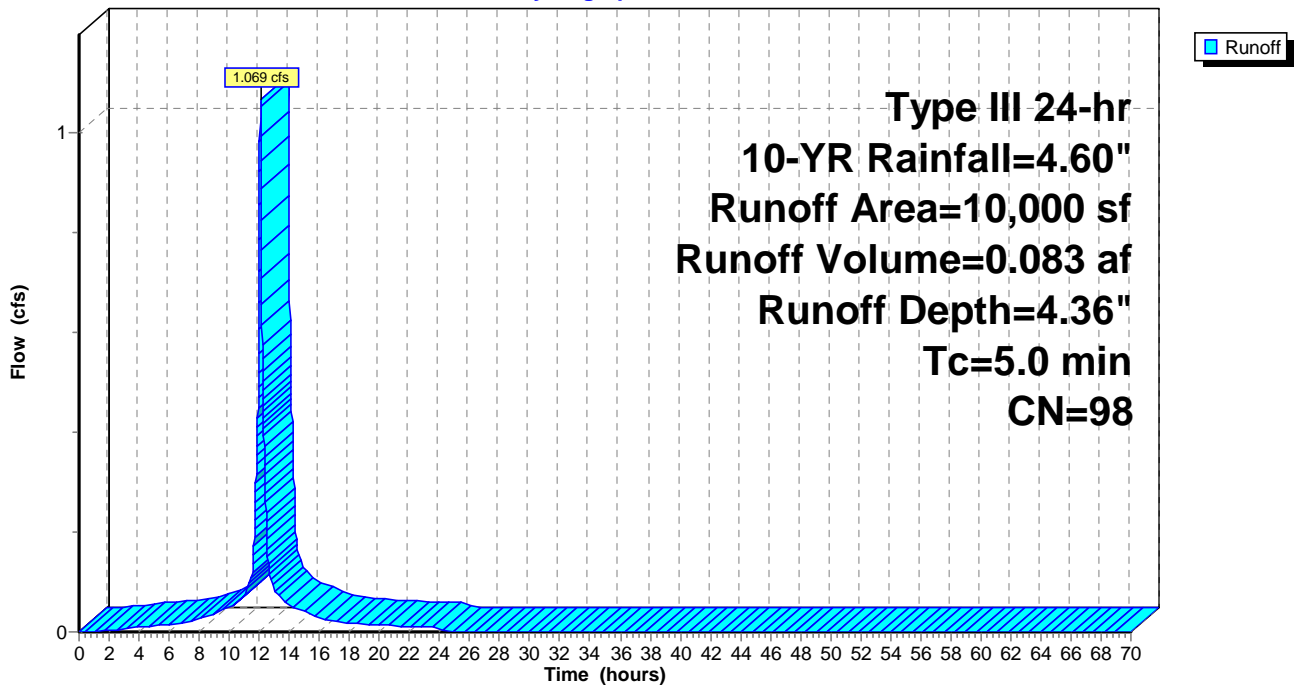
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 21

## Subcatchment 21S: Subcatchment 21

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**Summary for Subcatchment 22S: Subcatchment 22**

Runoff = 3.326 cfs @ 12.07 hrs, Volume= 0.247 af, Depth= 4.02"

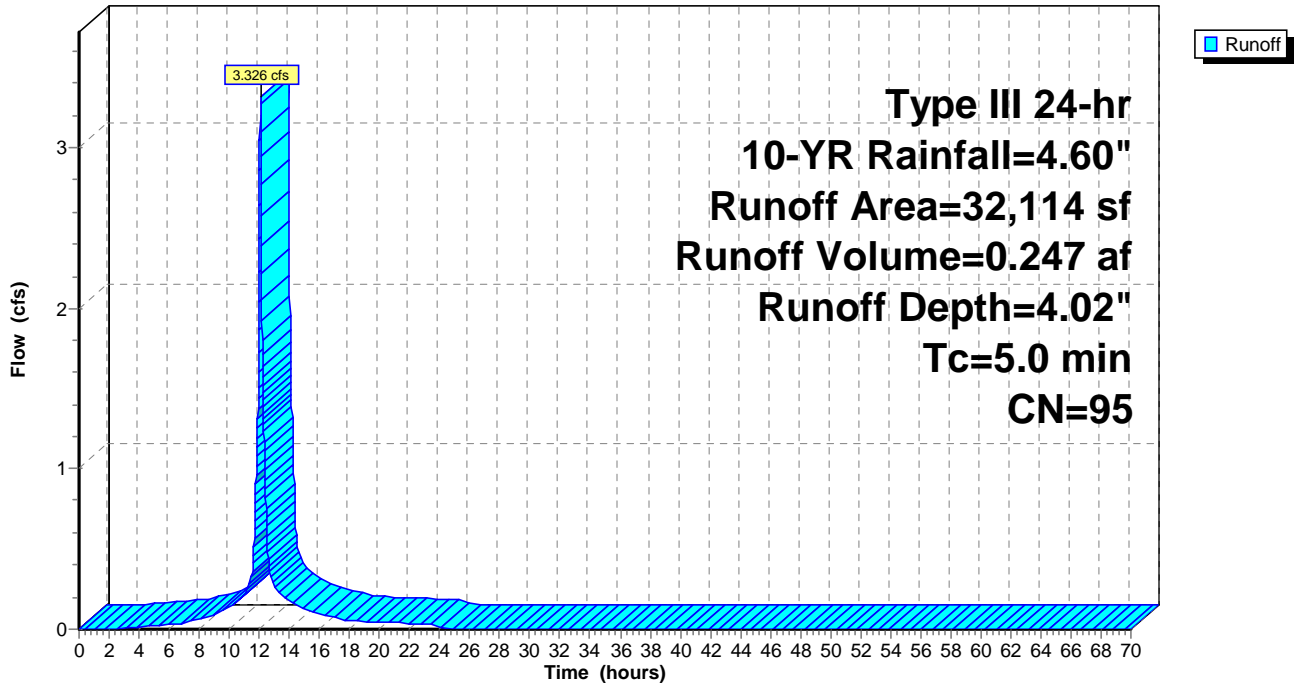
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
4,886	80	>75% Grass cover, Good, HSG D
27,228	98	Paved parking & roofs
32,114	95	Weighted Average
4,886		15.21% Pervious Area
27,228		84.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 22

**Subcatchment 22S: Subcatchment 22**

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**Summary for Subcatchment 23S: Subcatchment 23**

Runoff = 3.620 cfs @ 12.07 hrs, Volume= 0.260 af, Depth= 3.70"

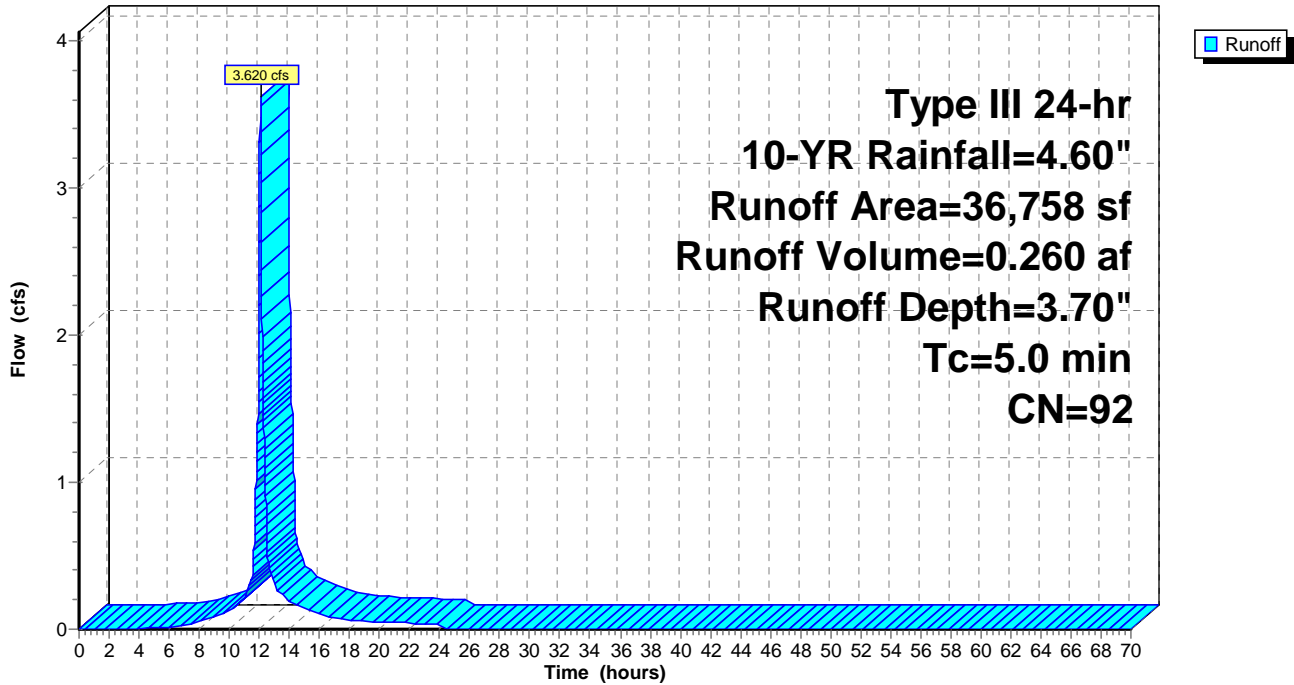
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
12,128	80	>75% Grass cover, Good, HSG D
24,630	98	Paved parking & roofs
36,758	92	Weighted Average
12,128		32.99% Pervious Area
24,630		67.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 23

**Subcatchment 23S: Subcatchment 23**

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**Summary for Subcatchment 24S: Subcatchment 24**

Runoff = 2.239 cfs @ 12.73 hrs, Volume= 0.382 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

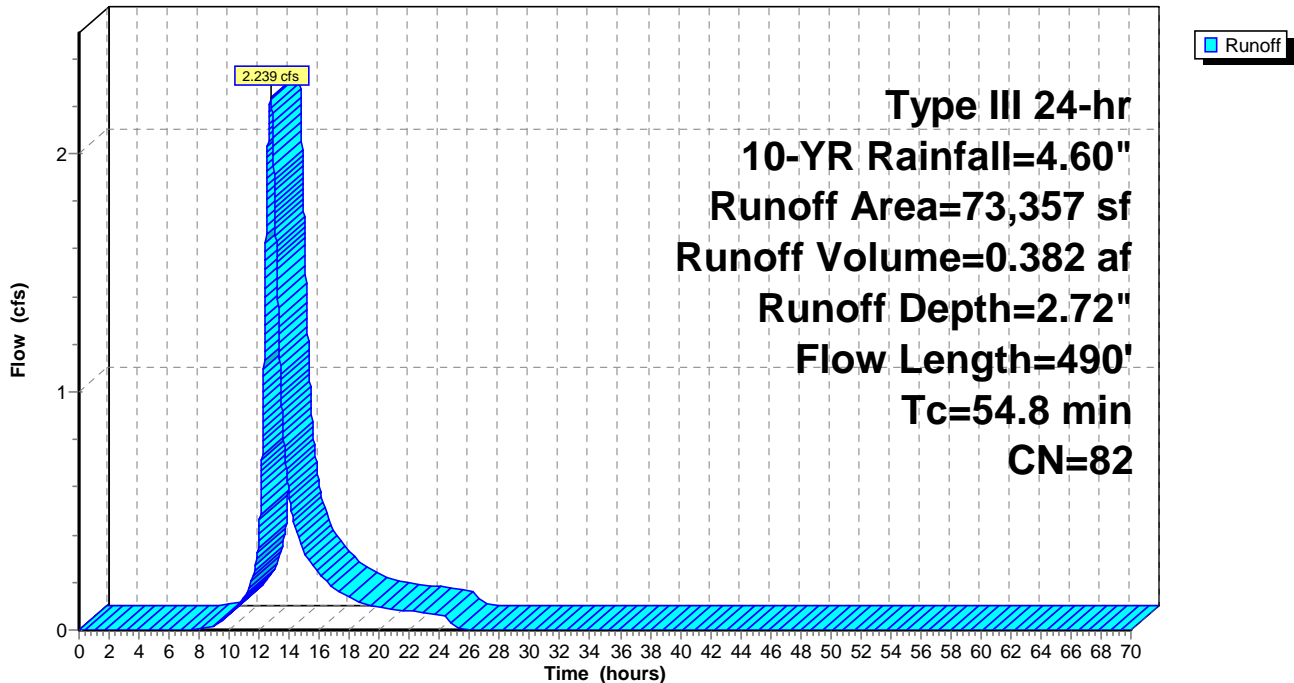
Area (sf)	CN	Description
73,357	82	Woods/grass comb., Fair, HSG D
73,357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 24 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
25.5	390	0.0026	0.25		<b>Shallow Concentrated Flow, Subcatchment 24 SCF</b>
					Woodland Kv= 5.0 fps
54.8	490	Total			

**Subcatchment 24S: Subcatchment 24**

Hydrograph



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

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**Summary for Subcatchment 25S: Subcatchment 25**

Runoff = 2.431 cfs @ 12.07 hrs, Volume= 0.181 af, Depth= 4.02"

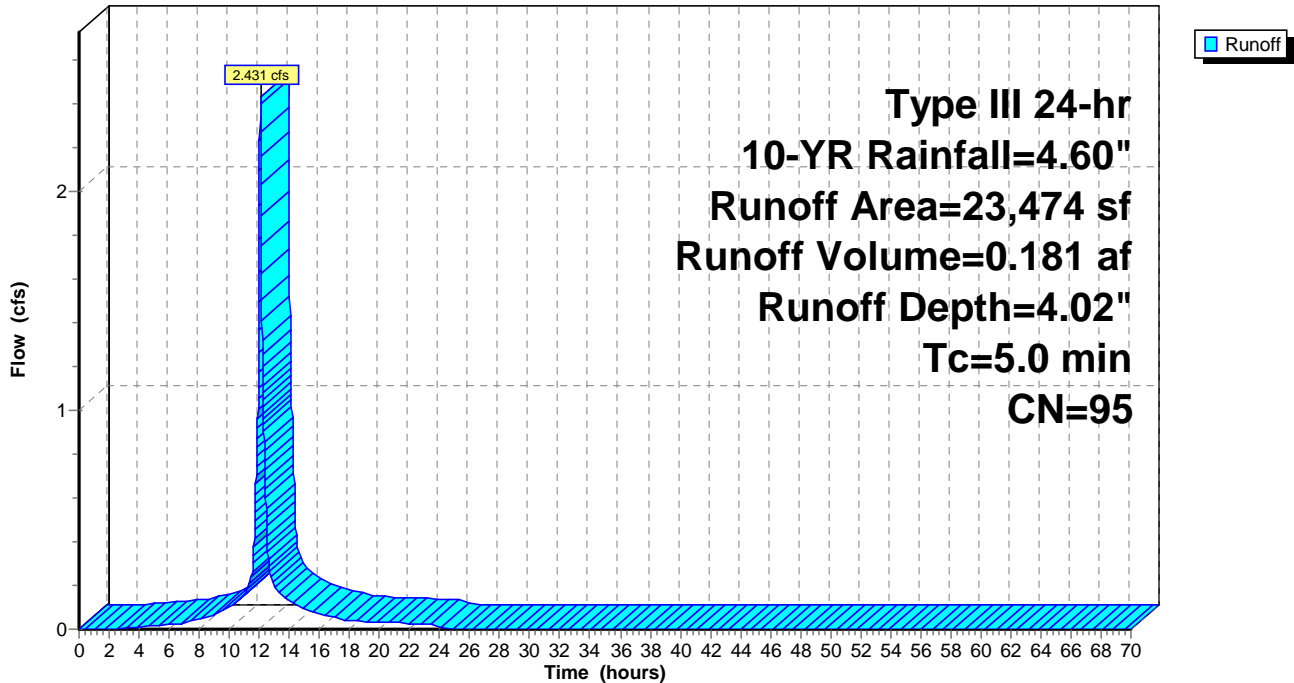
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
3,959	80	>75% Grass cover, Good, HSG D
19,515	98	Paved parking & roofs
23,474	95	Weighted Average
3,959		16.87% Pervious Area
19,515		83.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 25

**Subcatchment 25S: Subcatchment 25**

Hydrograph



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## Summary for Subcatchment 26S: Subcatchment 26

Runoff = 1.069 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 4.36"

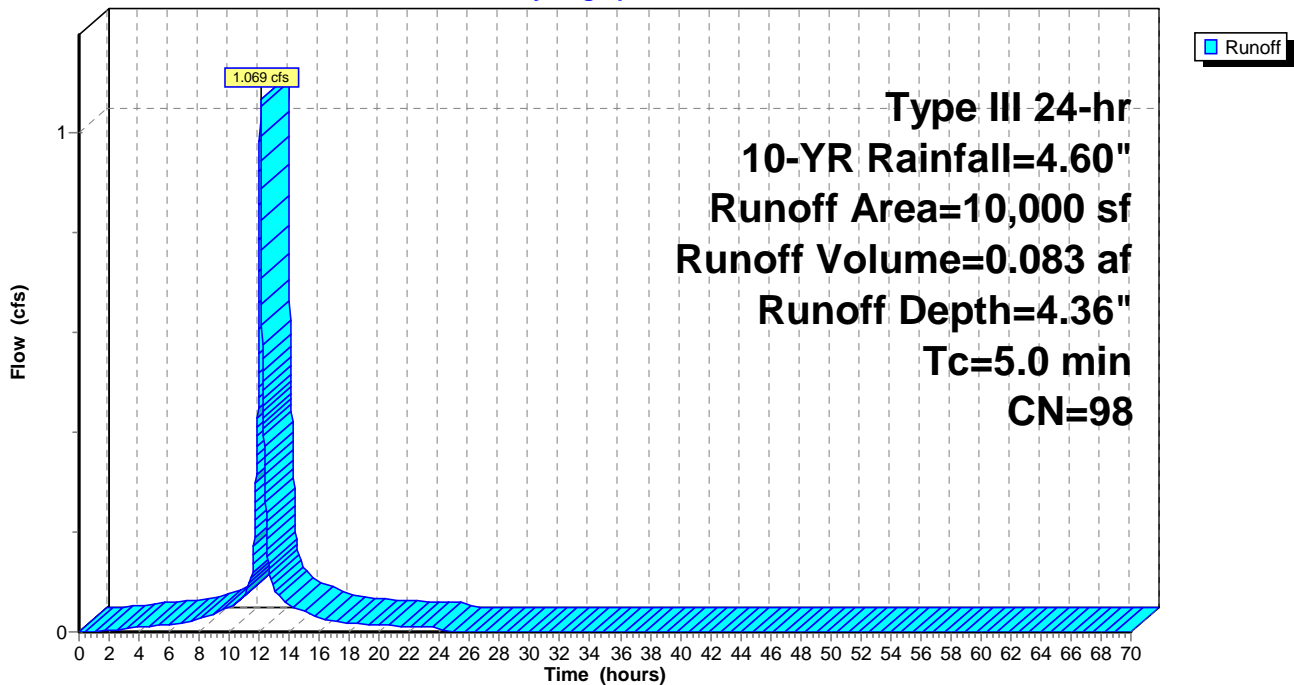
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 26

## Subcatchment 26S: Subcatchment 26

Hydrograph



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**Summary for Subcatchment 27S: Subcatchment 27**

Runoff = 1.890 cfs @ 12.07 hrs, Volume= 0.140 af, Depth= 4.02"

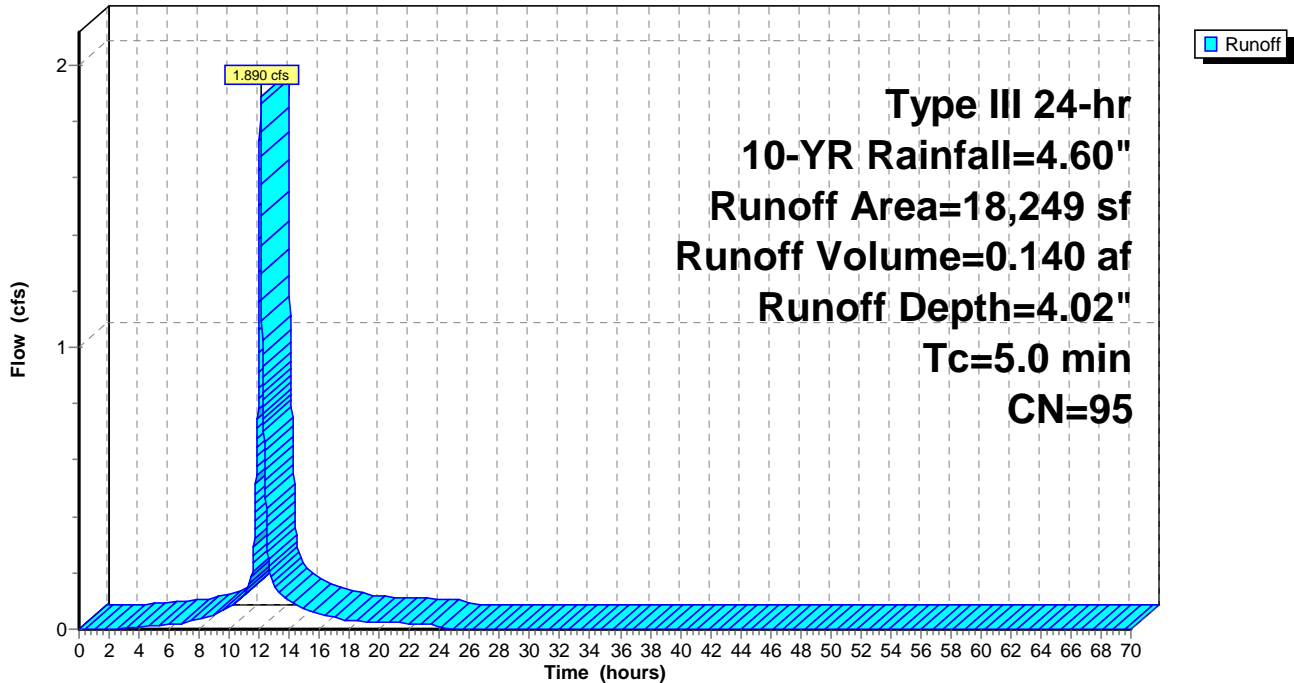
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
2,585	80	>75% Grass cover, Good, HSG D
15,664	98	Paved parking & roofs
18,249	95	Weighted Average
2,585		14.17% Pervious Area
15,664		85.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 27

**Subcatchment 27S: Subcatchment 27**

Hydrograph



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**Summary for Subcatchment 28S: Subcatchment 28**

Runoff = 1.960 cfs @ 12.07 hrs, Volume= 0.153 af, Depth= 4.36"

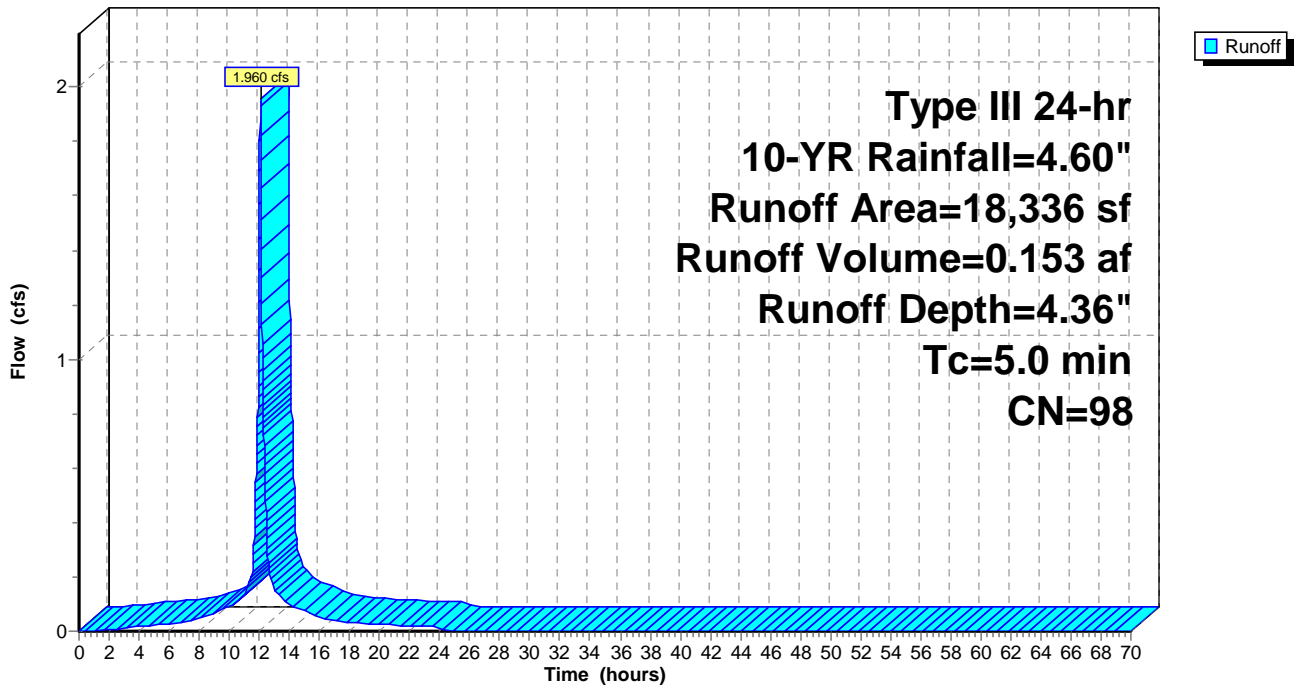
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
18,027	98	Paved parking & roofs
309	80	>75% Grass cover, Good, HSG D
18,336	98	Weighted Average
309		1.69% Pervious Area
18,027		98.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 28

**Subcatchment 28S: Subcatchment 28**

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**Summary for Subcatchment 29S: Subcatchment 29**

Runoff = 4.299 cfs @ 12.32 hrs, Volume= 0.481 af, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

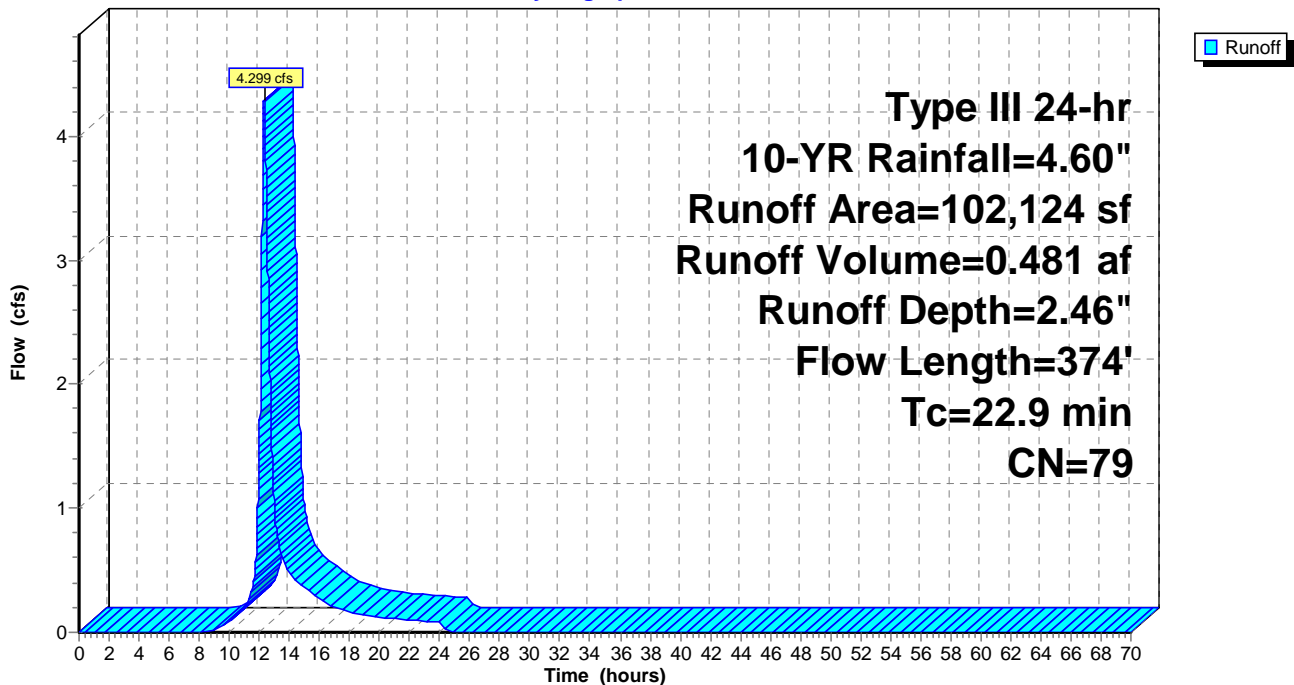
Area (sf)	CN	Description
30,457	74	>75% Grass cover, Good, HSG C
69,161	80	>75% Grass cover, Good, HSG D
2,506	98	Paved parking & roofs
102,124	79	Weighted Average
99,618		97.55% Pervious Area
2,506		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		<b>Sheet Flow, Subcatchment 29 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.9	207	0.0138	0.59		<b>Shallow Concentrated Flow, Subcatchment 29 SCF</b> Woodland Kv= 5.0 fps
0.2	67	0.1567	6.54	17.02	<b>Channel Flow, Subcatchment 29 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
22.9	374	Total			

**Subcatchment 29S: Subcatchment 29**

Hydrograph



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**Summary for Subcatchment 30S: Subcatchment 30**

Runoff = 7.608 cfs @ 12.59 hrs, Volume= 1.114 af, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

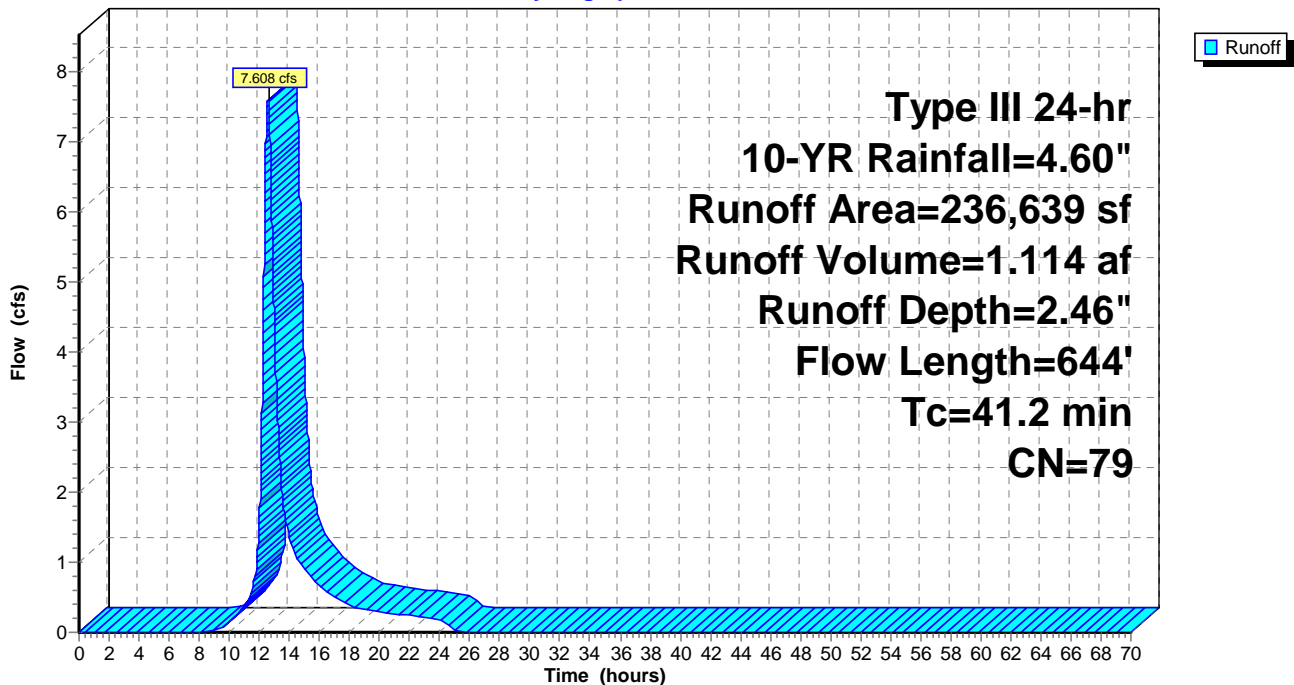
Area (sf)	CN	Description
26,475	74	>75% Grass cover, Good, HSG C
209,945	80	>75% Grass cover, Good, HSG D
219	98	Paved parking & roofs
236,639	79	Weighted Average
236,420		99.91% Pervious Area
219		0.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 30 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.2	357	0.0112	0.53		<b>Shallow Concentrated Flow, Subcatchment 30 SCF</b> Woodland Kv= 5.0 fps
0.7	187	0.0640	4.18	10.87	<b>Channel Flow, Subcatchment 30 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
41.2	644	Total			

**Subcatchment 30S: Subcatchment 30**

Hydrograph



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

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## Summary for Subcatchment 31S: Subcatchment 31

Runoff = 1.069 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 4.36"

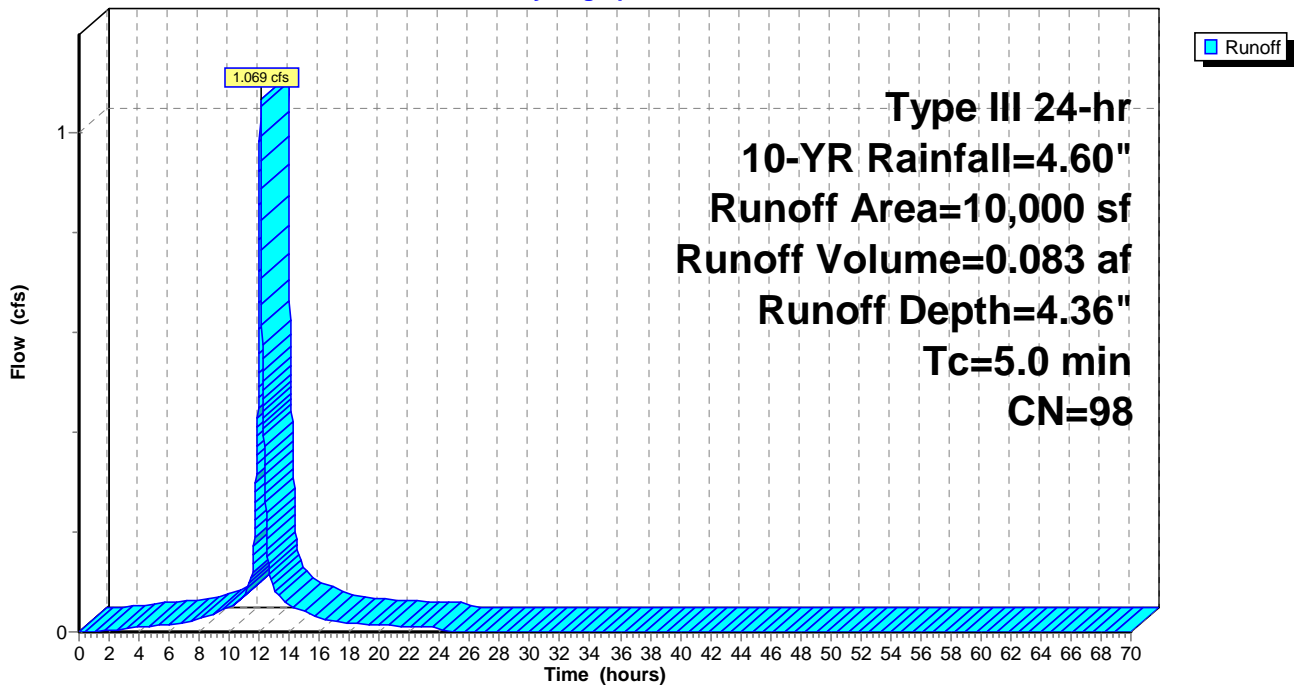
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 31

## Subcatchment 31S: Subcatchment 31

Hydrograph



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

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**Summary for Subcatchment 32S: Subcatchment 32**

Runoff = 1.069 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 4.36"

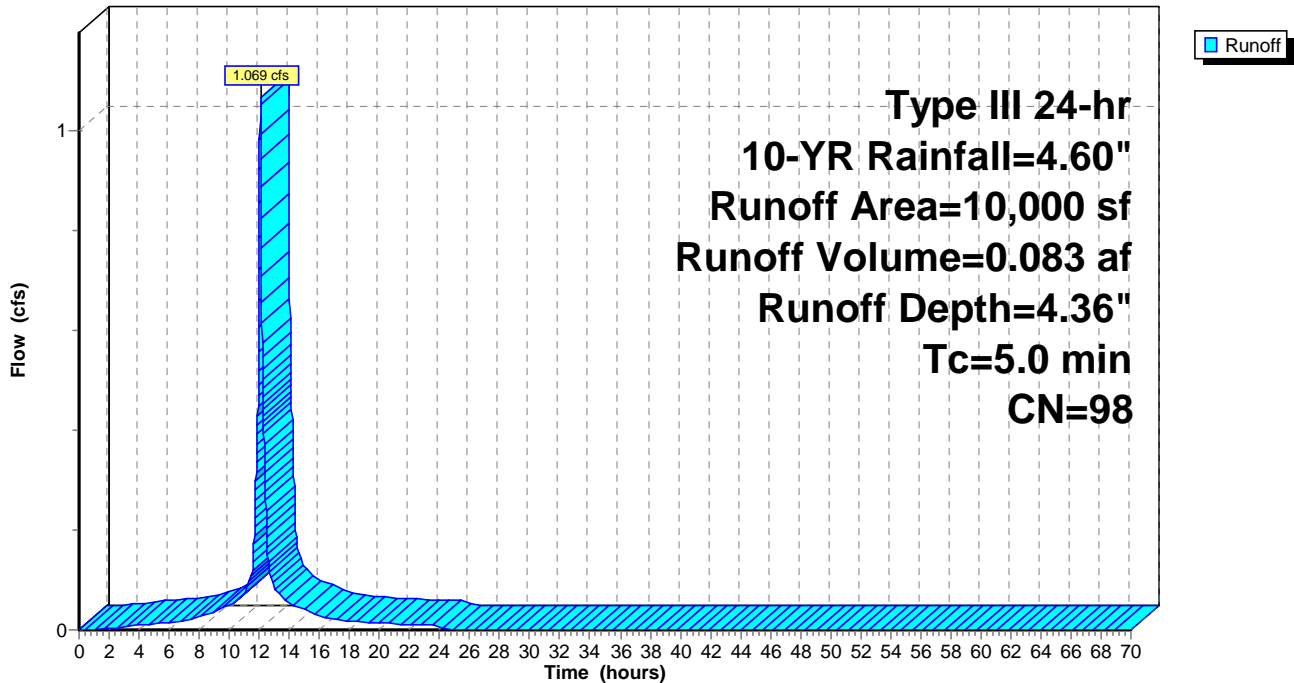
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 32

**Subcatchment 32S: Subcatchment 32**

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**Summary for Subcatchment 33S: Subcatchment 33**

Runoff = 1.403 cfs @ 12.07 hrs, Volume= 0.104 af, Depth= 4.02"

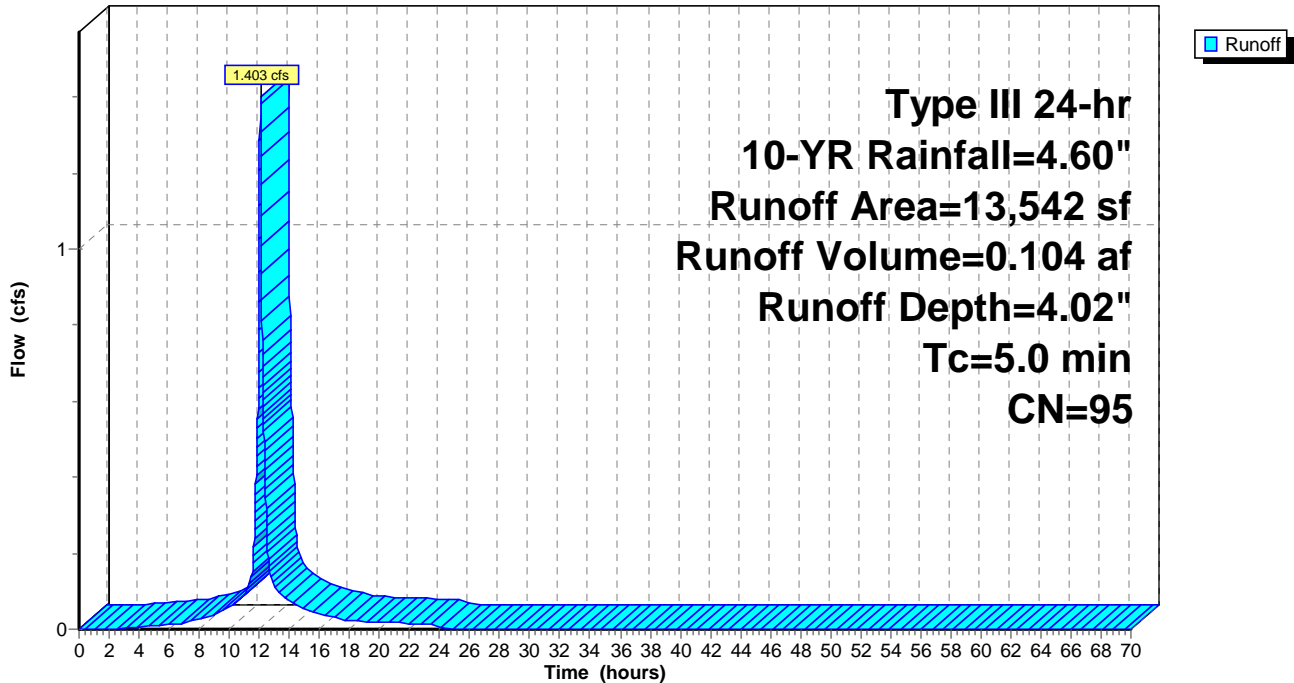
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
2,318	80	>75% Grass cover, Good, HSG D
11,224	98	Paved parking & roofs
13,542	95	Weighted Average
2,318		17.12% Pervious Area
11,224		82.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 33

**Subcatchment 33S: Subcatchment 33**

Hydrograph



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**Summary for Subcatchment 34S: Subcatchment 34**

Runoff = 3.003 cfs @ 12.07 hrs, Volume= 0.220 af, Depth= 3.91"

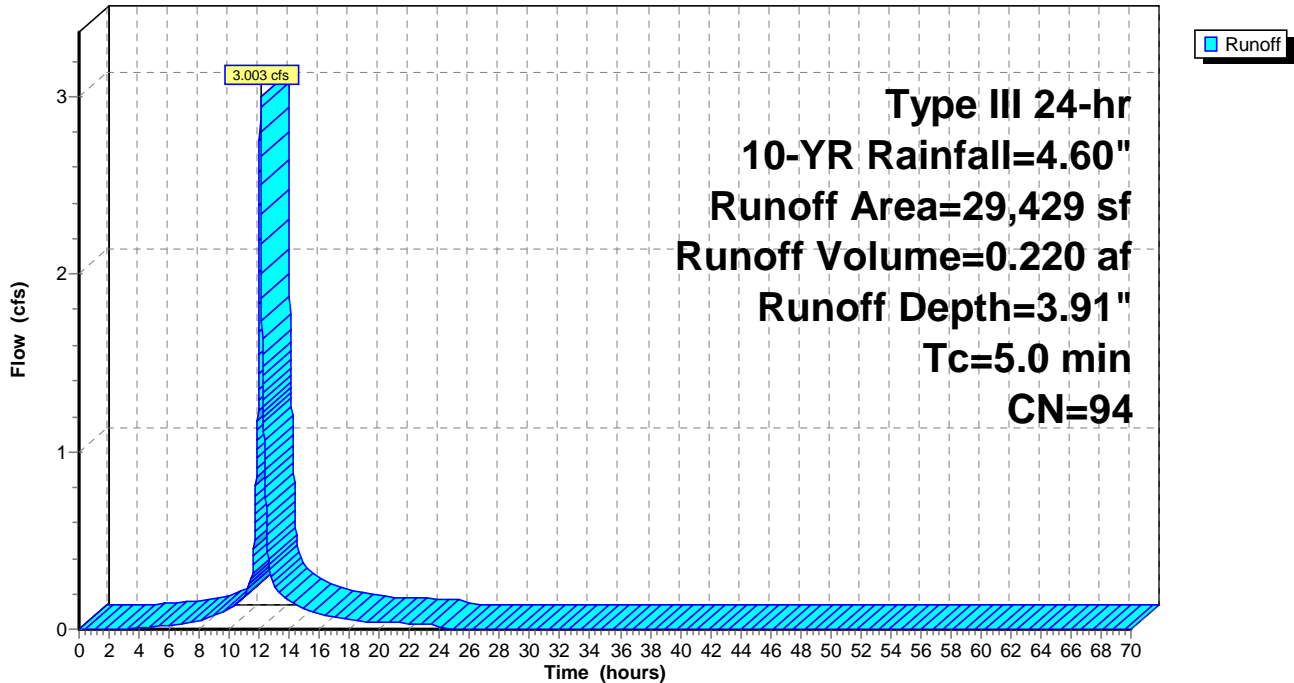
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
6,200	80	>75% Grass cover, Good, HSG D
23,229	98	Paved parking & roofs
29,429	94	Weighted Average
6,200		21.07% Pervious Area
23,229		78.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 34

**Subcatchment 34S: Subcatchment 34**

Hydrograph



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**Summary for Subcatchment 35S: Subcatchment 35**

Runoff = 1.044 cfs @ 12.07 hrs, Volume= 0.079 af, Depth= 4.14"

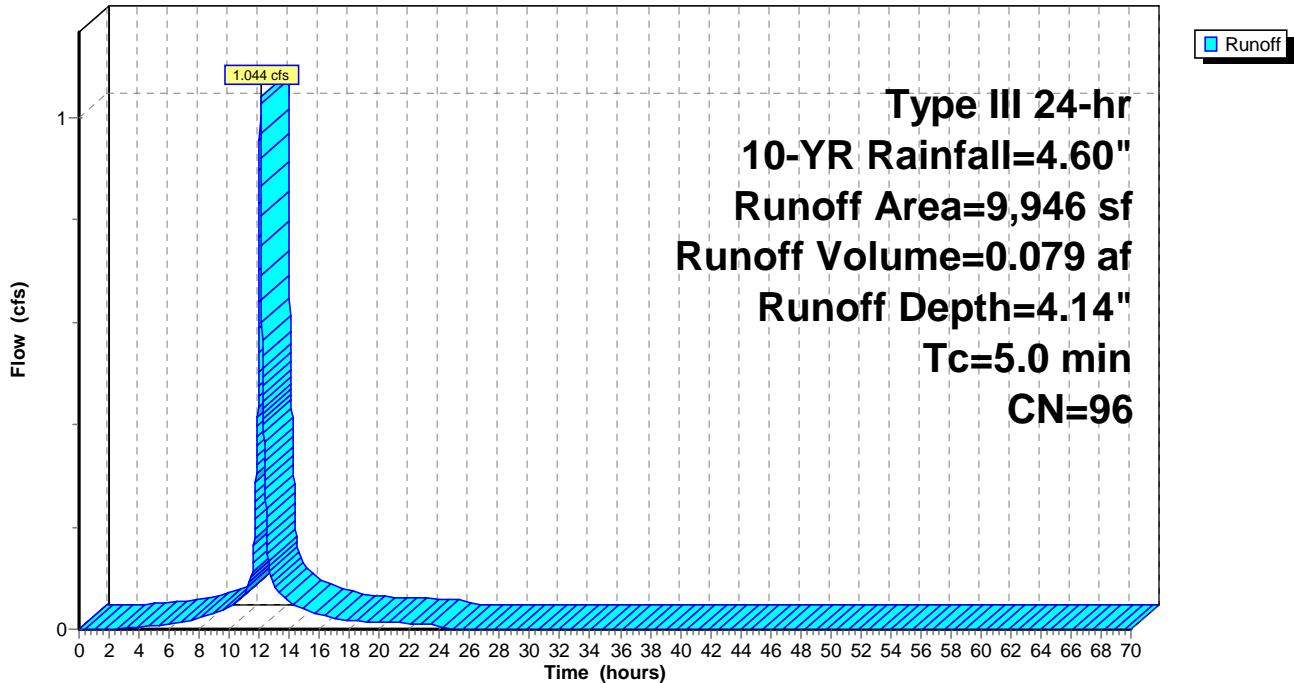
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,334	80	>75% Grass cover, Good, HSG D
8,612	98	Paved parking & roofs
9,946	96	Weighted Average
1,334		13.41% Pervious Area
8,612		86.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 35

**Subcatchment 35S: Subcatchment 35**

Hydrograph



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**Summary for Subcatchment 36S: Subcatchment 36**

Runoff = 5.356 cfs @ 12.67 hrs, Volume= 0.867 af, Depth= 2.55"

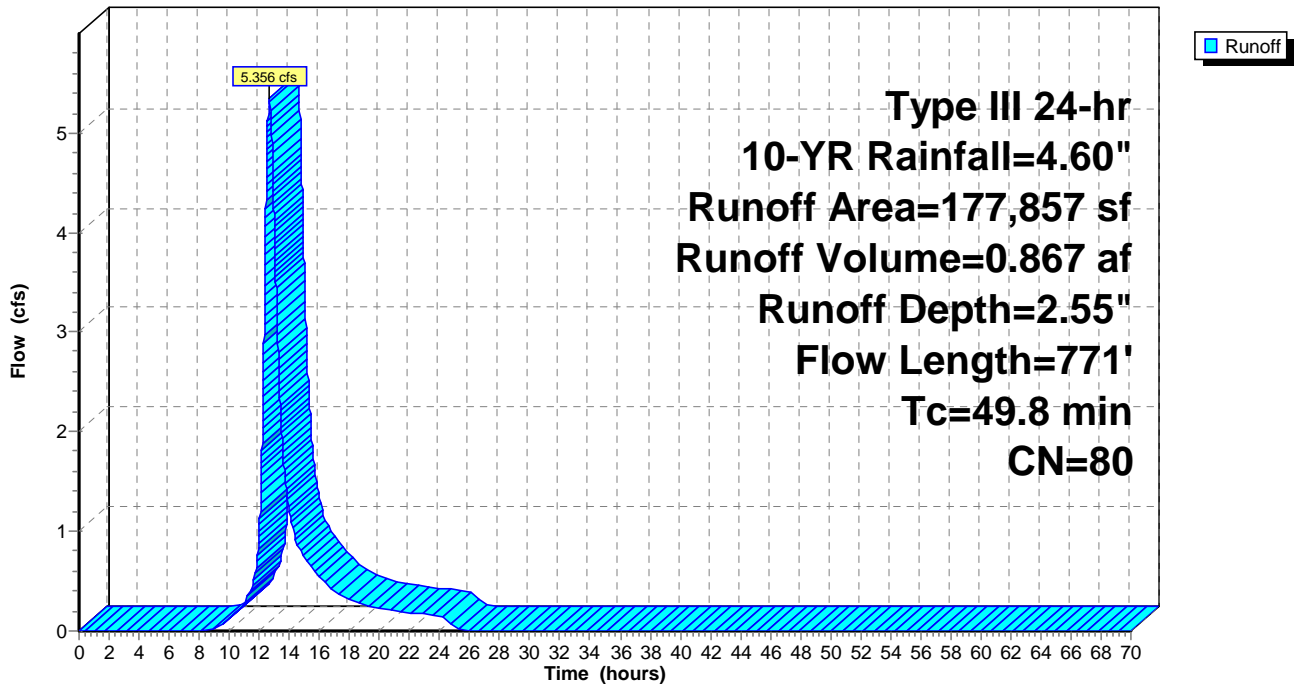
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
3,520	74	>75% Grass cover, Good, HSG C
174,337	80	>75% Grass cover, Good, HSG D
177,857	80	Weighted Average
177,857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 36 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
20.5	671	0.0119	0.55		<b>Shallow Concentrated Flow, Subcatchment 36 SCF</b>
					Woodland Kv= 5.0 fps
49.8	771	Total			

**Subcatchment 36S: Subcatchment 36**

Hydrograph





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**Summary for Subcatchment 62S: Rain on Pond 62P**

Runoff = 0.634 cfs @ 12.07 hrs, Volume= 0.050 af, Depth= 4.36"

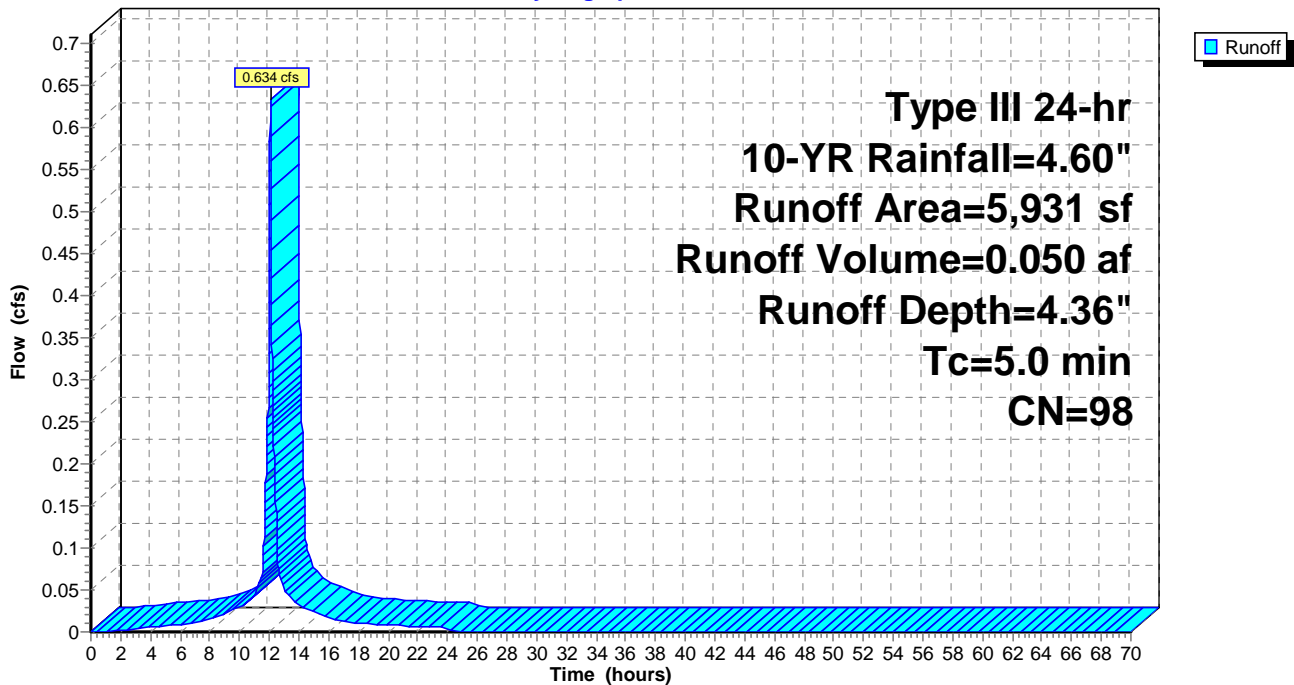
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
5,931	98	Water Surface, 0% imp
5,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 62S: Rain on Pond 62P**

Hydrograph



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## Summary for Subcatchment 63S: Rain on Pond 60P

Runoff = 0.683 cfs @ 12.07 hrs, Volume= 0.053 af, Depth= 4.36"

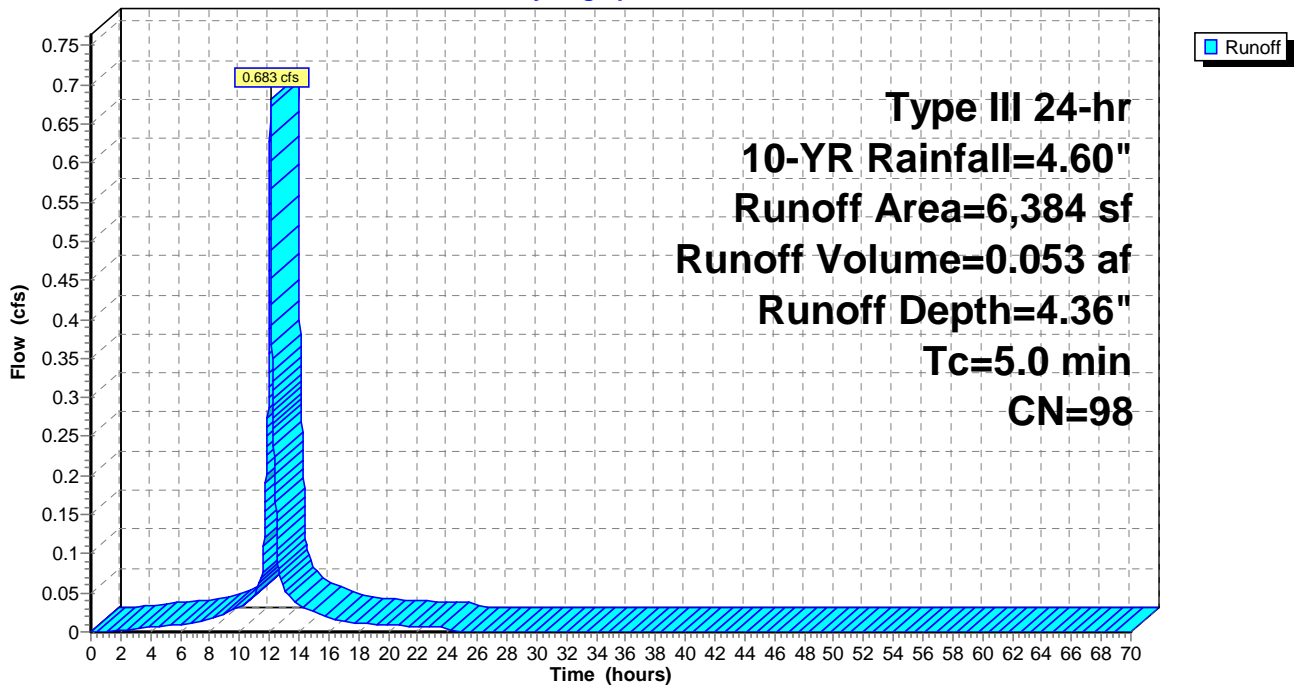
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
6,384	98	Water Surface, 0% imp
6,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

## Subcatchment 63S: Rain on Pond 60P

Hydrograph



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**Summary for Subcatchment 64S: Rain on Pond 63P**

Runoff = 0.577 cfs @ 12.07 hrs, Volume= 0.045 af, Depth= 4.36"

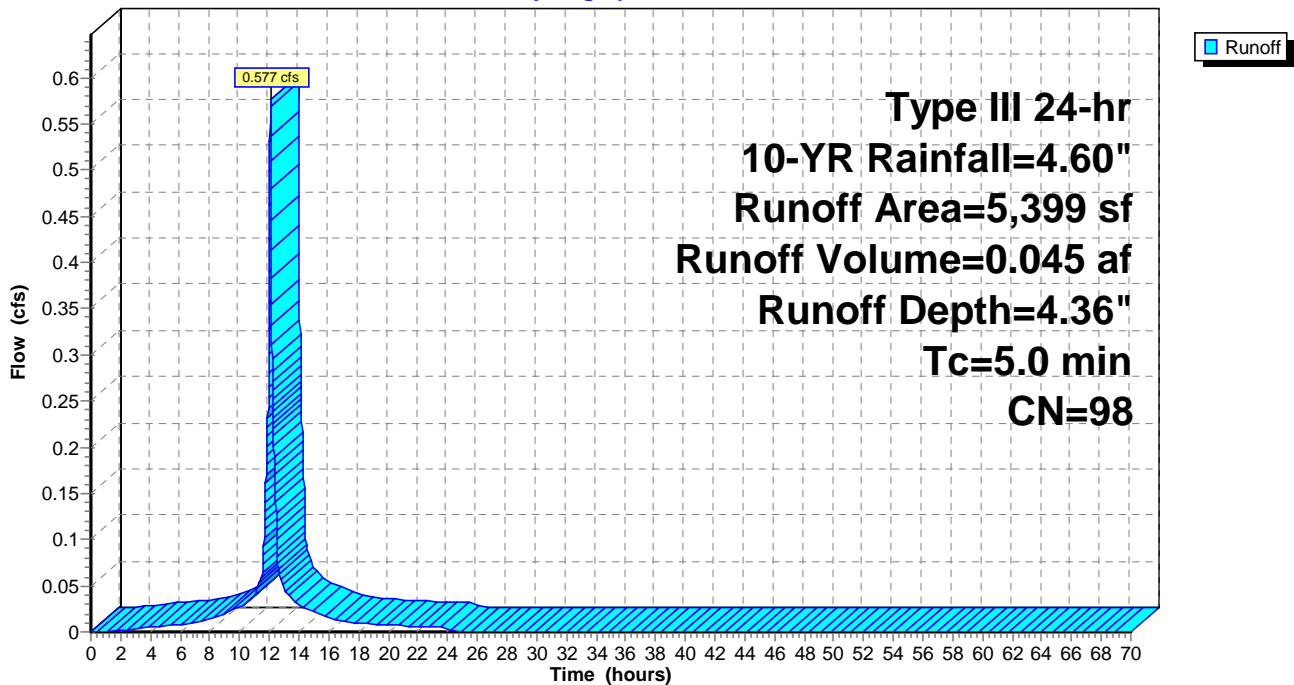
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
5,399	98	Water Surface, 0% imp
5,399		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 64S: Rain on Pond 63P**

Hydrograph



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

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**Summary for Subcatchment 65S: Rain on Pond 44P**

Runoff = 0.618 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 4.36"

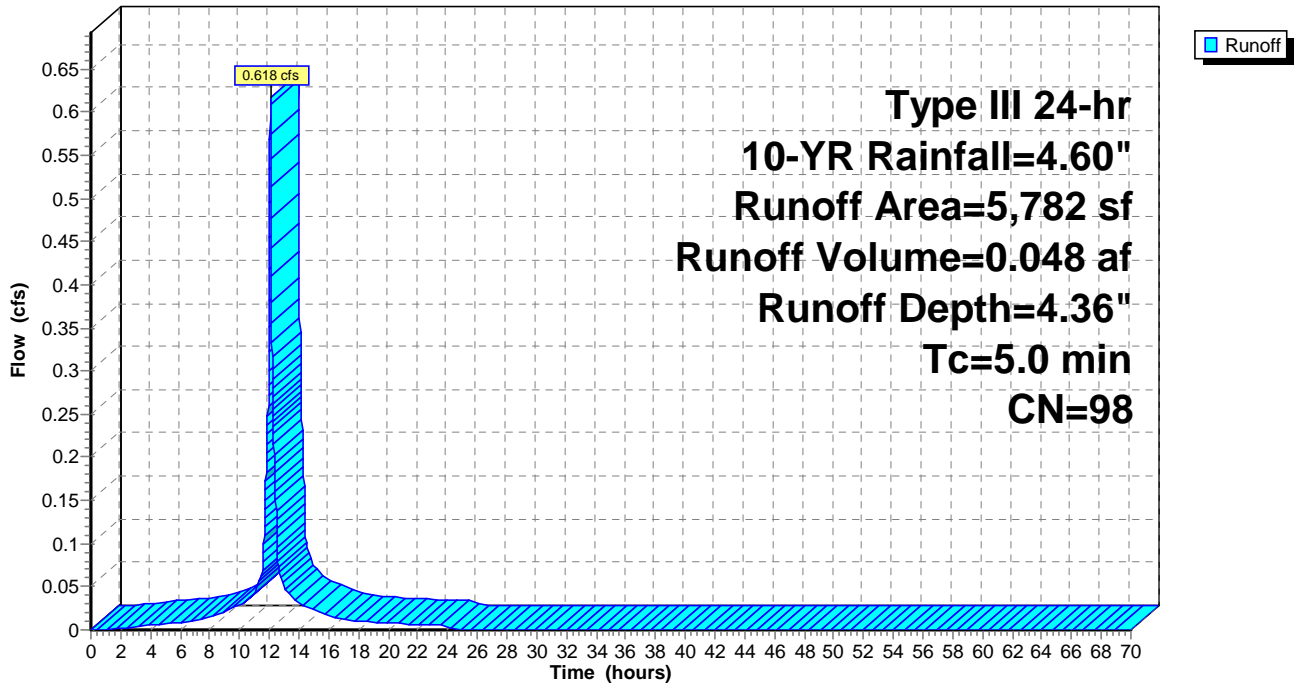
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
5,782	98	Water Surface, 0% imp
5,782		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 65S: Rain on Pond 44P**

Hydrograph



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**Summary for Subcatchment 66S: Rain on Pond 48P**

Runoff = 0.393 cfs @ 12.07 hrs, Volume= 0.031 af, Depth= 4.36"

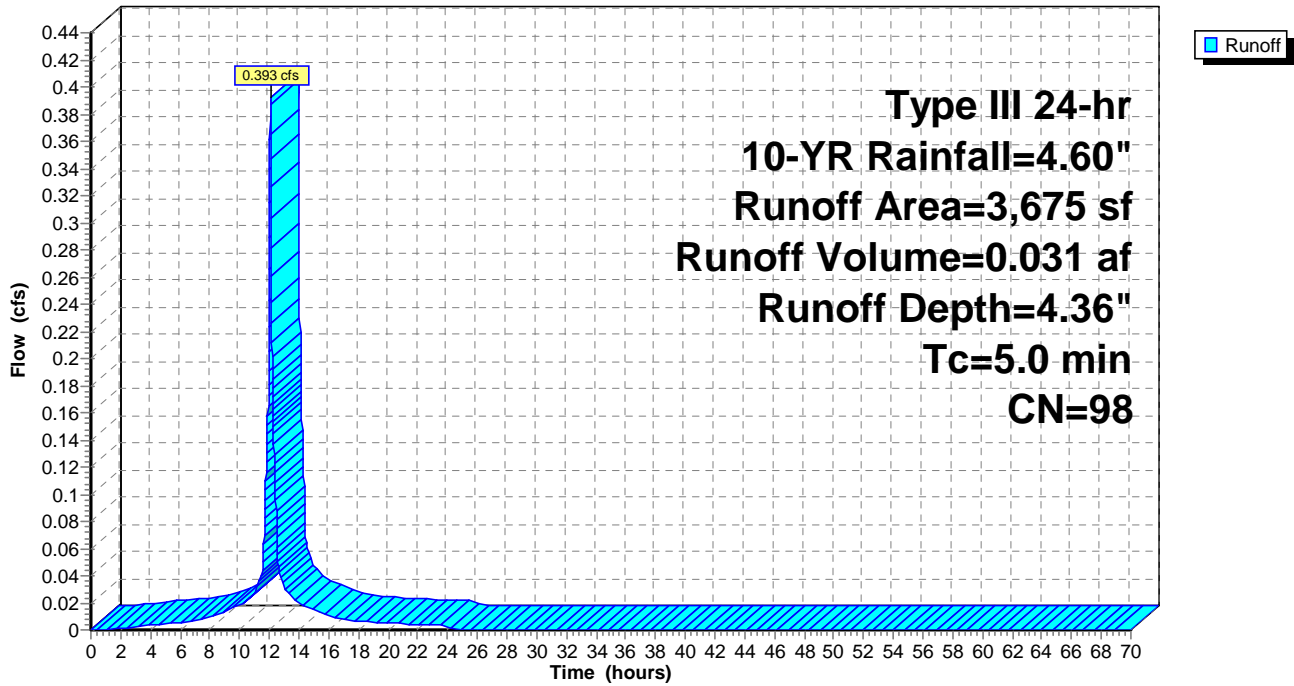
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
3,675	98	Water Surface, 0% imp
3,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 66S: Rain on Pond 48P**

Hydrograph



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**Summary for Subcatchment 67S: Rain on Pond 49P**

Runoff = 0.428 cfs @ 12.07 hrs, Volume= 0.033 af, Depth= 4.36"

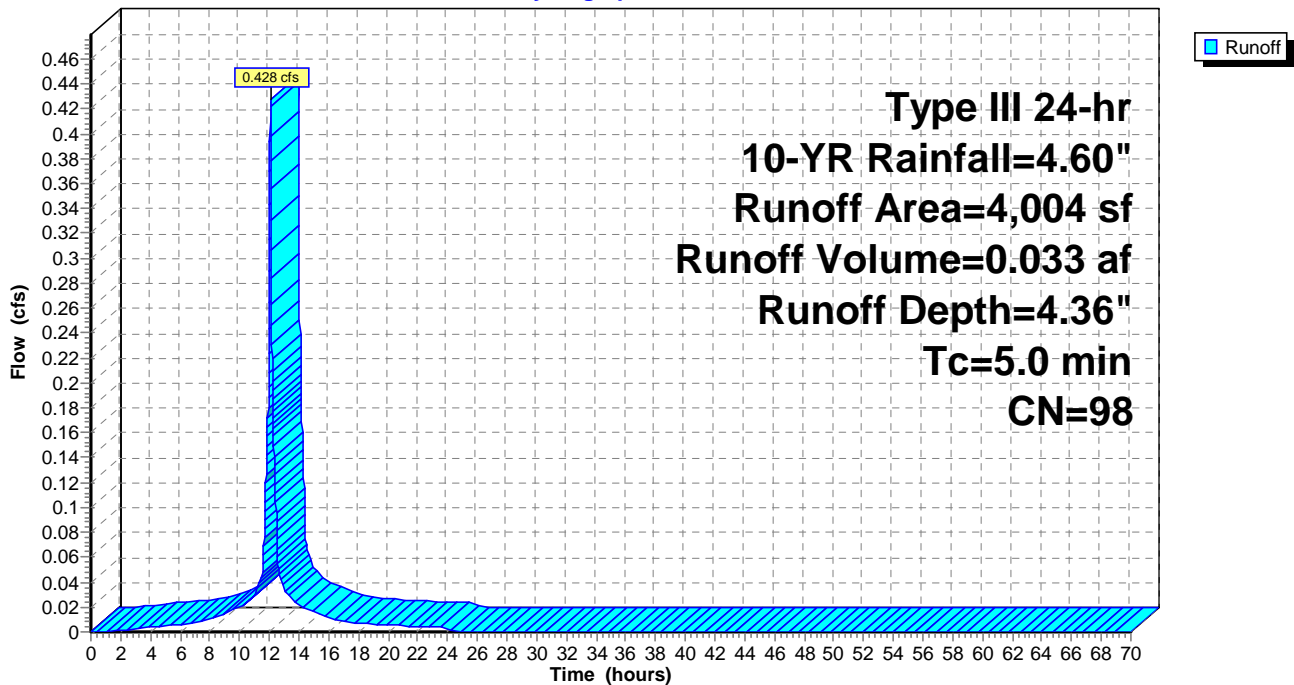
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
4,004	98	Water Surface, 0% imp
4,004		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 67S: Rain on Pond 49P**

Hydrograph



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

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**Summary for Subcatchment 68S: Rain on Pond 51P**

Runoff = 0.771 cfs @ 12.07 hrs, Volume= 0.060 af, Depth= 4.36"

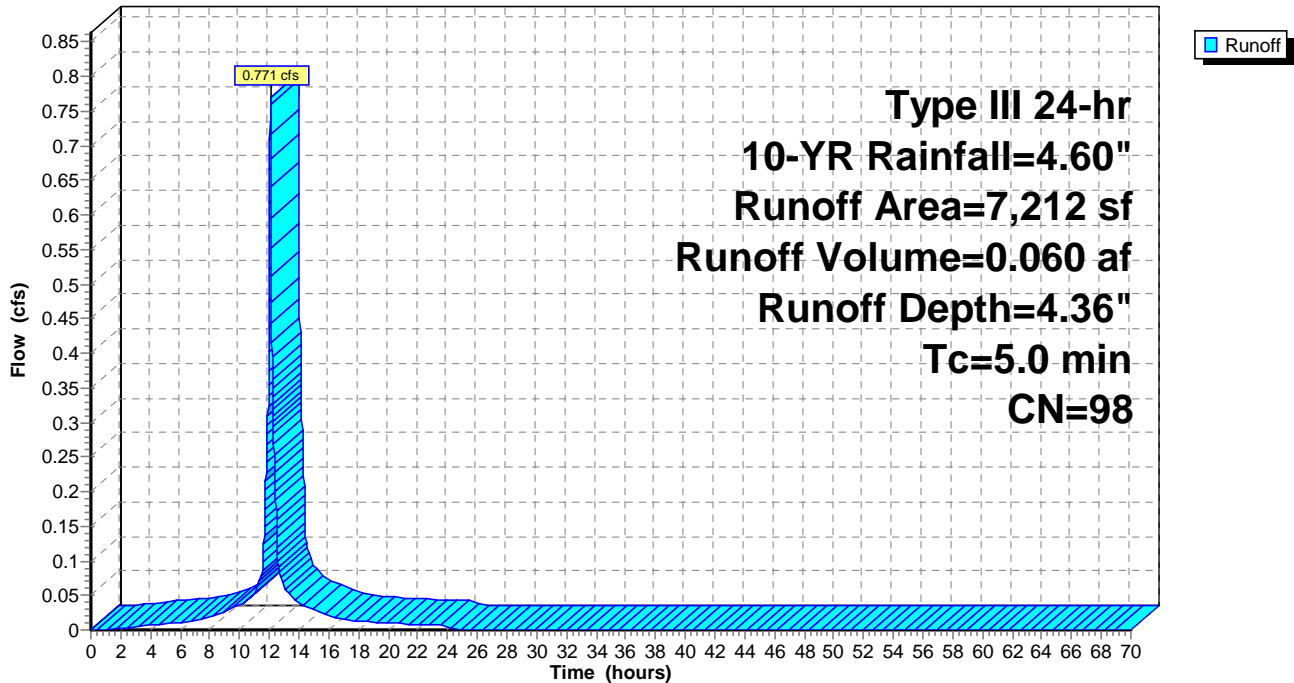
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
7,212	98	Water Surface, 0% imp
7,212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 68S: Rain on Pond 51P**

Hydrograph



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**Summary for Subcatchment 69S: Rain on Pond 53P**

Runoff = 1.099 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 4.36"

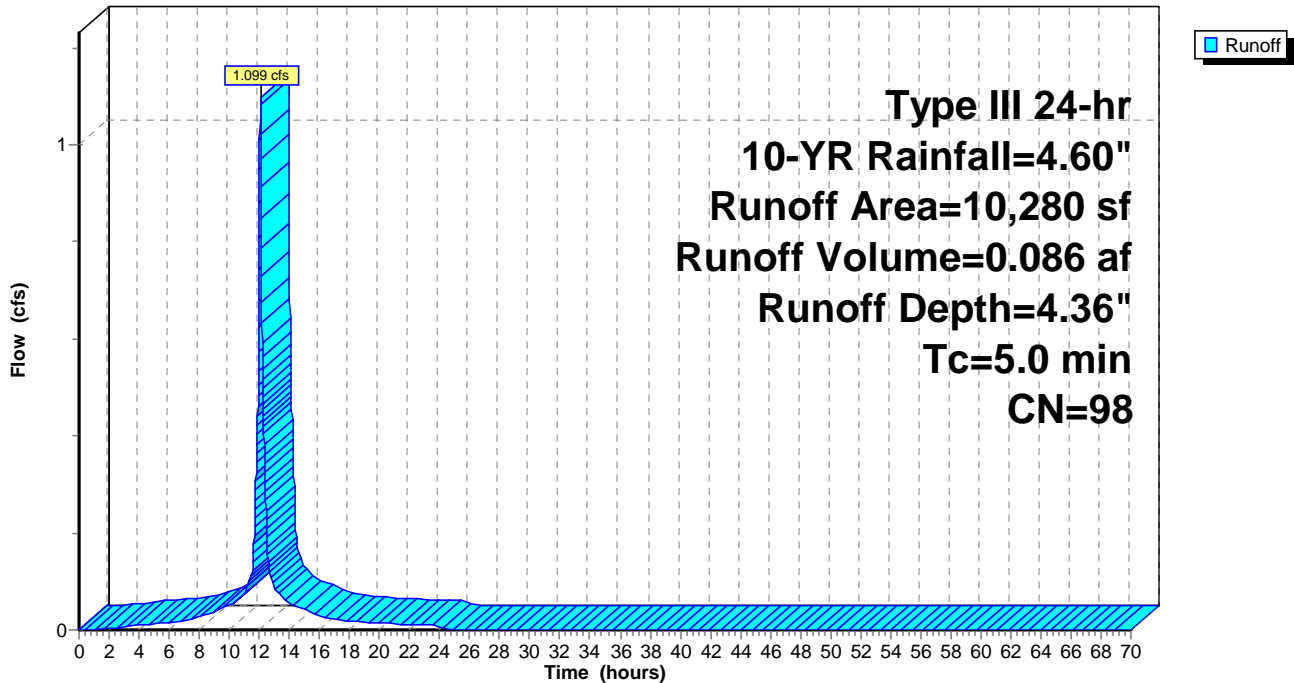
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,280	98	Water Surface, 0% imp
10,280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 69S: Rain on Pond 53P**

Hydrograph





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**Summary for Subcatchment 70S: Rain on Pond 52P**

Runoff = 0.233 cfs @ 12.07 hrs, Volume= 0.018 af, Depth= 4.36"

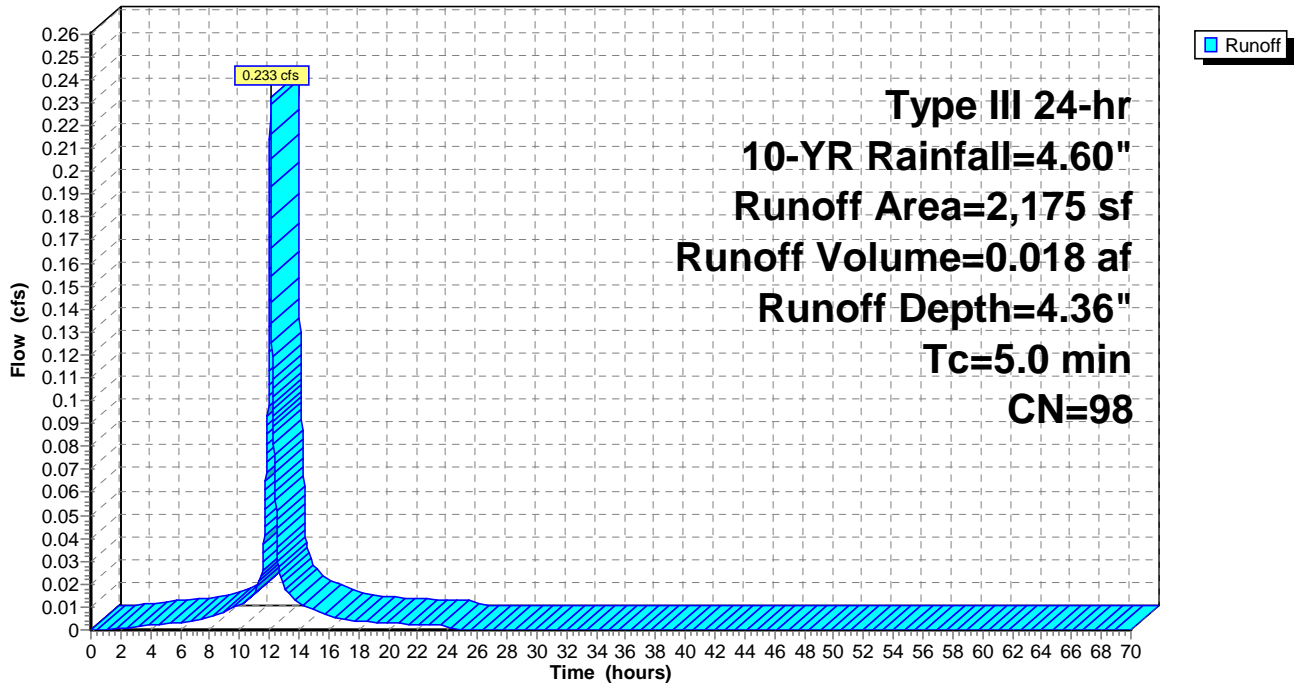
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
2,175	98	Water Surface, 0% imp
2,175		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 70S: Rain on Pond 52P**

Hydrograph



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

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**Summary for Subcatchment 72S: Rain on Pond 58P**

Runoff = 0.709 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 4.36"

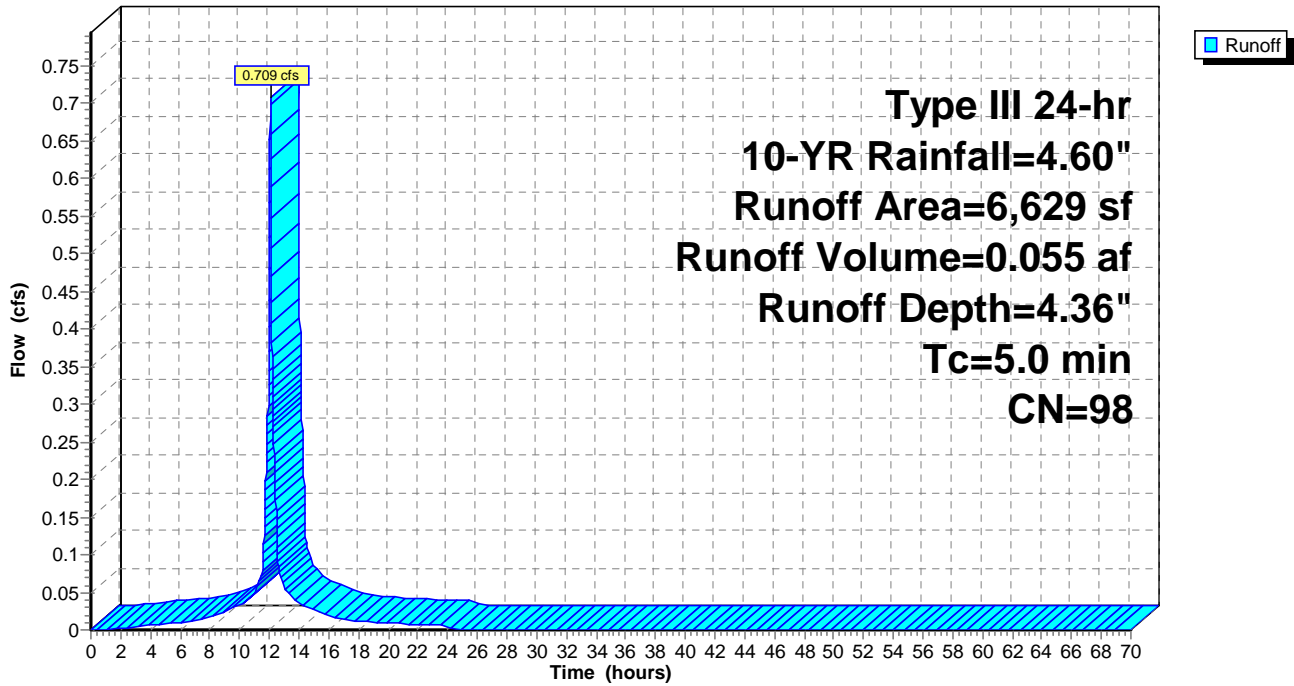
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
6,629	98	Water Surface, 0% imp
6,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 72S: Rain on Pond 58P**

Hydrograph



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**Summary for Subcatchment 73S: Rain on Pond 59P**

Runoff = 0.610 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 4.36"

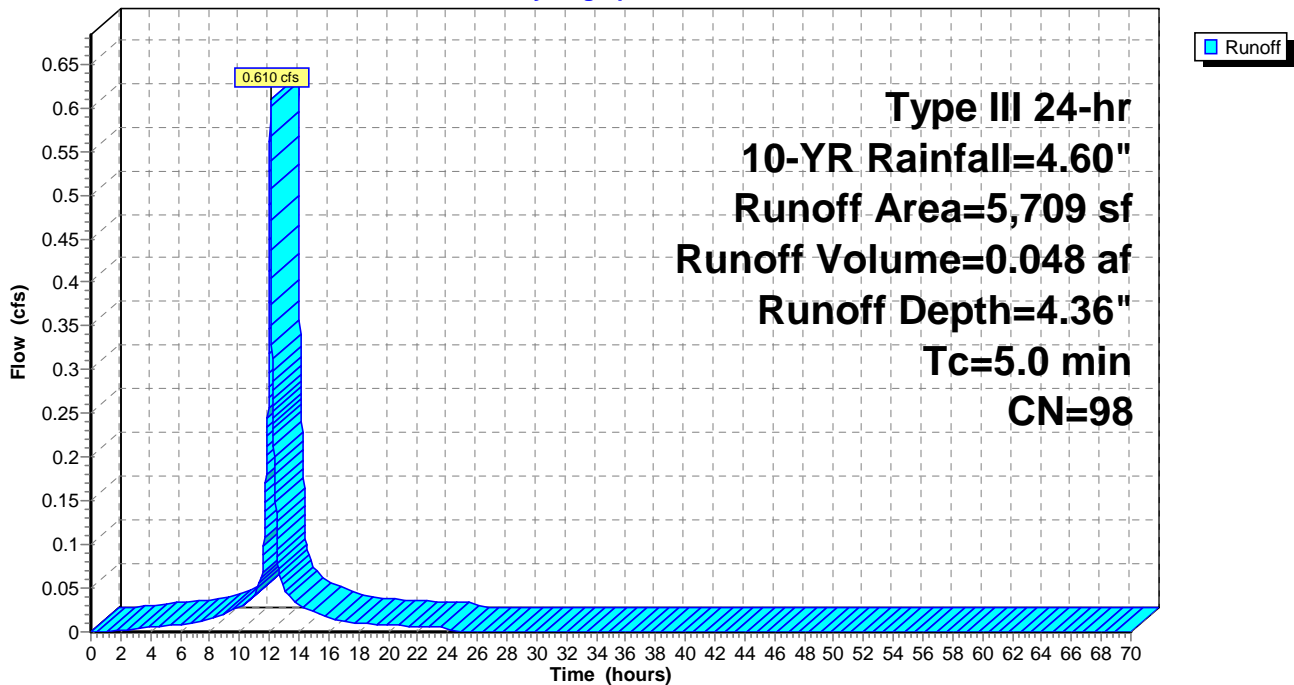
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
5,709	98	Water Surface, 0% imp
5,709		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 73S: Rain on Pond 59P**

Hydrograph



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

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## Summary for Reach 45R: Rock Sandwich 1

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth > 3.40" for 10-YR event  
Inflow = 3.876 cfs @ 12.48 hrs, Volume= 0.850 af  
Outflow = 3.862 cfs @ 12.50 hrs, Volume= 0.850 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.52 fps, Min. Travel Time= 2.6 min  
Avg. Velocity = 0.12 fps, Avg. Travel Time= 11.3 min

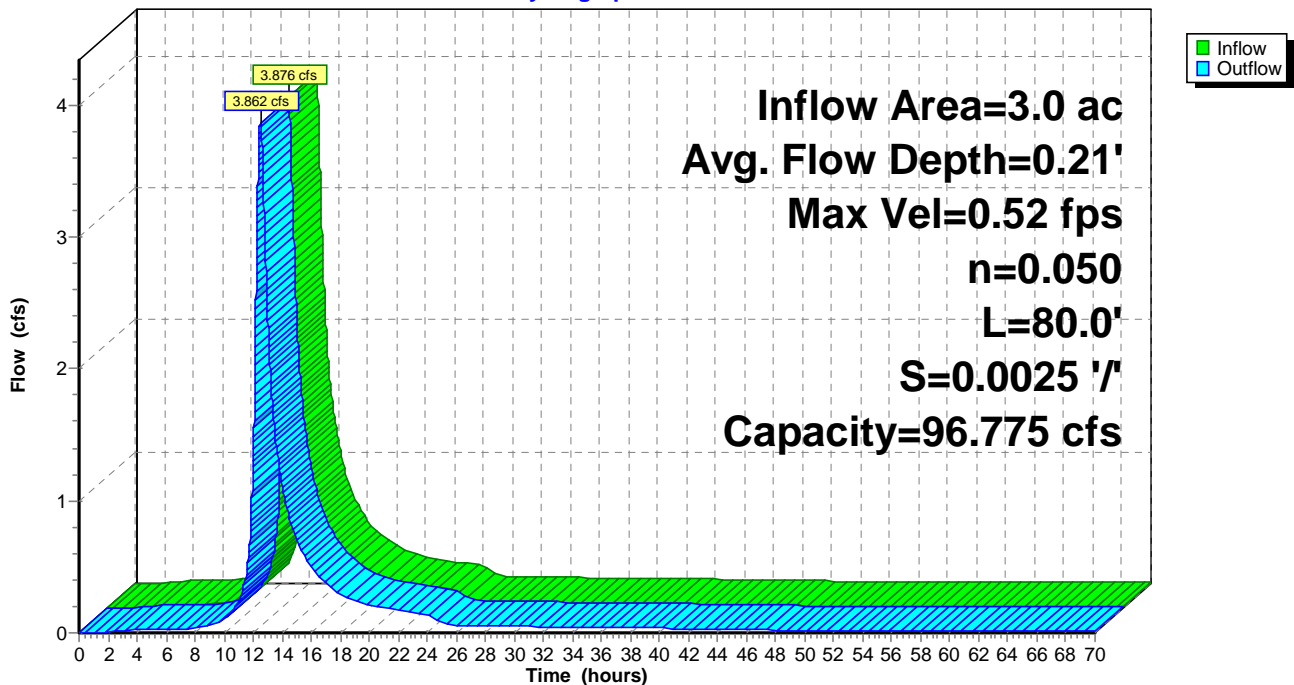
Peak Storage= 591 cf @ 12.50 hrs  
Average Depth at Peak Storage= 0.21'  
Bank-Full Depth= 1.50' Flow Area= 52.5 sf, Capacity= 96.775 cfs

35.00' x 1.50' deep channel, n= 0.050  
Length= 80.0' Slope= 0.0025 '/'  
Inlet Invert= 64.80', Outlet Invert= 64.60'



## Reach 45R: Rock Sandwich 1

Hydrograph



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

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## Summary for Reach 47R: Rock Sandwich 3

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 3.14" for 10-YR event  
Inflow = 9.662 cfs @ 12.70 hrs, Volume= 2.634 af  
Outflow = 9.652 cfs @ 12.73 hrs, Volume= 2.633 af, Atten= 0%, Lag= 1.5 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.66 fps, Min. Travel Time= 1.8 min  
Avg. Velocity = 0.18 fps, Avg. Travel Time= 6.6 min

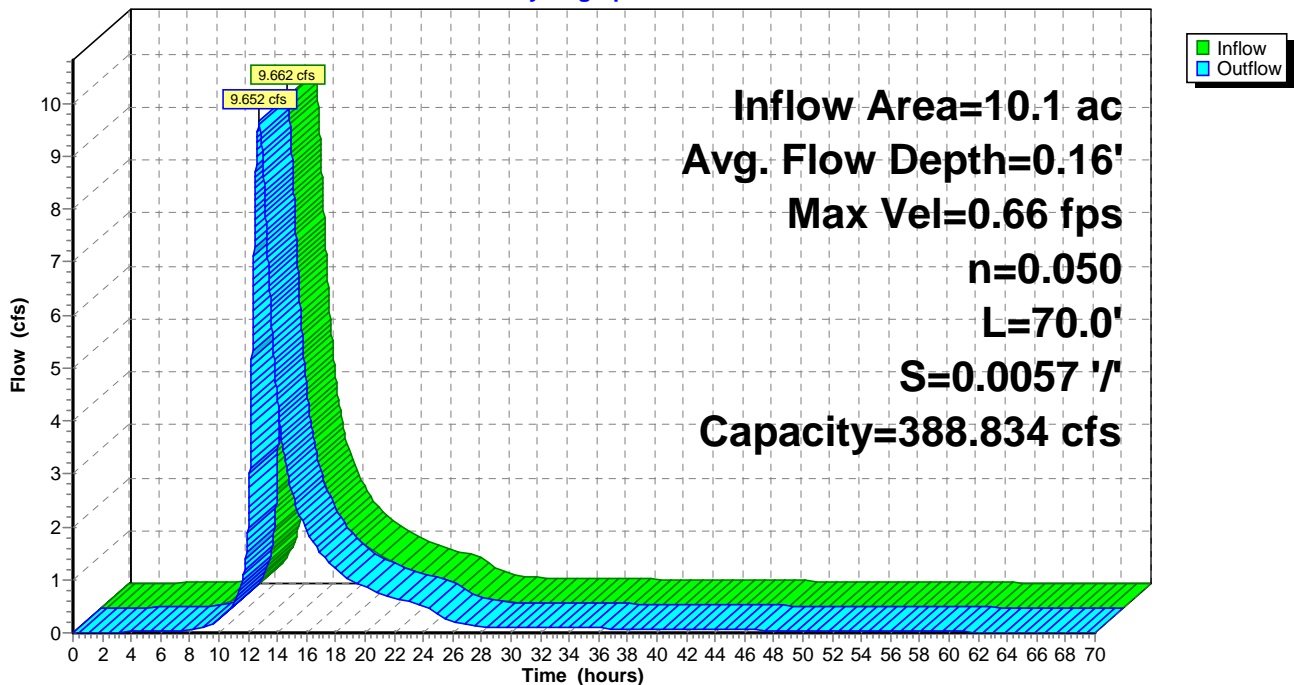
Peak Storage= 1,016 cf @ 12.73 hrs  
Average Depth at Peak Storage= 0.16'  
Bank-Full Depth= 1.50' Flow Area= 135.0 sf, Capacity= 388.834 cfs

90.00' x 1.50' deep channel, n= 0.050  
Length= 70.0' Slope= 0.0057 '/'  
Inlet Invert= 62.40', Outlet Invert= 62.00'



## Reach 47R: Rock Sandwich 3

Hydrograph



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## Summary for Reach 50R: Rock Sandwich 2

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 3.09" for 10-YR event  
Inflow = 3.801 cfs @ 12.88 hrs, Volume= 1.033 af  
Outflow = 3.794 cfs @ 12.90 hrs, Volume= 1.033 af, Atten= 0%, Lag= 1.5 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.46 fps, Min. Travel Time= 2.7 min  
Avg. Velocity = 0.12 fps, Avg. Travel Time= 10.5 min

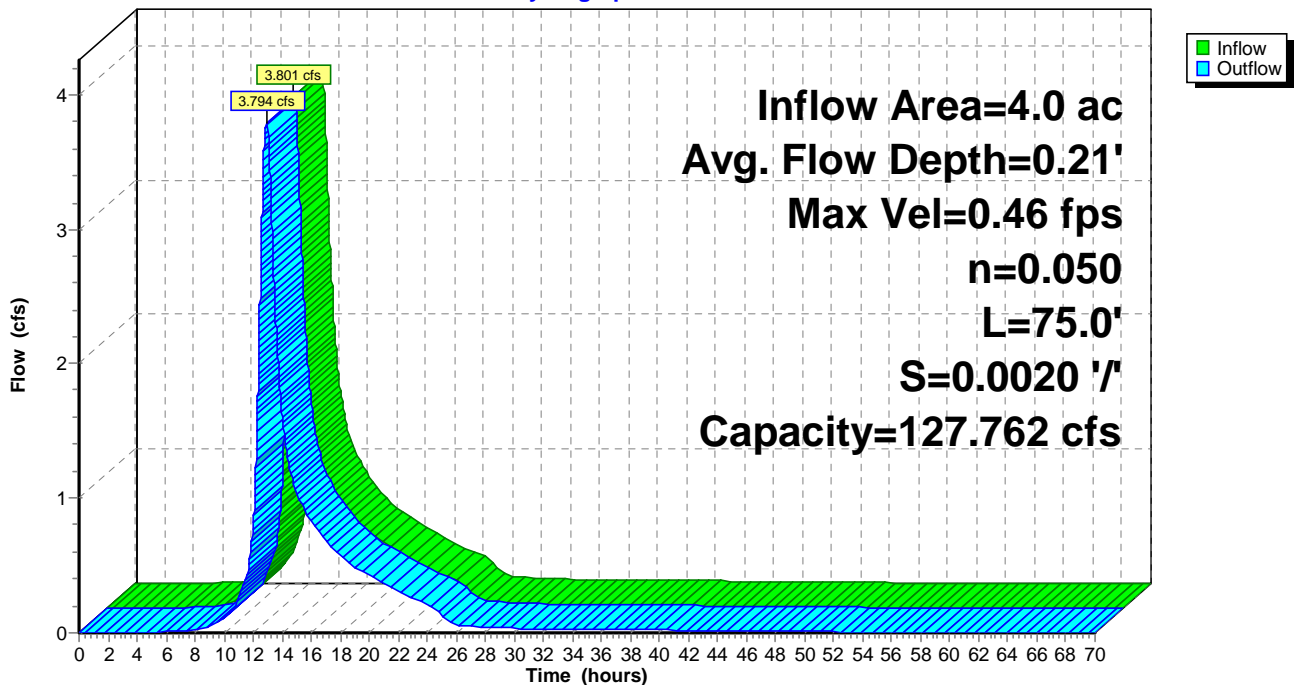
Peak Storage= 618 cf @ 12.90 hrs  
Average Depth at Peak Storage= 0.21'  
Bank-Full Depth= 1.75' Flow Area= 70.0 sf, Capacity= 127.762 cfs

40.00' x 1.75' deep channel, n= 0.050  
Length= 75.0' Slope= 0.0020 '/'  
Inlet Invert= 65.90', Outlet Invert= 65.75'



## Reach 50R: Rock Sandwich 2

Hydrograph



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## Summary for Reach 54R: Rock Sandwich 4

Inflow Area = 1.7 ac, 0.00% Impervious, Inflow Depth = 3.50" for 10-YR event  
Inflow = 3.514 cfs @ 12.48 hrs, Volume= 0.491 af  
Outflow = 3.512 cfs @ 12.49 hrs, Volume= 0.491 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.77 fps, Min. Travel Time= 1.3 min  
Avg. Velocity = 0.23 fps, Avg. Travel Time= 4.4 min

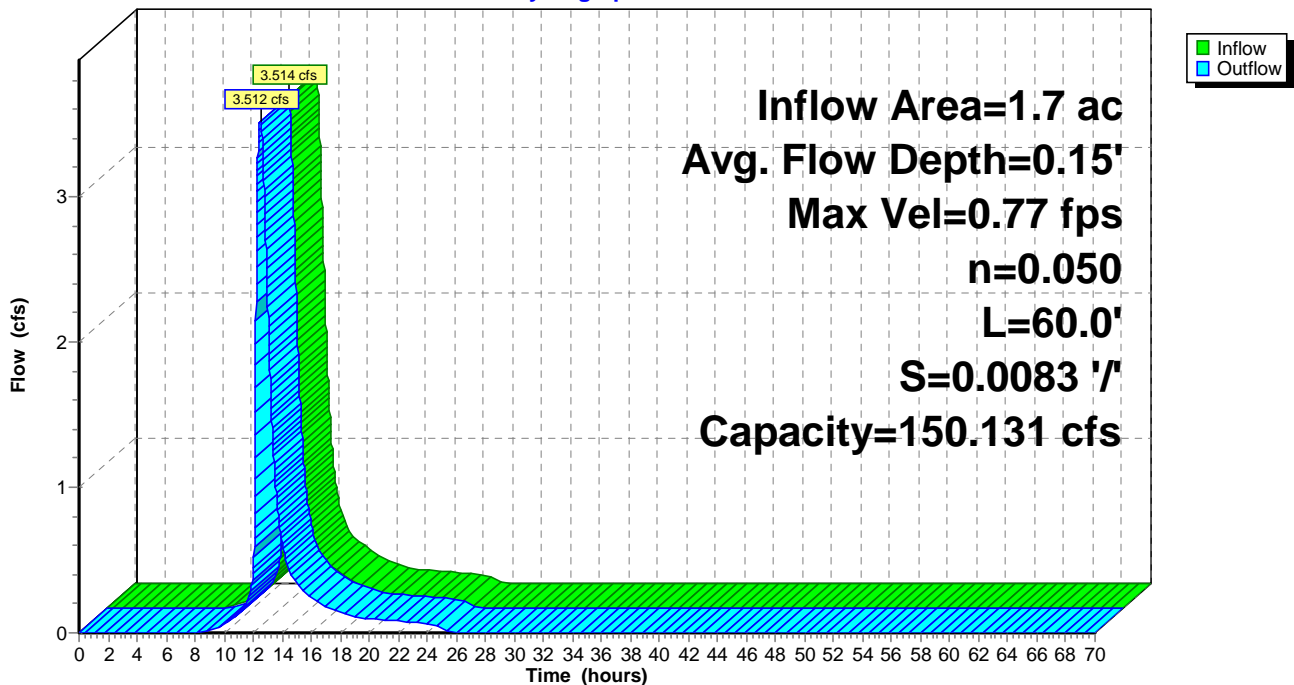
Peak Storage= 274 cf @ 12.49 hrs  
Average Depth at Peak Storage= 0.15'  
Bank-Full Depth= 1.50' Flow Area= 45.0 sf, Capacity= 150.131 cfs

30.00' x 1.50' deep channel, n= 0.050  
Length= 60.0' Slope= 0.0083 '/'  
Inlet Invert= 66.50', Outlet Invert= 66.00'



## Reach 54R: Rock Sandwich 4

Hydrograph



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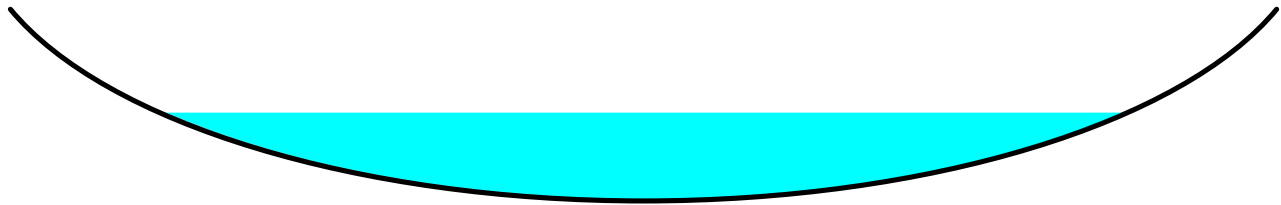
## Summary for Reach 62R: RS1 to RS2

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth > 3.40" for 10-YR event  
Inflow = 3.862 cfs @ 12.50 hrs, Volume= 0.850 af  
Outflow = 3.124 cfs @ 12.78 hrs, Volume= 0.848 af, Atten= 19%, Lag= 16.7 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.30 fps, Min. Travel Time= 24.9 min  
Avg. Velocity = 0.09 fps, Avg. Travel Time= 85.2 min

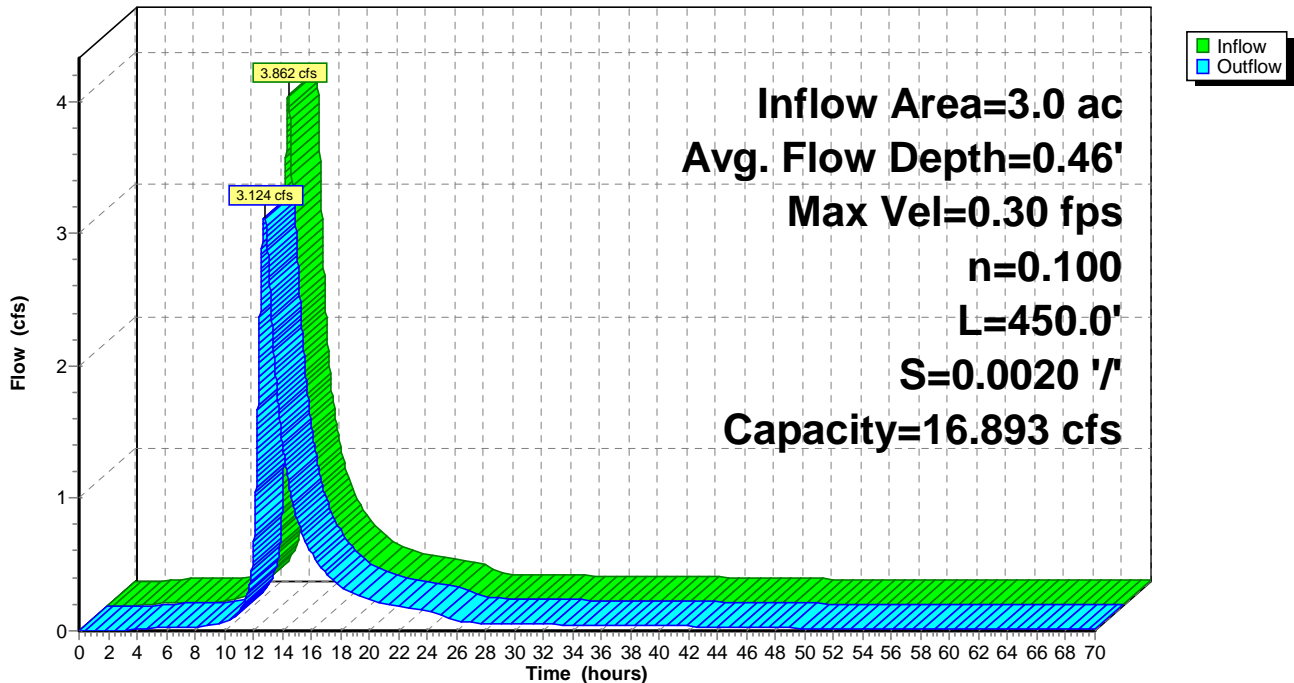
Peak Storage= 4,662 cf @ 12.78 hrs  
Average Depth at Peak Storage= 0.46'  
Bank-Full Depth= 1.00' Flow Area= 33.3 sf, Capacity= 16.893 cfs

50.00' x 1.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 450.0' Slope= 0.0020 '/'  
Inlet Invert= 63.50', Outlet Invert= 62.60'



## Reach 62R: RS1 to RS2

### Hydrograph





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## Summary for Reach 67R: GW2 to RS1

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth > 3.76" for 10-YR event  
Inflow = 0.136 cfs @ 13.12 hrs, Volume= 0.129 af  
Outflow = 0.129 cfs @ 13.80 hrs, Volume= 0.128 af, Atten= 5%, Lag= 40.9 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.12 fps, Min. Travel Time= 30.2 min  
Avg. Velocity = 0.07 fps, Avg. Travel Time= 54.6 min

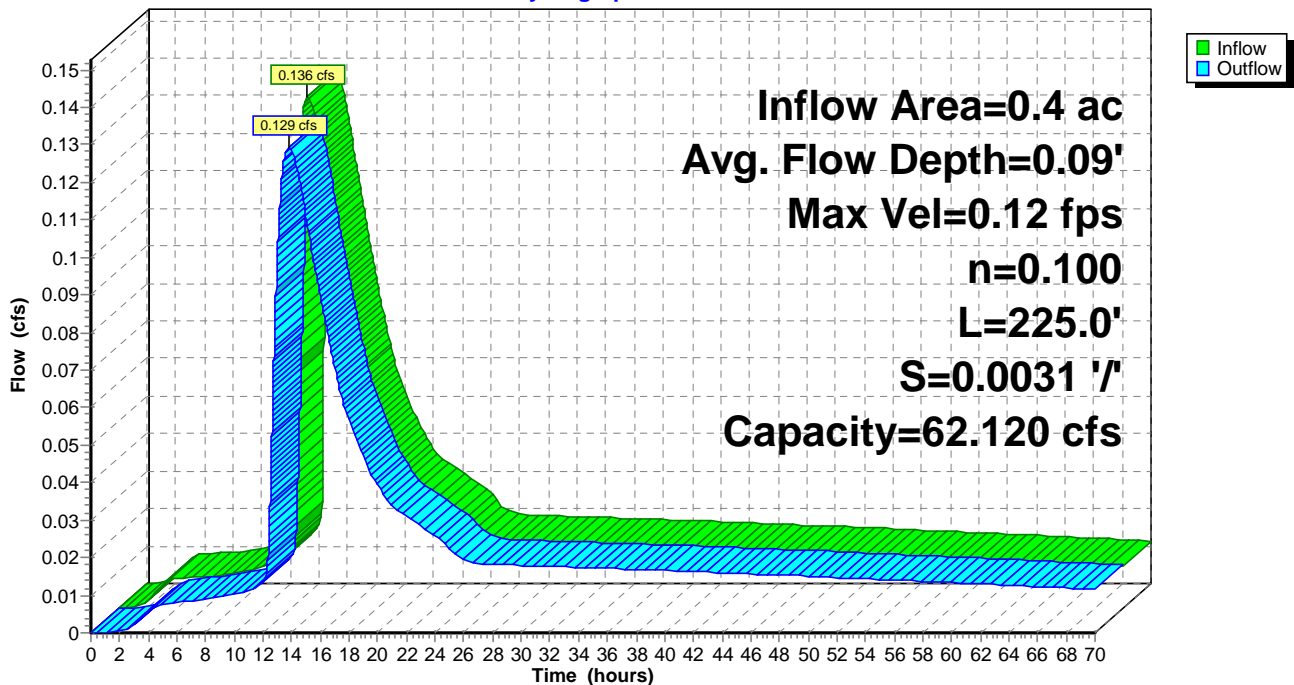
Peak Storage= 234 cf @ 13.80 hrs  
Average Depth at Peak Storage= 0.09'  
Bank-Full Depth= 1.50' Flow Area= 75.0 sf, Capacity= 62.120 cfs

75.00' x 1.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 225.0' Slope= 0.0031 '/'  
Inlet Invert= 66.80', Outlet Invert= 66.10'



## Reach 67R: GW2 to RS1

### Hydrograph



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## Summary for Reach 68R: RS3 to SP5

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 3.14" for 10-YR event  
Inflow = 9.652 cfs @ 12.73 hrs, Volume= 2.633 af  
Outflow = 9.384 cfs @ 12.88 hrs, Volume= 2.632 af, Atten= 3%, Lag= 8.8 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.63 fps, Min. Travel Time= 10.0 min  
Avg. Velocity = 0.17 fps, Avg. Travel Time= 36.5 min

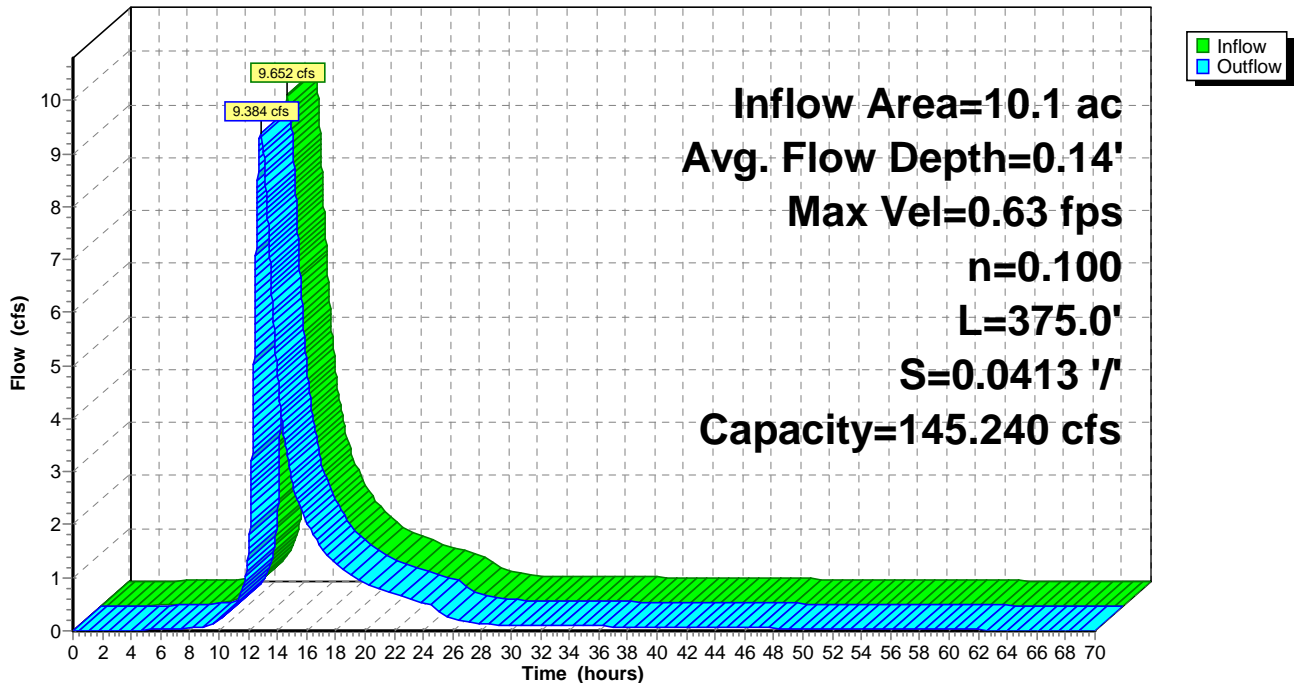
Peak Storage= 5,628 cf @ 12.88 hrs  
Average Depth at Peak Storage= 0.14'  
Bank-Full Depth= 0.50' Flow Area= 100.0 sf, Capacity= 145.240 cfs

300.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 375.0' Slope= 0.0413 '/'  
Inlet Invert= 61.50', Outlet Invert= 46.00'



## Reach 68R: RS3 to SP5

### Hydrograph



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## Summary for Reach 69R: RS2 to RS3

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 3.09" for 10-YR event  
Inflow = 3.794 cfs @ 12.90 hrs, Volume= 1.033 af  
Outflow = 3.414 cfs @ 13.16 hrs, Volume= 1.033 af, Atten= 10%, Lag= 15.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.27 fps, Min. Travel Time= 21.2 min  
Avg. Velocity = 0.07 fps, Avg. Travel Time= 79.0 min

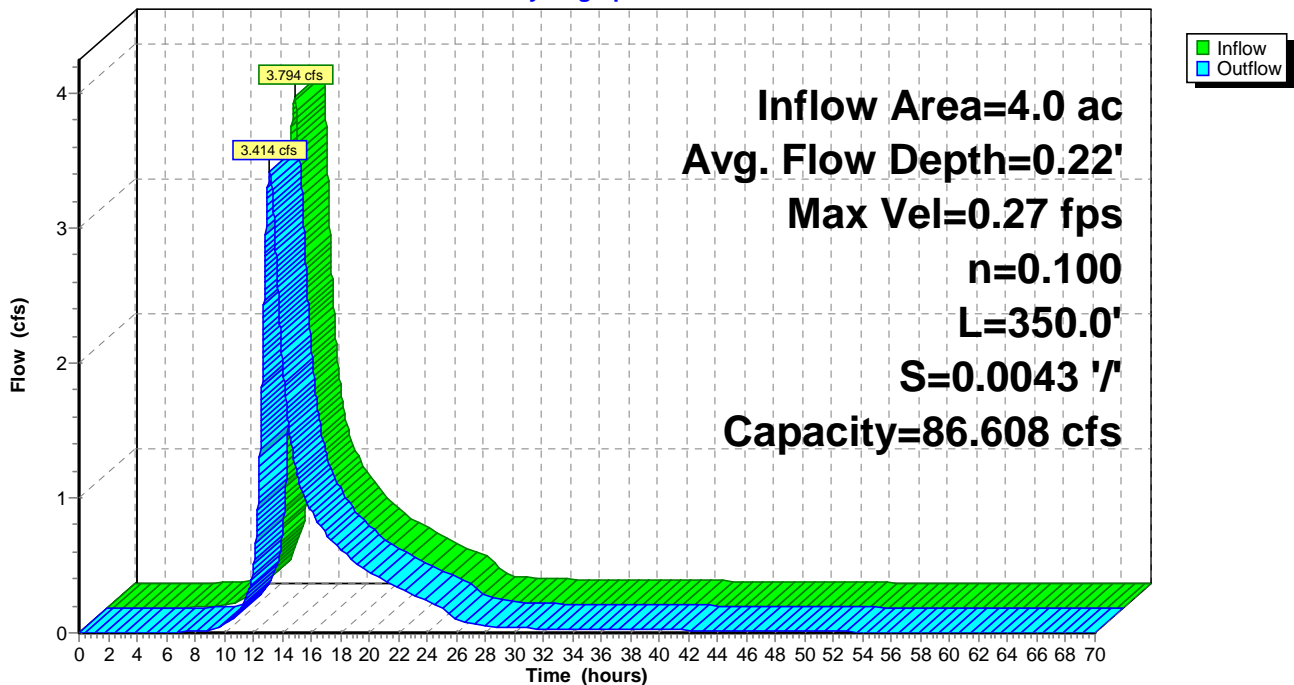
Peak Storage= 4,352 cf @ 13.16 hrs  
Average Depth at Peak Storage= 0.22'  
Bank-Full Depth= 1.00' Flow Area= 116.7 sf, Capacity= 86.608 cfs

175.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage  
Length= 350.0' Slope= 0.0043 '/'  
Inlet Invert= 65.00', Outlet Invert= 63.50'



## Reach 69R: RS2 to RS3

### Hydrograph



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## Summary for Reach 70R: GW8 to RS4

Inflow = 4.119 cfs @ 12.13 hrs, Volume= 0.109 af  
Outflow = 2.109 cfs @ 12.32 hrs, Volume= 0.109 af, Atten= 49%, Lag= 10.9 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.19 fps, Min. Travel Time= 16.2 min  
Avg. Velocity = 0.03 fps, Avg. Travel Time= 119.0 min

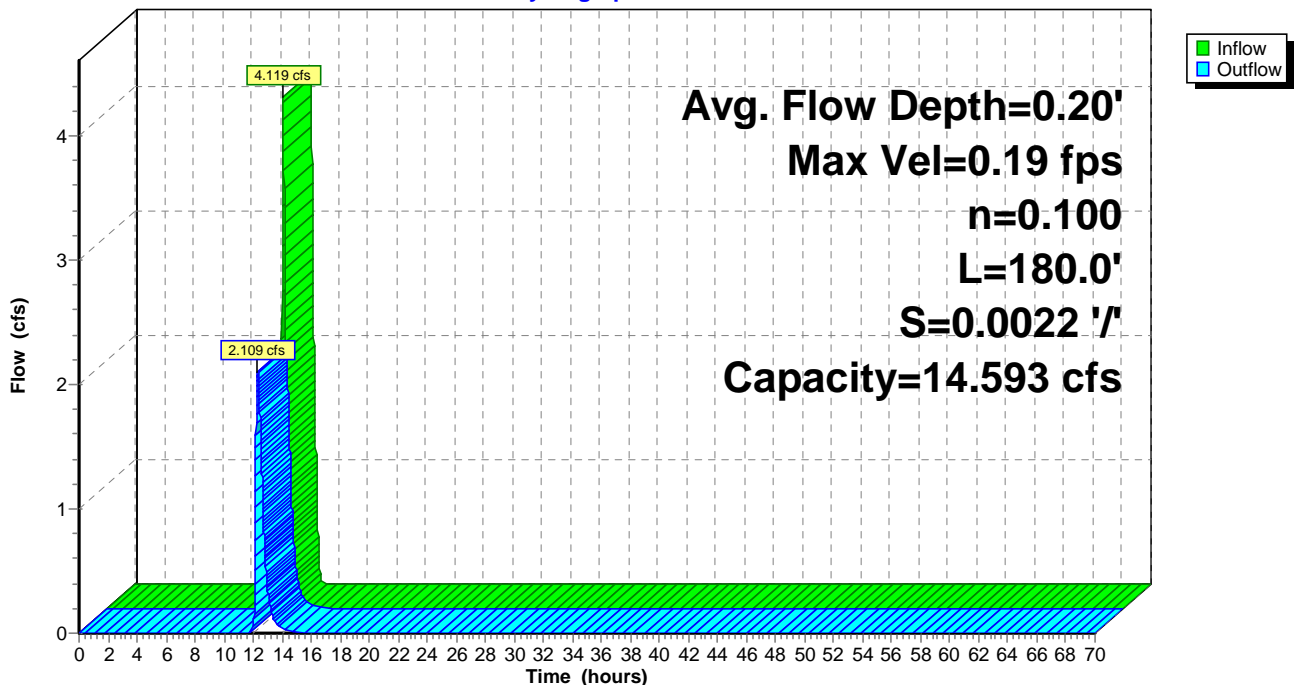
Peak Storage= 2,044 cf @ 12.32 hrs  
Average Depth at Peak Storage= 0.20'  
Bank-Full Depth= 0.50' Flow Area= 43.3 sf, Capacity= 14.593 cfs

130.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 180.0' Slope= 0.0022 '/'  
Inlet Invert= 67.50', Outlet Invert= 67.10'



## Reach 70R: GW8 to RS4

### Hydrograph



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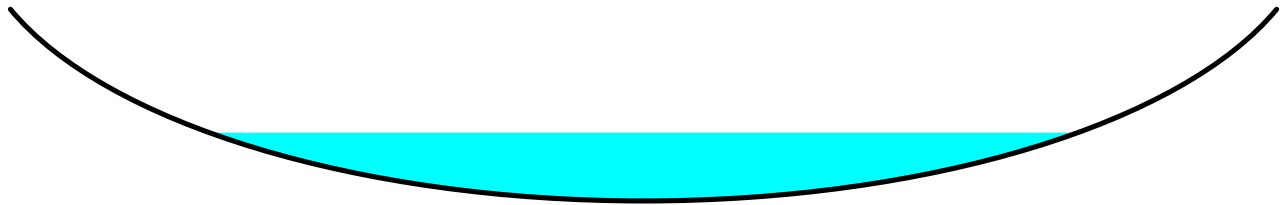
## Summary for Reach 71R: RS4 to SP6

Inflow Area = 3.2 ac, 33.57% Impervious, Inflow Depth = 3.36" for 10-YR event  
Inflow = 4.483 cfs @ 12.47 hrs, Volume= 0.896 af  
Outflow = 4.048 cfs @ 12.72 hrs, Volume= 0.896 af, Atten= 10%, Lag= 14.8 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.58 fps, Min. Travel Time= 16.6 min  
Avg. Velocity = 0.14 fps, Avg. Travel Time= 66.5 min

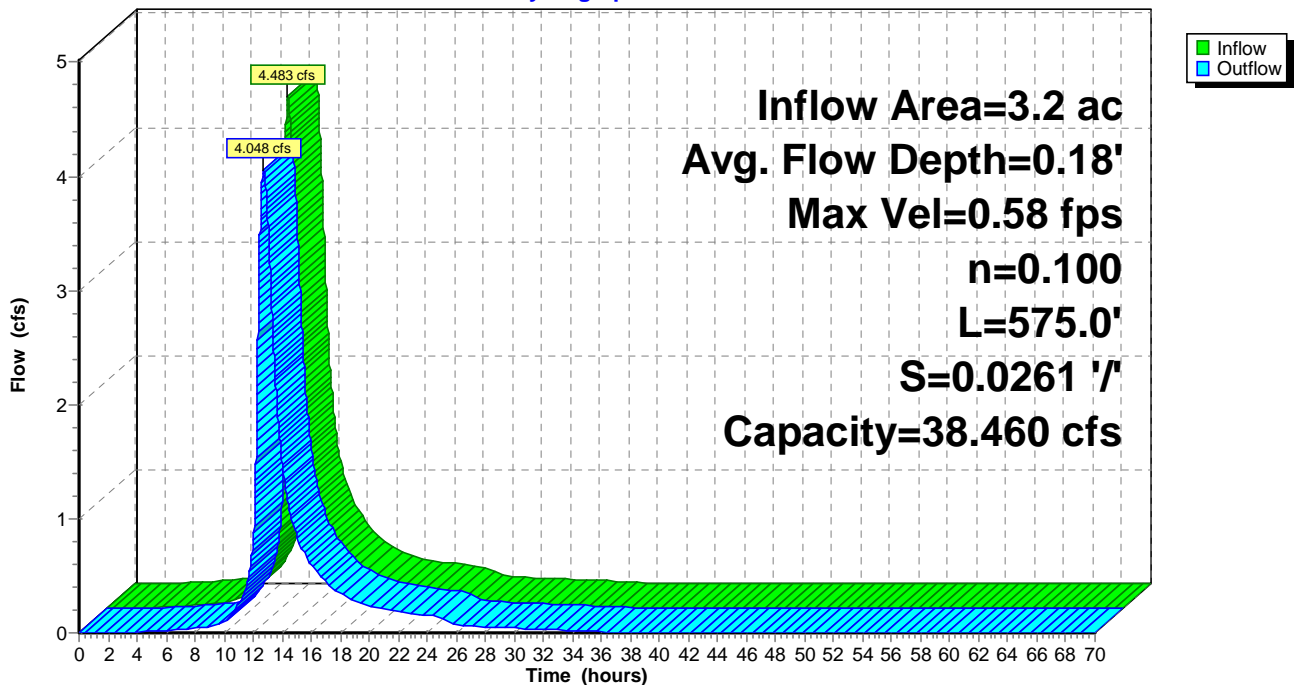
Peak Storage= 4,033 cf @ 12.72 hrs  
Average Depth at Peak Storage= 0.18'  
Bank-Full Depth= 0.50' Flow Area= 33.3 sf, Capacity= 38.460 cfs

100.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 575.0' Slope= 0.0261 '/'  
Inlet Invert= 65.00', Outlet Invert= 50.00'



## Reach 71R: RS4 to SP6

### Hydrograph



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## Summary for Reach 73R: GW7 to SP6

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 4.19" for 10-YR event  
Inflow = 0.444 cfs @ 12.61 hrs, Volume= 0.279 af  
Outflow = 0.385 cfs @ 12.97 hrs, Volume= 0.279 af, Atten= 13%, Lag= 21.9 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.27 fps, Min. Travel Time= 21.9 min

Avg. Velocity = 0.12 fps, Avg. Travel Time= 47.3 min

Peak Storage= 505 cf @ 12.97 hrs

Average Depth at Peak Storage= 0.04'

Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 80.313 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

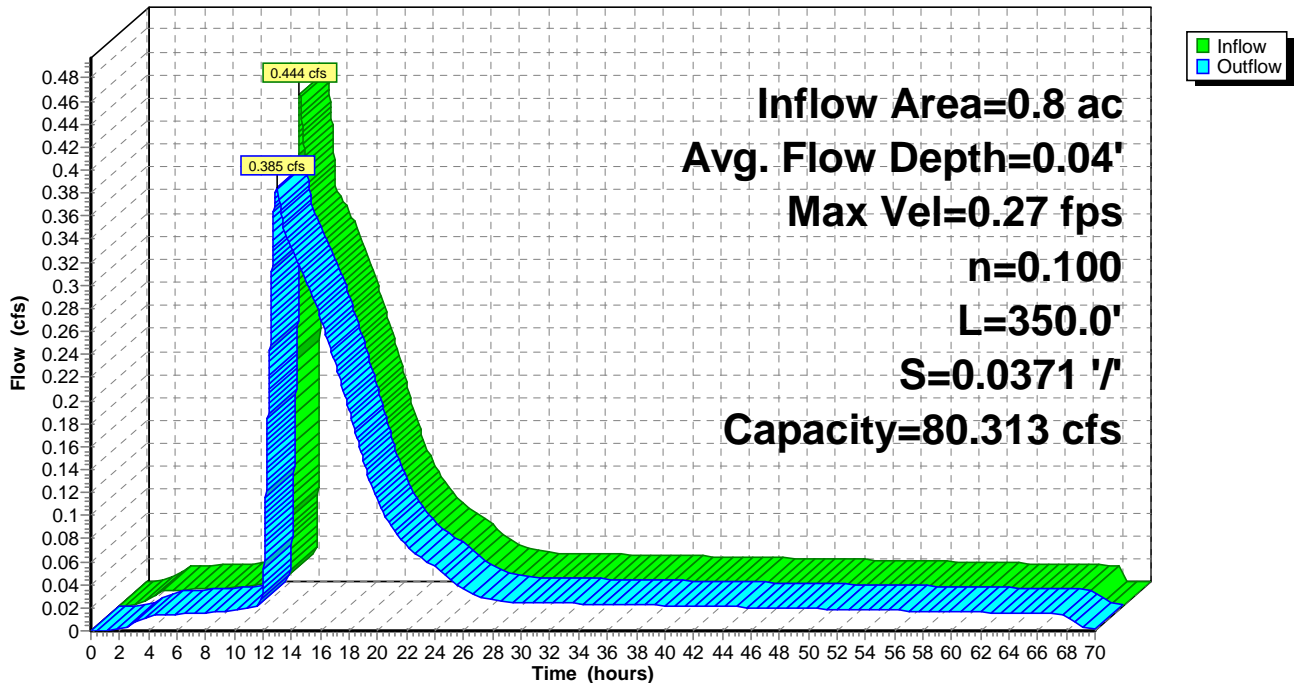
Length= 350.0' Slope= 0.0371 1/100'

Inlet Invert= 63.00', Outlet Invert= 50.00'



## Reach 73R: GW7 to SP6

### Hydrograph



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## Summary for Reach 74R: GW6 to SP6

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth > 4.28" for 10-YR event  
Inflow = 0.180 cfs @ 13.18 hrs, Volume= 0.197 af  
Outflow = 0.172 cfs @ 13.99 hrs, Volume= 0.195 af, Atten= 5%, Lag= 49.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.20 fps, Min. Travel Time= 35.5 min  
Avg. Velocity = 0.12 fps, Avg. Travel Time= 61.2 min

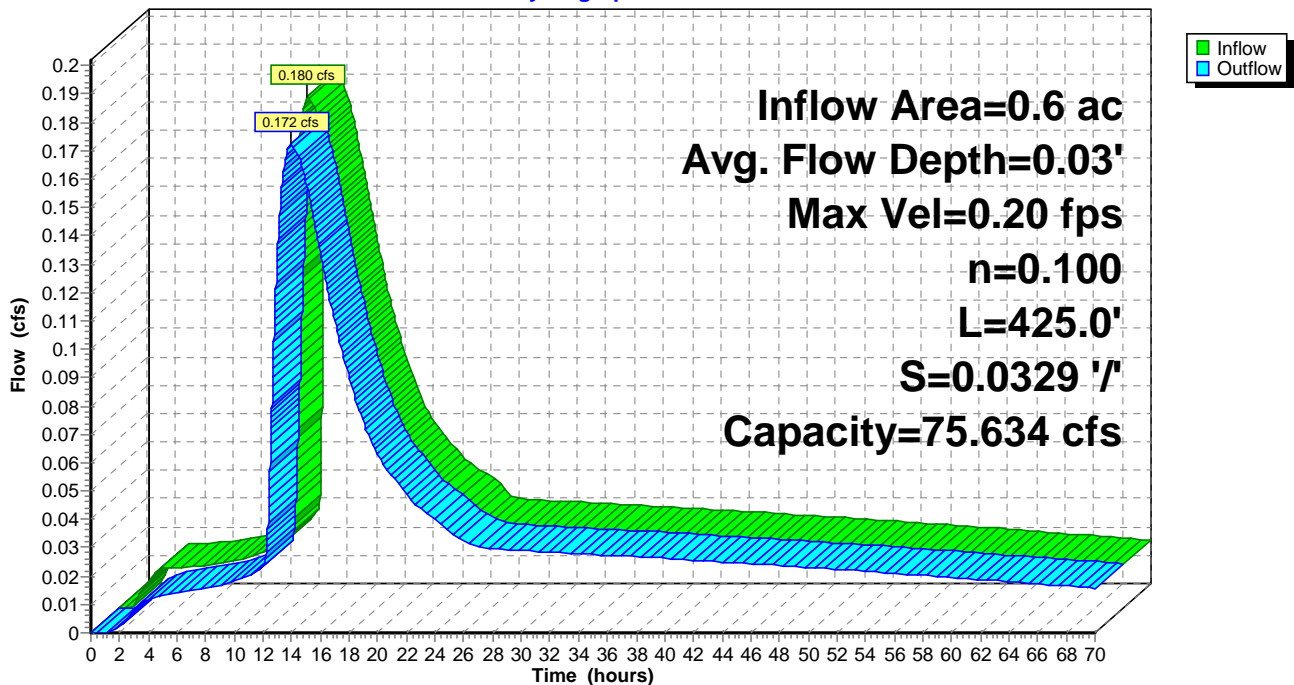
Peak Storage= 367 cf @ 13.99 hrs  
Average Depth at Peak Storage= 0.03'  
Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 75.634 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 425.0' Slope= 0.0329 '/'  
Inlet Invert= 64.00', Outlet Invert= 50.00'



## Reach 74R: GW6 to SP6

### Hydrograph



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

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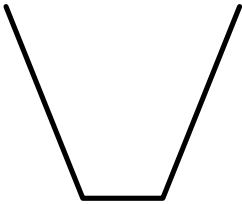
## Summary for Reach 75R: GW10 to SP6

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth > 3.77" for 10-YR event  
Inflow = 0.332 cfs @ 13.20 hrs, Volume= 0.327 af  
Outflow = 0.331 cfs @ 13.37 hrs, Volume= 0.327 af, Atten= 0%, Lag= 10.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.74 fps, Min. Travel Time= 7.3 min  
Avg. Velocity = 0.74 fps, Avg. Travel Time= 7.3 min

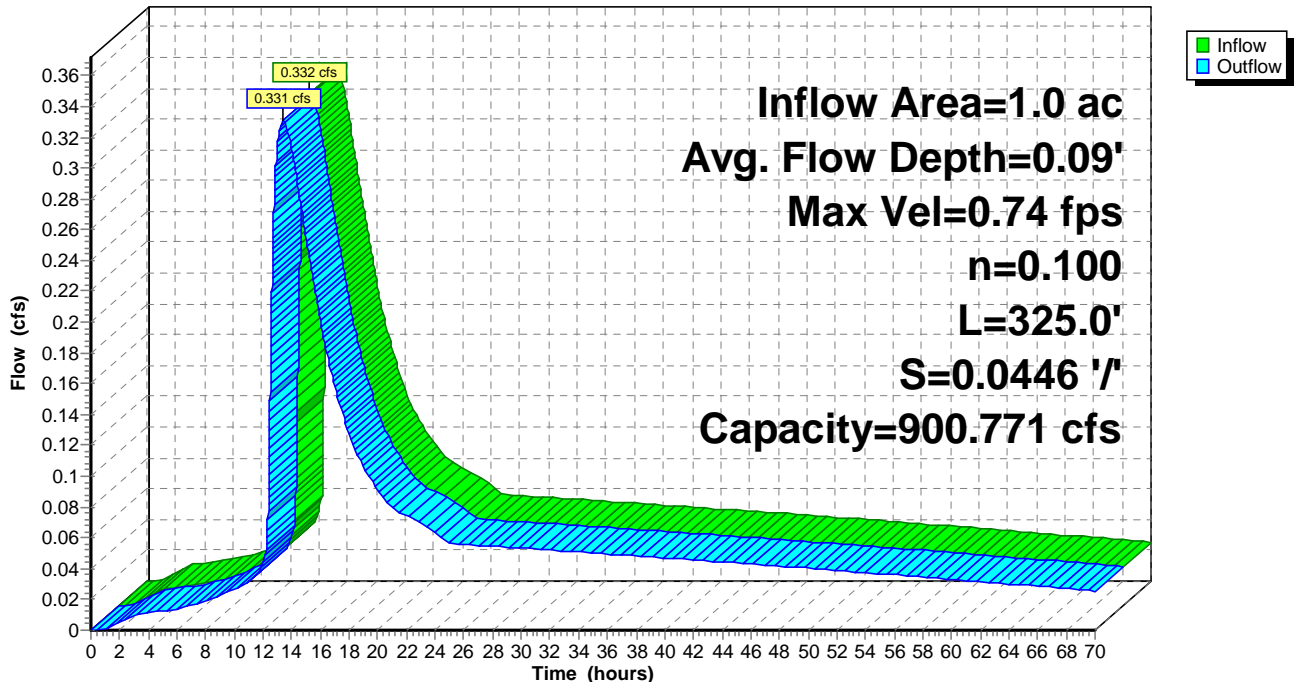
Peak Storage= 145 cf @ 13.37 hrs  
Average Depth at Peak Storage= 0.09'  
Bank-Full Depth= 12.00' Flow Area= 117.6 sf, Capacity= 900.771 cfs

5.00' x 12.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 0.4 '/ Top Width= 14.60'  
Length= 325.0' Slope= 0.0446 '/  
Inlet Invert= 64.50', Outlet Invert= 50.00'



## Reach 75R: GW10 to SP6

### Hydrograph





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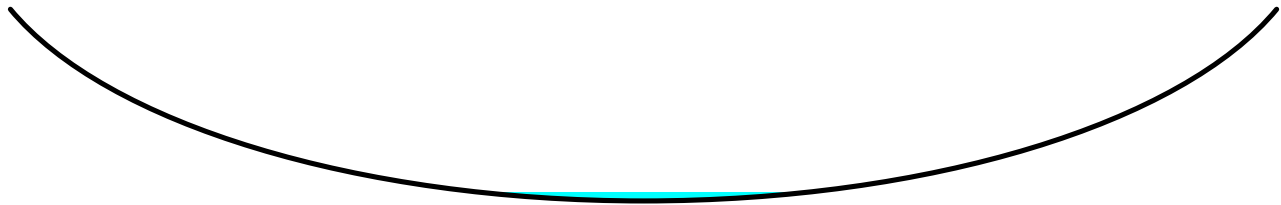
## Summary for Reach 76R: GW12 to SP7

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth > 4.01" for 10-YR event  
Inflow = 0.171 cfs @ 13.87 hrs, Volume= 0.229 af  
Outflow = 0.162 cfs @ 14.66 hrs, Volume= 0.227 af, Atten= 5%, Lag= 47.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.25 fps, Min. Travel Time= 46.0 min  
Avg. Velocity = 0.16 fps, Avg. Travel Time= 73.4 min

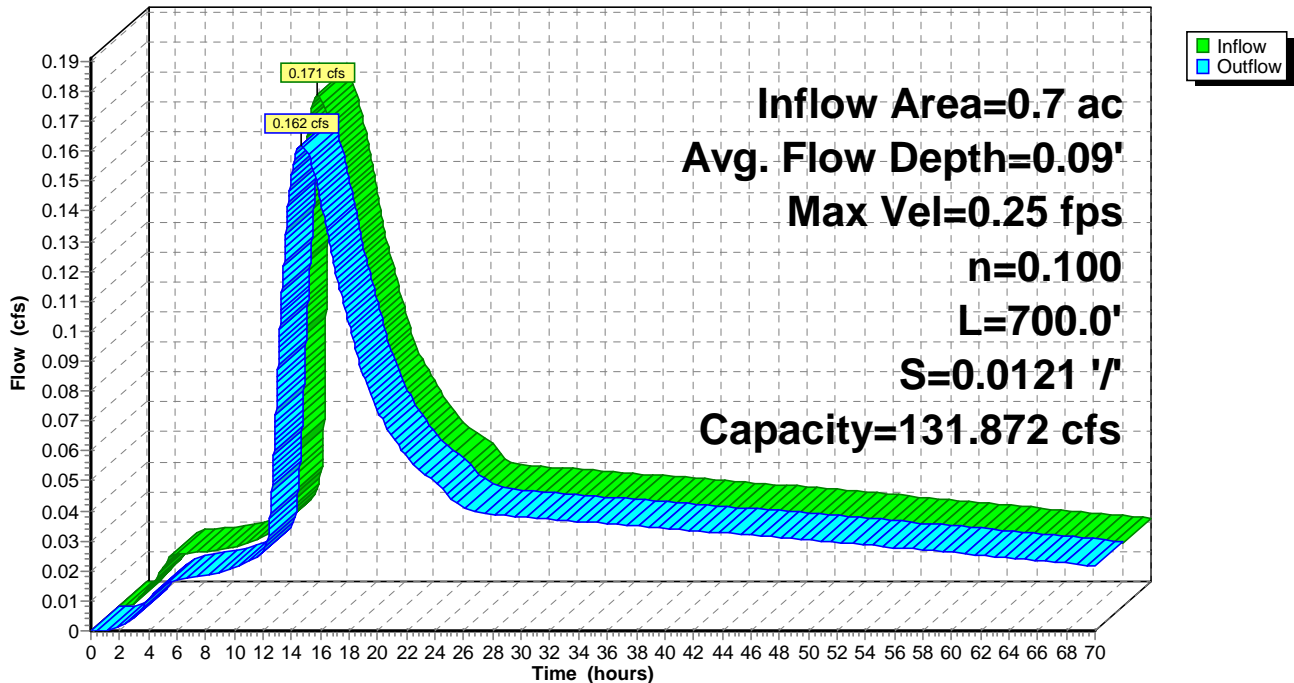
Peak Storage= 447 cf @ 14.66 hrs  
Average Depth at Peak Storage= 0.09'  
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 131.872 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 700.0' Slope= 0.0121 1/'  
Inlet Invert= 67.50', Outlet Invert= 59.00'



## Reach 76R: GW12 to SP7

### Hydrograph



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**Summary for Pond 44P: Gravel Wetland 1**

Inflow Area = 0.4 ac, 54.15% Impervious, Inflow Depth = 4.05" for 10-YR event  
 Inflow = 1.930 cfs @ 12.07 hrs, Volume= 0.145 af  
 Outflow = 0.614 cfs @ 12.35 hrs, Volume= 0.145 af, Atten= 68%, Lag= 16.9 min  
 Primary = 0.614 cfs @ 12.35 hrs, Volume= 0.145 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.01' @ 12.35 hrs Surf.Area= 4,911 sf Storage= 2,593 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 208.3 min ( 974.4 - 766.1 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.48'	5,904 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.48	3,651	0.0	0	0
64.48	3,651	0.0	0	0
65.15	3,651	0.0	0	0
65.40	3,651	0.0	0	0
65.60	3,992	100.0	764	764
66.40	5,782	100.0	3,910	4,674
66.60	6,519	100.0	1,230	5,904

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.55'	<b>8.000" Round Culvert</b> L= 6.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.55' / 65.10' S= 0.0750 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Secondary	66.05'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.614 cfs @ 12.35 hrs HW=66.01' (Free Discharge)

↑1=**Orifice/Grate** (Orifice Controls 0.019 cfs @ 4.58 fps)

↑2=**Culvert** (Inlet Controls 0.595 cfs @ 2.31 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.48' (Free Discharge)

↑3=**Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)

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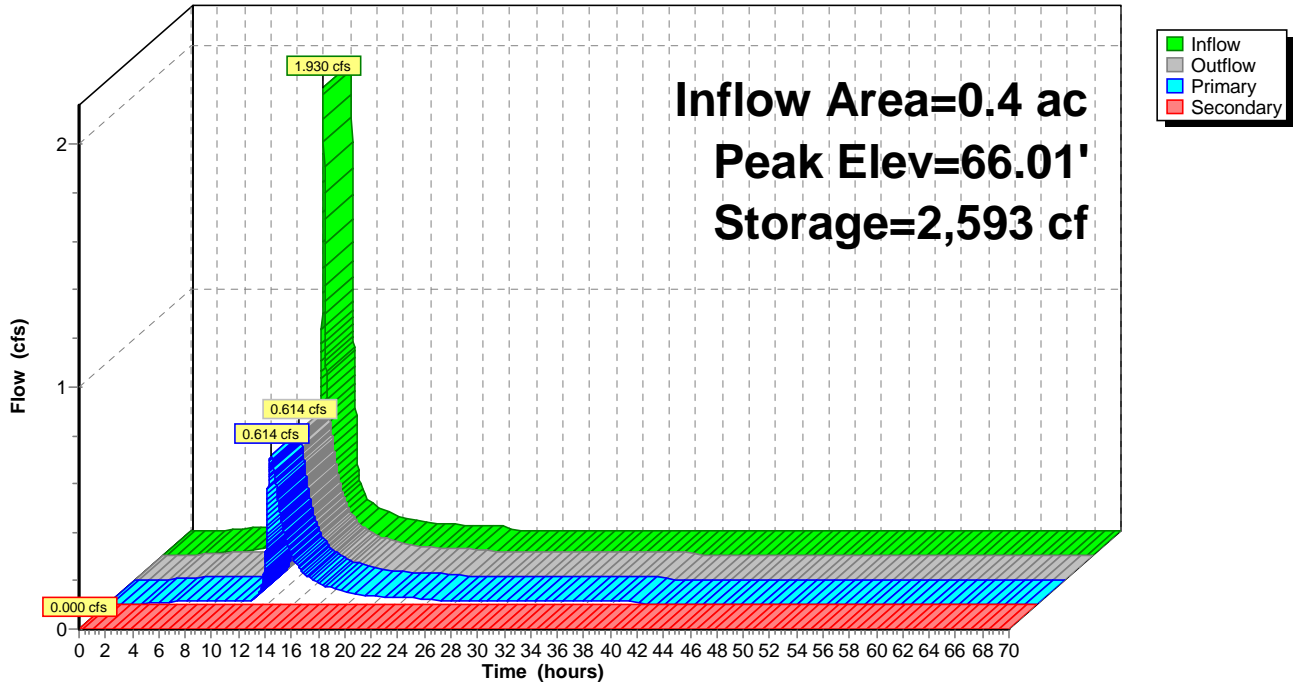
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**Pond 44P: Gravel Wetland 1**

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**Summary for Pond 48P: Gravel Wetland 2**

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth = 4.18" for 10-YR event  
 Inflow = 1.888 cfs @ 12.07 hrs, Volume= 0.143 af  
 Outflow = 0.136 cfs @ 13.12 hrs, Volume= 0.129 af, Atten= 93%, Lag= 63.2 min  
 Primary = 0.136 cfs @ 13.12 hrs, Volume= 0.129 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 68.90' @ 13.12 hrs Surf.Area= 3,522 sf Storage= 3,863 cf

Plug-Flow detention time= 1,020.4 min calculated for 0.129 af (90% of inflow)  
 Center-of-Mass det. time= 970.6 min ( 1,730.9 - 760.3 )

Volume	Invert	Avail.Storage	Storage Description	
#1	64.48'	6,578 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.48	1,970	0.0	0	0
66.48	1,970	0.0	0	0
67.15	1,970	0.0	0	0
67.40	1,970	0.0	0	0
67.60	2,202	100.0	417	417
68.00	2,202	100.0	881	1,298
69.00	3,675	100.0	2,939	4,236
69.60	4,129	100.0	2,341	6,578

Device	Routing	Invert	Outlet Devices
#1	Primary	67.07'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	68.65'	<b>4.000" Round Culvert</b> L= 28.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.65' / 67.00' S= 0.0589 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	69.15'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.136 cfs @ 13.12 hrs HW=68.90' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.020 cfs @ 6.45 fps)

↑2=Culvert (Inlet Controls 0.117 cfs @ 1.69 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=64.48' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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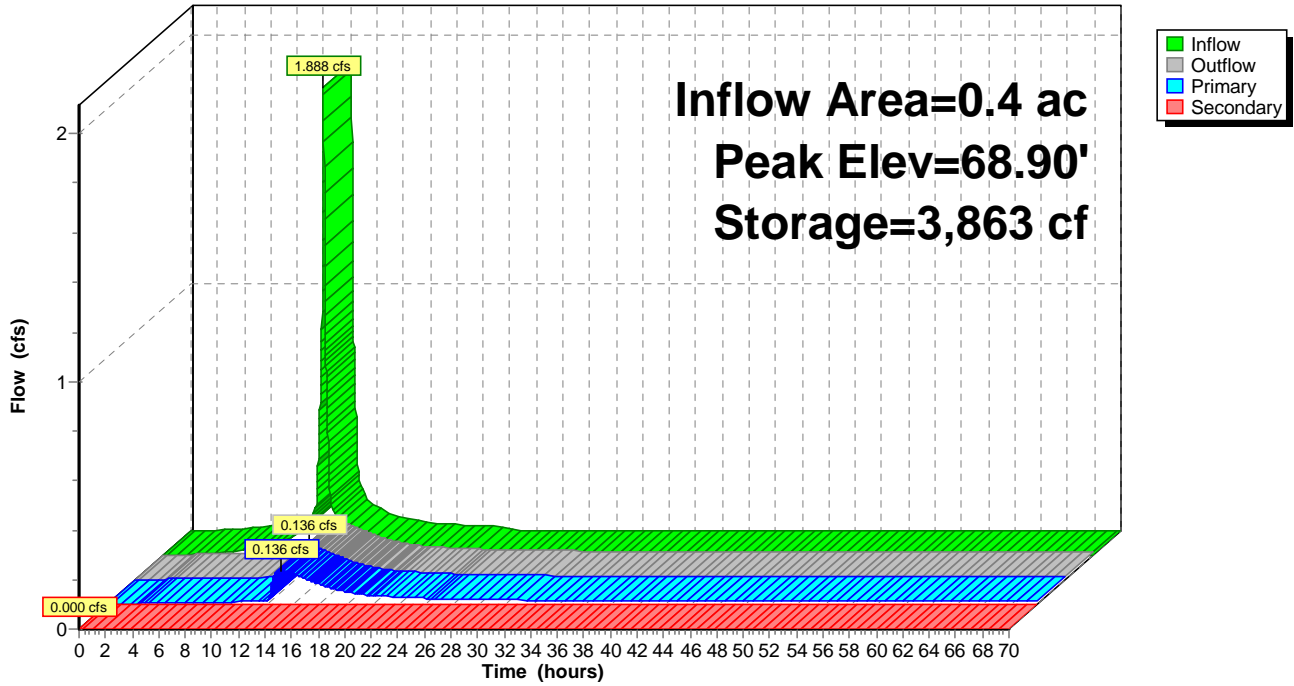
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**Pond 48P: Gravel Wetland 2**

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**Summary for Pond 49P: Gravel Wetland 3**

Inflow Area = 0.8 ac, 75.86% Impervious, Inflow Depth = 4.11" for 10-YR event  
 Inflow = 3.405 cfs @ 12.07 hrs, Volume= 0.257 af  
 Outflow = 0.878 cfs @ 12.42 hrs, Volume= 0.257 af, Atten= 74%, Lag= 21.0 min  
 Primary = 0.878 cfs @ 12.42 hrs, Volume= 0.257 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.91' @ 12.42 hrs Surf.Area= 3,902 sf Storage= 4,578 cf

Plug-Flow detention time= 217.6 min calculated for 0.257 af (100% of inflow)  
 Center-of-Mass det. time= 217.8 min ( 980.7 - 762.9 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.48'	7,432 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.48	2,105	0.0	0	0
65.48	2,105	0.0	0	0
66.15	2,105	0.0	0	0
66.40	2,105	0.0	0	0
66.60	2,395	100.0	450	450
68.00	4,004	100.0	4,479	4,929
68.60	4,340	100.0	2,503	7,432

Device	Routing	Invert	Outlet Devices
#1	Primary	66.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.85'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.85' / 66.00' S= 0.0425 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.878 cfs @ 12.42 hrs HW=67.91' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.027 cfs @ 6.47 fps)

↑ **2=Culvert** (Inlet Controls 0.851 cfs @ 4.34 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.48' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)

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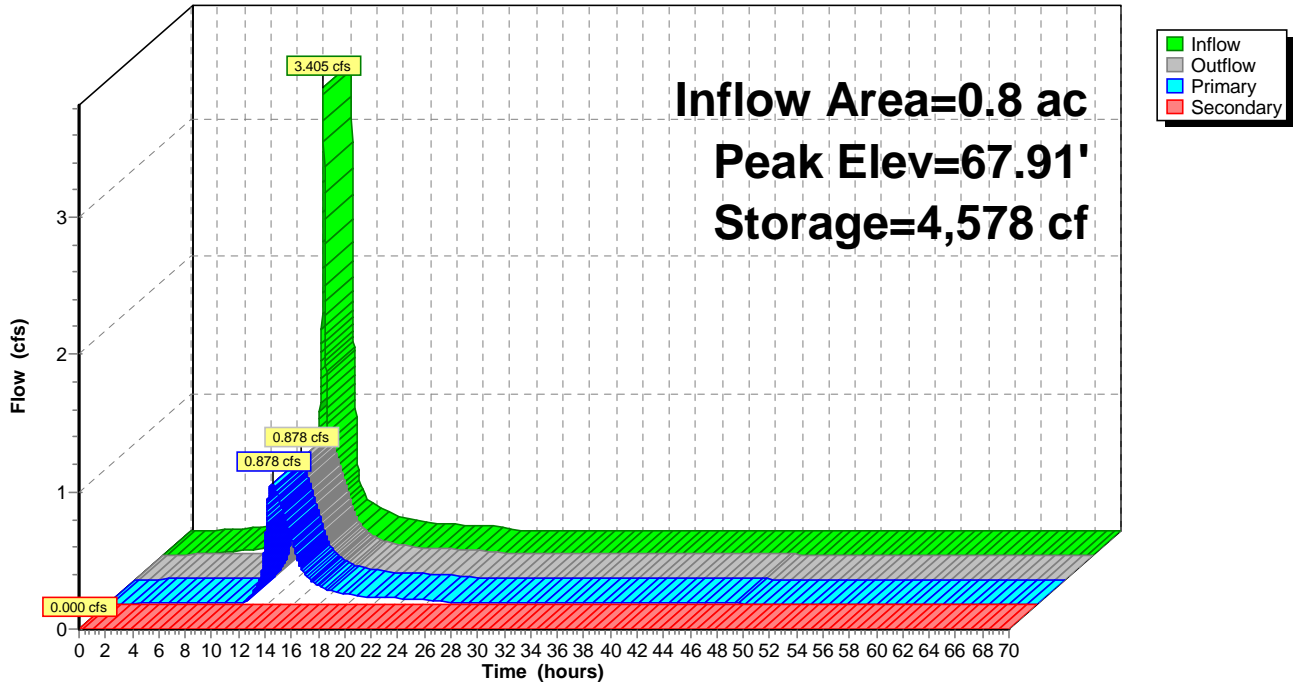
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**Pond 49P: Gravel Wetland 3**

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**Summary for Pond 51P: Gravel Wetland 4**

Inflow Area = 1.2 ac, 63.82% Impervious, Inflow Depth = 3.91" for 10-YR event  
 Inflow = 5.404 cfs @ 12.07 hrs, Volume= 0.399 af  
 Outflow = 0.466 cfs @ 12.95 hrs, Volume= 0.399 af, Atten= 91%, Lag= 52.8 min  
 Primary = 0.466 cfs @ 12.95 hrs, Volume= 0.399 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.71' @ 12.95 hrs Surf.Area= 9,438 sf Storage= 9,713 cf

Plug-Flow detention time= 381.0 min calculated for 0.399 af (100% of inflow)  
 Center-of-Mass det. time= 381.3 min ( 1,153.3 - 771.9 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.38'	21,781 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.38	4,633	0.0	0	0
65.48	4,633	0.0	0	0
66.05	4,633	0.0	0	0
66.30	4,633	0.0	0	0
66.50	5,029	100.0	966	966
68.00	10,498	100.0	11,645	12,611
68.80	12,427	100.0	9,170	21,781

Device	Routing	Invert	Outlet Devices
#1	Primary	66.27'	<b>1.500" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.65'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.65' / 66.20' S= 0.0225 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	68.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.466 cfs @ 12.95 hrs HW=67.71' (Free Discharge)

↑1=**Orifice/Grate** (Orifice Controls 0.069 cfs @ 5.65 fps)

↑2=**Culvert** (Inlet Controls 0.397 cfs @ 4.55 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.38' (Free Discharge)

↑3=**Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)



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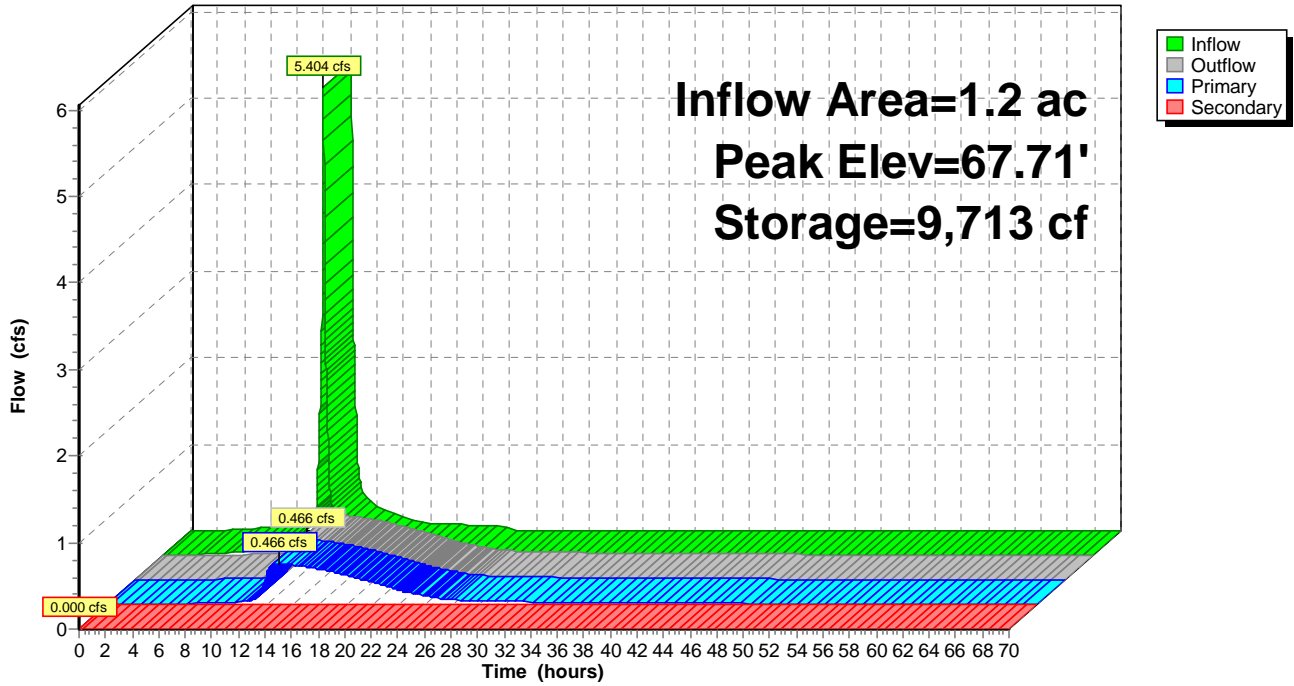
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**Pond 51P: Gravel Wetland 4**

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**Summary for Pond 52P: Gravel Wetland 5**

Inflow Area = 0.3 ac, 82.14% Impervious, Inflow Depth = 4.36" for 10-YR event  
 Inflow = 1.302 cfs @ 12.07 hrs, Volume= 0.102 af  
 Outflow = 0.611 cfs @ 12.21 hrs, Volume= 0.102 af, Atten= 53%, Lag= 8.4 min  
 Primary = 0.241 cfs @ 12.21 hrs, Volume= 0.094 af  
 Secondary = 0.370 cfs @ 12.21 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.75' @ 12.21 hrs Surf.Area= 2,034 sf Storage= 1,970 cf

Plug-Flow detention time= 435.8 min calculated for 0.102 af (100% of inflow)  
 Center-of-Mass det. time= 435.9 min ( 1,184.4 - 748.5 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	4,333 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	1,414	0.0	0	0
64.68	1,414	0.0	0	0
65.35	1,414	0.0	0	0
65.60	1,414	0.0	0	0
66.00	1,612	100.0	605	605
67.00	2,175	100.0	1,894	2,499
67.80	2,411	100.0	1,834	4,333

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.30'	<b>4.000" Round Culvert</b> L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.30' / 65.00' S= 0.1300 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	66.70'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.241 cfs @ 12.21 hrs HW=66.75' (Free Discharge)

↑1=**Orifice/Grate** (Orifice Controls 0.018 cfs @ 5.79 fps)

↑2=**Culvert** (Inlet Controls 0.223 cfs @ 2.56 fps)

**Secondary OutFlow** Max=0.335 cfs @ 12.21 hrs HW=66.75' (Free Discharge)

↑3=**Broad-Crested Rectangular Weir** (Weir Controls 0.335 cfs @ 0.69 fps)

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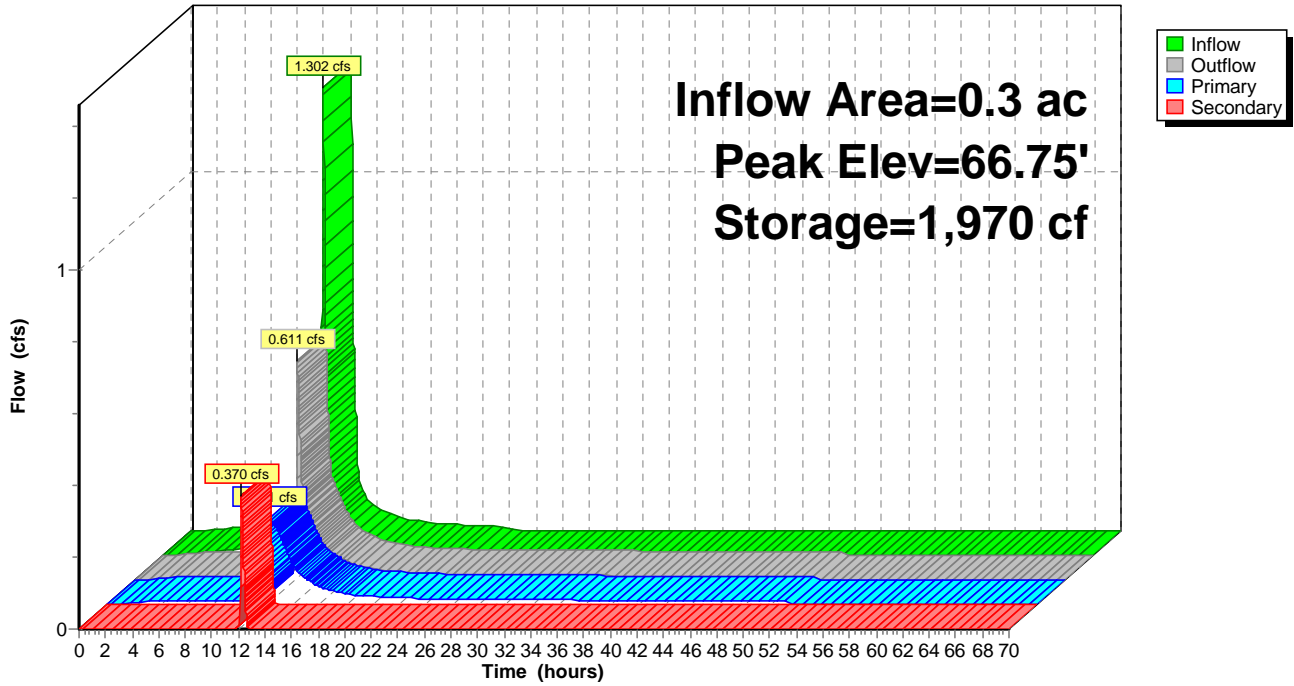
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**Pond 52P: Gravel Wetland 5**

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**Summary for Pond 53P: Gravel Wetland 8**

Inflow Area = 1.5 ac, 70.96% Impervious, Inflow Depth = 4.08" for 10-YR event  
 Inflow = 6.856 cfs @ 12.07 hrs, Volume= 0.514 af  
 Outflow = 5.232 cfs @ 12.13 hrs, Volume= 0.514 af, Atten= 24%, Lag= 3.7 min  
 Primary = 1.113 cfs @ 12.13 hrs, Volume= 0.405 af  
 Secondary = 4.119 cfs @ 12.13 hrs, Volume= 0.109 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.84' @ 12.13 hrs Surf.Area= 6,873 sf Storage= 6,479 cf  
 Flood Elev= 68.21' Surf.Area= 7,584 sf Storage= 9,188 cf

Plug-Flow detention time= 128.5 min calculated for 0.514 af (100% of inflow)  
 Center-of-Mass det. time= 128.6 min ( 894.6 - 766.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.60'	15,649 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.60	3,229	0	0
66.85	4,043	909	909
67.00	4,839	666	1,575
68.00	7,268	6,054	7,629
69.00	8,772	8,020	15,649

Device	Routing	Invert	Outlet Devices
#1	Primary	66.52'	<b>2.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.94'	<b>8.000" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.94' / 66.73' S= 0.0105 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#3	Secondary	67.60'	<b>15.0' long x 5.0' 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 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

**Primary OutFlow** Max=1.113 cfs @ 12.13 hrs HW=67.84' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.117 cfs @ 5.35 fps)

↑ **2=Culvert** (Inlet Controls 0.996 cfs @ 2.85 fps)

**Secondary OutFlow** Max=4.108 cfs @ 12.13 hrs HW=67.84' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 4.108 cfs @ 1.15 fps)

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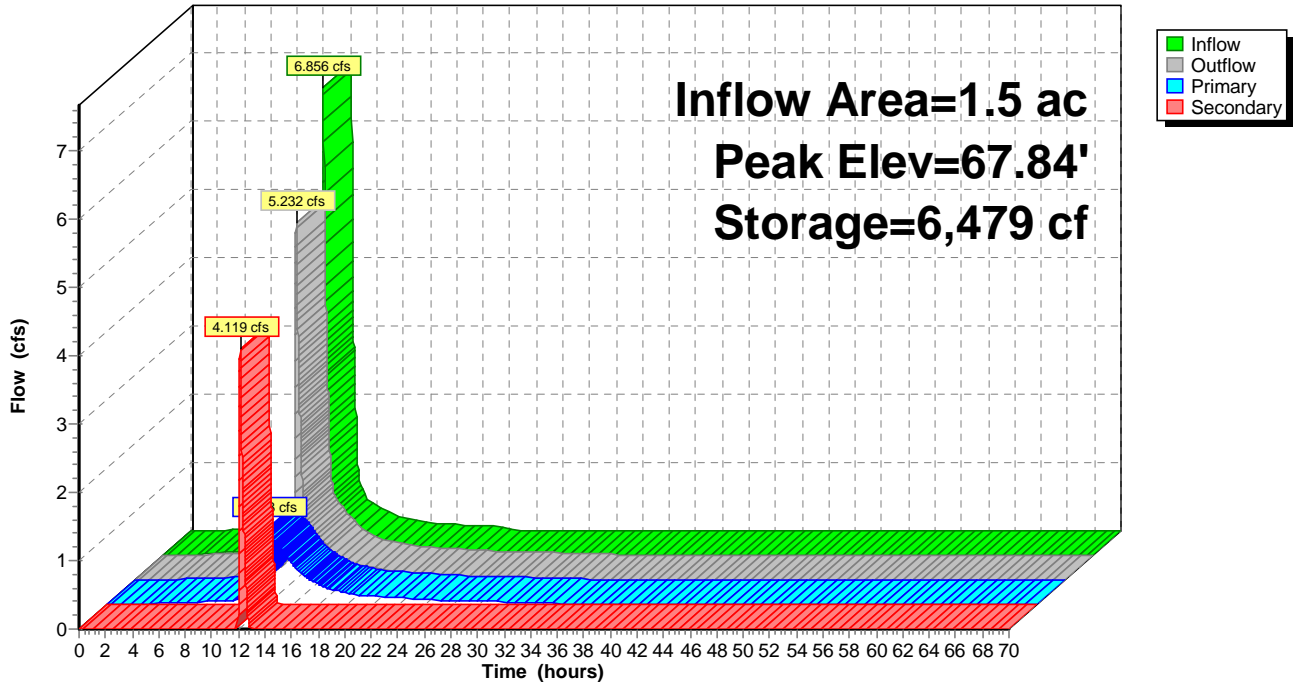
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**Pond 53P: Gravel Wetland 8**

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**Summary for Pond 58P: Gravel Wetland 7**

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 4.19" for 10-YR event  
 Inflow = 3.668 cfs @ 12.07 hrs, Volume= 0.279 af  
 Outflow = 0.444 cfs @ 12.61 hrs, Volume= 0.279 af, Atten= 88%, Lag= 32.1 min  
 Primary = 0.346 cfs @ 12.61 hrs, Volume= 0.276 af  
 Secondary = 0.098 cfs @ 12.61 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.92' @ 12.61 hrs Surf.Area= 6,473 sf Storage= 6,935 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 621.9 min ( 1,381.0 - 759.1 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.35'	11,555 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.35	4,339	0.0	0	0
64.20	4,339	0.0	0	0
64.60	4,339	0.0	0	0
65.00	4,680	100.0	1,804	1,804
66.00	6,629	100.0	5,655	7,458
66.60	7,026	100.0	4,096	11,555

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.20'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.20' / 64.00' S= 0.0600 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	65.90'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.346 cfs @ 12.61 hrs HW=65.92' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.033 cfs @ 6.11 fps)

└ **2=Culvert** (Inlet Controls 0.313 cfs @ 3.58 fps)

**Secondary OutFlow** Max=0.090 cfs @ 12.61 hrs HW=65.92' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 0.090 cfs @ 0.44 fps)

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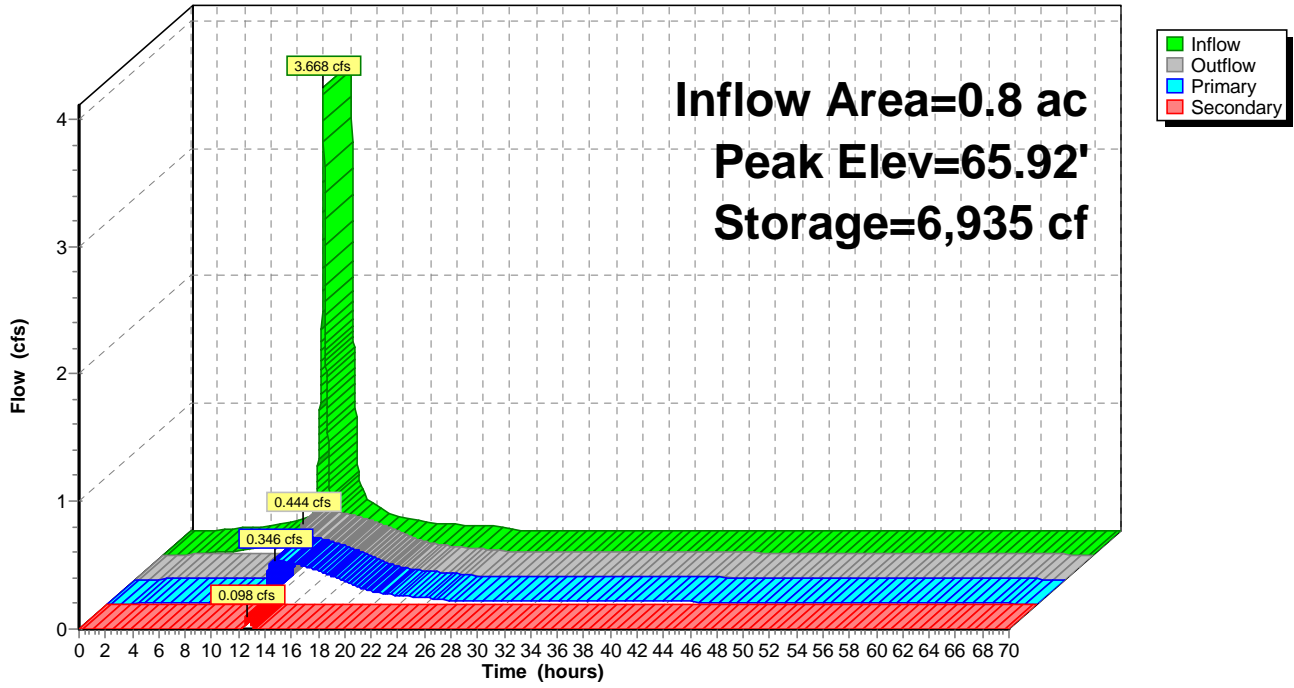
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**Pond 58P: Gravel Wetland 7**

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**Summary for Pond 59P: Gravel Wetland 6**

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth = 4.36" for 10-YR event  
 Inflow = 2.571 cfs @ 12.07 hrs, Volume= 0.201 af  
 Outflow = 0.180 cfs @ 13.18 hrs, Volume= 0.197 af, Atten= 93%, Lag= 66.3 min  
 Primary = 0.180 cfs @ 13.18 hrs, Volume= 0.197 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.89' @ 13.18 hrs Surf.Area= 5,470 sf Storage= 5,320 cf

Plug-Flow detention time= 977.3 min calculated for 0.197 af (98% of inflow)  
 Center-of-Mass det. time= 964.7 min ( 1,713.2 - 748.5 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	9,534 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	3,048	0.0	0	0
64.68	3,048	0.0	0	0
65.35	3,048	0.0	0	0
65.60	3,048	0.0	0	0
66.00	3,524	100.0	1,314	1,314
67.00	5,709	100.0	4,617	5,931
67.60	6,303	100.0	3,604	9,534

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.60'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.60' / 65.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	67.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.181 cfs @ 13.18 hrs HW=66.89' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.033 cfs @ 6.05 fps)

↑ **2=Culvert** (Inlet Controls 0.148 cfs @ 1.84 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.68' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)



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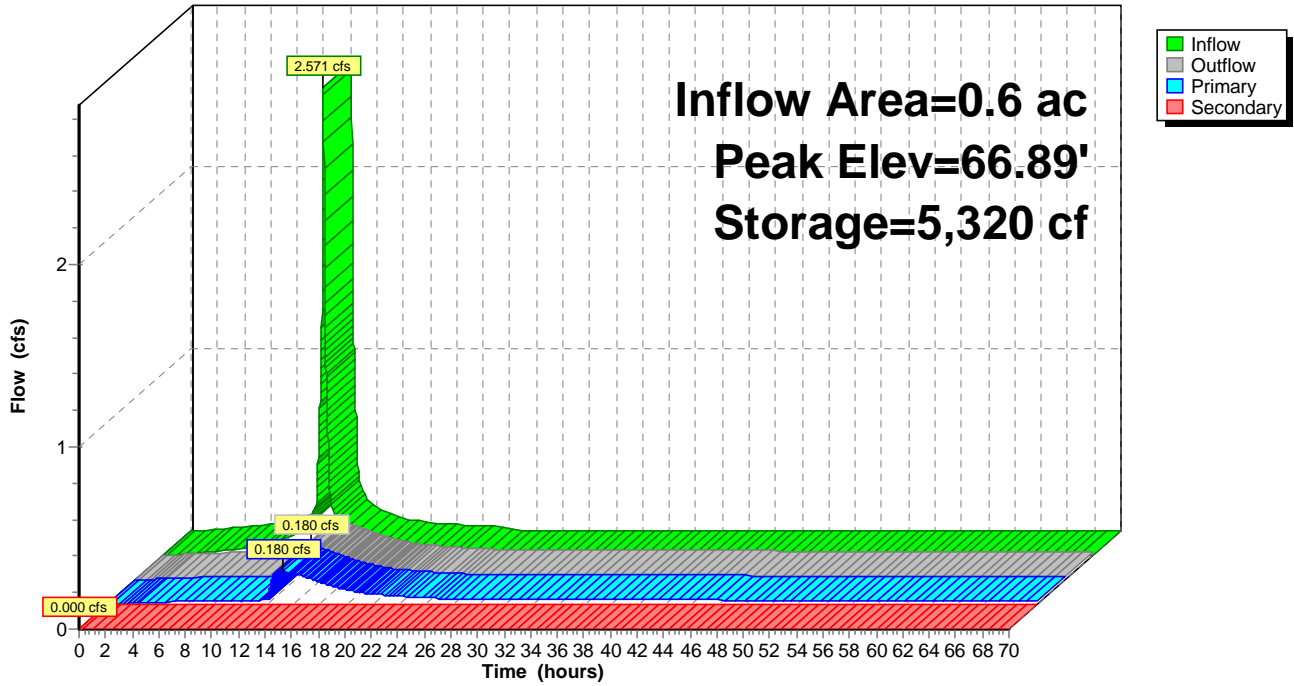
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**Pond 59P: Gravel Wetland 6**

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**Summary for Pond 60P: Gravel Wetland 12**

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth = 4.21" for 10-YR event  
 Inflow = 3.154 cfs @ 12.07 hrs, Volume= 0.241 af  
 Outflow = 0.171 cfs @ 13.87 hrs, Volume= 0.229 af, Atten= 95%, Lag= 107.8 min  
 Primary = 0.171 cfs @ 13.87 hrs, Volume= 0.229 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 69.92' @ 13.87 hrs Surf.Area= 6,229 sf Storage= 6,686 cf

Plug-Flow detention time= 1,096.3 min calculated for 0.229 af (95% of inflow)  
 Center-of-Mass det. time= 1,068.4 min ( 1,826.0 - 757.6 )

Volume	Invert	Avail.Storage	Storage Description	
#1	65.68'	11,160 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.68	4,209	0.0	0	0
67.68	4,209	0.0	0	0
68.35	4,209	0.0	0	0
68.60	4,209	0.0	0	0
69.00	4,547	100.0	1,751	1,751
70.00	6,384	100.0	5,466	7,217
70.60	6,760	100.0	3,943	11,160

Device	Routing	Invert	Outlet Devices
#1	Primary	68.27'	<b>1.125" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	69.70'	<b>6.000" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 69.70' / 68.00' S= 0.0425 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	70.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.170 cfs @ 13.87 hrs HW=69.92' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.042 cfs @ 6.09 fps)

↑2=Culvert (Inlet Controls 0.128 cfs @ 1.58 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=65.68' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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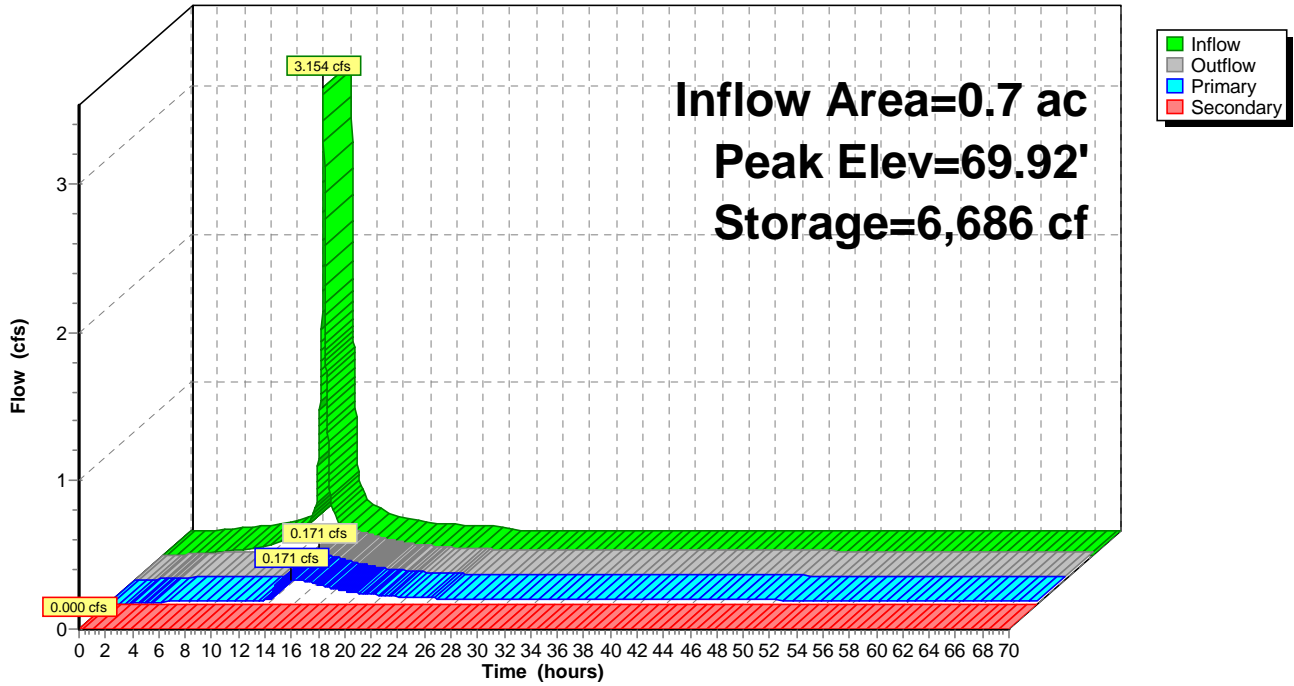
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**Pond 60P: Gravel Wetland 12**

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**Summary for Pond 62P: Gravel Wetland 10**

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth = 4.07" for 10-YR event  
 Inflow = 4.706 cfs @ 12.07 hrs, Volume= 0.353 af  
 Outflow = 0.332 cfs @ 13.20 hrs, Volume= 0.327 af, Atten= 93%, Lag= 68.0 min  
 Primary = 0.332 cfs @ 13.20 hrs, Volume= 0.327 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.33' @ 13.20 hrs Surf.Area= 5,384 sf Storage= 9,601 cf

Plug-Flow detention time= 1,040.7 min calculated for 0.327 af (93% of inflow)  
 Center-of-Mass det. time= 1,001.4 min ( 1,766.4 - 765.0 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.28'	17,061 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.28	3,476	0.0	0	0
64.28	3,476	0.0	0	0
64.95	3,476	0.0	0	0
65.20	3,476	0.0	0	0
65.40	3,804	100.0	728	728
68.00	5,931	100.0	12,655	13,383
68.60	6,329	100.0	3,678	17,061

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>1.250" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	67.00'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 67.00' / 65.00' S= 0.1000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.332 cfs @ 13.20 hrs HW=67.33' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.061 cfs @ 7.16 fps)

↑ **2=Culvert** (Inlet Controls 0.271 cfs @ 1.96 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.28' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)

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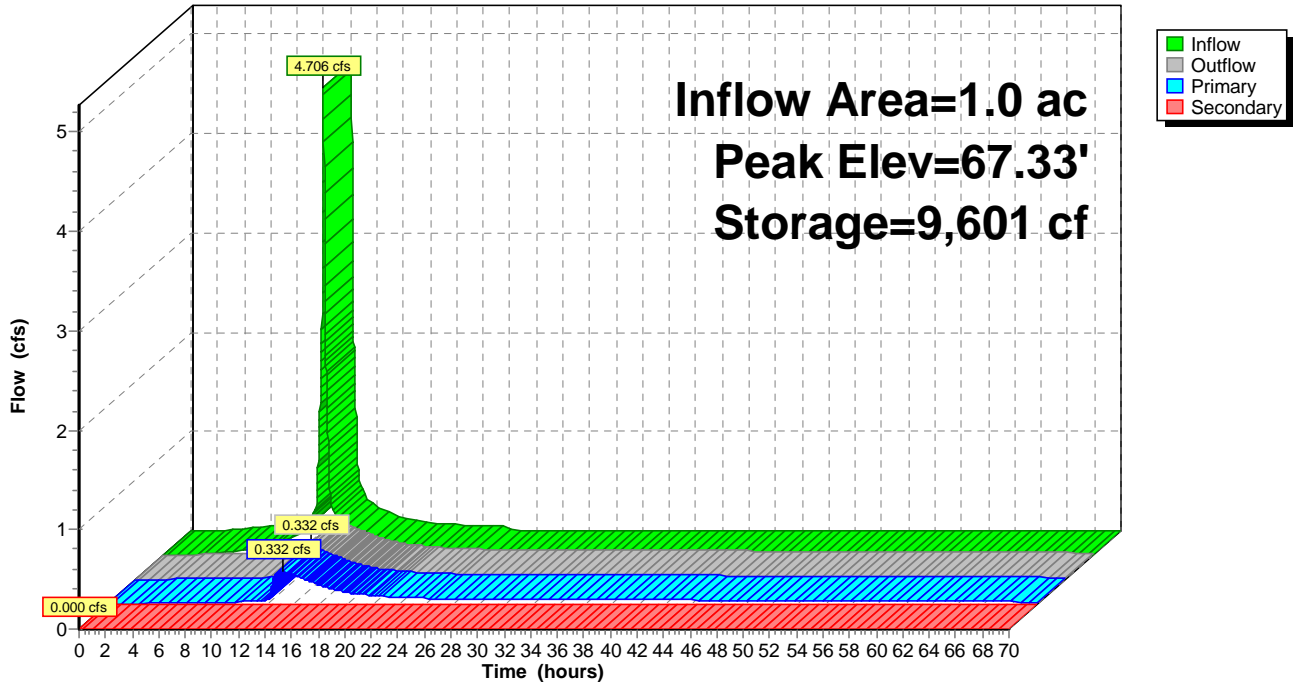
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**Pond 62P: Gravel Wetland 10**

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**Summary for Pond 63P: Gravel Wetland 11**

Inflow Area = 0.4 ac, 56.12% Impervious, Inflow Depth = 4.22" for 10-YR event  
 Inflow = 1.621 cfs @ 12.07 hrs, Volume= 0.124 af  
 Outflow = 0.027 cfs @ 17.90 hrs, Volume= 0.087 af, Atten= 98%, Lag= 349.5 min  
 Primary = 0.027 cfs @ 17.90 hrs, Volume= 0.087 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.65' @ 17.90 hrs Surf.Area= 4,815 sf Storage= 4,207 cf

Plug-Flow detention time= 1,468.6 min calculated for 0.087 af (70% of inflow)  
 Center-of-Mass det. time= 1,375.3 min ( 2,133.3 - 758.0 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.68'	9,324 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.68	3,385	0.0	0	0
63.68	3,385	0.0	0	0
64.35	3,385	0.0	0	0
64.60	3,385	0.0	0	0
65.00	3,712	100.0	1,419	1,419
66.00	5,399	100.0	4,556	5,975
66.60	5,765	100.0	3,349	9,324

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.60'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.60' / 64.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	66.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.026 cfs @ 17.90 hrs HW=65.65' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.017 cfs @ 5.60 fps)

↑2=Culvert (Inlet Controls 0.009 cfs @ 0.79 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.68' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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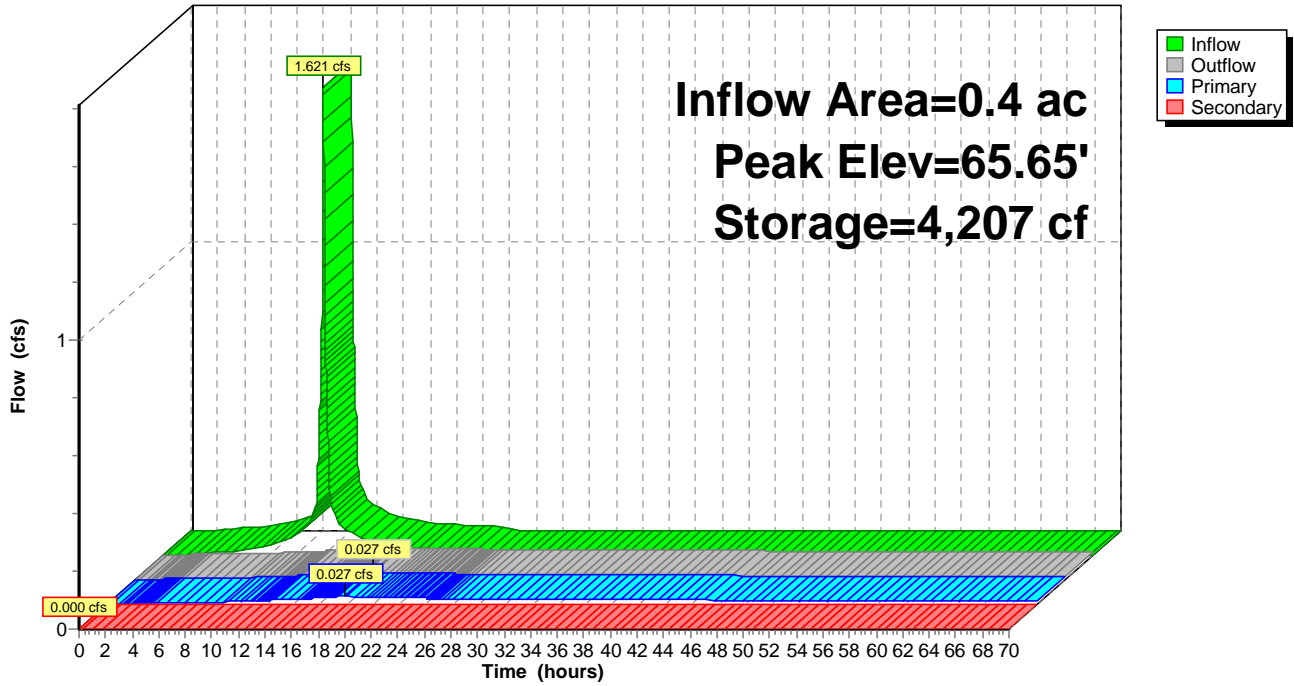
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**Pond 63P: Gravel Wetland 11**

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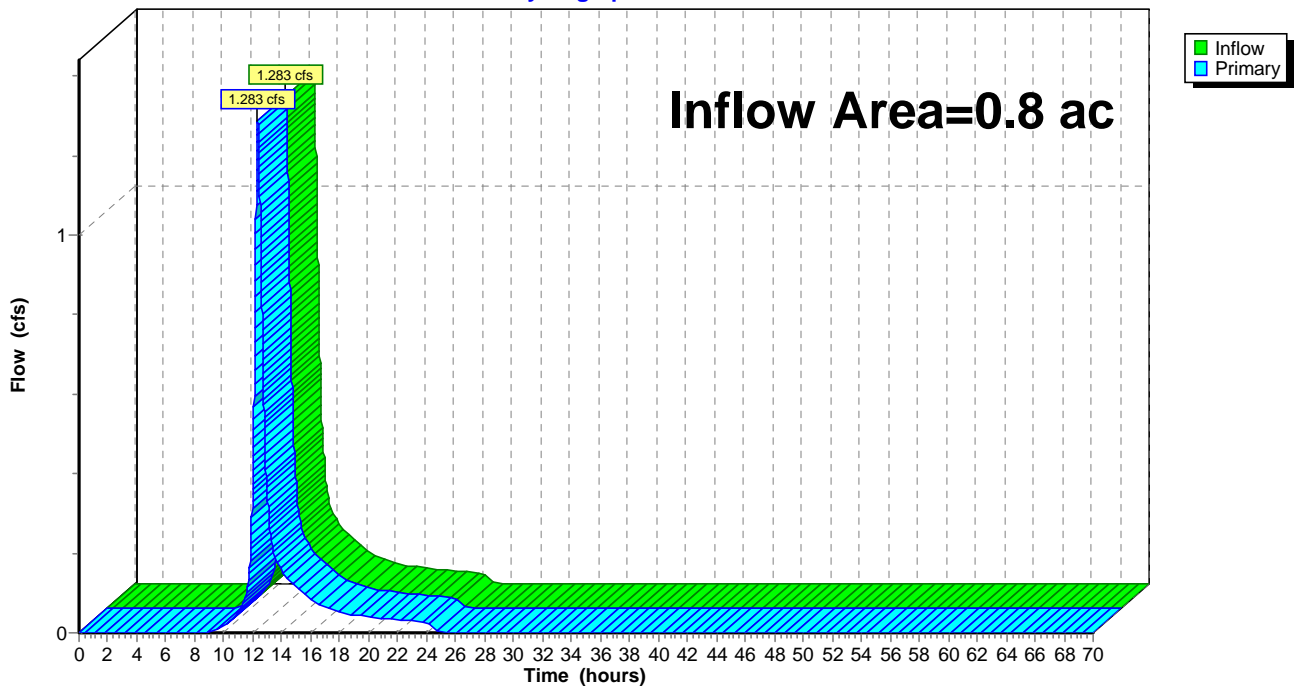
## Summary for Link 42L: Study Point 3

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth = 2.21" for 10-YR event  
Inflow = 1.283 cfs @ 12.34 hrs, Volume= 0.147 af  
Primary = 1.283 cfs @ 12.34 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 42L: Study Point 3

Hydrograph





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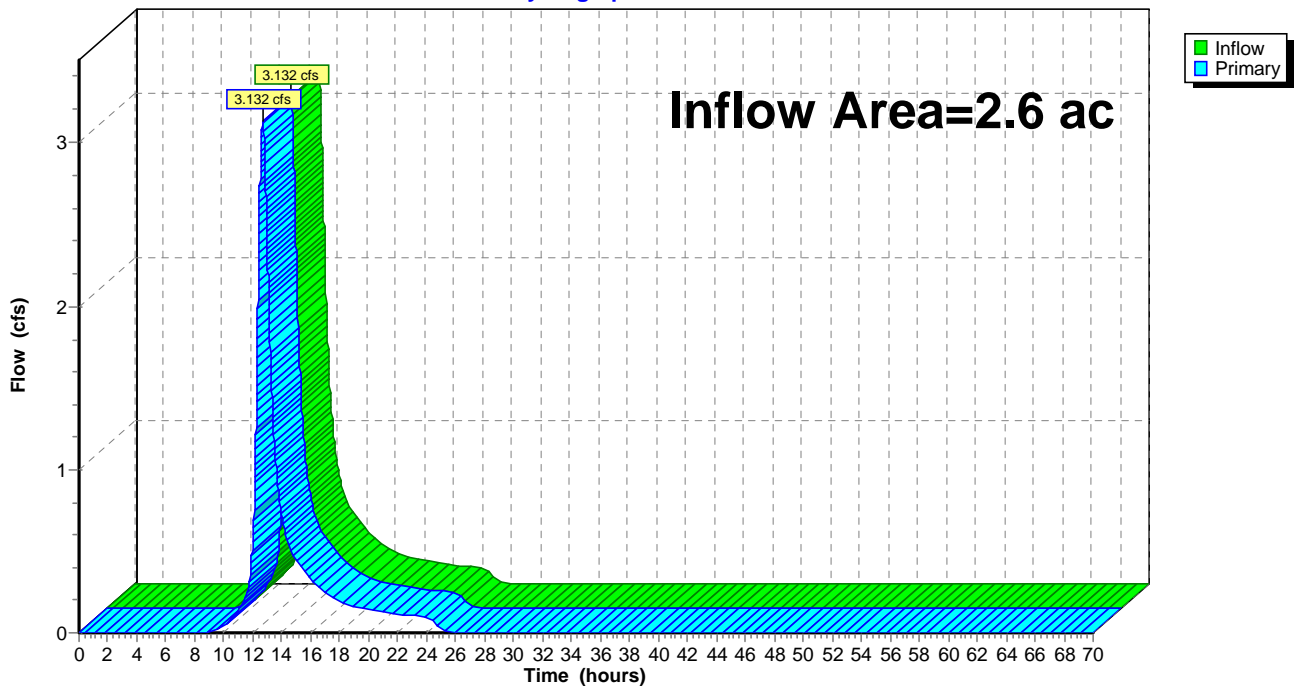
**Summary for Link 43L: Study Point 4**

Inflow Area = 2.6 ac, 2.64% Impervious, Inflow Depth = 2.29" for 10-YR event  
Inflow = 3.132 cfs @ 12.67 hrs, Volume= 0.505 af  
Primary = 3.132 cfs @ 12.67 hrs, Volume= 0.505 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

**Link 43L: Study Point 4**

Hydrograph



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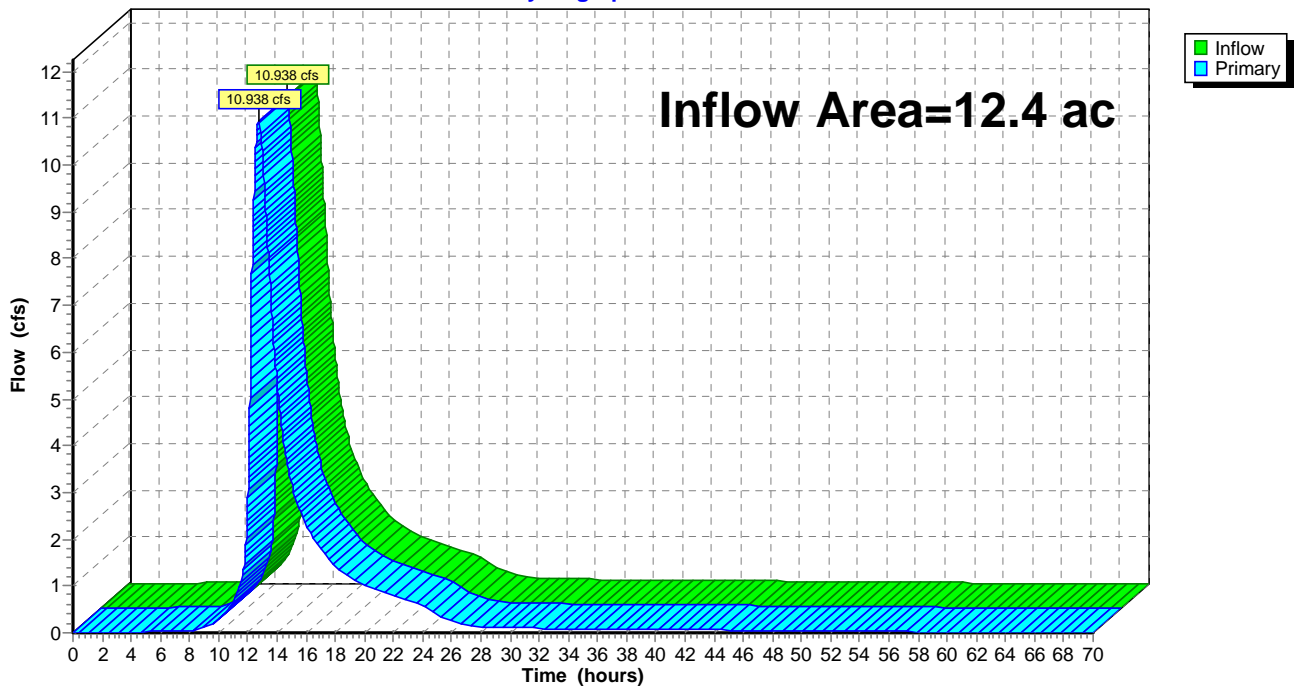
**Summary for Link 46L: Study Point 5**

Inflow Area = 12.4 ac, 18.14% Impervious, Inflow Depth > 3.01" for 10-YR event  
Inflow = 10.938 cfs @ 12.73 hrs, Volume= 3.113 af  
Primary = 10.938 cfs @ 12.73 hrs, Volume= 3.113 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

**Link 46L: Study Point 5**

Hydrograph



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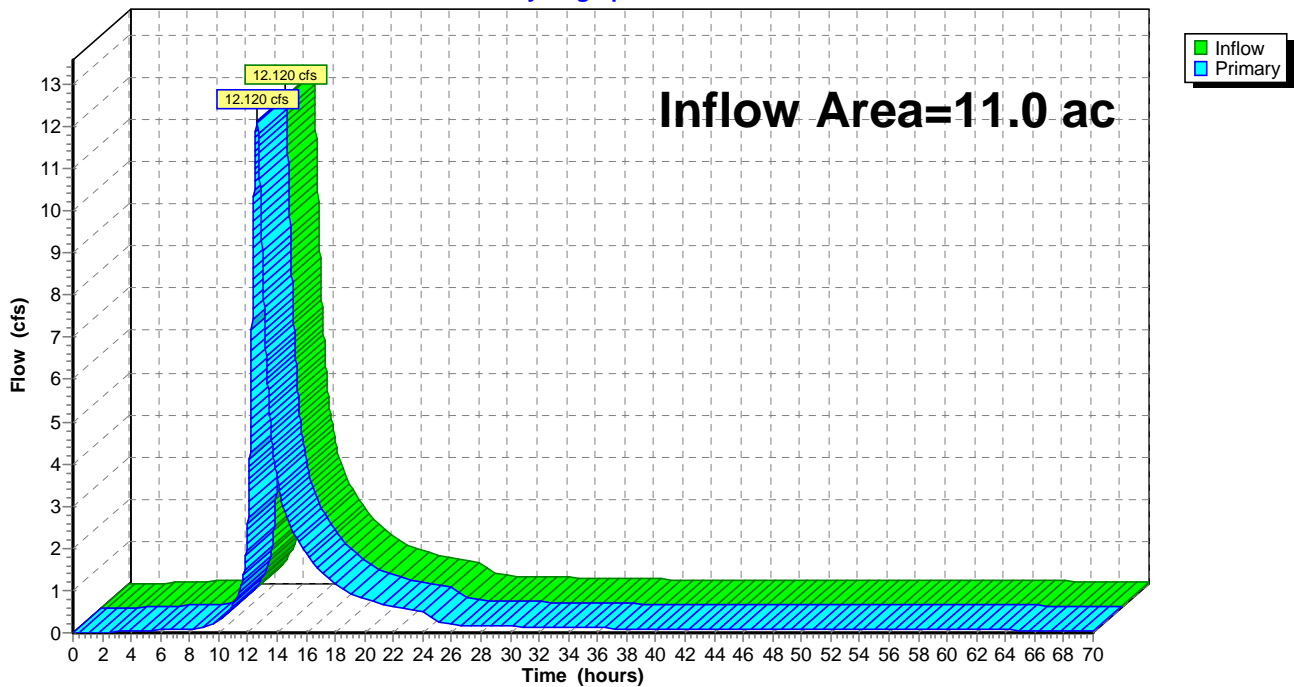
## Summary for Link 55L: Study Point 6

Inflow Area = 11.0 ac, 25.80% Impervious, Inflow Depth > 3.06" for 10-YR event  
Inflow = 12.120 cfs @ 12.62 hrs, Volume= 2.811 af  
Primary = 12.120 cfs @ 12.62 hrs, Volume= 2.811 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 55L: Study Point 6

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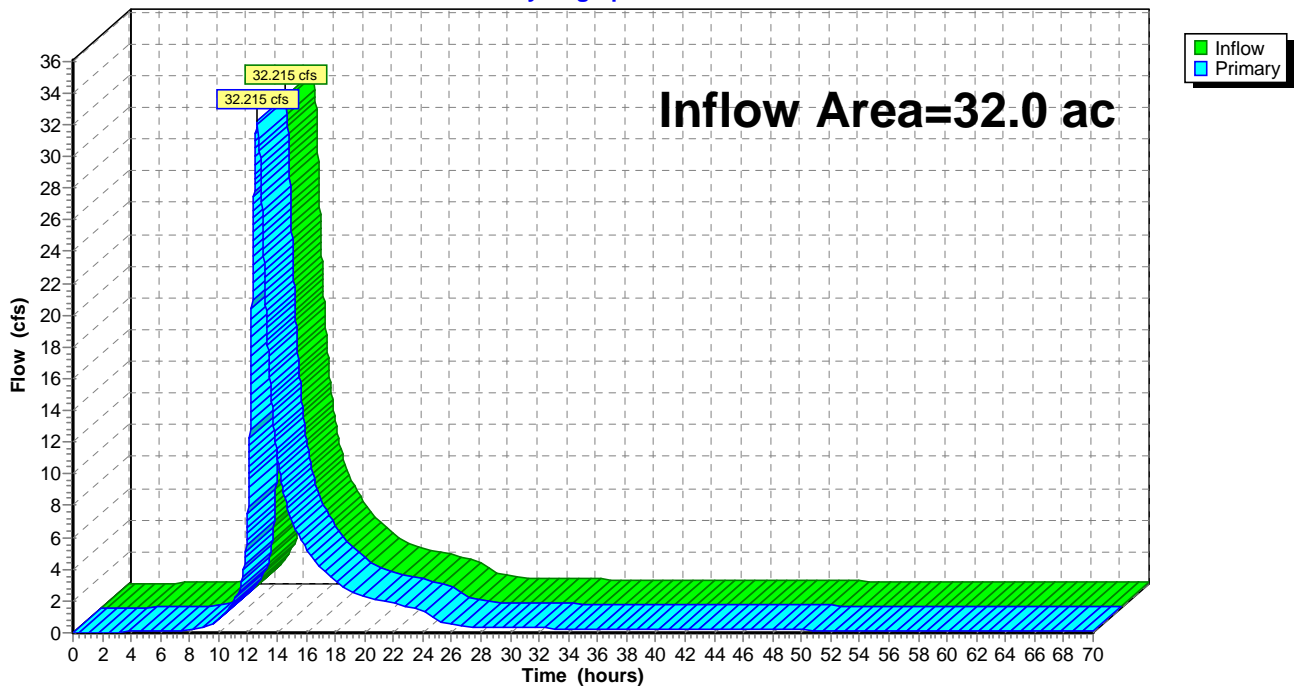
## Summary for Link 56L: Canal Subtotal

Inflow Area = 32.0 ac, 18.28% Impervious, Inflow Depth > 2.91" for 10-YR event  
Inflow = 32.215 cfs @ 12.66 hrs, Volume= 7.757 af  
Primary = 32.215 cfs @ 12.66 hrs, Volume= 7.757 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 56L: Canal Subtotal

Hydrograph



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## Summary for Link 57L: Energy East Subtotal (Linked)

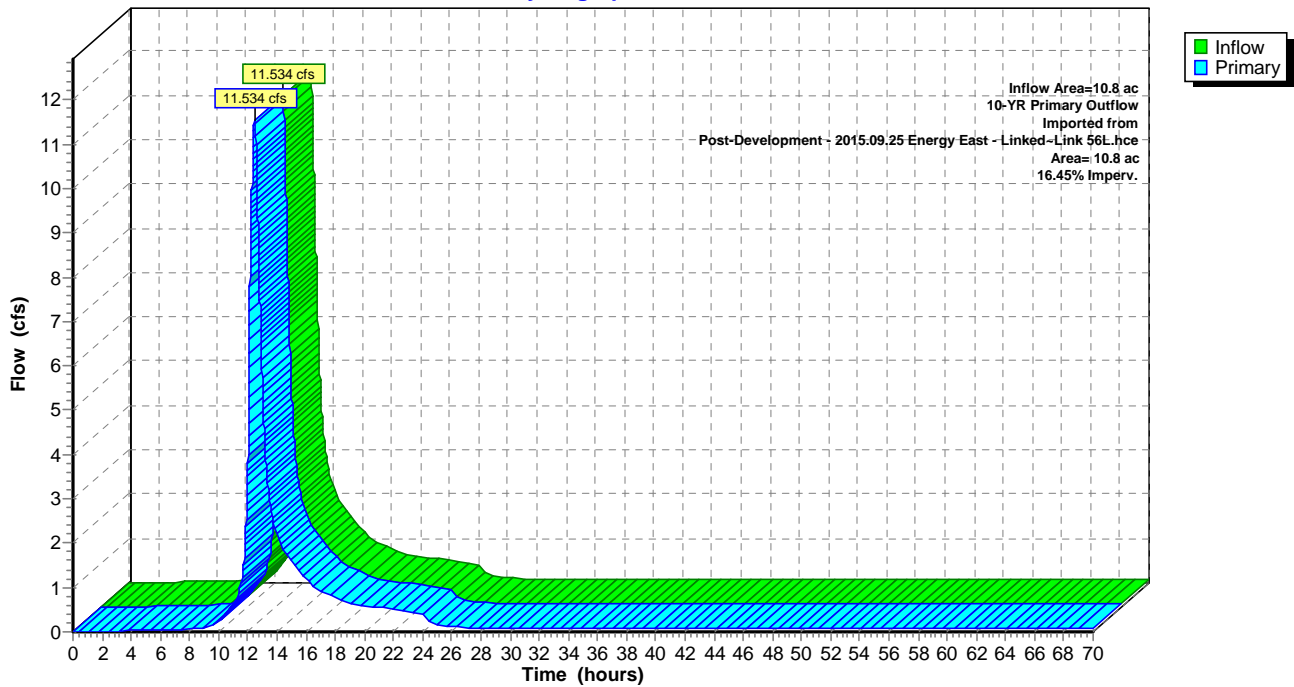
Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth > 2.40" for 10-YR event  
Inflow = 11.534 cfs @ 12.46 hrs, Volume= 2.161 af  
Primary = 11.534 cfs @ 12.46 hrs, Volume= 2.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

10-YR Primary Outflow Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce

## Link 57L: Energy East Subtotal (Linked)

Hydrograph



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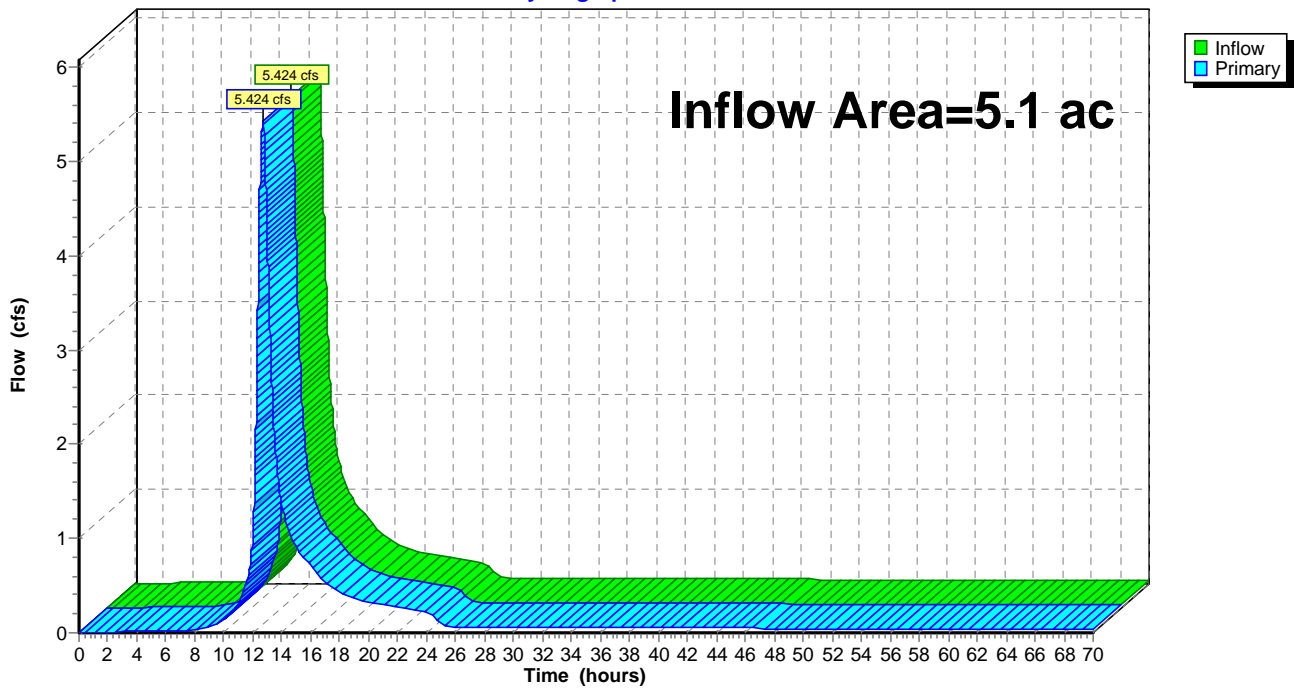
**Summary for Link 61L: Study Point 7**

Inflow Area = 5.1 ac, 13.37% Impervious, Inflow Depth > 2.77" for 10-YR event  
Inflow = 5.424 cfs @ 12.67 hrs, Volume= 1.180 af  
Primary = 5.424 cfs @ 12.67 hrs, Volume= 1.180 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

**Link 61L: Study Point 7**

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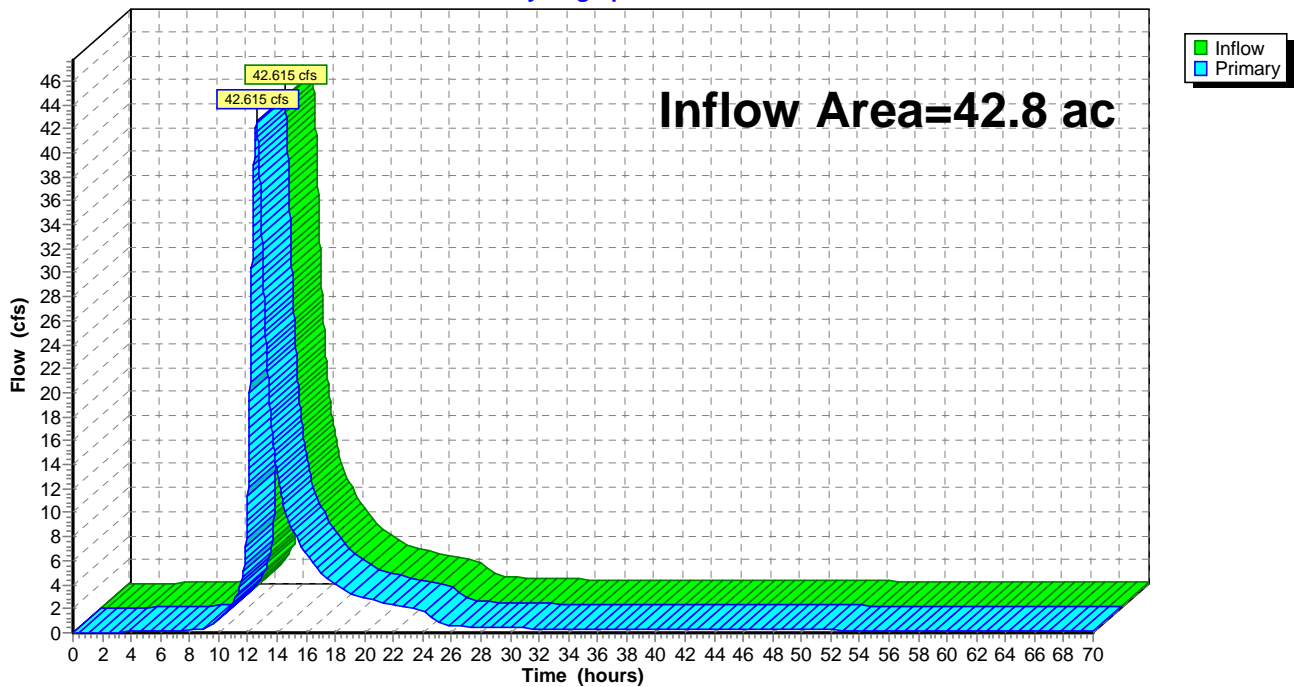
## Summary for Link 62L: Post-Development Total

Inflow Area = 42.8 ac, 17.82% Impervious, Inflow Depth > 2.78" for 10-YR event  
Inflow = 42.615 cfs @ 12.59 hrs, Volume= 9.918 af  
Primary = 42.615 cfs @ 12.59 hrs, Volume= 9.918 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 62L: Post-Development Total

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Time span=0.00-70.00 hrs, dt=0.01 hrs, 7001 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Subcatchment 10</b>	Runoff Area=12,862 sf 78.49% Impervious Runoff Depth=5.10" Tc=5.0 min CN=94 Runoff=1.684 cfs 0.125 af
<b>Subcatchment 12S: Subcatchment 12</b>	Runoff Area=14,246 sf 88.46% Impervious Runoff Depth=5.33" Tc=5.0 min CN=96 Runoff=1.901 cfs 0.145 af
<b>Subcatchment 13S: Subcatchment 13</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.351 cfs 0.106 af
<b>Subcatchment 14S: Subcatchment 14</b>	Runoff Area=18,696 sf 79.19% Impervious Runoff Depth=5.10" Tc=5.0 min CN=94 Runoff=2.448 cfs 0.182 af
<b>Subcatchment 15S: Subcatchment 15</b>	Runoff Area=61,581 sf 0.00% Impervious Runoff Depth=3.80" Flow Length=339' Tc=35.2 min CN=82 Runoff=3.299 cfs 0.448 af
<b>Subcatchment 16S: Subcatchment 16</b>	Runoff Area=121,629 sf 0.00% Impervious Runoff Depth=3.80" Flow Length=580' Tc=65.1 min CN=82 Runoff=4.643 cfs 0.885 af
<b>Subcatchment 17S: Subcatchment 17</b>	Runoff Area=34,853 sf 0.00% Impervious Runoff Depth=3.21" Flow Length=275' Tc=24.2 min CN=76 Runoff=1.874 cfs 0.214 af
<b>Subcatchment 18S: Subcatchment 18</b>	Runoff Area=115,135 sf 2.64% Impervious Runoff Depth=3.31" Flow Length=717' Tc=48.7 min CN=77 Runoff=4.539 cfs 0.728 af
<b>Subcatchment 19S: Subcatchment 19</b>	Runoff Area=120,933 sf 3.33% Impervious Runoff Depth=3.91" Flow Length=527' Tc=40.1 min CN=83 Runoff=6.217 cfs 0.904 af
<b>Subcatchment 20S: Subcatchment 20</b>	Runoff Area=9,481 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.281 cfs 0.101 af
<b>Subcatchment 21S: Subcatchment 21</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.351 cfs 0.106 af
<b>Subcatchment 22S: Subcatchment 22</b>	Runoff Area=32,114 sf 84.79% Impervious Runoff Depth=5.21" Tc=5.0 min CN=95 Runoff=4.248 cfs 0.320 af
<b>Subcatchment 23S: Subcatchment 23</b>	Runoff Area=36,758 sf 67.01% Impervious Runoff Depth=4.87" Tc=5.0 min CN=92 Runoff=4.694 cfs 0.343 af
<b>Subcatchment 24S: Subcatchment 24</b>	Runoff Area=73,357 sf 0.00% Impervious Runoff Depth=3.80" Flow Length=490' Tc=54.8 min CN=82 Runoff=3.117 cfs 0.534 af
<b>Subcatchment 25S: Subcatchment 25</b>	Runoff Area=23,474 sf 83.13% Impervious Runoff Depth=5.21" Tc=5.0 min CN=95 Runoff=3.105 cfs 0.234 af
<b>Subcatchment 26S: Subcatchment 26</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.351 cfs 0.106 af



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<b>Subcatchment 27S: Subcatchment 27</b>	Runoff Area=18,249 sf 85.83% Impervious Runoff Depth=5.21" Tc=5.0 min CN=95 Runoff=2.414 cfs 0.182 af
<b>Subcatchment 28S: Subcatchment 28</b>	Runoff Area=18,336 sf 98.31% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=2.478 cfs 0.195 af
<b>Subcatchment 29S: Subcatchment 29</b>	Runoff Area=102,124 sf 2.45% Impervious Runoff Depth=3.50" Flow Length=374' Tc=22.9 min CN=79 Runoff=6.121 cfs 0.684 af
<b>Subcatchment 30S: Subcatchment 30</b>	Runoff Area=236,639 sf 0.09% Impervious Runoff Depth=3.50" Flow Length=644' Tc=41.2 min CN=79 Runoff=10.816 cfs 1.585 af
<b>Subcatchment 31S: Subcatchment 31</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.351 cfs 0.106 af
<b>Subcatchment 32S: Subcatchment 32</b>	Runoff Area=10,000 sf 100.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.351 cfs 0.106 af
<b>Subcatchment 33S: Subcatchment 33</b>	Runoff Area=13,542 sf 82.88% Impervious Runoff Depth=5.21" Tc=5.0 min CN=95 Runoff=1.791 cfs 0.135 af
<b>Subcatchment 34S: Subcatchment 34</b>	Runoff Area=29,429 sf 78.93% Impervious Runoff Depth=5.10" Tc=5.0 min CN=94 Runoff=3.853 cfs 0.287 af
<b>Subcatchment 35S: Subcatchment 35</b>	Runoff Area=9,946 sf 86.59% Impervious Runoff Depth=5.33" Tc=5.0 min CN=96 Runoff=1.327 cfs 0.101 af
<b>Subcatchment 36S: Subcatchment 36</b>	Runoff Area=177,857 sf 0.00% Impervious Runoff Depth=3.60" Flow Length=771' Tc=49.8 min CN=80 Runoff=7.572 cfs 1.225 af
<b>Subcatchment 62S: Rain on Pond 62P</b>	Runoff Area=5,931 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.802 cfs 0.063 af
<b>Subcatchment 63S: Rain on Pond 60P</b>	Runoff Area=6,384 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.863 cfs 0.068 af
<b>Subcatchment 64S: Rain on Pond 63P</b>	Runoff Area=5,399 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.730 cfs 0.057 af
<b>Subcatchment 65S: Rain on Pond 44P</b>	Runoff Area=5,782 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.781 cfs 0.062 af
<b>Subcatchment 66S: Rain on Pond 48P</b>	Runoff Area=3,675 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.497 cfs 0.039 af
<b>Subcatchment 67S: Rain on Pond 49P</b>	Runoff Area=4,004 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.541 cfs 0.043 af
<b>Subcatchment 68S: Rain on Pond 51P</b>	Runoff Area=7,212 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.975 cfs 0.077 af

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<b>Subcatchment 69S: Rain on Pond 53P</b>	Runoff Area=10,280 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=1.389 cfs 0.109 af
<b>Subcatchment 70S: Rain on Pond 52P</b>	Runoff Area=2,175 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.294 cfs 0.023 af
<b>Subcatchment 72S: Rain on Pond 58P</b>	Runoff Area=6,629 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.896 cfs 0.071 af
<b>Subcatchment 73S: Rain on Pond 59P</b>	Runoff Area=5,709 sf 0.00% Impervious Runoff Depth=5.56" Tc=5.0 min CN=98 Runoff=0.772 cfs 0.061 af
<b>Reach 45R: Rock Sandwich 1</b>	Avg. Flow Depth=0.27' Max Vel=0.61 fps Inflow=5.657 cfs 1.135 af n=0.050 L=80.0' S=0.0025 '/ Capacity=96.775 cfs Outflow=5.646 cfs 1.134 af
<b>Reach 47R: Rock Sandwich 3</b>	Avg. Flow Depth=0.20' Max Vel=0.76 fps Inflow=13.681 cfs 3.570 af n=0.050 L=70.0' S=0.0057 '/ Capacity=388.834 cfs Outflow=13.677 cfs 3.570 af
<b>Reach 50R: Rock Sandwich 2</b>	Avg. Flow Depth=0.25' Max Vel=0.52 fps Inflow=5.178 cfs 1.405 af n=0.050 L=75.0' S=0.0020 '/ Capacity=127.762 cfs Outflow=5.172 cfs 1.405 af
<b>Reach 54R: Rock Sandwich 4</b>	Avg. Flow Depth=0.19' Max Vel=0.90 fps Inflow=5.151 cfs 0.712 af n=0.050 L=60.0' S=0.0083 '/ Capacity=150.131 cfs Outflow=5.150 cfs 0.712 af
<b>Reach 62R: RS1 to RS2</b>	Avg. Flow Depth=0.54' Max Vel=0.34 fps Inflow=5.646 cfs 1.134 af n=0.100 L=450.0' S=0.0020 '/ Capacity=16.893 cfs Outflow=4.523 cfs 1.132 af
<b>Reach 67R: GW2 to RS1</b>	Avg. Flow Depth=0.12' Max Vel=0.15 fps Inflow=0.256 cfs 0.169 af n=0.100 L=225.0' S=0.0031 '/ Capacity=62.120 cfs Outflow=0.243 cfs 0.168 af
<b>Reach 68R: RS3 to SP5</b>	Avg. Flow Depth=0.17' Max Vel=0.70 fps Inflow=13.677 cfs 3.570 af n=0.100 L=375.0' S=0.0413 '/ Capacity=145.240 cfs Outflow=13.344 cfs 3.569 af
<b>Reach 69R: RS2 to RS3</b>	Avg. Flow Depth=0.26' Max Vel=0.30 fps Inflow=5.172 cfs 1.405 af n=0.100 L=350.0' S=0.0043 '/ Capacity=86.608 cfs Outflow=4.725 cfs 1.405 af
<b>Reach 70R: GW8 to RS4</b>	Avg. Flow Depth=0.26' Max Vel=0.22 fps Inflow=6.125 cfs 0.179 af n=0.100 L=180.0' S=0.0022 '/ Capacity=14.593 cfs Outflow=3.590 cfs 0.179 af
<b>Reach 71R: RS4 to SP6</b>	Avg. Flow Depth=0.21' Max Vel=0.64 fps Inflow=6.194 cfs 1.198 af n=0.100 L=575.0' S=0.0261 '/ Capacity=38.460 cfs Outflow=5.639 cfs 1.198 af
<b>Reach 73R: GW7 to SP6</b>	Avg. Flow Depth=0.07' Max Vel=0.39 fps Inflow=1.742 cfs 0.359 af n=0.100 L=350.0' S=0.0371 '/ Capacity=80.313 cfs Outflow=1.296 cfs 0.359 af
<b>Reach 74R: GW6 to SP6</b>	Avg. Flow Depth=0.04' Max Vel=0.23 fps Inflow=0.338 cfs 0.251 af n=0.100 L=425.0' S=0.0329 '/ Capacity=75.634 cfs Outflow=0.282 cfs 0.249 af
<b>Reach 75R: GW10 to SP6</b>	Avg. Flow Depth=0.15' Max Vel=0.91 fps Inflow=0.695 cfs 0.429 af n=0.100 L=325.0' S=0.0446 '/ Capacity=900.771 cfs Outflow=0.694 cfs 0.429 af

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<b>Reach 76R: GW12 to SP7</b>	Avg. Flow Depth=0.13' Max Vel=0.32 fps Inflow=0.416 cfs 0.297 af n=0.100 L=700.0' S=0.0121 '/ Capacity=131.872 cfs Outflow=0.364 cfs 0.294 af
<b>Pond 44P: Gravel Wetland 1</b>	Peak Elev=66.09' Storage=3,008 cf Inflow=2.465 cfs 0.187 af Primary=0.785 cfs 0.181 af Secondary=0.307 cfs 0.006 af Outflow=1.093 cfs 0.187 af
<b>Pond 48P: Gravel Wetland 2</b>	Peak Elev=69.13' Storage=4,722 cf Inflow=2.398 cfs 0.184 af Primary=0.256 cfs 0.169 af Secondary=0.000 cfs 0.000 af Outflow=0.256 cfs 0.169 af
<b>Pond 49P: Gravel Wetland 3</b>	Peak Elev=68.08' Storage=5,261 cf Inflow=4.340 cfs 0.331 af Primary=0.965 cfs 0.315 af Secondary=0.750 cfs 0.016 af Outflow=1.716 cfs 0.331 af
<b>Pond 51P: Gravel Wetland 4</b>	Peak Elev=68.01' Storage=12,722 cf Inflow=6.949 cfs 0.520 af Primary=0.536 cfs 0.520 af Secondary=0.000 cfs 0.000 af Outflow=0.536 cfs 0.520 af
<b>Pond 52P: Gravel Wetland 5</b>	Peak Elev=66.81' Storage=2,091 cf Inflow=1.645 cfs 0.130 af Primary=0.263 cfs 0.107 af Secondary=1.128 cfs 0.023 af Outflow=1.391 cfs 0.130 af
<b>Pond 53P: Gravel Wetland 8</b>	Peak Elev=67.90' Storage=6,948 cf Inflow=8.743 cfs 0.664 af Primary=1.174 cfs 0.485 af Secondary=6.125 cfs 0.179 af Outflow=7.299 cfs 0.664 af
<b>Pond 58P: Gravel Wetland 7</b>	Peak Elev=66.02' Storage=7,618 cf Inflow=4.661 cfs 0.359 af Primary=0.375 cfs 0.305 af Secondary=1.367 cfs 0.054 af Outflow=1.742 cfs 0.359 af
<b>Pond 59P: Gravel Wetland 6</b>	Peak Elev=67.11' Storage=6,577 cf Inflow=3.249 cfs 0.256 af Primary=0.282 cfs 0.249 af Secondary=0.056 cfs 0.002 af Outflow=0.338 cfs 0.251 af
<b>Pond 60P: Gravel Wetland 12</b>	Peak Elev=70.11' Storage=7,901 cf Inflow=4.005 cfs 0.309 af Primary=0.416 cfs 0.297 af Secondary=0.000 cfs 0.000 af Outflow=0.416 cfs 0.297 af
<b>Pond 62P: Gravel Wetland 10</b>	Peak Elev=67.69' Storage=11,607 cf Inflow=6.006 cfs 0.457 af Primary=0.695 cfs 0.429 af Secondary=0.000 cfs 0.000 af Outflow=0.695 cfs 0.429 af
<b>Pond 63P: Gravel Wetland 11</b>	Peak Elev=65.76' Storage=4,737 cf Inflow=2.057 cfs 0.159 af Primary=0.093 cfs 0.121 af Secondary=0.000 cfs 0.000 af Outflow=0.093 cfs 0.121 af
<b>Link 42L: Study Point 3</b>	Inflow=1.874 cfs 0.214 af Primary=1.874 cfs 0.214 af
<b>Link 43L: Study Point 4</b>	Inflow=4.539 cfs 0.728 af Primary=4.539 cfs 0.728 af
<b>Link 46L: Study Point 5</b>	Inflow=15.944 cfs 4.253 af Primary=15.944 cfs 4.253 af
<b>Link 55L: Study Point 6</b>	Inflow=18.516 cfs 3.820 af Primary=18.516 cfs 3.820 af
<b>Link 56L: Canal Subtotal</b>	Inflow=47.681 cfs 10.654 af Primary=47.681 cfs 10.654 af

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mary Outflow Link Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce Inflow=17.742 cfs 3.049 af  
Area= 10.8 ac 16.45% Imperv. Primary=17.742 cfs 3.049 af

**Link 61L: Study Point 7**

Inflow=7.840 cfs 1.640 af

Primary=7.840 cfs 1.640 af

**Link 62L: Post-Development Total**

Inflow=63.646 cfs 13.704 af

Primary=63.646 cfs 13.704 af

**Total Runoff Area = 32.0 ac Runoff Volume = 10.763 af Average Runoff Depth = 4.03"**  
**81.72% Pervious = 26.2 ac 18.28% Impervious = 5.9 ac**

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**Summary for Subcatchment 10S: Subcatchment 10**

Runoff = 1.684 cfs @ 12.07 hrs, Volume= 0.125 af, Depth= 5.10"

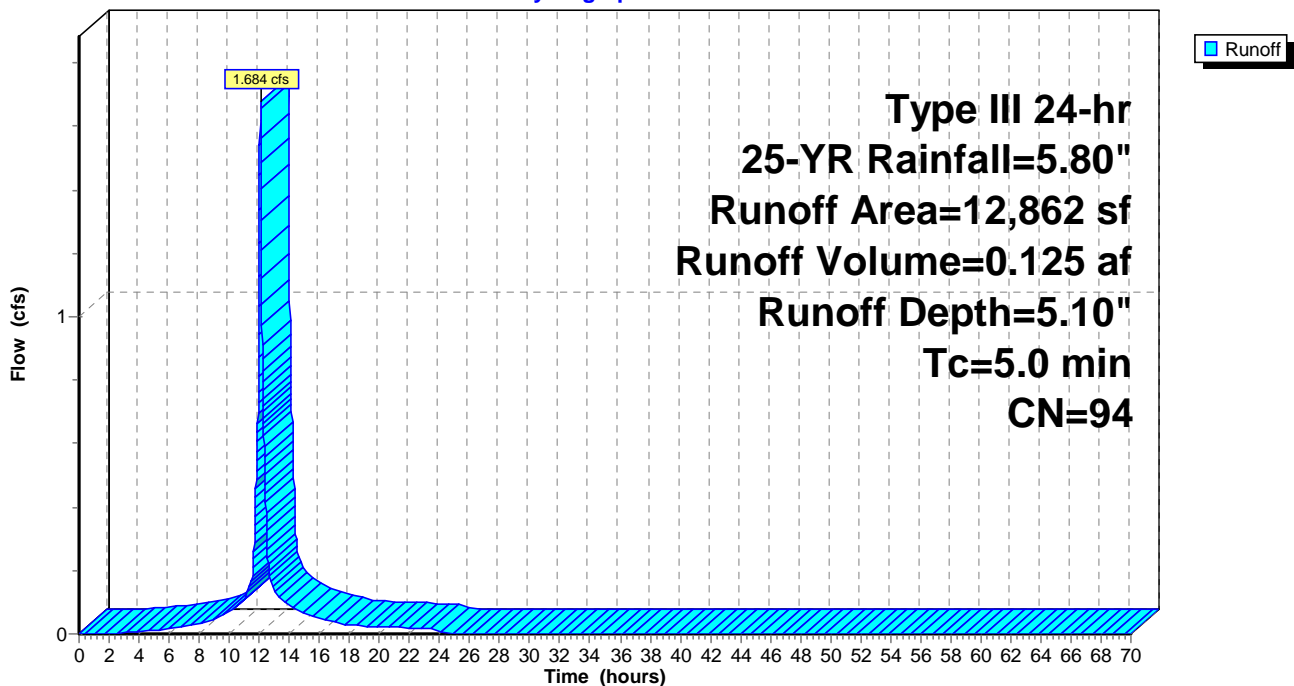
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,150	74	>75% Grass cover, Good, HSG C
1,617	80	>75% Grass cover, Good, HSG D
10,095	98	Paved parking & roofs
12,862	94	Weighted Average
2,767		21.51% Pervious Area
10,095		78.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 10

**Subcatchment 10S: Subcatchment 10**

Hydrograph



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**Summary for Subcatchment 12S: Subbatchment 12**

Runoff = 1.901 cfs @ 12.07 hrs, Volume= 0.145 af, Depth= 5.33"

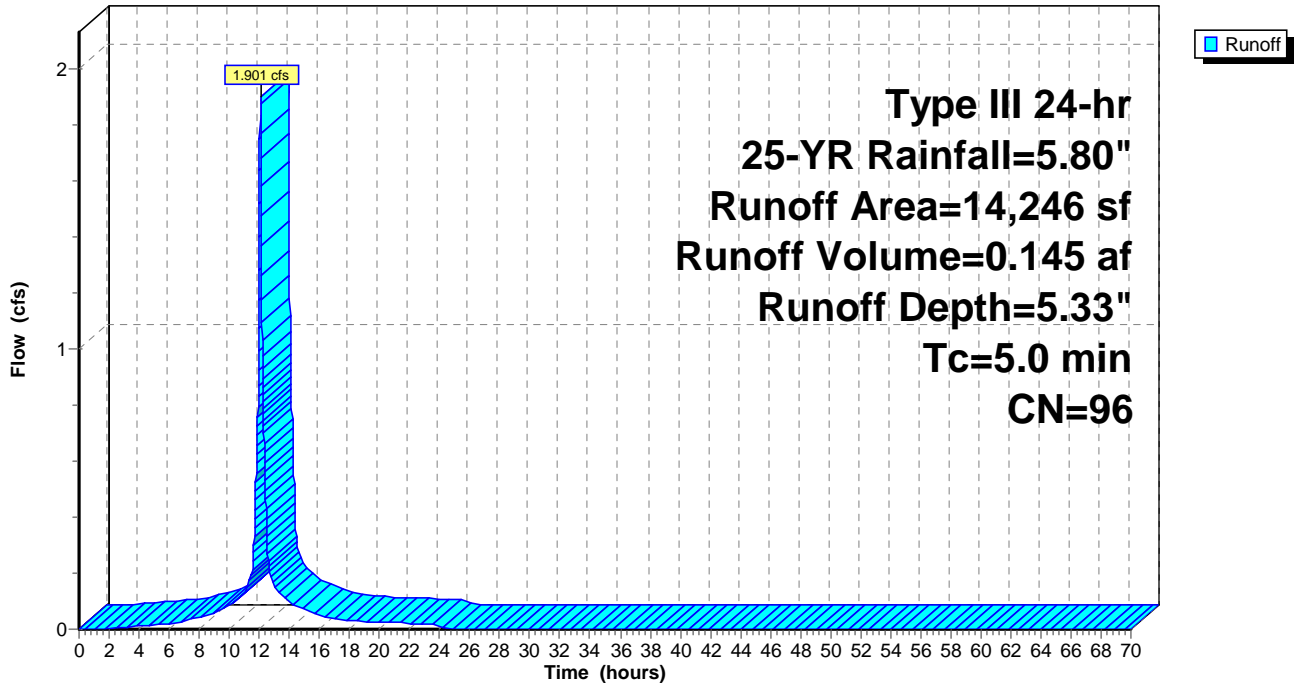
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,644	80	>75% Grass cover, Good, HSG D
12,602	98	Paved parking & roofs
14,246	96	Weighted Average
1,644		11.54% Pervious Area
12,602		88.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 12

**Subcatchment 12S: Subbatchment 12**

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## Summary for Subcatchment 13S: Sucatchment 13

Runoff = 1.351 cfs @ 12.07 hrs, Volume= 0.106 af, Depth= 5.56"

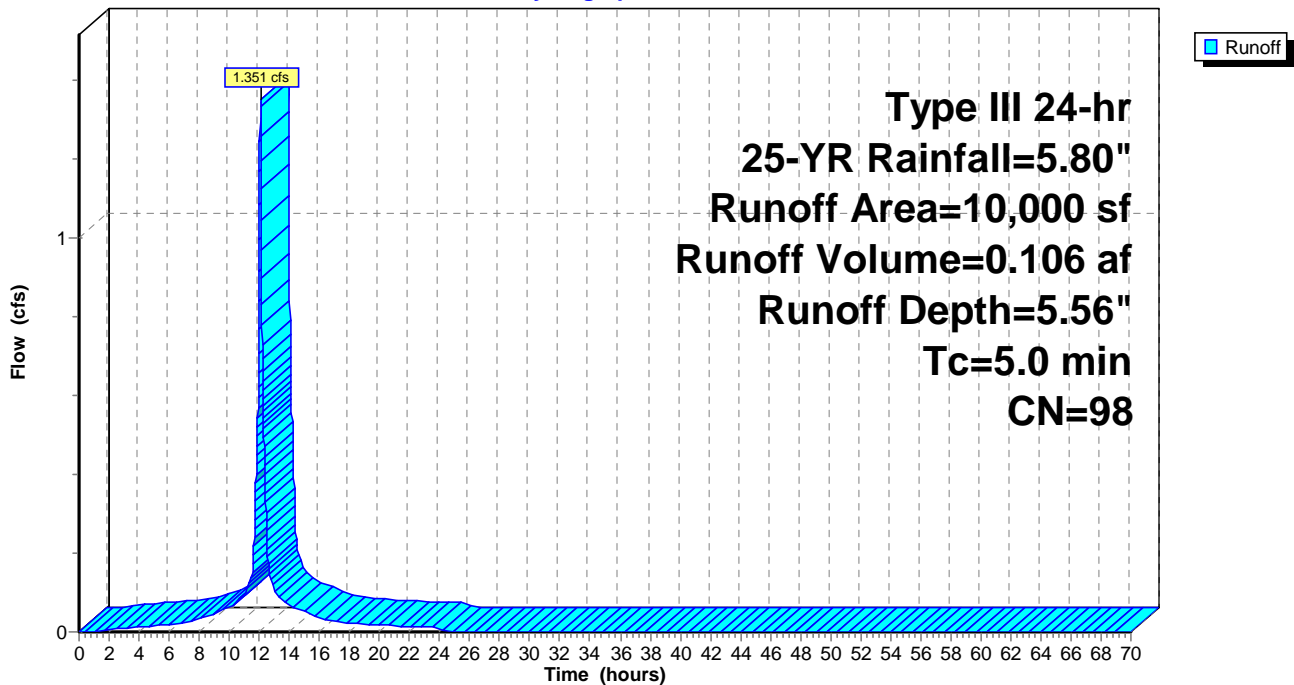
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 13

## Subcatchment 13S: Sucatchment 13

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**Summary for Subcatchment 14S: Subcatchment 14**

Runoff = 2.448 cfs @ 12.07 hrs, Volume= 0.182 af, Depth= 5.10"

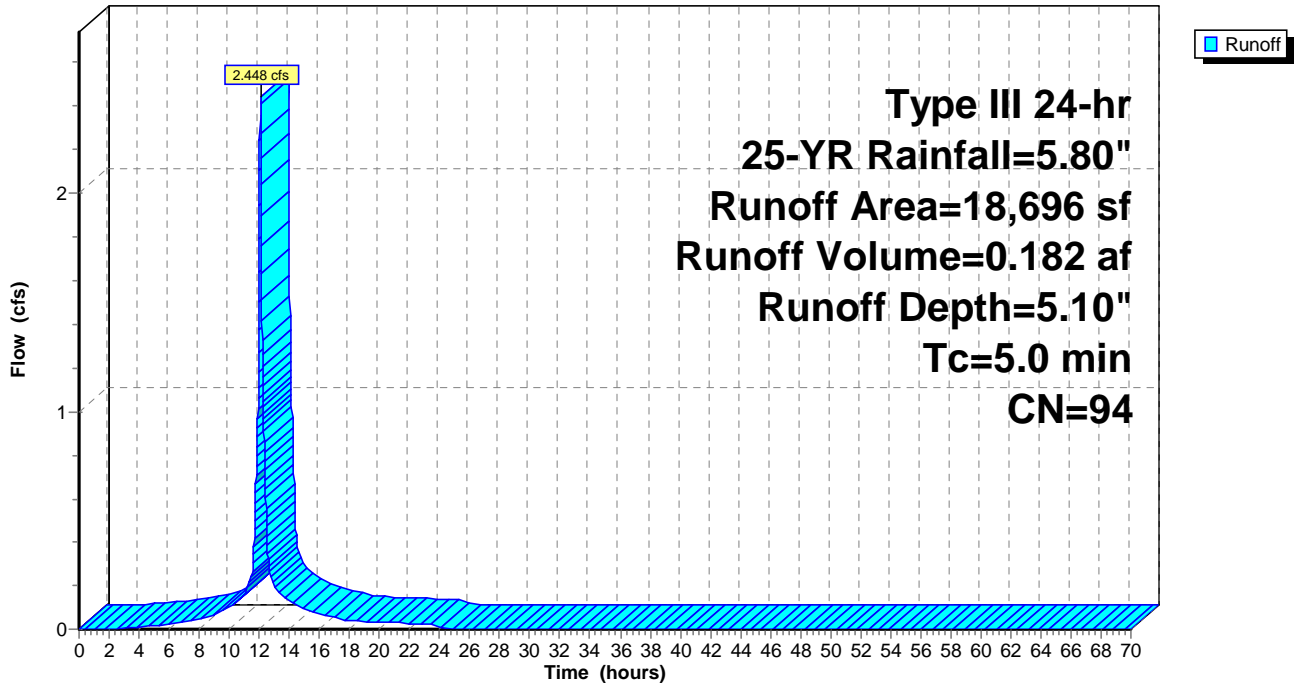
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
3,890	80	>75% Grass cover, Good, HSG D
14,806	98	Paved parking & roofs
18,696	94	Weighted Average
3,890		20.81% Pervious Area
14,806		79.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 14

**Subcatchment 14S: Subcatchment 14**

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**Summary for Subcatchment 15S: Subcatchment 15**

Runoff = 3.299 cfs @ 12.48 hrs, Volume= 0.448 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

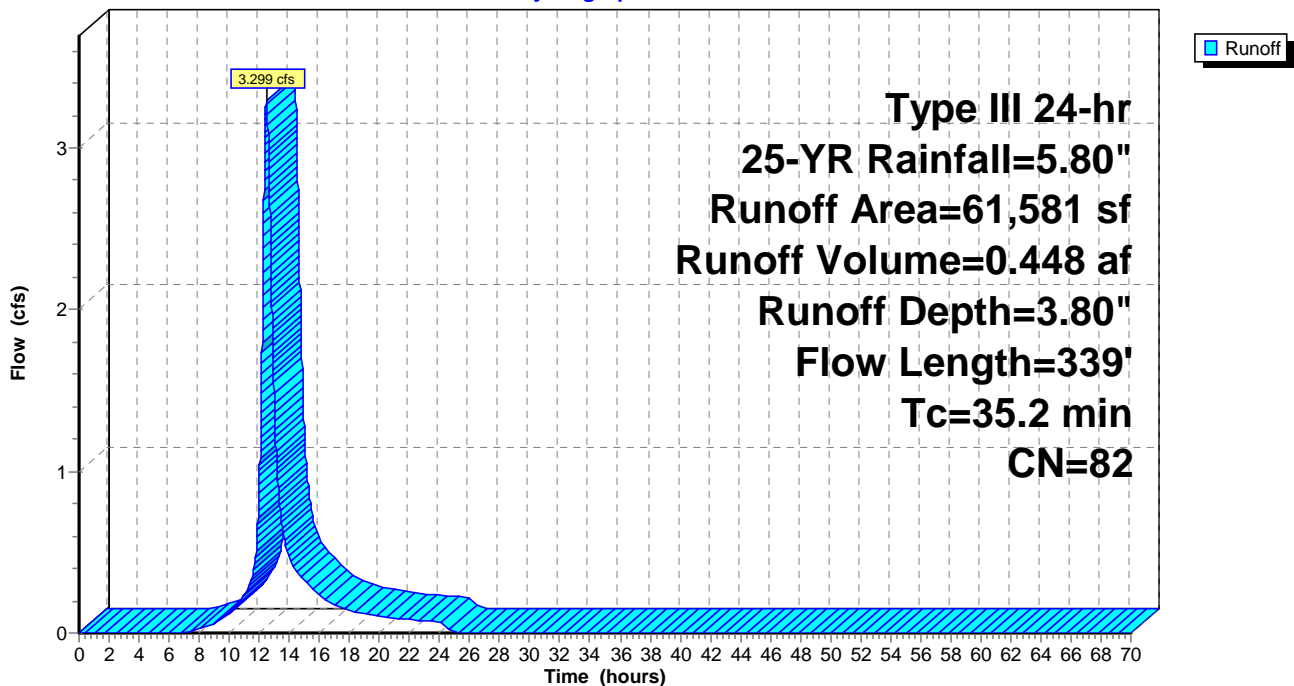
Area (sf)	CN	Description
61,581	82	Woods/grass comb., Fair, HSG D
61,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		<b>Sheet Flow, Subcatchment 15 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
10.3	239	0.0060	0.39		<b>Shallow Concentrated Flow, Subcatchment 15 SCF</b>
					Woodland Kv= 5.0 fps
35.2	339	Total			

**Subcatchment 15S: Subcatchment 15**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 16S: Subcatchment 16**

Runoff = 4.643 cfs @ 12.87 hrs, Volume= 0.885 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

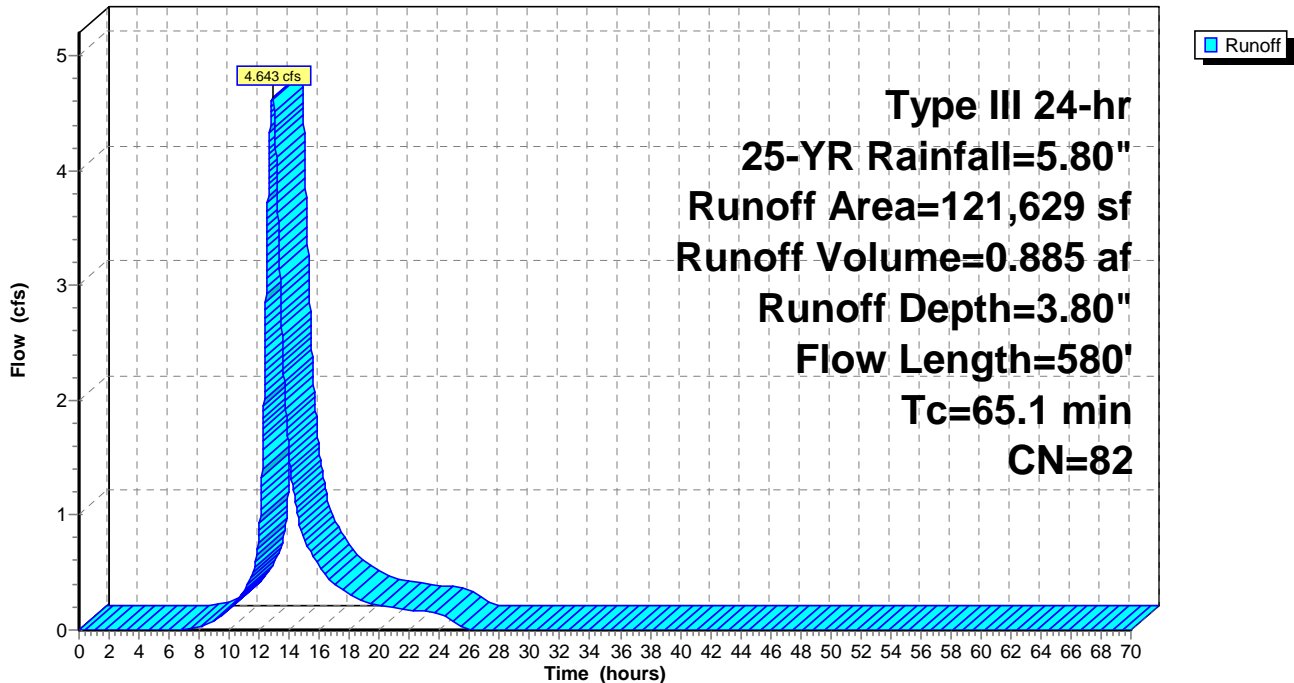
Area (sf)	CN	Description
121,629	82	Woods/grass comb., Fair, HSG D
121,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 16 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
35.8	480	0.0020	0.22		<b>Shallow Concentrated Flow, Subcatchment 16 SCF</b>
					Woodland Kv= 5.0 fps
65.1	580	Total			

**Subcatchment 16S: Subcatchment 16**

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**Summary for Subcatchment 17S: Subcatchment 17**

Runoff = 1.874 cfs @ 12.34 hrs, Volume= 0.214 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

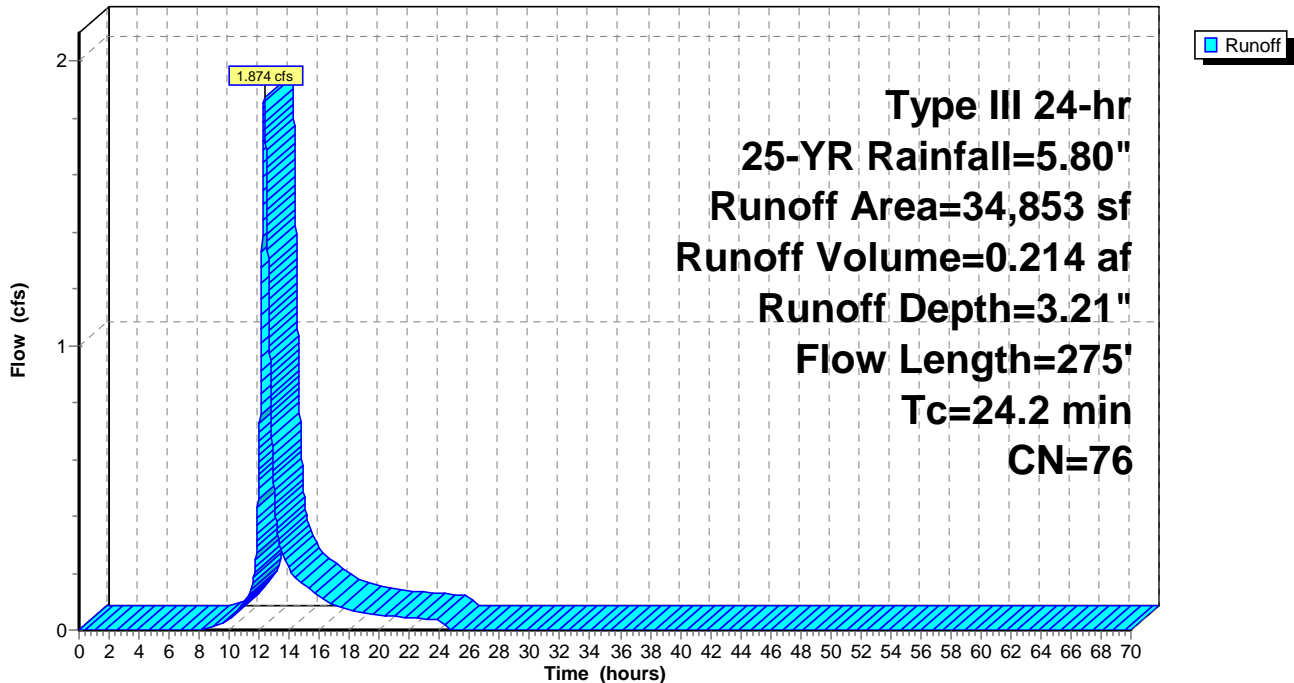
Area (sf)	CN	Description
34,853	76	Woods/grass comb., Fair, HSG C
34,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		<b>Sheet Flow, Subcatchment 17 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	175	0.0886	1.49		<b>Shallow Concentrated Flow, Subcatchment 17 SCF</b> Woodland Kv= 5.0 fps
24.2	275	Total			

**Subcatchment 17S: Subcatchment 17**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 18S: Subcatchment 18**

Runoff = 4.539 cfs @ 12.66 hrs, Volume= 0.728 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

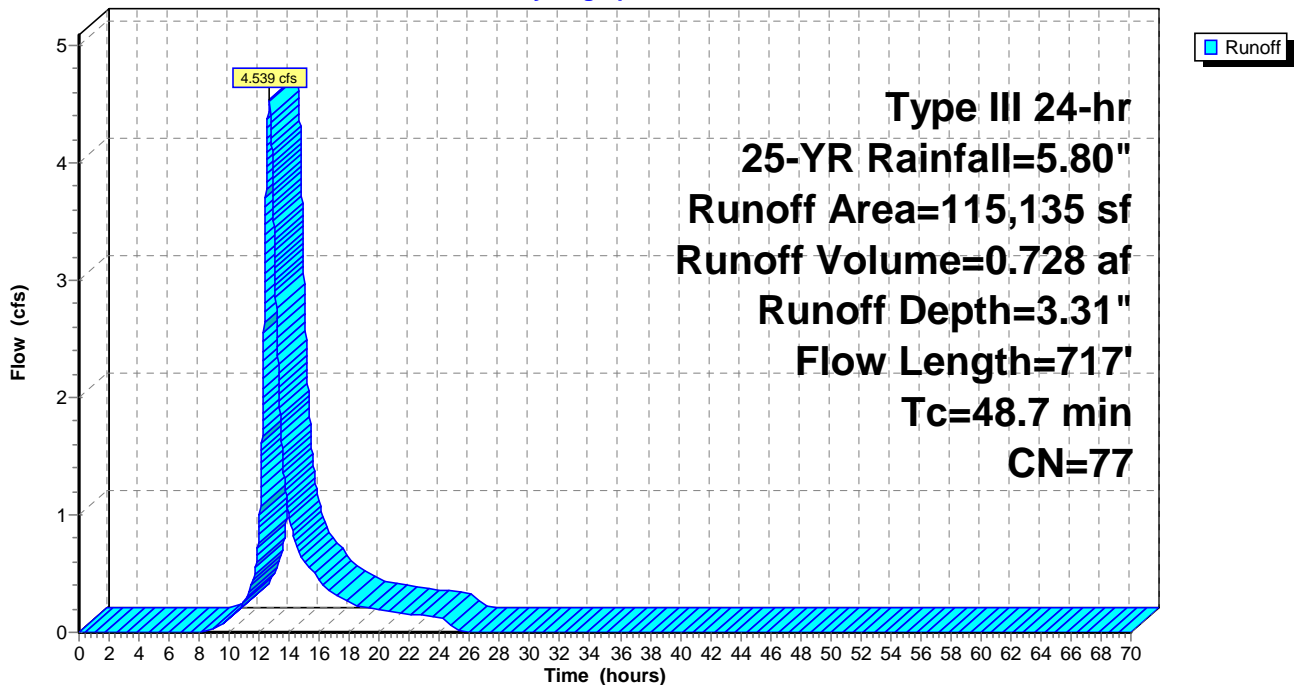
Area (sf)	CN	Description
41,712	80	>75% Grass cover, Good, HSG D
70,387	74	>75% Grass cover, Good, HSG C
3,036	98	Paved parking & roofs
115,135	77	Weighted Average
112,099		97.36% Pervious Area
3,036		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0050	0.04		<b>Sheet Flow, Subcatchment 18 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
9.4	407	0.0209	0.72		<b>Shallow Concentrated Flow, Subcatchment 18 SCF</b> Woodland Kv= 5.0 fps
0.7	210	0.0857	4.84	12.58	<b>Channel Flow, Subcatchment 18 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
48.7	717	Total			

**Subcatchment 18S: Subcatchment 18**

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**Summary for Subcatchment 19S: Subcatchment 19**

Runoff = 6.217 cfs @ 12.52 hrs, Volume= 0.904 af, Depth= 3.91"

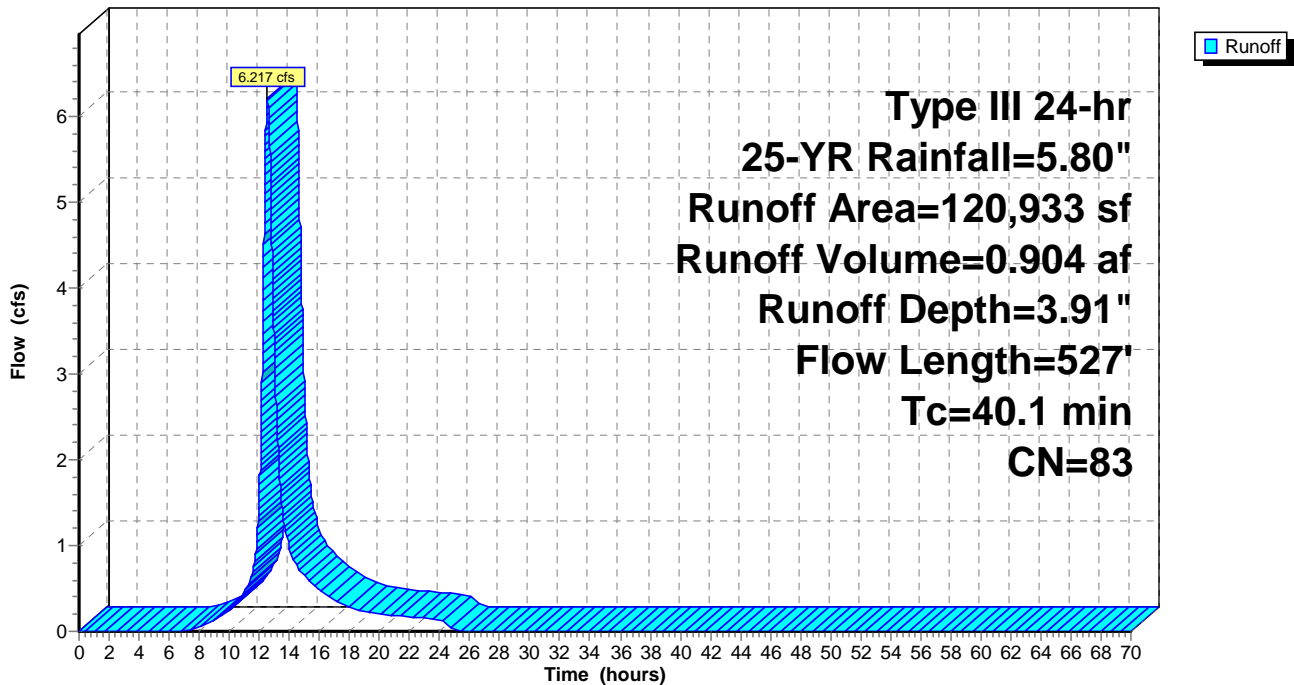
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
116,905	82	Woods/grass comb., Fair, HSG D
4,028	98	Paved parking & roofs
120,933	83	Weighted Average
116,905		96.67% Pervious Area
4,028		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0450	0.10		<b>Sheet Flow, Subcatchment 19 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
24.1	427	0.0035	0.30		<b>Shallow Concentrated Flow, Subcatchment 19 SCF</b>
					Woodland Kv= 5.0 fps
40.1	527	Total			

**Subcatchment 19S: Subcatchment 19**

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**Summary for Subcatchment 20S: Subcatchment 20**

Runoff = 1.281 cfs @ 12.07 hrs, Volume= 0.101 af, Depth= 5.56"

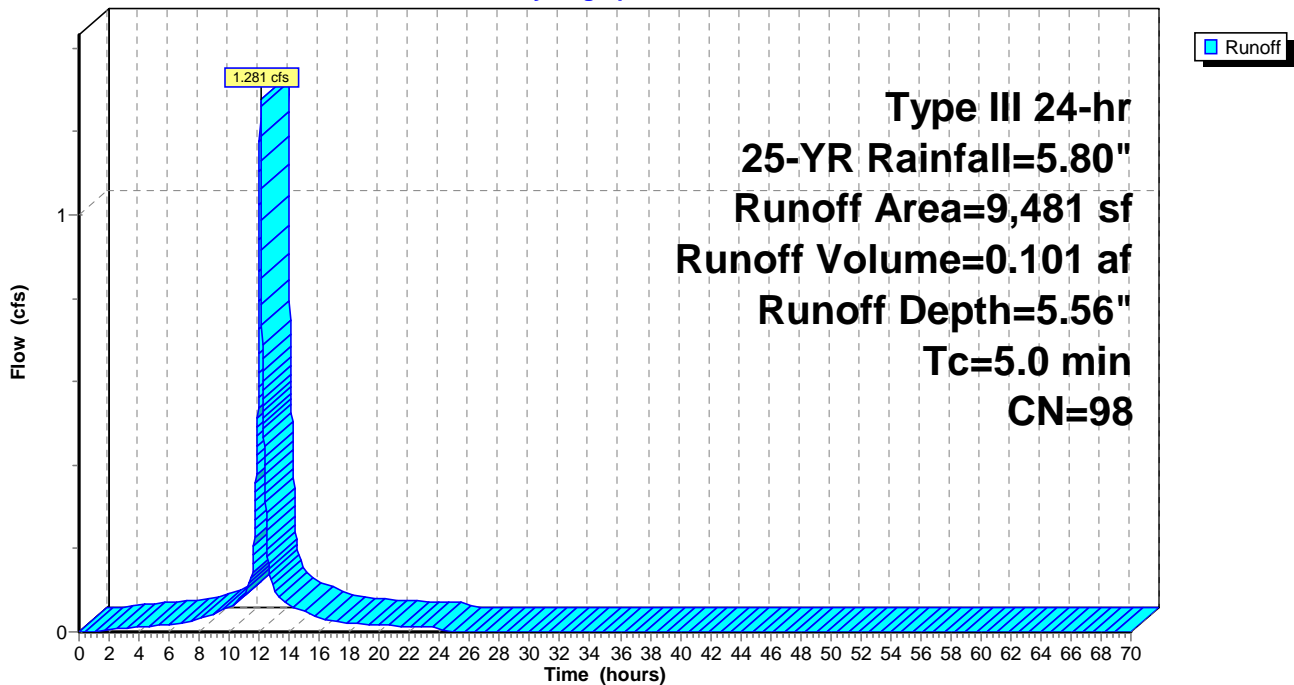
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
9,481	98	Paved parking & roofs
9,481		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 20

**Subcatchment 20S: Subcatchment 20**

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Type III 24-hr 25-YR Rainfall=5.80"

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## Summary for Subcatchment 21S: Subcatchment 21

Runoff = 1.351 cfs @ 12.07 hrs, Volume= 0.106 af, Depth= 5.56"

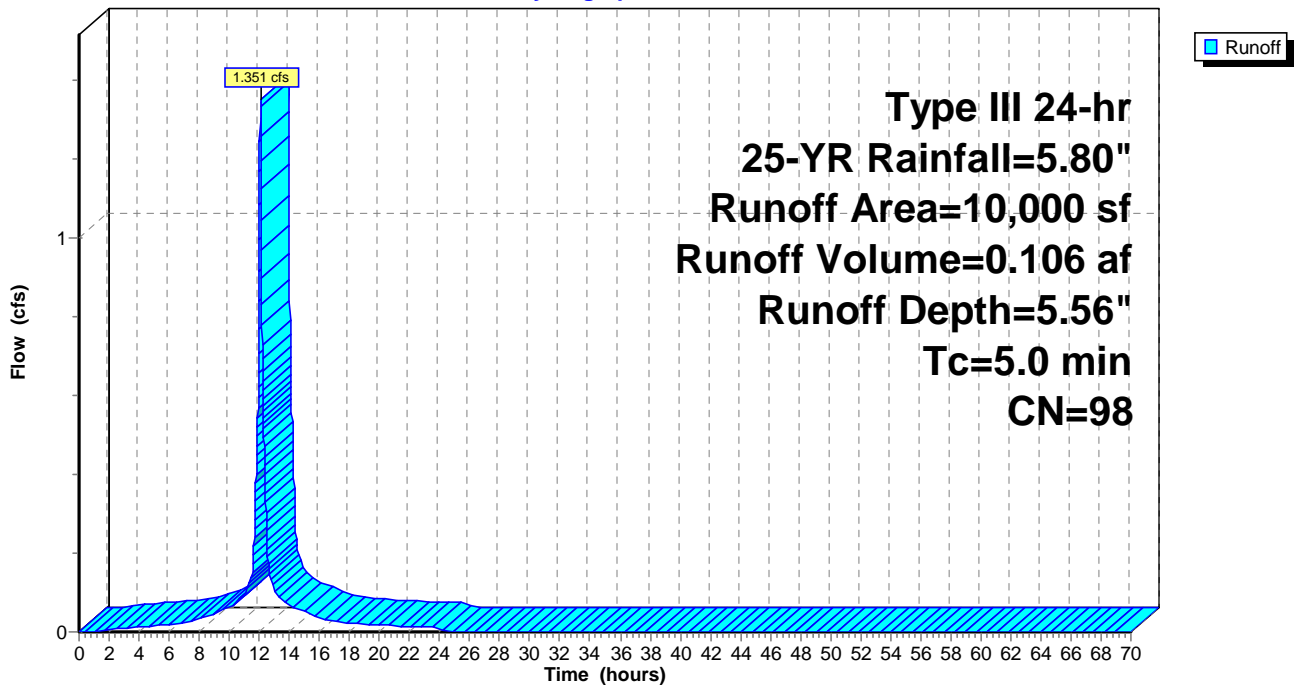
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 21

## Subcatchment 21S: Subcatchment 21

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**Summary for Subcatchment 22S: Subcatchment 22**

Runoff = 4.248 cfs @ 12.07 hrs, Volume= 0.320 af, Depth= 5.21"

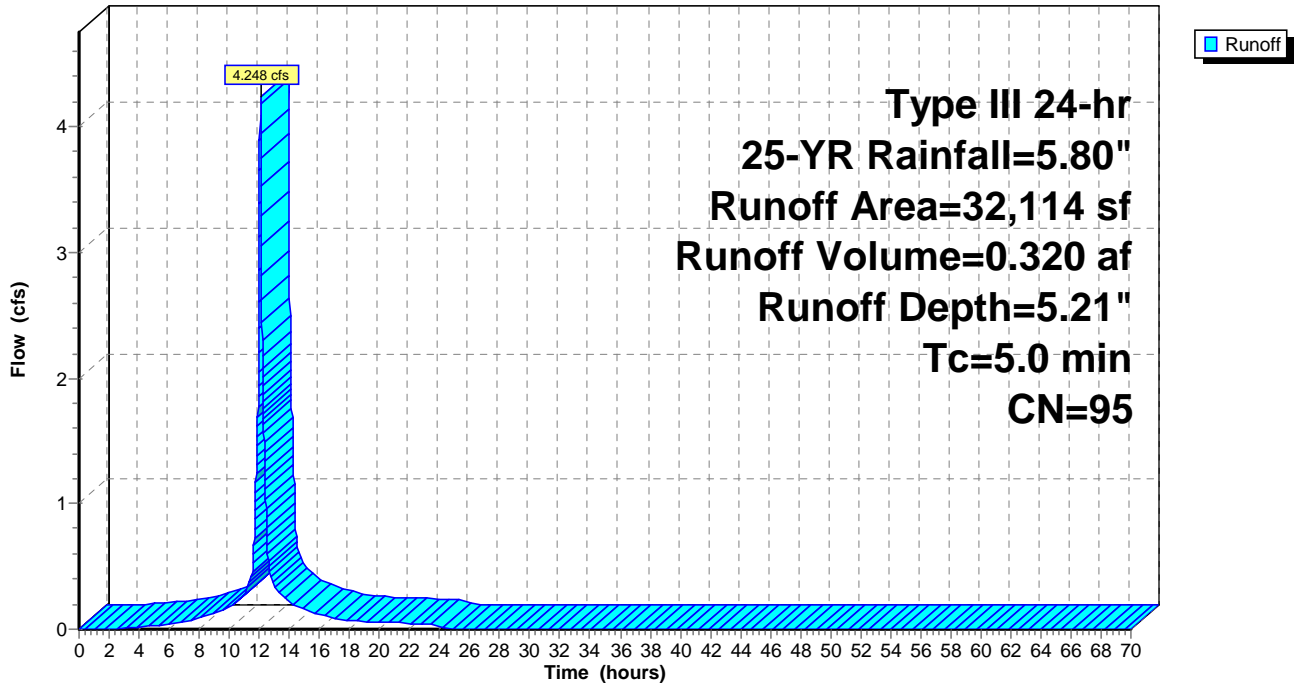
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
4,886	80	>75% Grass cover, Good, HSG D
27,228	98	Paved parking & roofs
32,114	95	Weighted Average
4,886		15.21% Pervious Area
27,228		84.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 22

**Subcatchment 22S: Subcatchment 22**

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**Summary for Subcatchment 23S: Subcatchment 23**

Runoff = 4.694 cfs @ 12.07 hrs, Volume= 0.343 af, Depth= 4.87"

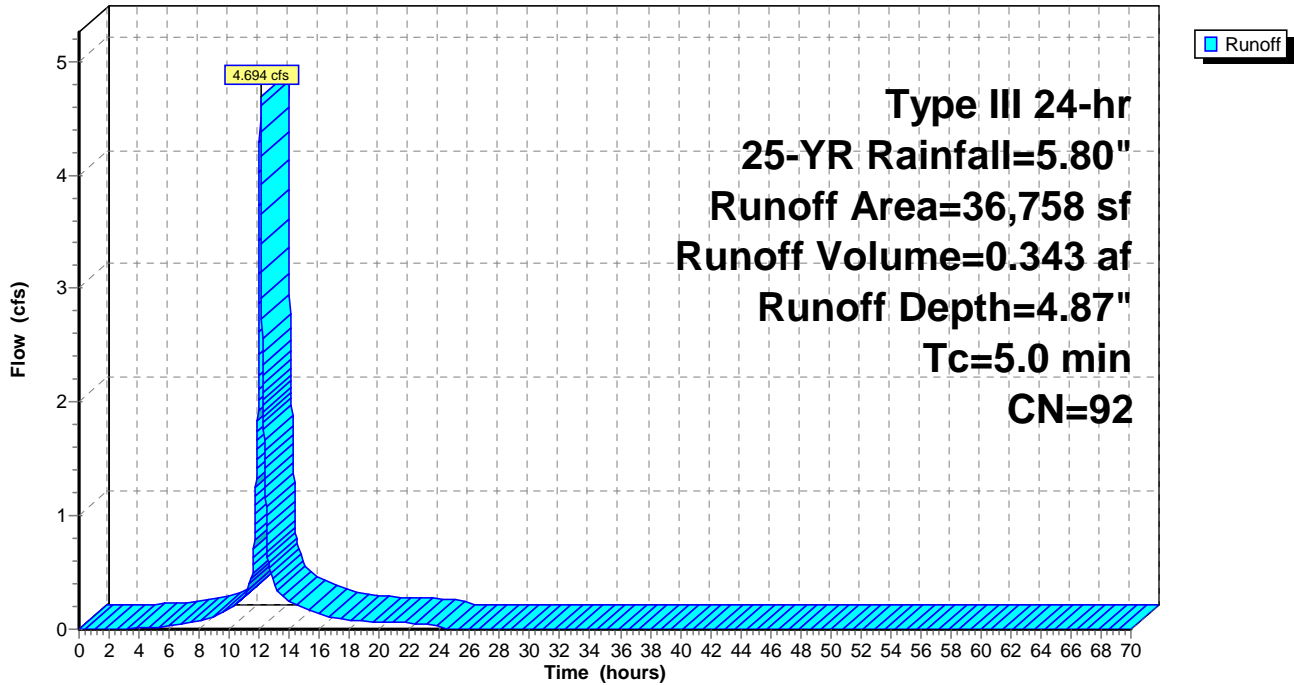
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
12,128	80	>75% Grass cover, Good, HSG D
24,630	98	Paved parking & roofs
36,758	92	Weighted Average
12,128		32.99% Pervious Area
24,630		67.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 23

**Subcatchment 23S: Subcatchment 23**

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**Summary for Subcatchment 24S: Subcatchment 24**

Runoff = 3.117 cfs @ 12.73 hrs, Volume= 0.534 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

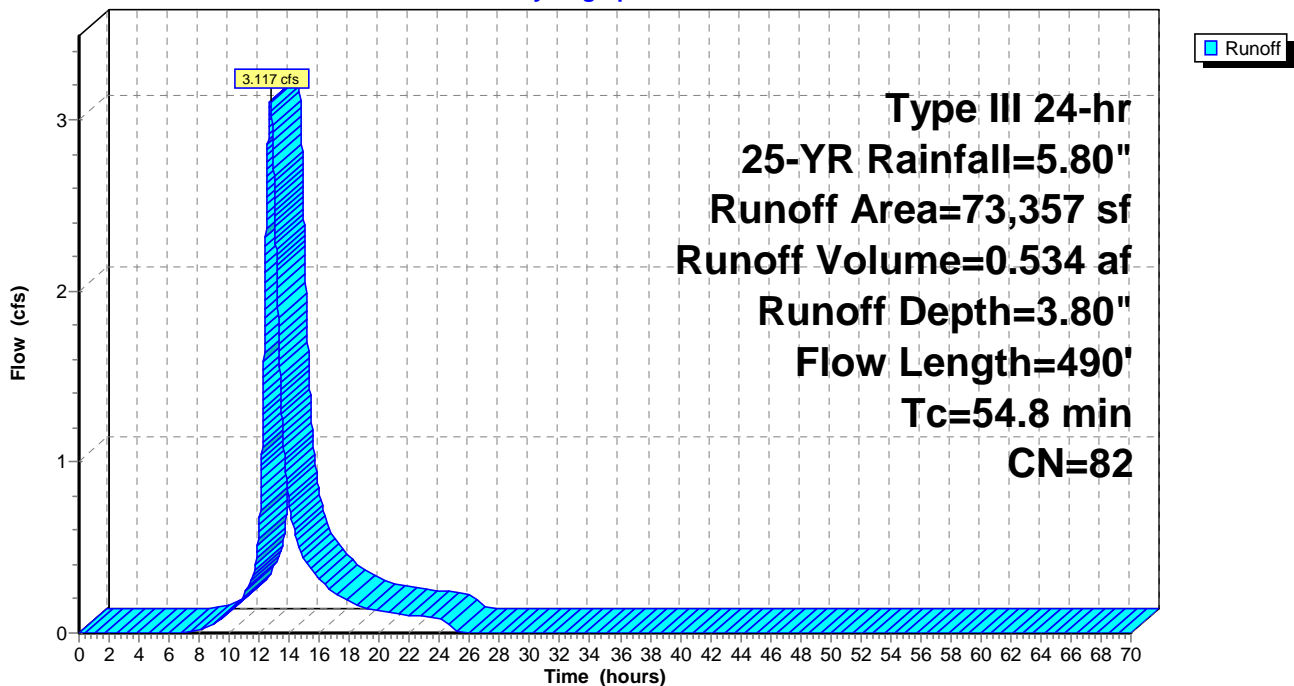
Area (sf)	CN	Description
73,357	82	Woods/grass comb., Fair, HSG D
73,357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 24 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
25.5	390	0.0026	0.25		<b>Shallow Concentrated Flow, Subcatchment 24 SCF</b> Woodland Kv= 5.0 fps
54.8	490	Total			

**Subcatchment 24S: Subcatchment 24**

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**Summary for Subcatchment 25S: Subcatchment 25**

Runoff = 3.105 cfs @ 12.07 hrs, Volume= 0.234 af, Depth= 5.21"

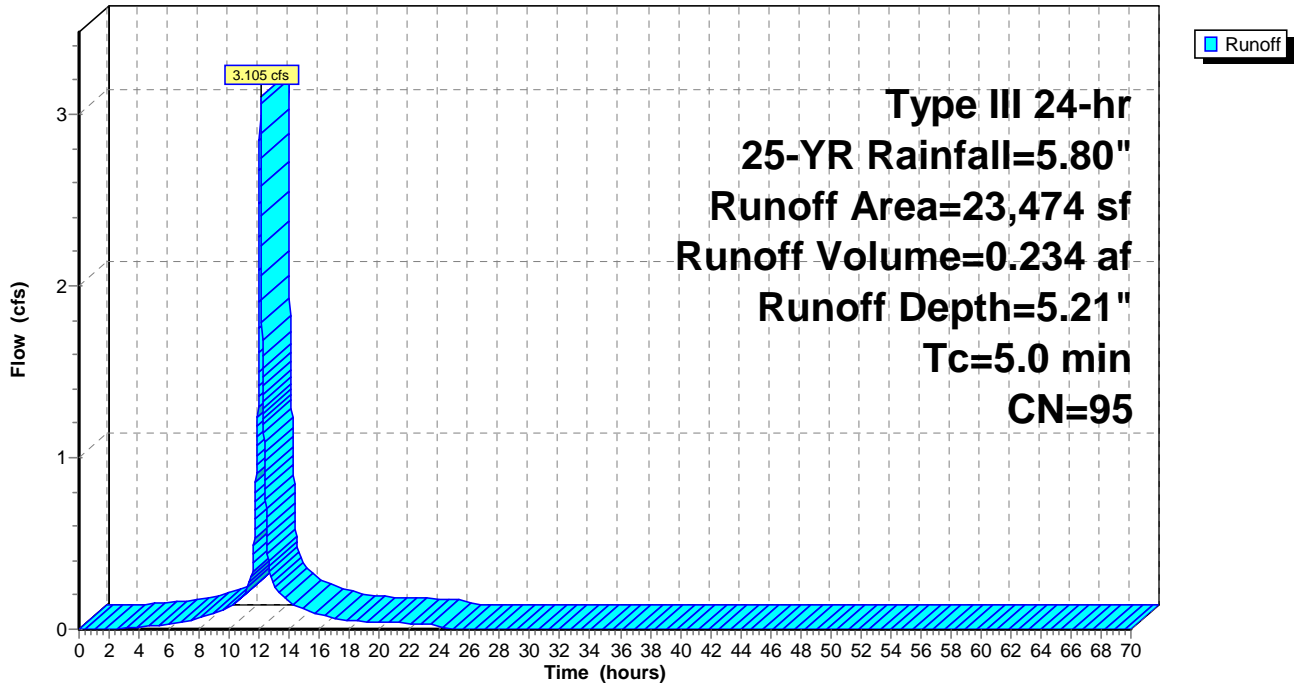
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
3,959	80	>75% Grass cover, Good, HSG D
19,515	98	Paved parking & roofs
23,474	95	Weighted Average
3,959		16.87% Pervious Area
19,515		83.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 25

**Subcatchment 25S: Subcatchment 25**

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Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 26S: Subcatchment 26**

Runoff = 1.351 cfs @ 12.07 hrs, Volume= 0.106 af, Depth= 5.56"

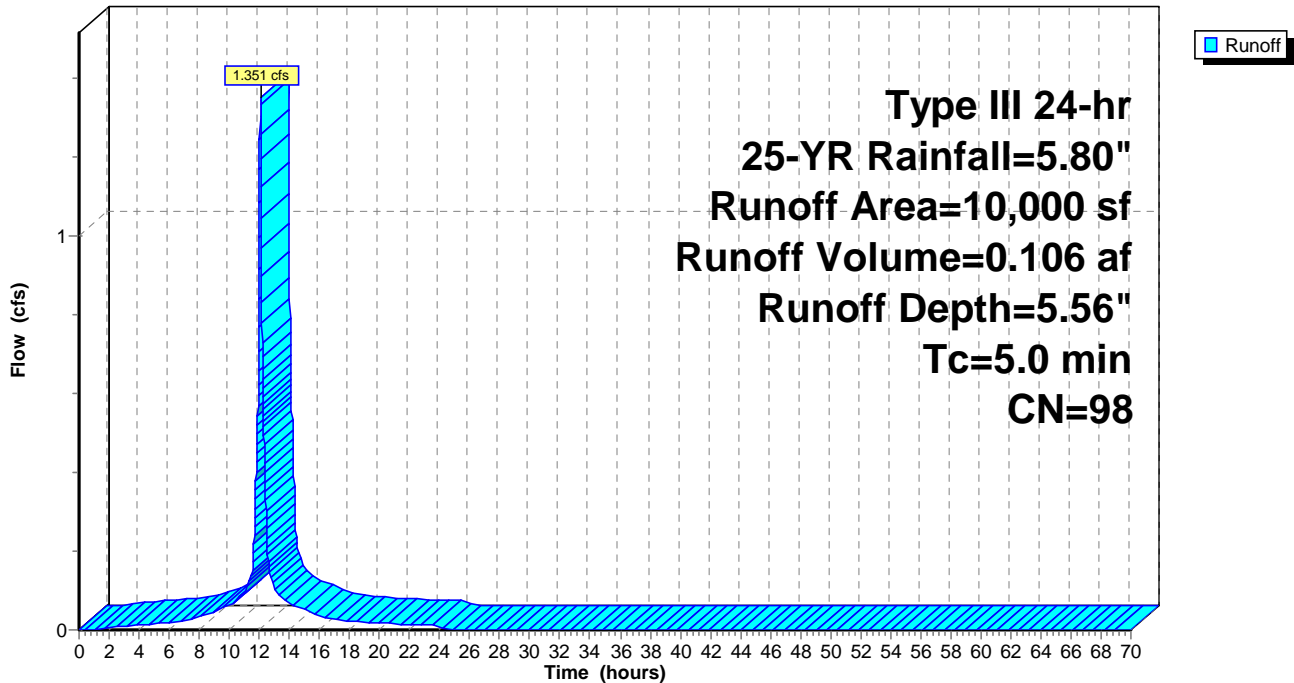
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 26

**Subcatchment 26S: Subcatchment 26**

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**Summary for Subcatchment 27S: Subcatchment 27**

Runoff = 2.414 cfs @ 12.07 hrs, Volume= 0.182 af, Depth= 5.21"

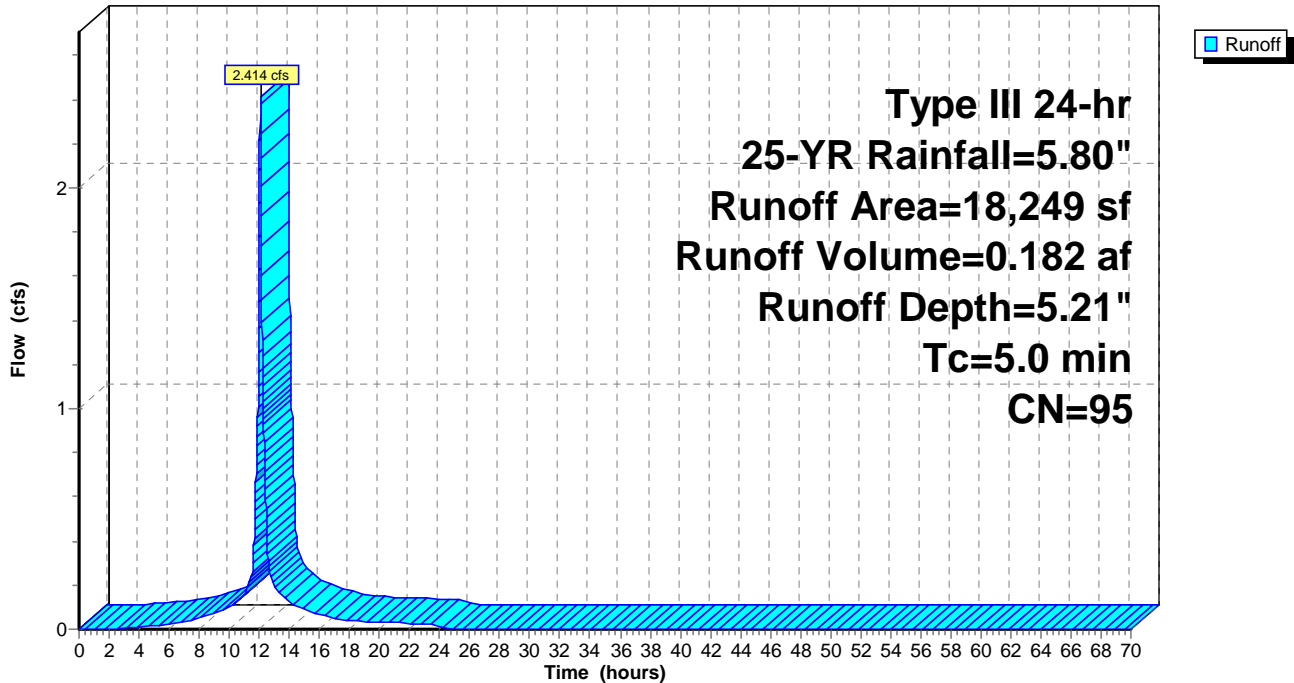
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
2,585	80	>75% Grass cover, Good, HSG D
15,664	98	Paved parking & roofs
18,249	95	Weighted Average
2,585		14.17% Pervious Area
15,664		85.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 27

**Subcatchment 27S: Subcatchment 27**

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**Summary for Subcatchment 28S: Subcatchment 28**

Runoff = 2.478 cfs @ 12.07 hrs, Volume= 0.195 af, Depth= 5.56"

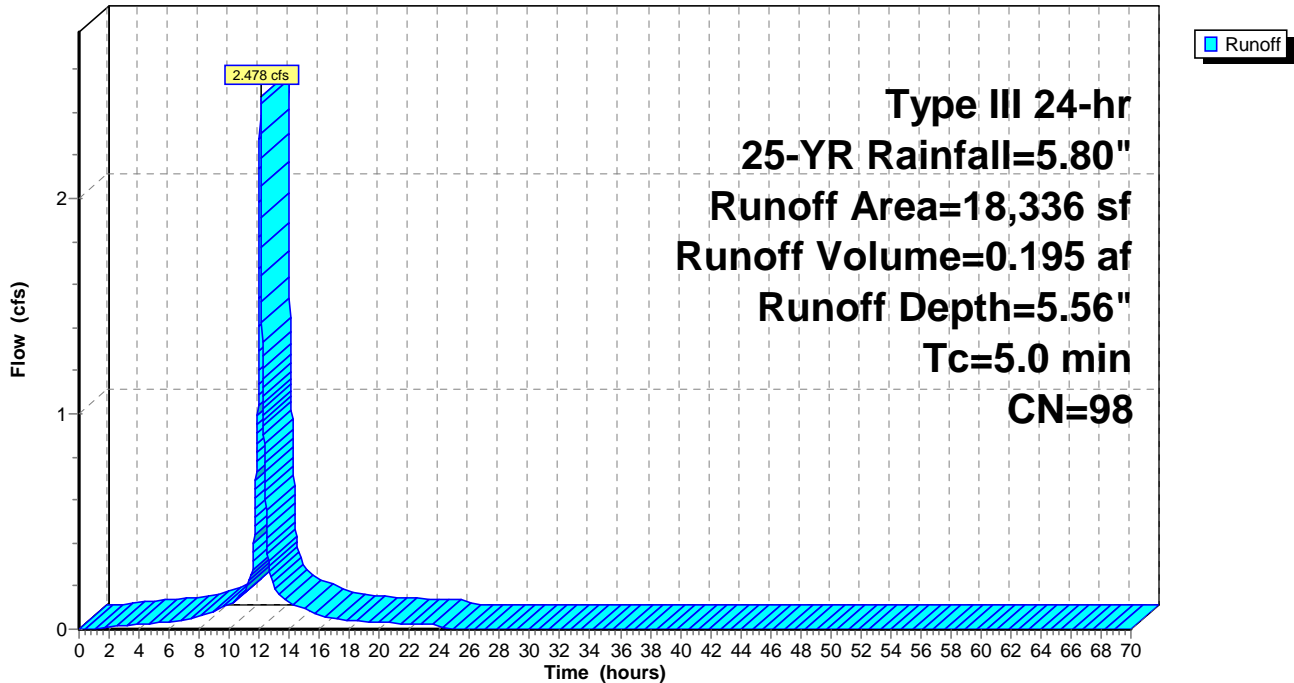
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
18,027	98	Paved parking & roofs
309	80	>75% Grass cover, Good, HSG D
18,336	98	Weighted Average
309		1.69% Pervious Area
18,027		98.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 28

**Subcatchment 28S: Subcatchment 28**

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**Summary for Subcatchment 29S: Subcatchment 29**

Runoff = 6.121 cfs @ 12.31 hrs, Volume= 0.684 af, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

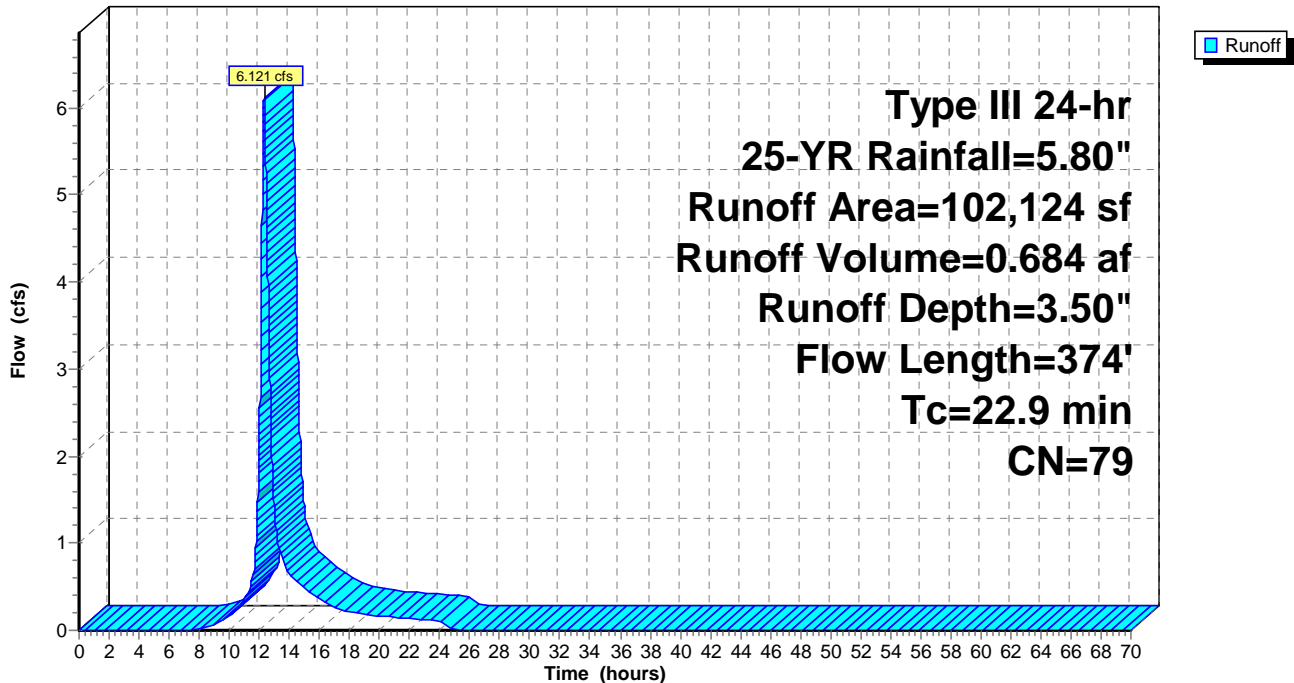
Area (sf)	CN	Description
30,457	74	>75% Grass cover, Good, HSG C
69,161	80	>75% Grass cover, Good, HSG D
2,506	98	Paved parking & roofs
102,124	79	Weighted Average
99,618		97.55% Pervious Area
2,506		2.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		<b>Sheet Flow, Subcatchment 29 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.9	207	0.0138	0.59		<b>Shallow Concentrated Flow, Subcatchment 29 SCF</b> Woodland Kv= 5.0 fps
0.2	67	0.1567	6.54	17.02	<b>Channel Flow, Subcatchment 29 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
22.9	374	Total			

**Subcatchment 29S: Subcatchment 29**

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**Summary for Subcatchment 30S: Subcatchment 30**

Runoff = 10.816 cfs @ 12.58 hrs, Volume= 1.585 af, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

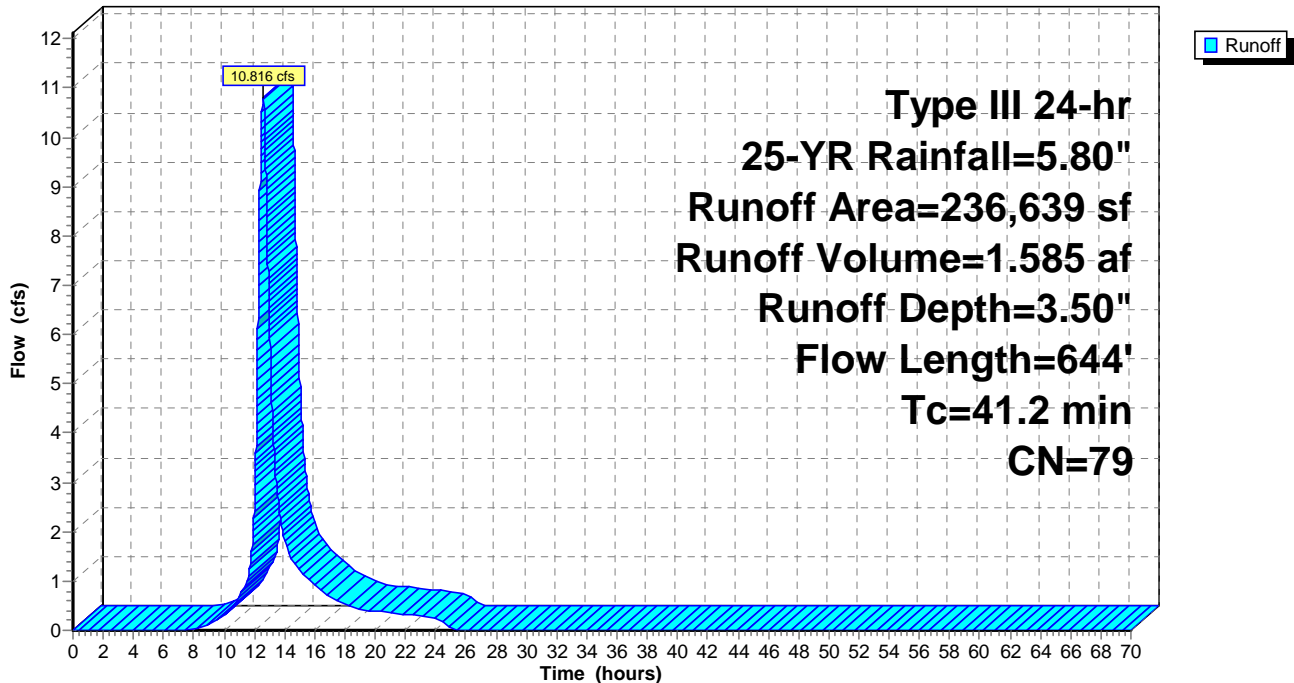
Area (sf)	CN	Description
26,475	74	>75% Grass cover, Good, HSG C
209,945	80	>75% Grass cover, Good, HSG D
219	98	Paved parking & roofs
236,639	79	Weighted Average
236,420		99.91% Pervious Area
219		0.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 30 Sheet Flow</b> Woods: Light underbrush n= 0.400 P2= 3.00"
11.2	357	0.0112	0.53		<b>Shallow Concentrated Flow, Subcatchment 30 SCF</b> Woodland Kv= 5.0 fps
0.7	187	0.0640	4.18	10.87	<b>Channel Flow, Subcatchment 30 Channel Flow</b> Area= 2.6 sf Perim= 10.7' r= 0.24' n= 0.035 Earth, dense weeds
41.2	644	Total			

**Subcatchment 30S: Subcatchment 30**

Hydrograph





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## Summary for Subcatchment 31S: Subcatchment 31

Runoff = 1.351 cfs @ 12.07 hrs, Volume= 0.106 af, Depth= 5.56"

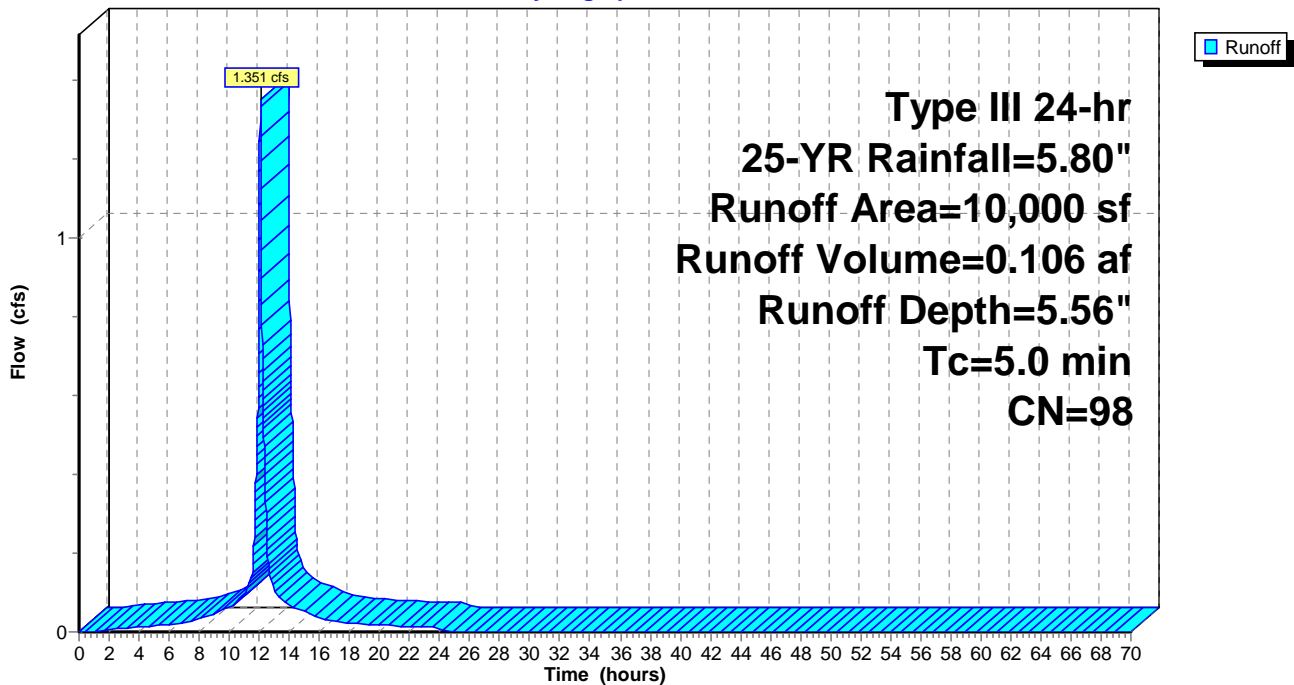
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 31

## Subcatchment 31S: Subcatchment 31

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Type III 24-hr 25-YR Rainfall=5.80"

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## Summary for Subcatchment 32S: Subcatchment 32

Runoff = 1.351 cfs @ 12.07 hrs, Volume= 0.106 af, Depth= 5.56"

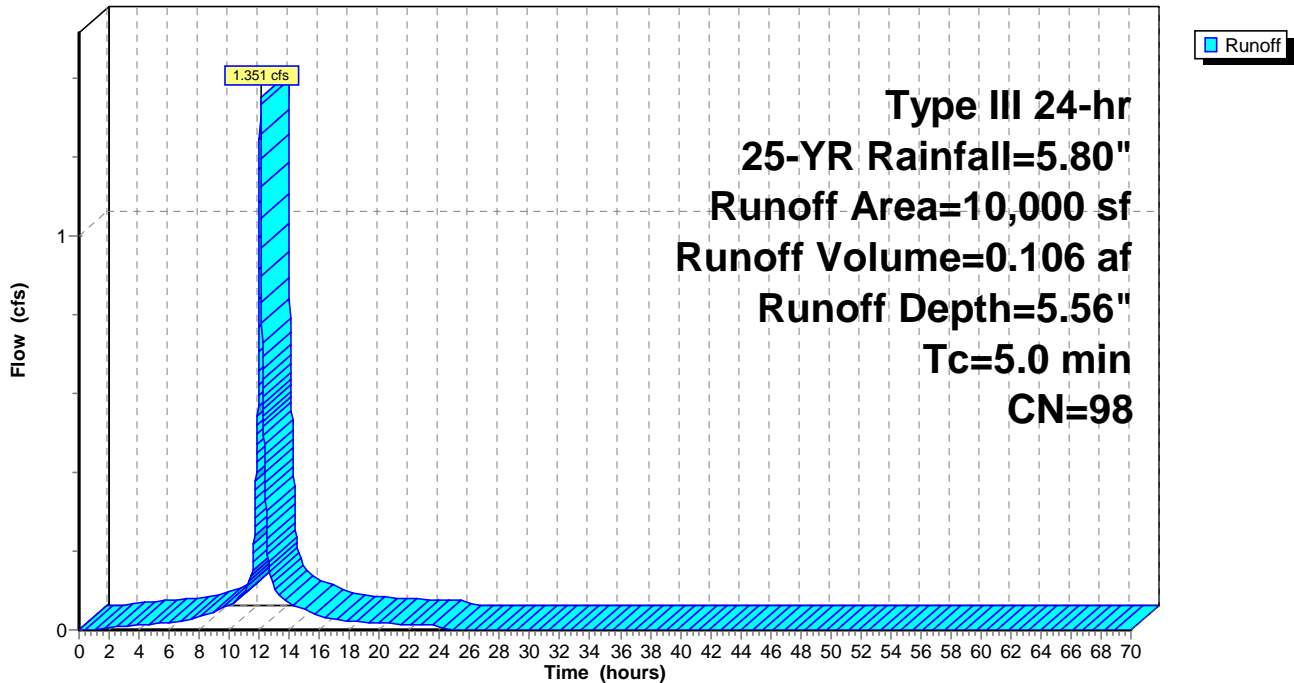
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,000	98	Paved parking & roofs
10,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 32

## Subcatchment 32S: Subcatchment 32

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**Summary for Subcatchment 33S: Subcatchment 33**

Runoff = 1.791 cfs @ 12.07 hrs, Volume= 0.135 af, Depth= 5.21"

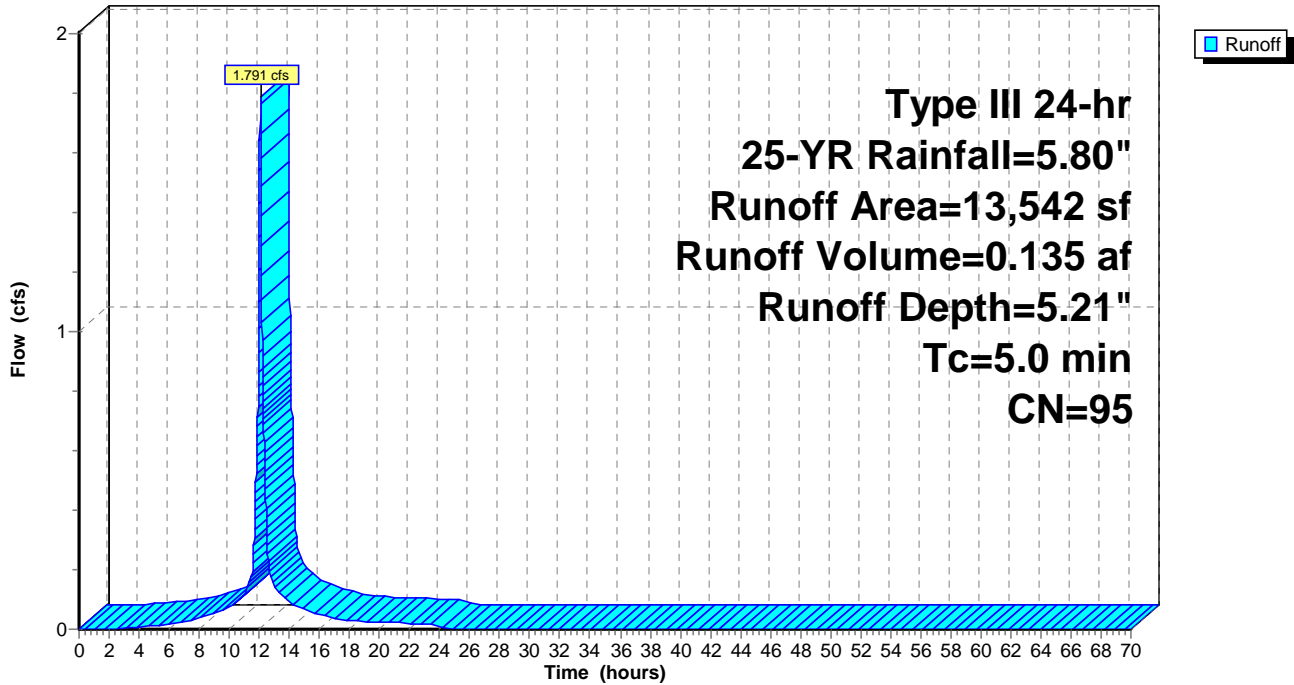
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
2,318	80	>75% Grass cover, Good, HSG D
11,224	98	Paved parking & roofs
13,542	95	Weighted Average
2,318		17.12% Pervious Area
11,224		82.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 33

**Subcatchment 33S: Subcatchment 33**

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**Summary for Subcatchment 34S: Subcatchment 34**

Runoff = 3.853 cfs @ 12.07 hrs, Volume= 0.287 af, Depth= 5.10"

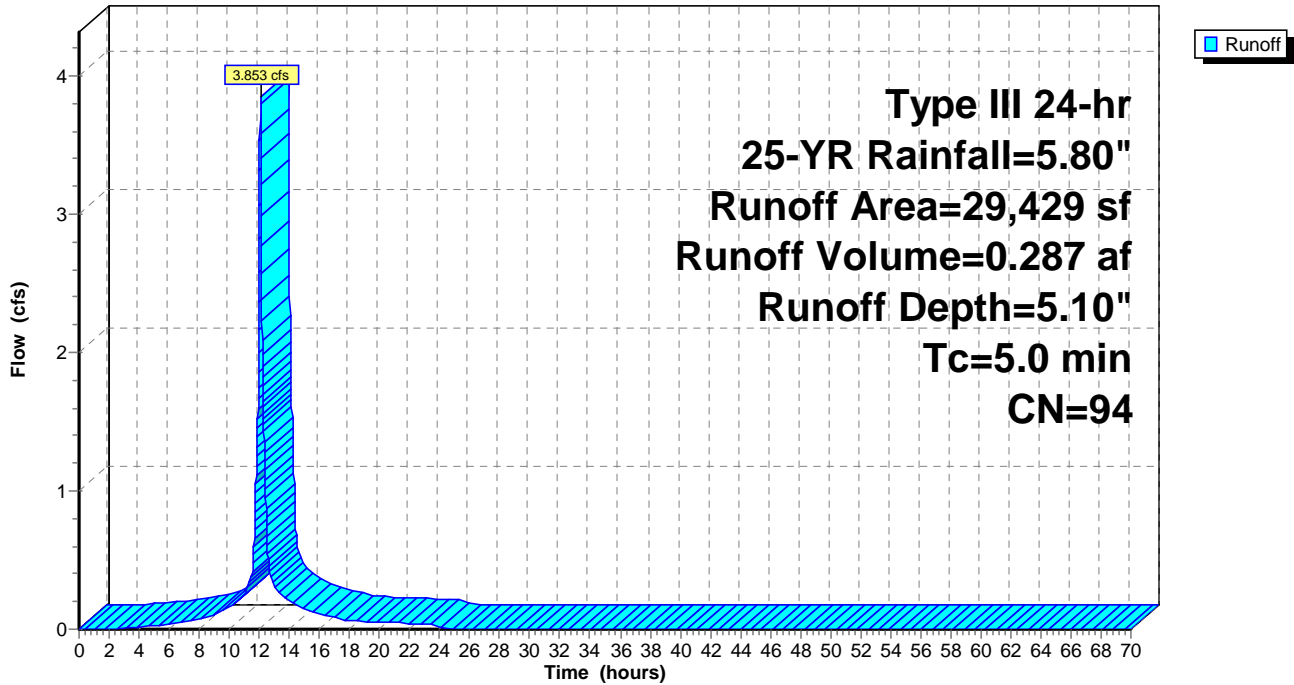
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
6,200	80	>75% Grass cover, Good, HSG D
23,229	98	Paved parking & roofs
29,429	94	Weighted Average
6,200		21.07% Pervious Area
23,229		78.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 34

**Subcatchment 34S: Subcatchment 34**

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POST - CANAL & TOTAL  
Type III 24-hr 25-YR Rainfall=5.80"

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**Summary for Subcatchment 35S: Subcatchment 35**

Runoff = 1.327 cfs @ 12.07 hrs, Volume= 0.101 af, Depth= 5.33"

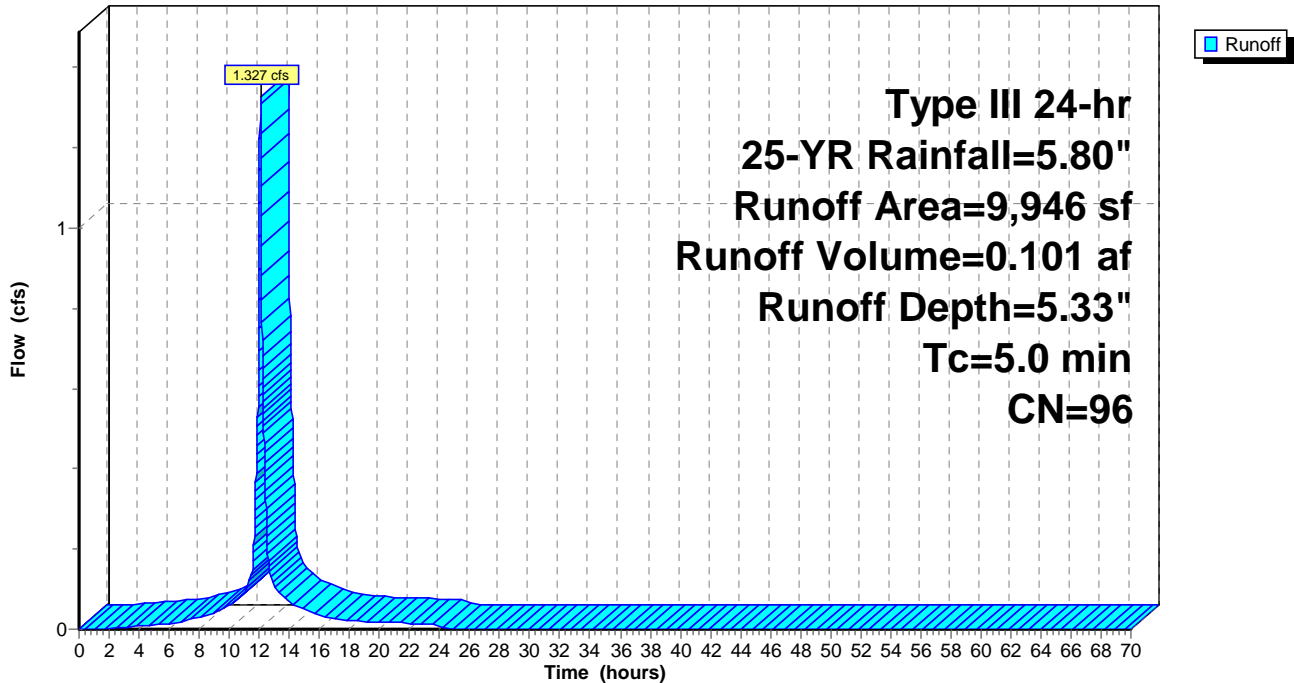
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,334	80	>75% Grass cover, Good, HSG D
8,612	98	Paved parking & roofs
9,946	96	Weighted Average
1,334		13.41% Pervious Area
8,612		86.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Subcatchment 35

**Subcatchment 35S: Subcatchment 35**

Hydrograph



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**Summary for Subcatchment 36S: Subcatchment 36**

Runoff = 7.572 cfs @ 12.67 hrs, Volume= 1.225 af, Depth= 3.60"

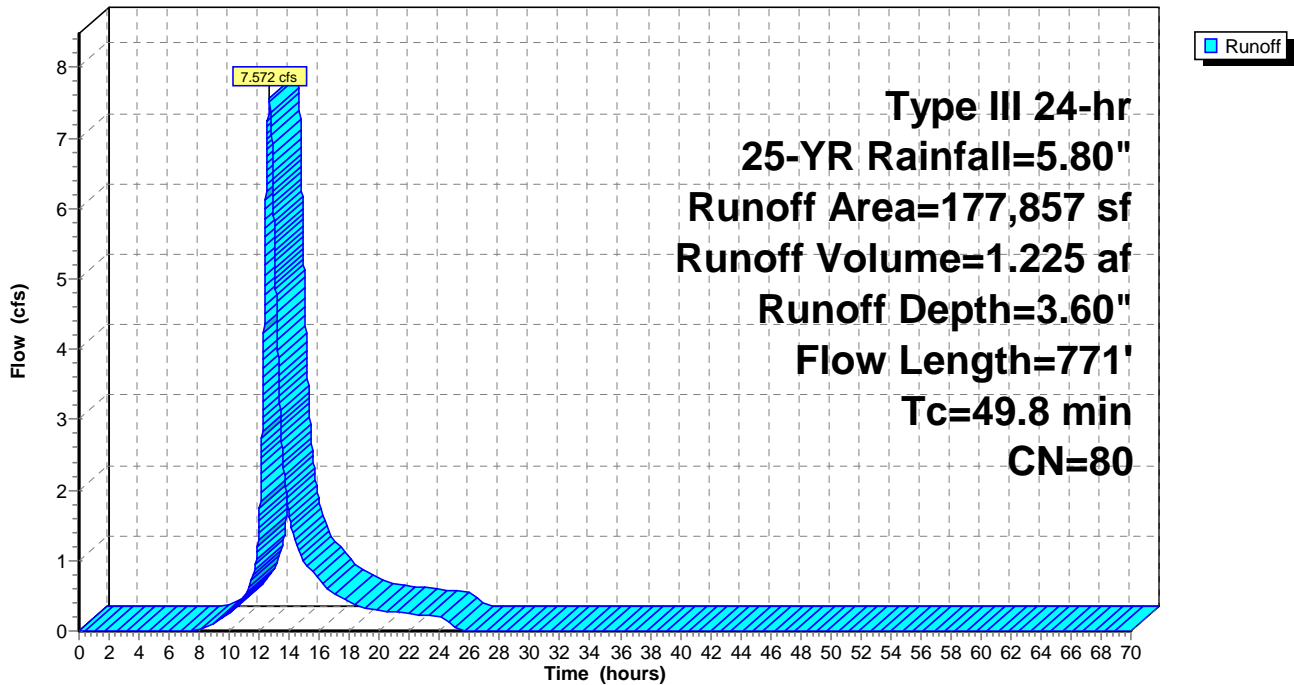
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
3,520	74	>75% Grass cover, Good, HSG C
174,337	80	>75% Grass cover, Good, HSG D
177,857	80	Weighted Average
177,857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.3	100	0.0100	0.06		<b>Sheet Flow, Subcatchment 36 Sheet Flow</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
20.5	671	0.0119	0.55		<b>Shallow Concentrated Flow, Subcatchment 36 SCF</b>
					Woodland Kv= 5.0 fps
49.8	771	Total			

**Subcatchment 36S: Subcatchment 36**

Hydrograph



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**Summary for Subcatchment 62S: Rain on Pond 62P**

Runoff = 0.802 cfs @ 12.07 hrs, Volume= 0.063 af, Depth= 5.56"

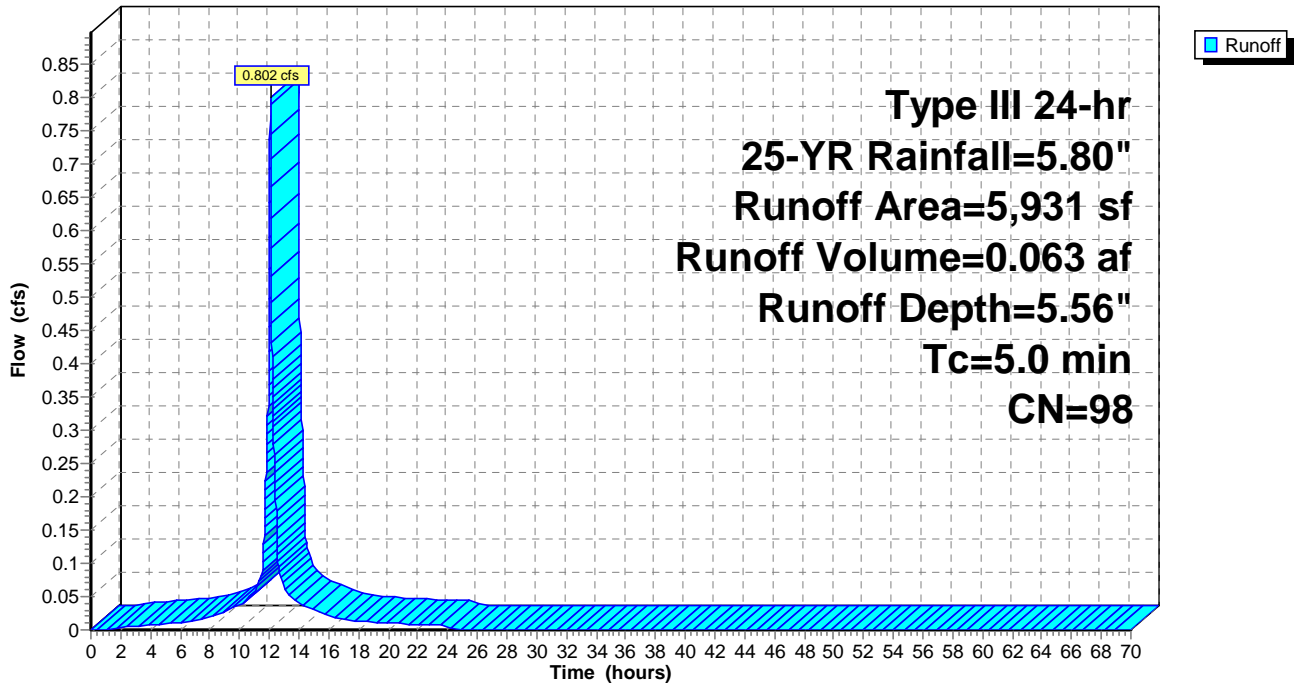
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
5,931	98	Water Surface, 0% imp
5,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 62S: Rain on Pond 62P**

Hydrograph



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**Summary for Subcatchment 63S: Rain on Pond 60P**

Runoff = 0.863 cfs @ 12.07 hrs, Volume= 0.068 af, Depth= 5.56"

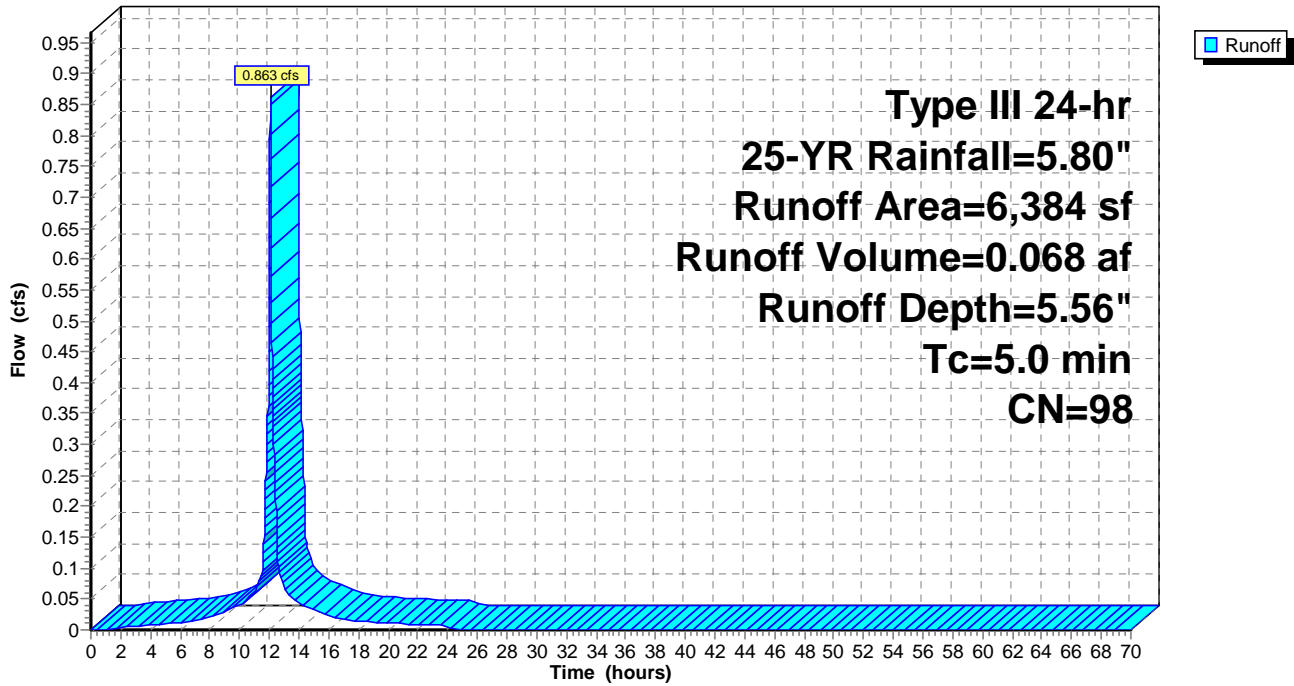
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
6,384	98	Water Surface, 0% imp
6,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 63S: Rain on Pond 60P**

Hydrograph





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**Summary for Subcatchment 64S: Rain on Pond 63P**

Runoff = 0.730 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 5.56"

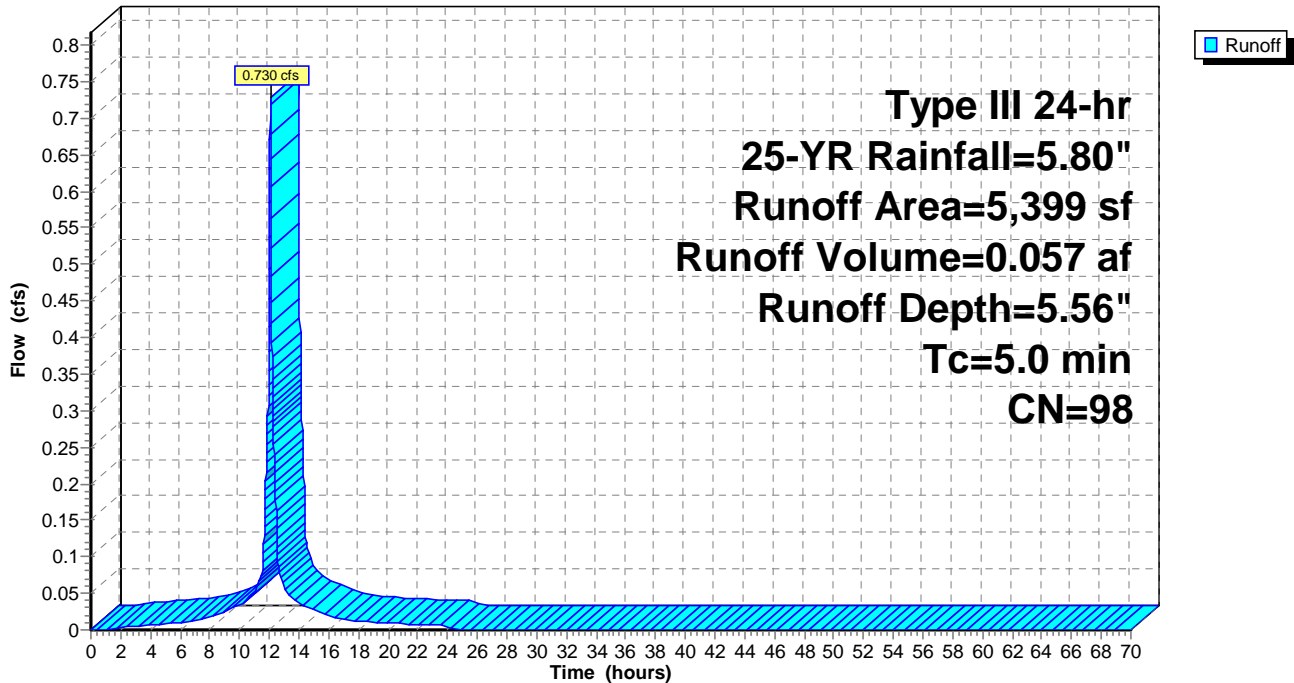
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
5,399	98	Water Surface, 0% imp
5,399		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 64S: Rain on Pond 63P**

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**Summary for Subcatchment 65S: Rain on Pond 44P**

Runoff = 0.781 cfs @ 12.07 hrs, Volume= 0.062 af, Depth= 5.56"

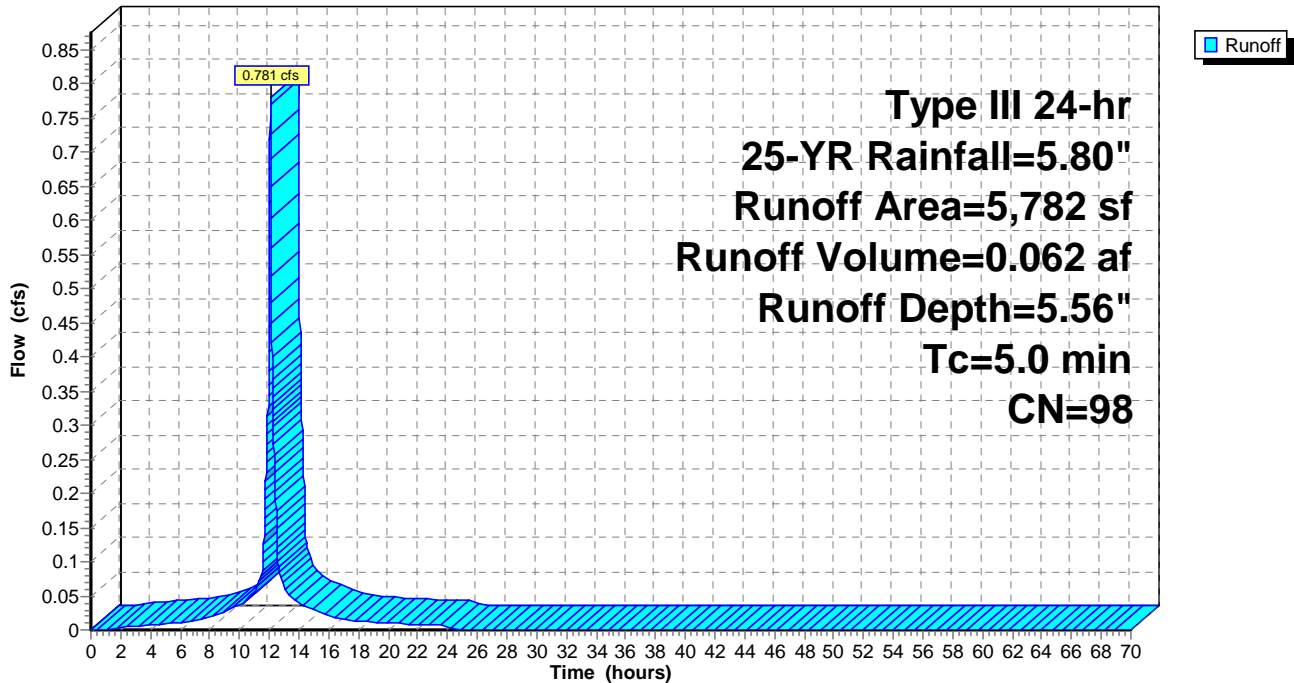
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
5,782	98	Water Surface, 0% imp
5,782		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 65S: Rain on Pond 44P**

Hydrograph



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**Summary for Subcatchment 66S: Rain on Pond 48P**

Runoff = 0.497 cfs @ 12.07 hrs, Volume= 0.039 af, Depth= 5.56"

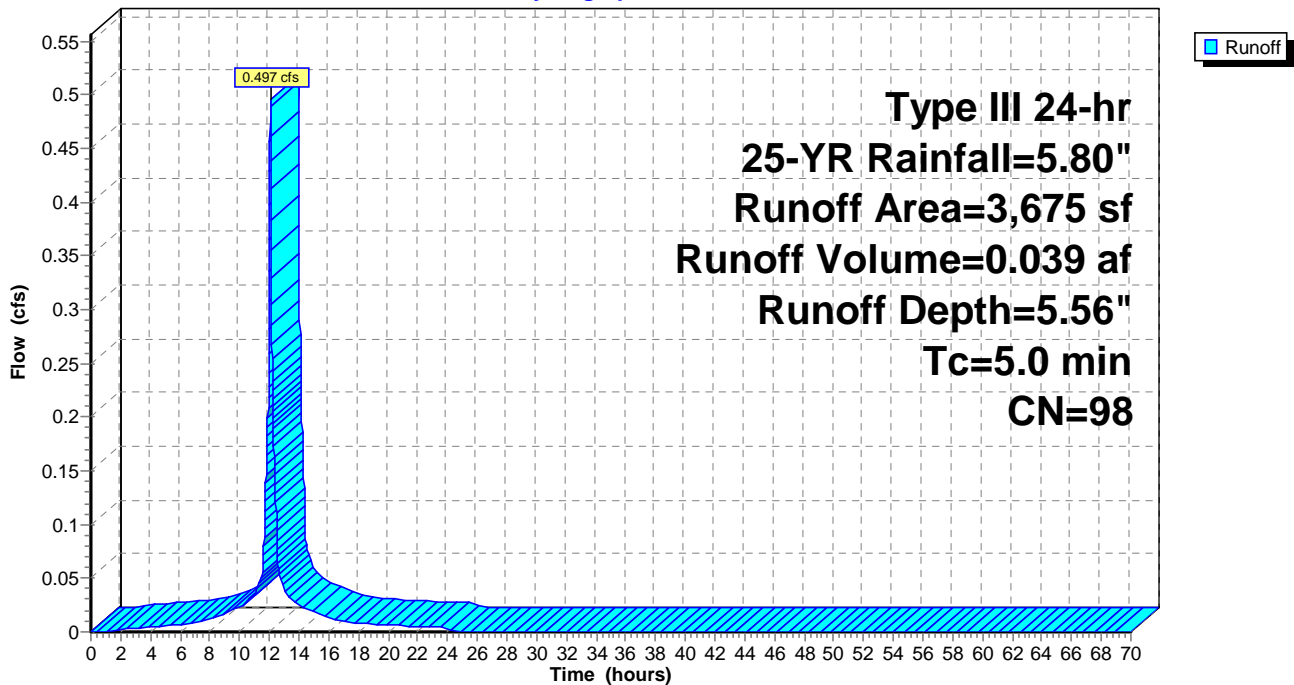
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
3,675	98	Water Surface, 0% imp
3,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 66S: Rain on Pond 48P**

Hydrograph



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**Summary for Subcatchment 67S: Rain on Pond 49P**

Runoff = 0.541 cfs @ 12.07 hrs, Volume= 0.043 af, Depth= 5.56"

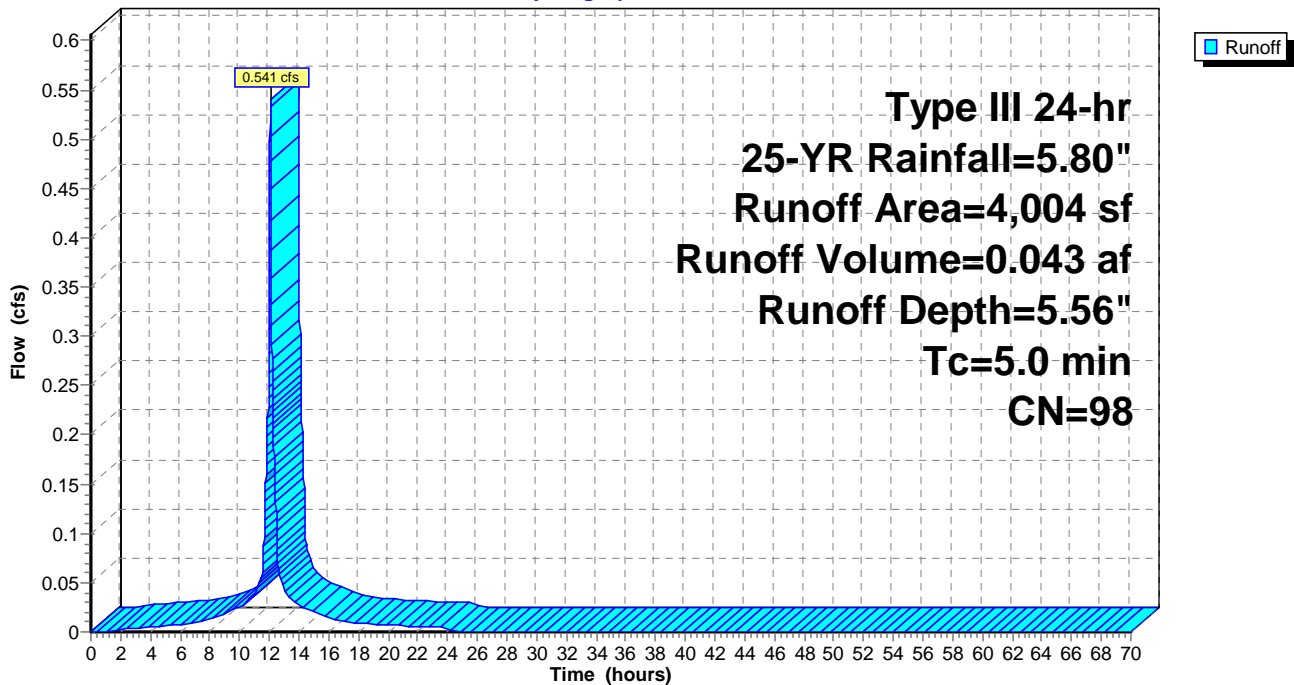
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
4,004	98	Water Surface, 0% imp
4,004		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 67S: Rain on Pond 49P**

Hydrograph



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**Summary for Subcatchment 68S: Rain on Pond 51P**

Runoff = 0.975 cfs @ 12.07 hrs, Volume= 0.077 af, Depth= 5.56"

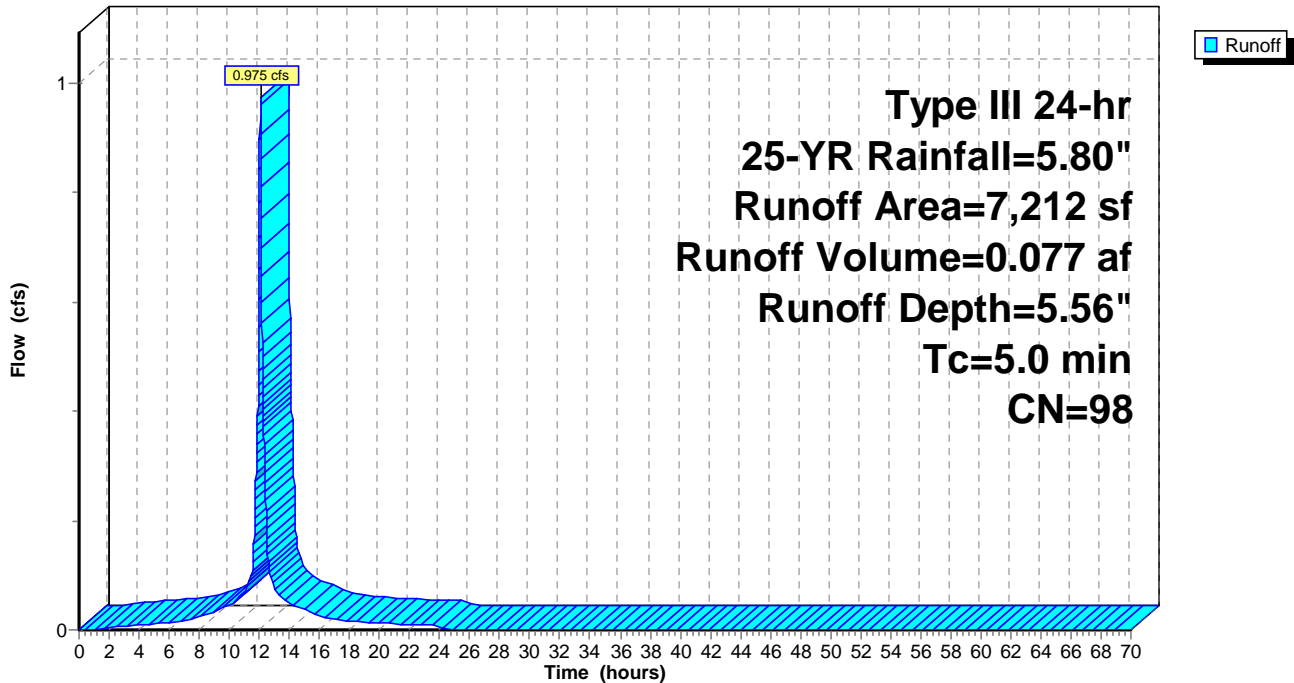
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
7,212	98	Water Surface, 0% imp
7,212		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 68S: Rain on Pond 51P**

Hydrograph



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**Summary for Subcatchment 69S: Rain on Pond 53P**

Runoff = 1.389 cfs @ 12.07 hrs, Volume= 0.109 af, Depth= 5.56"

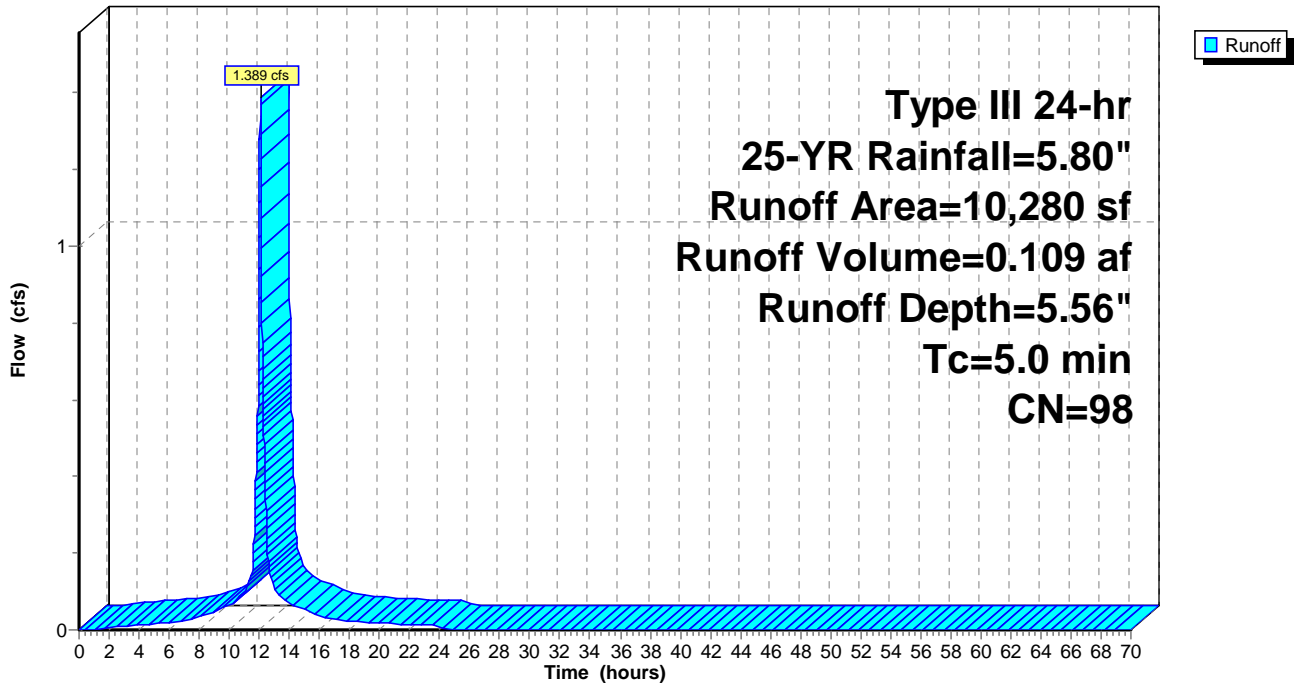
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,280	98	Water Surface, 0% imp
10,280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 69S: Rain on Pond 53P**

Hydrograph



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**Summary for Subcatchment 70S: Rain on Pond 52P**

Runoff = 0.294 cfs @ 12.07 hrs, Volume= 0.023 af, Depth= 5.56"

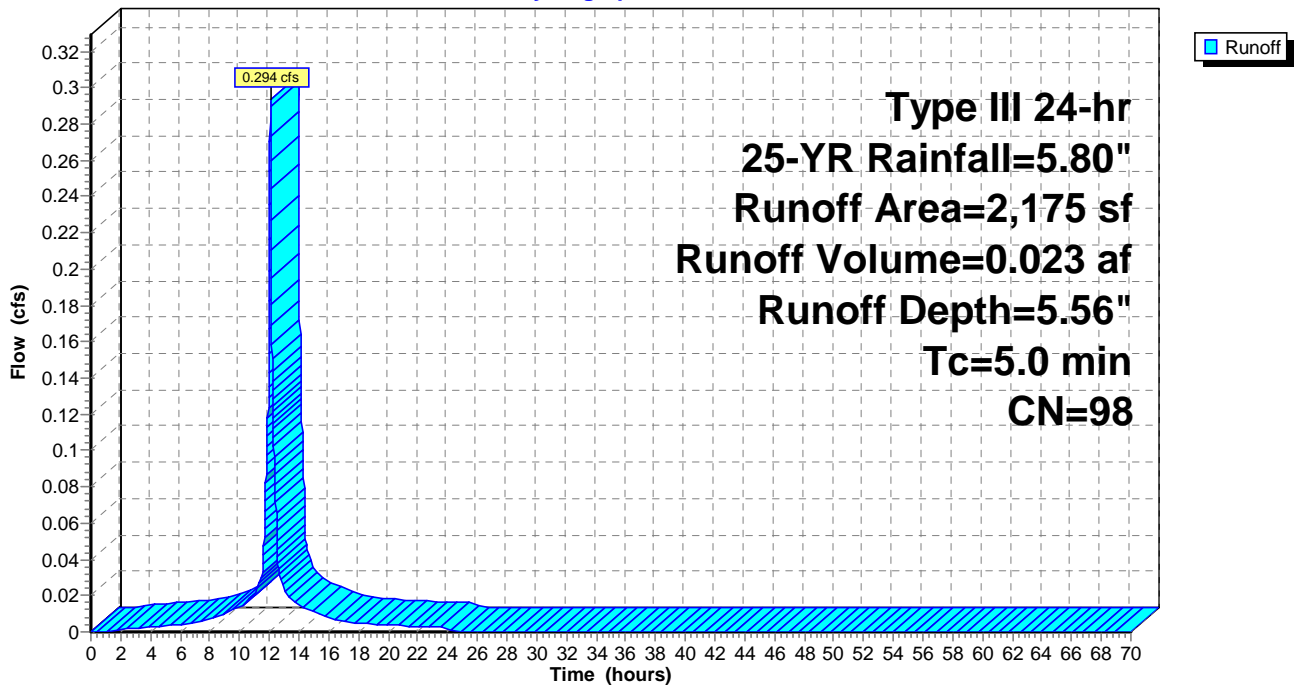
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
2,175	98	Water Surface, 0% imp
2,175		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 70S: Rain on Pond 52P**

Hydrograph



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**Summary for Subcatchment 72S: Rain on Pond 58P**

Runoff = 0.896 cfs @ 12.07 hrs, Volume= 0.071 af, Depth= 5.56"

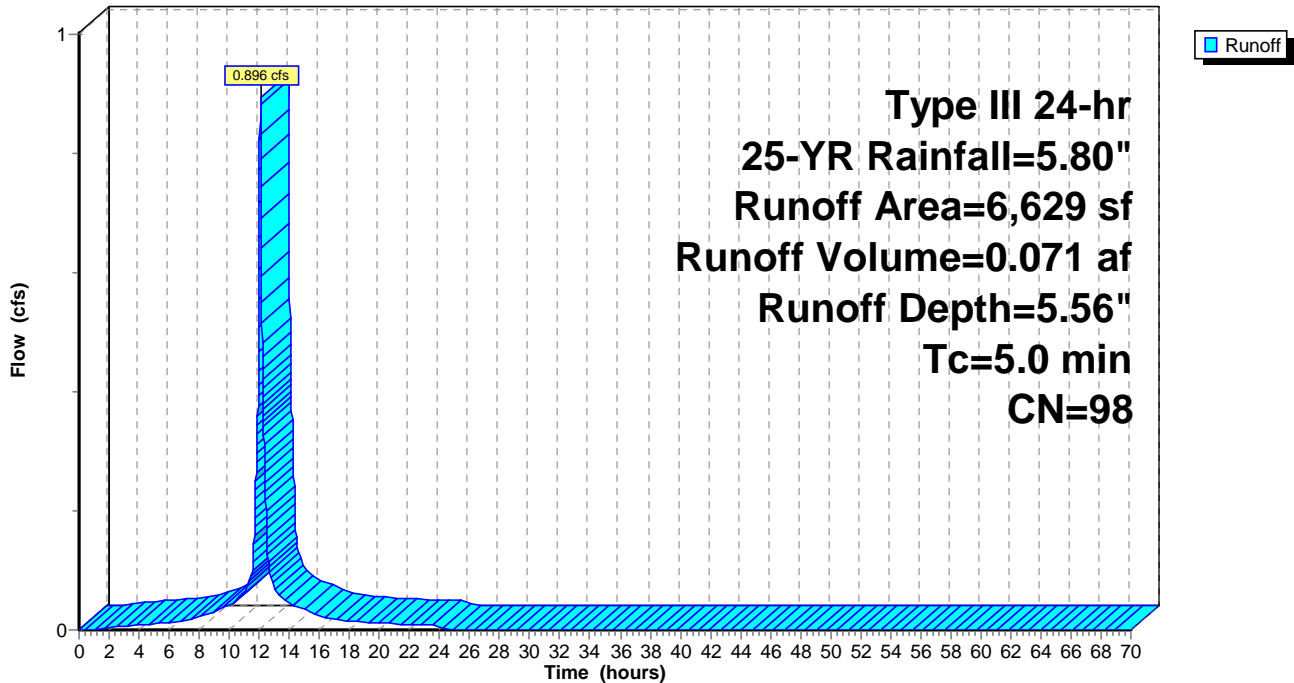
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
6,629	98	Water Surface, 0% imp
6,629		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 72S: Rain on Pond 58P**

Hydrograph





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**Summary for Subcatchment 73S: Rain on Pond 59P**

Runoff = 0.772 cfs @ 12.07 hrs, Volume= 0.061 af, Depth= 5.56"

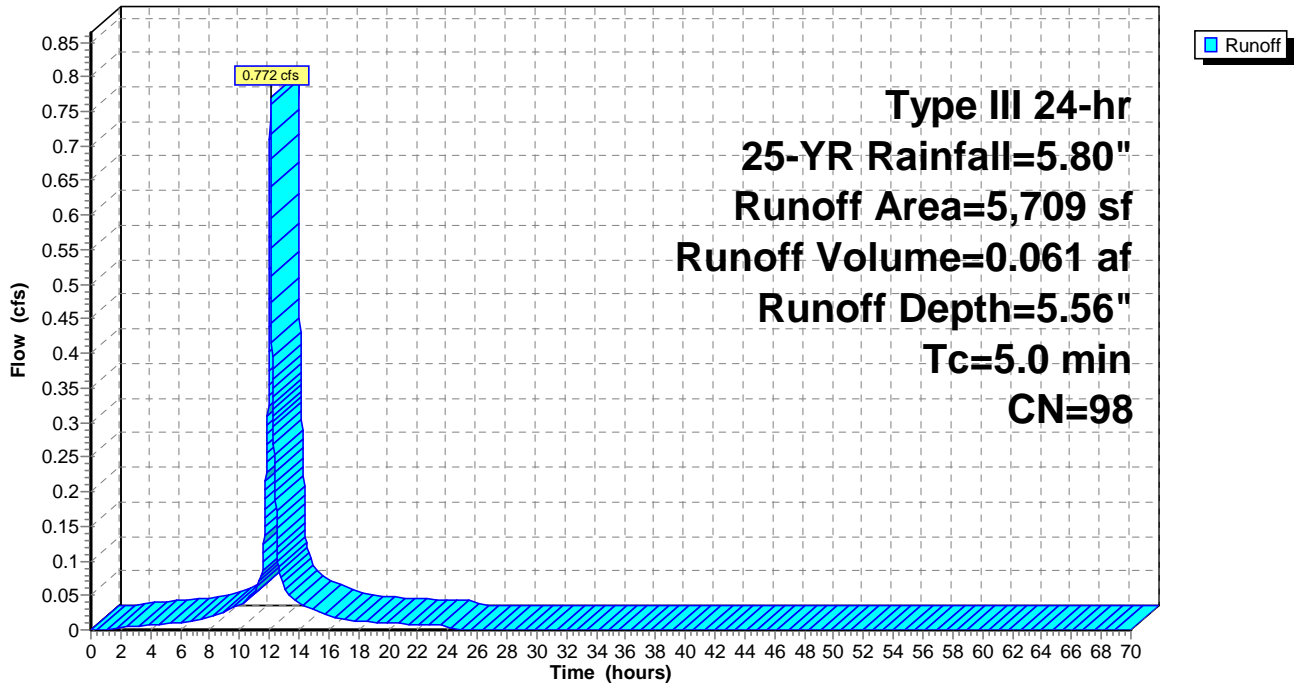
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
5,709	98	Water Surface, 0% imp
5,709		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Rain on Pond

**Subcatchment 73S: Rain on Pond 59P**

Hydrograph



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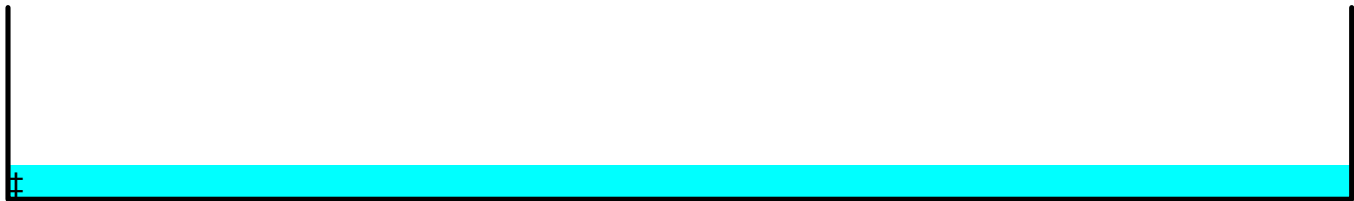
## Summary for Reach 45R: Rock Sandwich 1

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth > 4.53" for 25-YR event  
Inflow = 5.657 cfs @ 12.39 hrs, Volume= 1.135 af  
Outflow = 5.646 cfs @ 12.40 hrs, Volume= 1.134 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.61 fps, Min. Travel Time= 2.2 min  
Avg. Velocity = 0.13 fps, Avg. Travel Time= 10.6 min

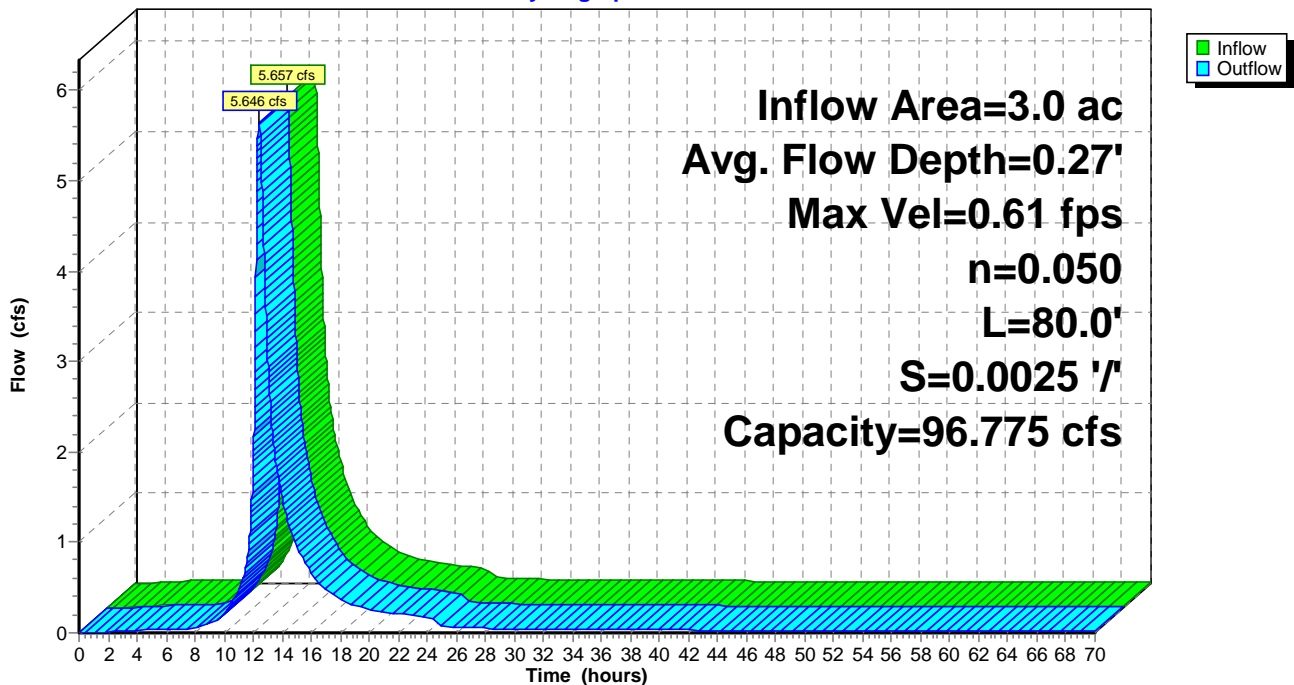
Peak Storage= 743 cf @ 12.40 hrs  
Average Depth at Peak Storage= 0.27'  
Bank-Full Depth= 1.50' Flow Area= 52.5 sf, Capacity= 96.775 cfs

35.00' x 1.50' deep channel, n= 0.050  
Length= 80.0' Slope= 0.0025 '/'  
Inlet Invert= 64.80', Outlet Invert= 64.60'



## Reach 45R: Rock Sandwich 1

Hydrograph



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## Summary for Reach 47R: Rock Sandwich 3

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 4.25" for 25-YR event  
Inflow = 13.681 cfs @ 12.67 hrs, Volume= 3.570 af  
Outflow = 13.677 cfs @ 12.69 hrs, Volume= 3.570 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.76 fps, Min. Travel Time= 1.5 min  
Avg. Velocity = 0.19 fps, Avg. Travel Time= 6.3 min

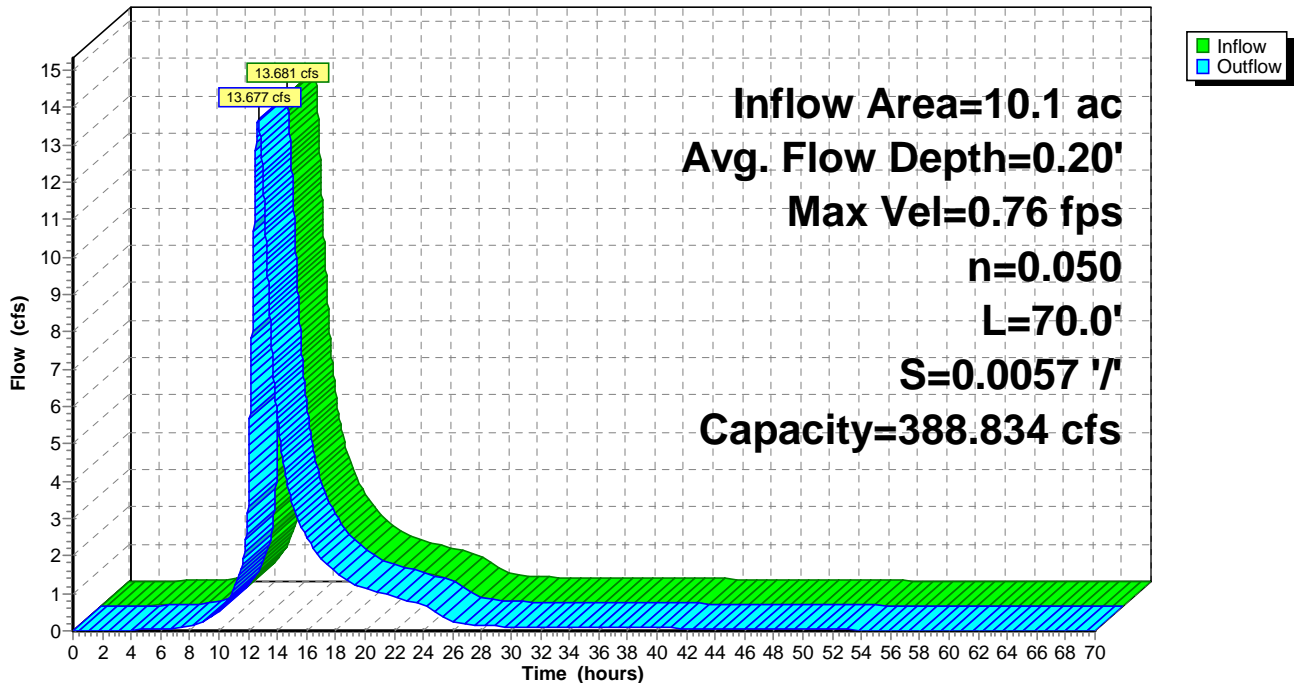
Peak Storage= 1,253 cf @ 12.69 hrs  
Average Depth at Peak Storage= 0.20'  
Bank-Full Depth= 1.50' Flow Area= 135.0 sf, Capacity= 388.834 cfs

90.00' x 1.50' deep channel, n= 0.050  
Length= 70.0' Slope= 0.0057 '/'  
Inlet Invert= 62.40', Outlet Invert= 62.00'



## Reach 47R: Rock Sandwich 3

Hydrograph



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## Summary for Reach 50R: Rock Sandwich 2

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 4.20" for 25-YR event  
Inflow = 5.178 cfs @ 12.87 hrs, Volume= 1.405 af  
Outflow = 5.172 cfs @ 12.89 hrs, Volume= 1.405 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.52 fps, Min. Travel Time= 2.4 min  
Avg. Velocity = 0.13 fps, Avg. Travel Time= 9.9 min

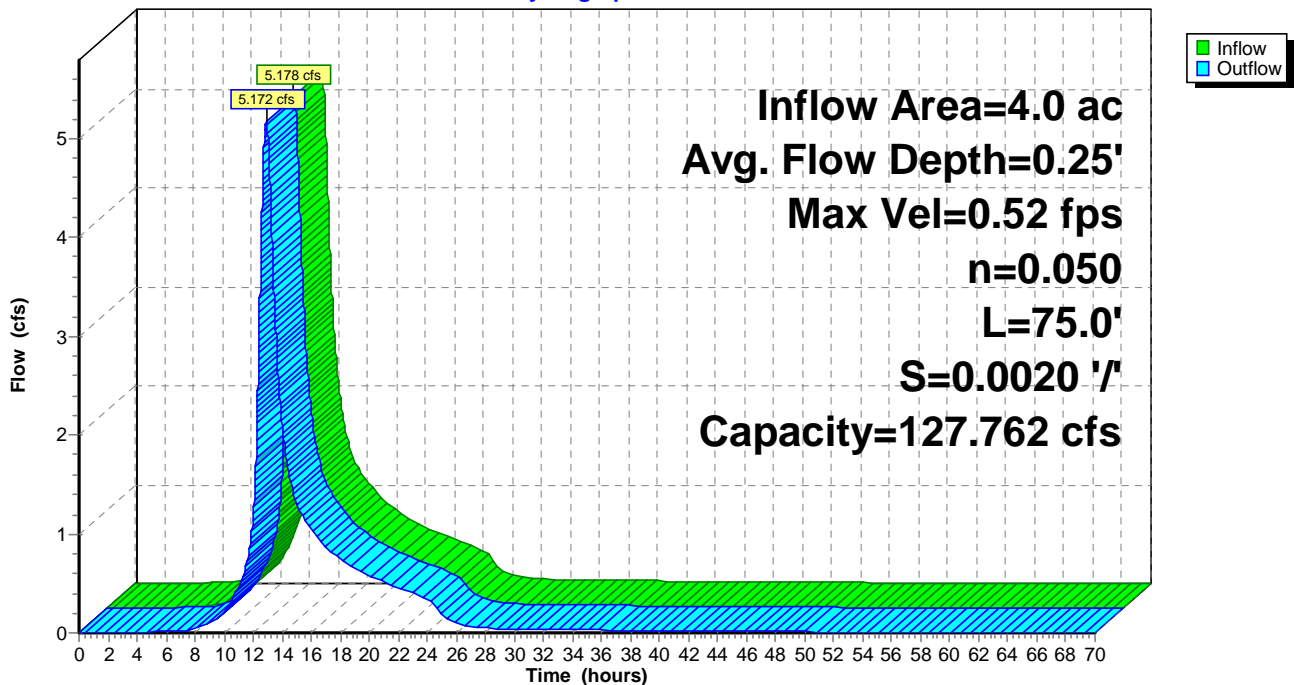
Peak Storage= 745 cf @ 12.89 hrs  
Average Depth at Peak Storage= 0.25'  
Bank-Full Depth= 1.75' Flow Area= 70.0 sf, Capacity= 127.762 cfs

40.00' x 1.75' deep channel, n= 0.050  
Length= 75.0' Slope= 0.0020 '/'  
Inlet Invert= 65.90', Outlet Invert= 65.75'



## Reach 50R: Rock Sandwich 2

Hydrograph



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## Summary for Reach 54R: Rock Sandwich 4

Inflow Area = 1.7 ac, 0.00% Impervious, Inflow Depth = 5.08" for 25-YR event  
Inflow = 5.151 cfs @ 12.37 hrs, Volume= 0.712 af  
Outflow = 5.150 cfs @ 12.38 hrs, Volume= 0.712 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.90 fps, Min. Travel Time= 1.1 min  
Avg. Velocity = 0.25 fps, Avg. Travel Time= 4.0 min

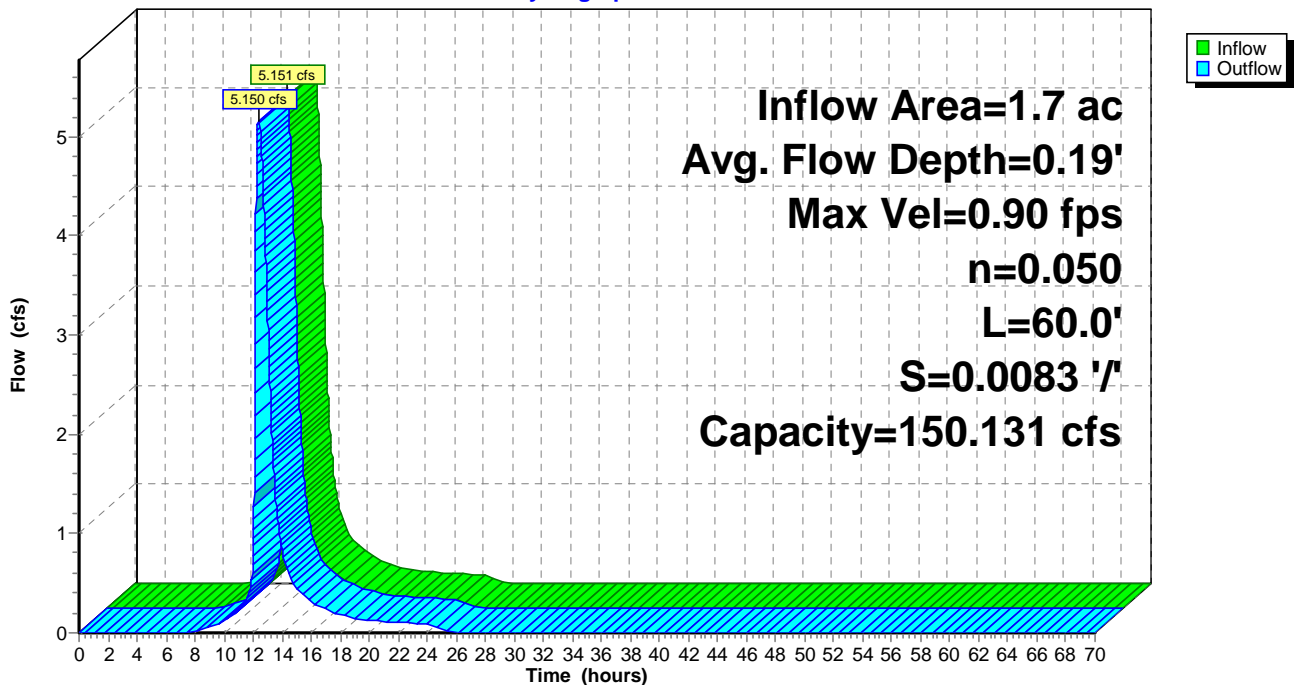
Peak Storage= 345 cf @ 12.38 hrs  
Average Depth at Peak Storage= 0.19'  
Bank-Full Depth= 1.50' Flow Area= 45.0 sf, Capacity= 150.131 cfs

30.00' x 1.50' deep channel, n= 0.050  
Length= 60.0' Slope= 0.0083 '/'  
Inlet Invert= 66.50', Outlet Invert= 66.00'



## Reach 54R: Rock Sandwich 4

Hydrograph



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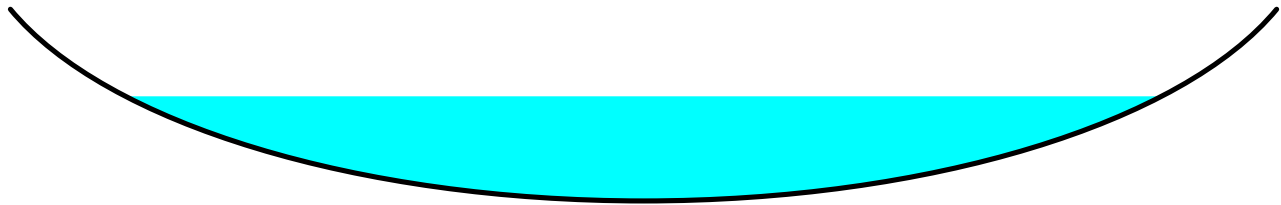
## Summary for Reach 62R: RS1 to RS2

Inflow Area = 3.0 ac, 36.30% Impervious, Inflow Depth > 4.53" for 25-YR event  
Inflow = 5.646 cfs @ 12.40 hrs, Volume= 1.134 af  
Outflow = 4.523 cfs @ 12.69 hrs, Volume= 1.132 af, Atten= 20%, Lag= 17.2 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.34 fps, Min. Travel Time= 22.2 min  
Avg. Velocity = 0.09 fps, Avg. Travel Time= 81.0 min

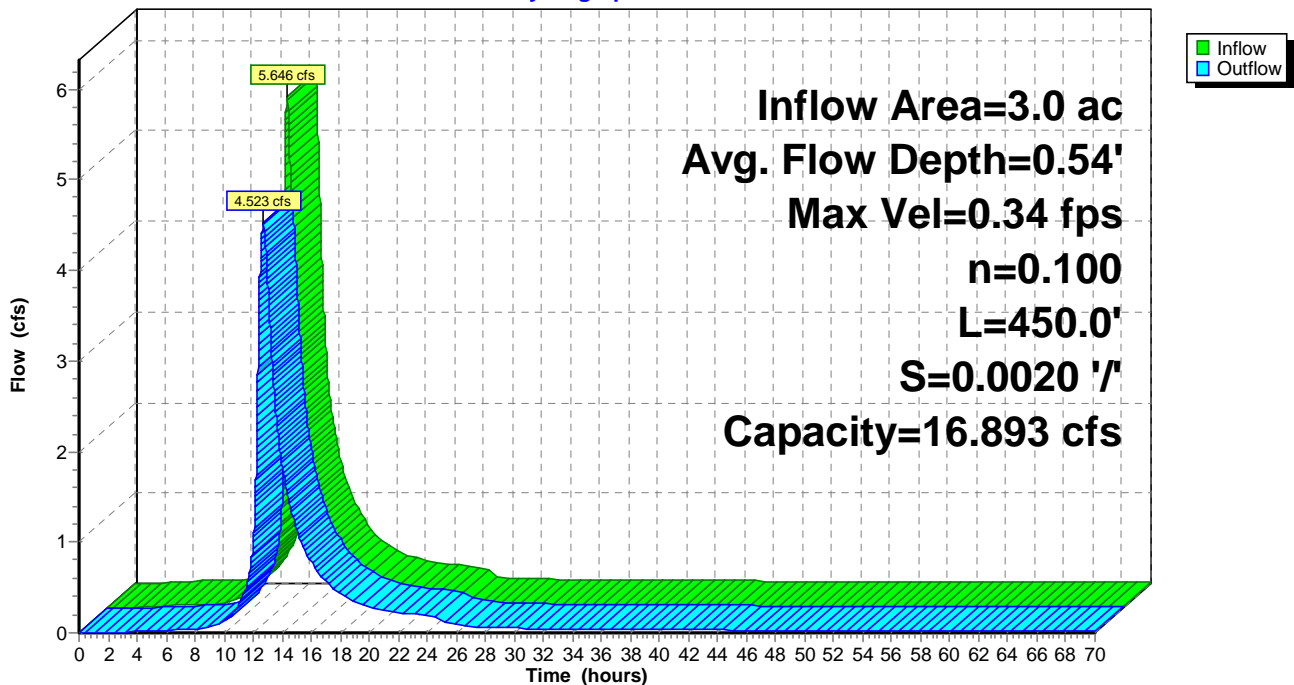
Peak Storage= 6,023 cf @ 12.69 hrs  
Average Depth at Peak Storage= 0.54'  
Bank-Full Depth= 1.00' Flow Area= 33.3 sf, Capacity= 16.893 cfs

50.00' x 1.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 450.0' Slope= 0.0020 '/'  
Inlet Invert= 63.50', Outlet Invert= 62.60'



## Reach 62R: RS1 to RS2

### Hydrograph



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## Summary for Reach 67R: GW2 to RS1

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth > 4.93" for 25-YR event  
Inflow = 0.256 cfs @ 12.71 hrs, Volume= 0.169 af  
Outflow = 0.243 cfs @ 13.35 hrs, Volume= 0.168 af, Atten= 5%, Lag= 38.9 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.15 fps, Min. Travel Time= 24.9 min

Avg. Velocity = 0.07 fps, Avg. Travel Time= 52.6 min

Peak Storage= 362 cf @ 13.35 hrs

Average Depth at Peak Storage= 0.12'

Bank-Full Depth= 1.50' Flow Area= 75.0 sf, Capacity= 62.120 cfs

75.00' x 1.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

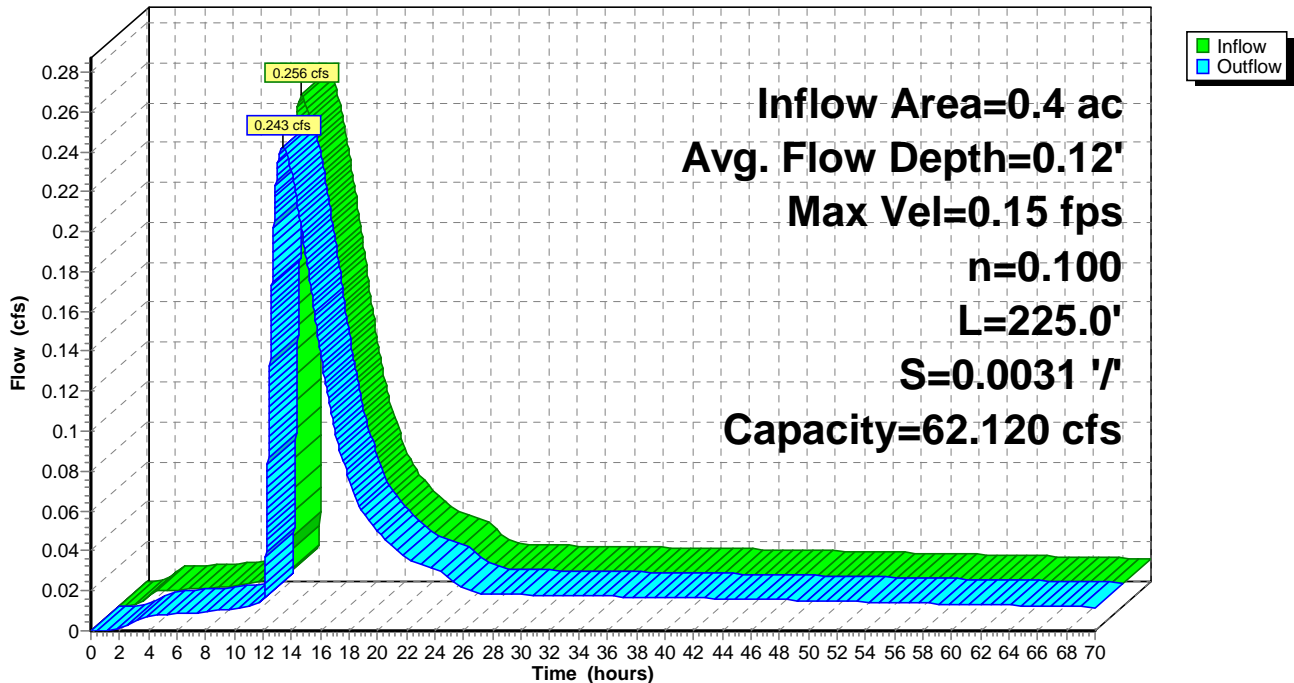
Length= 225.0' Slope= 0.0031 1/100

Inlet Invert= 66.80', Outlet Invert= 66.10'



## Reach 67R: GW2 to RS1

### Hydrograph



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## Summary for Reach 68R: RS3 to SP5

Inflow Area = 10.1 ac, 21.78% Impervious, Inflow Depth > 4.25" for 25-YR event  
Inflow = 13.677 cfs @ 12.69 hrs, Volume= 3.570 af  
Outflow = 13.344 cfs @ 12.81 hrs, Volume= 3.569 af, Atten= 2%, Lag= 7.2 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.70 fps, Min. Travel Time= 9.0 min  
Avg. Velocity = 0.18 fps, Avg. Travel Time= 34.3 min

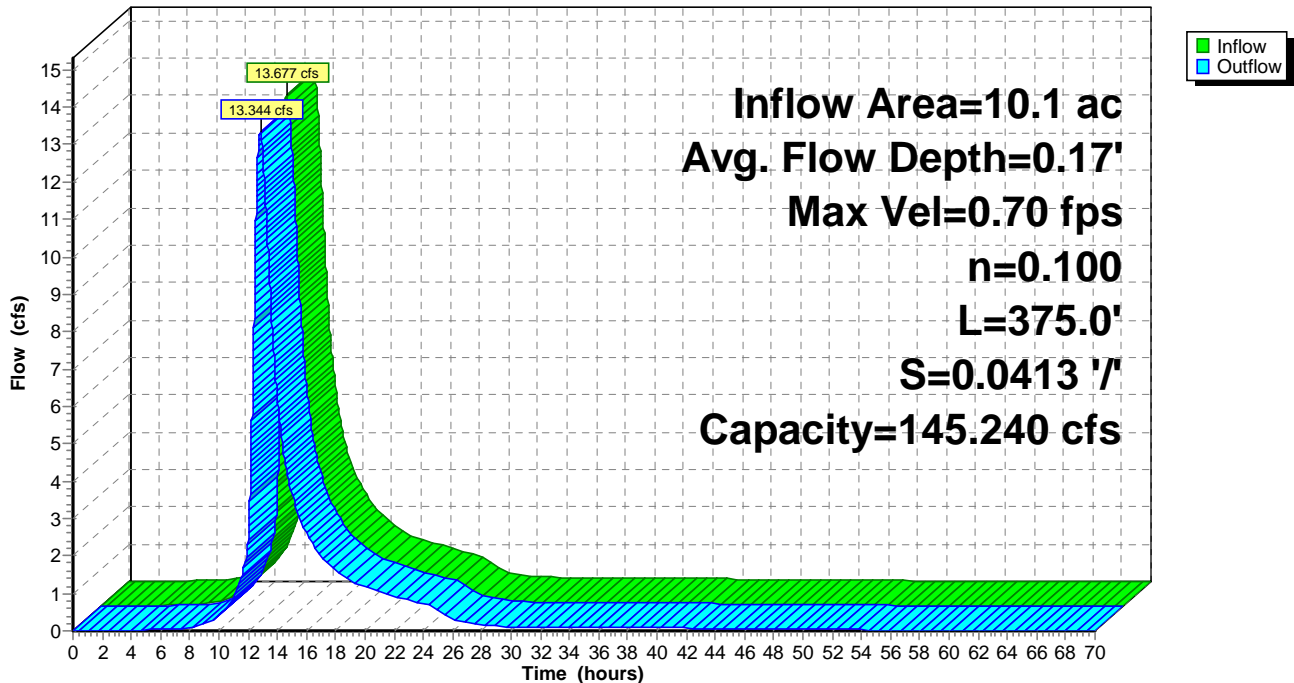
Peak Storage= 7,182 cf @ 12.81 hrs  
Average Depth at Peak Storage= 0.17'  
Bank-Full Depth= 0.50' Flow Area= 100.0 sf, Capacity= 145.240 cfs

300.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 375.0' Slope= 0.0413 '/'  
Inlet Invert= 61.50', Outlet Invert= 46.00'



## Reach 68R: RS3 to SP5

### Hydrograph





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## Summary for Reach 69R: RS2 to RS3

Inflow Area = 4.0 ac, 19.48% Impervious, Inflow Depth = 4.20" for 25-YR event  
Inflow = 5.172 cfs @ 12.89 hrs, Volume= 1.405 af  
Outflow = 4.725 cfs @ 13.12 hrs, Volume= 1.405 af, Atten= 9%, Lag= 14.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.30 fps, Min. Travel Time= 19.2 min  
Avg. Velocity = 0.08 fps, Avg. Travel Time= 73.2 min

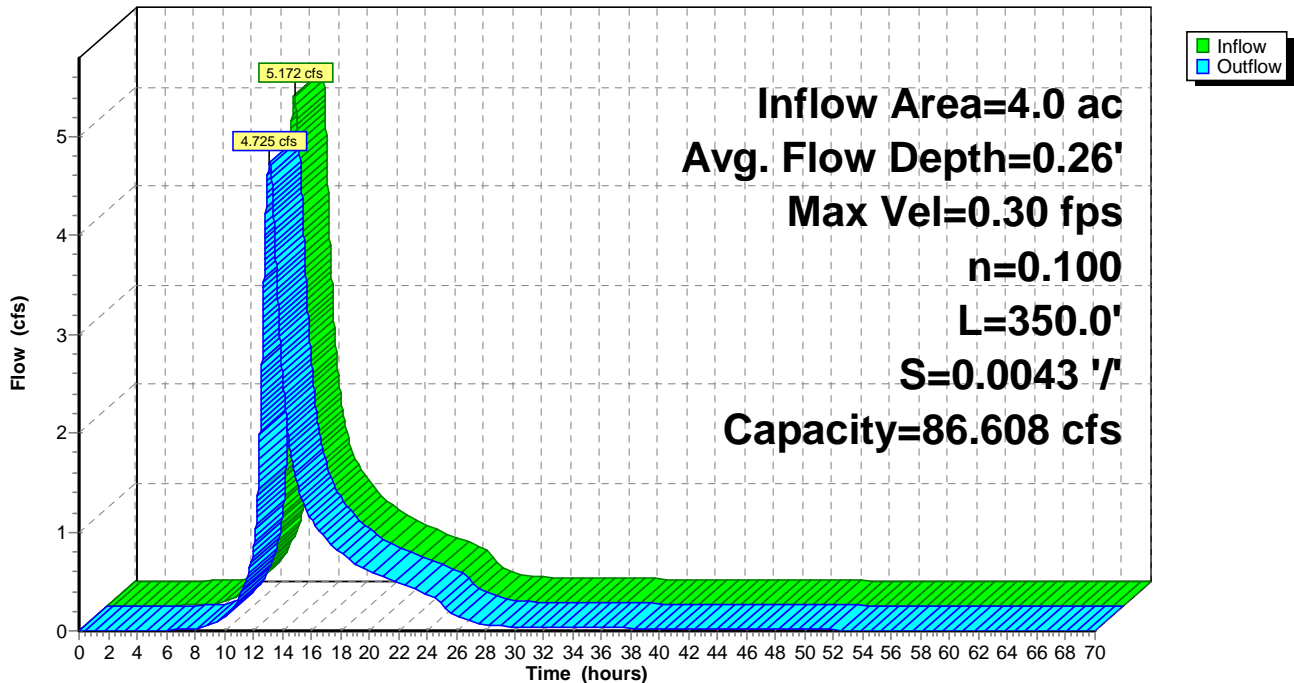
Peak Storage= 5,451 cf @ 13.12 hrs  
Average Depth at Peak Storage= 0.26'  
Bank-Full Depth= 1.00' Flow Area= 116.7 sf, Capacity= 86.608 cfs

175.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage  
Length= 350.0' Slope= 0.0043 '/'  
Inlet Invert= 65.00', Outlet Invert= 63.50'



## Reach 69R: RS2 to RS3

### Hydrograph



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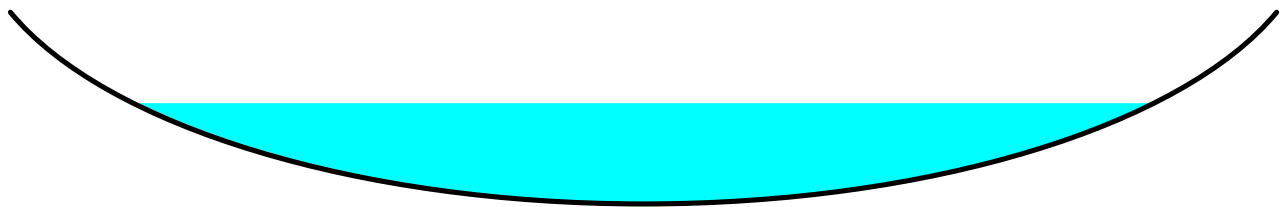
## Summary for Reach 70R: GW8 to RS4

Inflow = 6.125 cfs @ 12.12 hrs, Volume= 0.179 af  
Outflow = 3.590 cfs @ 12.26 hrs, Volume= 0.179 af, Atten= 41%, Lag= 8.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.22 fps, Min. Travel Time= 13.7 min  
Avg. Velocity = 0.03 fps, Avg. Travel Time= 111.8 min

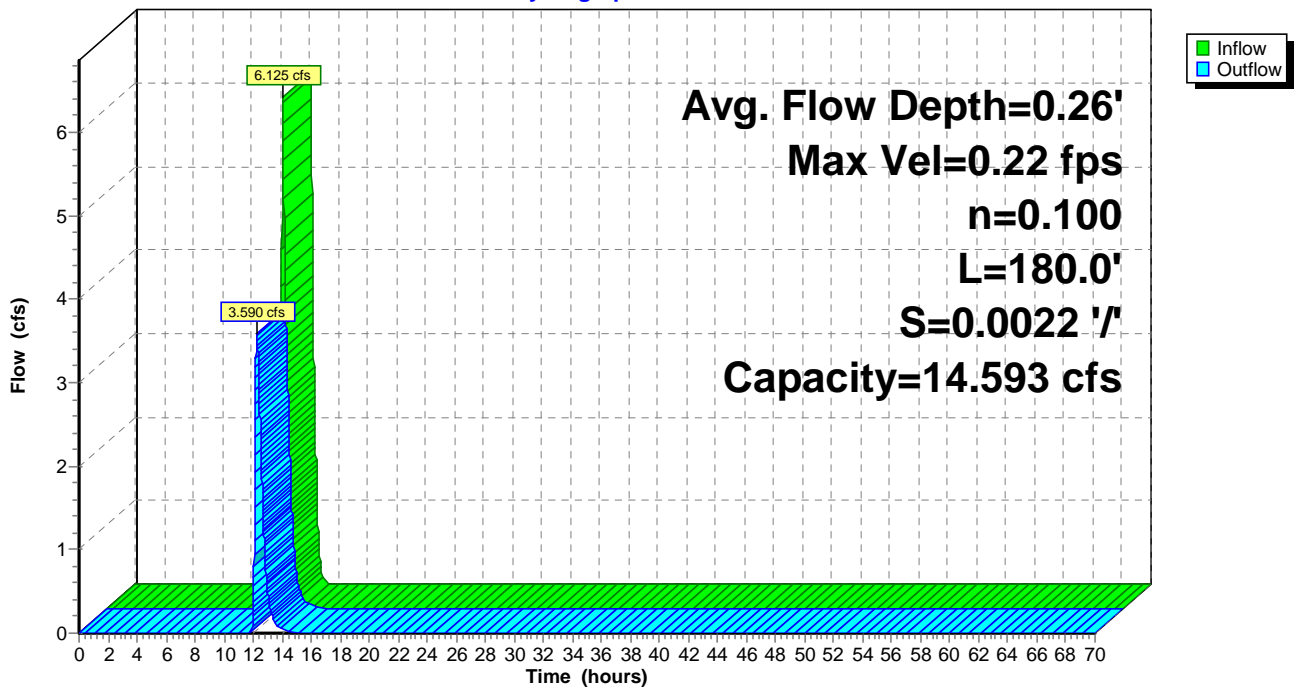
Peak Storage= 2,954 cf @ 12.26 hrs  
Average Depth at Peak Storage= 0.26'  
Bank-Full Depth= 0.50' Flow Area= 43.3 sf, Capacity= 14.593 cfs

130.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 180.0' Slope= 0.0022 '/'  
Inlet Invert= 67.50', Outlet Invert= 67.10'



## Reach 70R: GW8 to RS4

### Hydrograph



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## Summary for Reach 71R: RS4 to SP6

Inflow Area = 3.2 ac, 33.57% Impervious, Inflow Depth = 4.50" for 25-YR event  
Inflow = 6.194 cfs @ 12.35 hrs, Volume= 1.198 af  
Outflow = 5.639 cfs @ 12.64 hrs, Volume= 1.198 af, Atten= 9%, Lag= 17.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.64 fps, Min. Travel Time= 15.0 min  
Avg. Velocity = 0.15 fps, Avg. Travel Time= 62.4 min

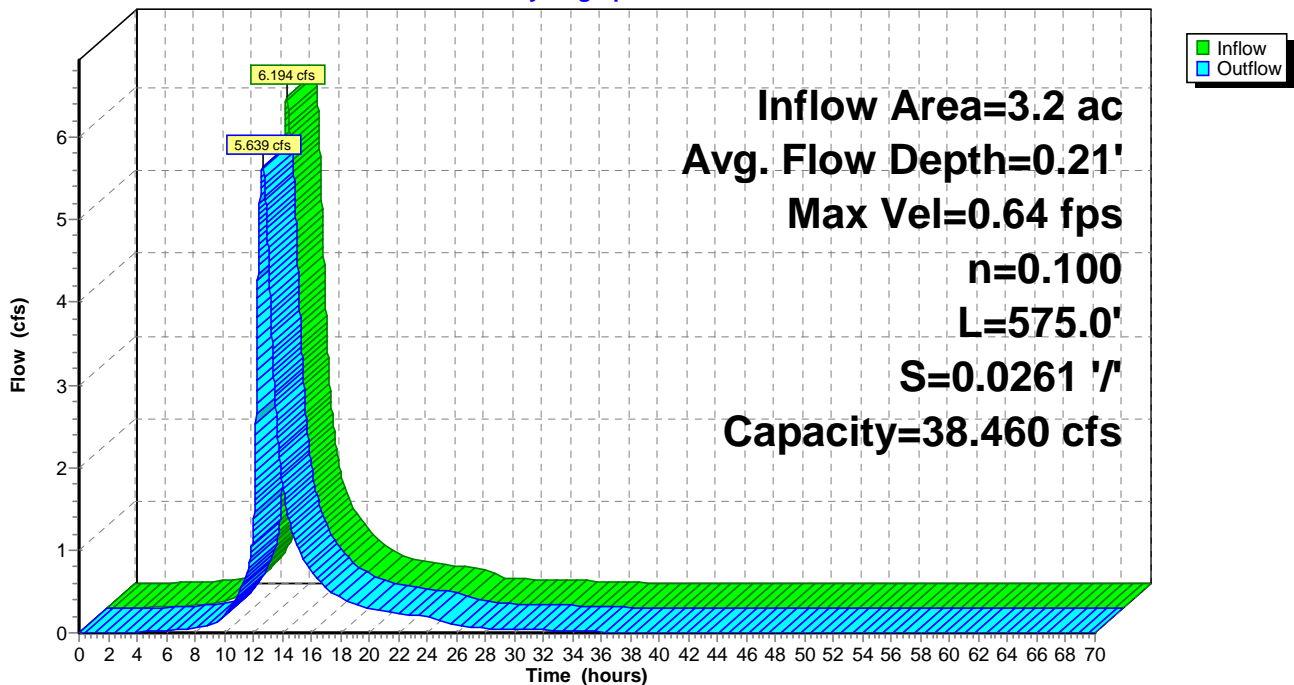
Peak Storage= 5,073 cf @ 12.64 hrs  
Average Depth at Peak Storage= 0.21'  
Bank-Full Depth= 0.50' Flow Area= 33.3 sf, Capacity= 38.460 cfs

100.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 575.0' Slope= 0.0261 '/'  
Inlet Invert= 65.00', Outlet Invert= 50.00'



## Reach 71R: RS4 to SP6

### Hydrograph



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## Summary for Reach 73R: GW7 to SP6

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 5.38" for 25-YR event  
Inflow = 1.742 cfs @ 12.29 hrs, Volume= 0.359 af  
Outflow = 1.296 cfs @ 12.49 hrs, Volume= 0.359 af, Atten= 26%, Lag= 12.3 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.39 fps, Min. Travel Time= 15.1 min

Avg. Velocity = 0.13 fps, Avg. Travel Time= 45.7 min

Peak Storage= 1,172 cf @ 12.49 hrs

Average Depth at Peak Storage= 0.07'

Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 80.313 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

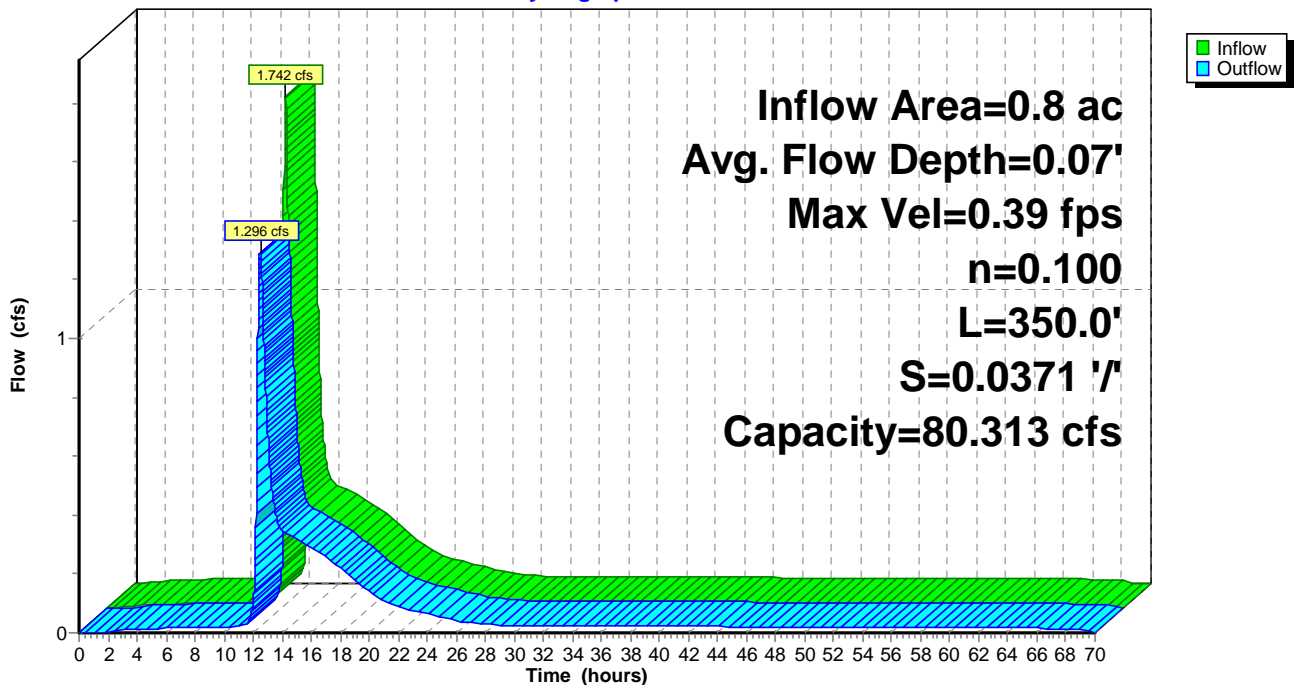
Length= 350.0' Slope= 0.0371 1/100'

Inlet Invert= 63.00', Outlet Invert= 50.00'



## Reach 73R: GW7 to SP6

### Hydrograph



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## Summary for Reach 74R: GW6 to SP6

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth > 5.46" for 25-YR event  
Inflow = 0.338 cfs @ 12.73 hrs, Volume= 0.251 af  
Outflow = 0.282 cfs @ 13.19 hrs, Volume= 0.249 af, Atten= 17%, Lag= 27.8 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.23 fps, Min. Travel Time= 30.5 min

Avg. Velocity = 0.12 fps, Avg. Travel Time= 58.9 min

Peak Storage= 515 cf @ 13.19 hrs

Average Depth at Peak Storage= 0.04'

Bank-Full Depth= 0.50' Flow Area= 58.3 sf, Capacity= 75.634 cfs

175.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches

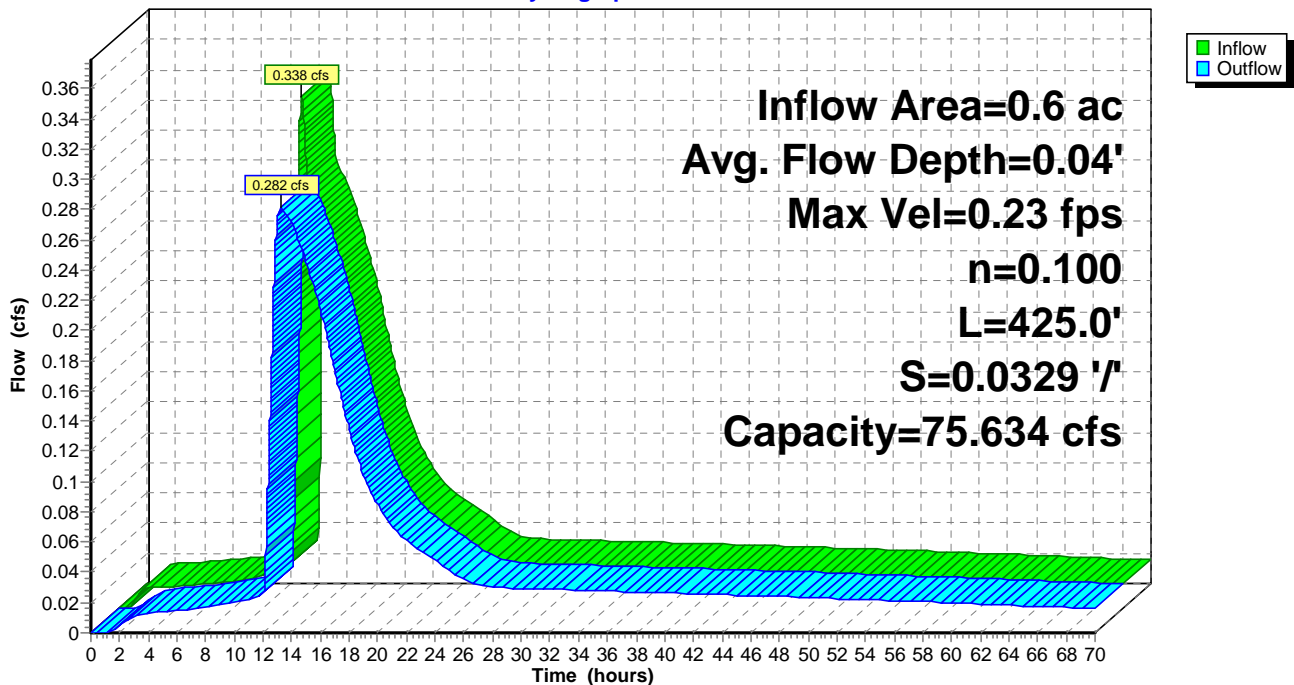
Length= 425.0' Slope= 0.0329 1/1'

Inlet Invert= 64.00', Outlet Invert= 50.00'



## Reach 74R: GW6 to SP6

### Hydrograph



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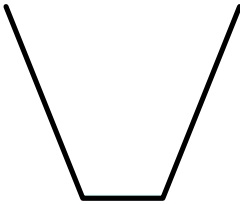
## Summary for Reach 75R: GW10 to SP6

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth > 4.95" for 25-YR event  
Inflow = 0.695 cfs @ 12.63 hrs, Volume= 0.429 af  
Outflow = 0.694 cfs @ 12.73 hrs, Volume= 0.429 af, Atten= 0%, Lag= 5.8 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.91 fps, Min. Travel Time= 6.0 min  
Avg. Velocity = 0.75 fps, Avg. Travel Time= 7.3 min

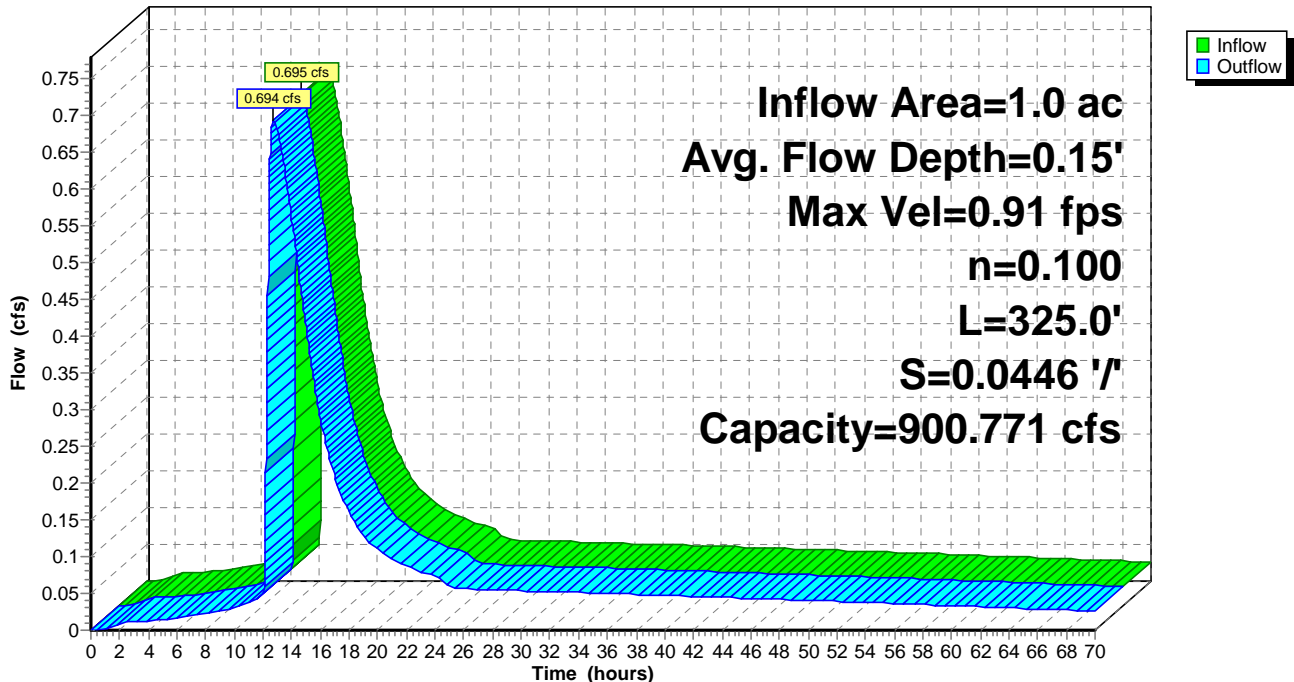
Peak Storage= 248 cf @ 12.73 hrs  
Average Depth at Peak Storage= 0.15'  
Bank-Full Depth= 12.00' Flow Area= 117.6 sf, Capacity= 900.771 cfs

5.00' x 12.00' deep channel, n= 0.100 Earth, dense brush, high stage  
Side Slope Z-value= 0.4 '/ Top Width= 14.60'  
Length= 325.0' Slope= 0.0446 '/  
Inlet Invert= 64.50', Outlet Invert= 50.00'



## Reach 75R: GW10 to SP6

### Hydrograph



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## Summary for Reach 76R: GW12 to SP7

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth > 5.18" for 25-YR event  
Inflow = 0.416 cfs @ 12.74 hrs, Volume= 0.297 af  
Outflow = 0.364 cfs @ 13.52 hrs, Volume= 0.294 af, Atten= 13%, Lag= 47.0 min

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
Max. Velocity= 0.32 fps, Min. Travel Time= 36.0 min  
Avg. Velocity = 0.17 fps, Avg. Travel Time= 70.6 min

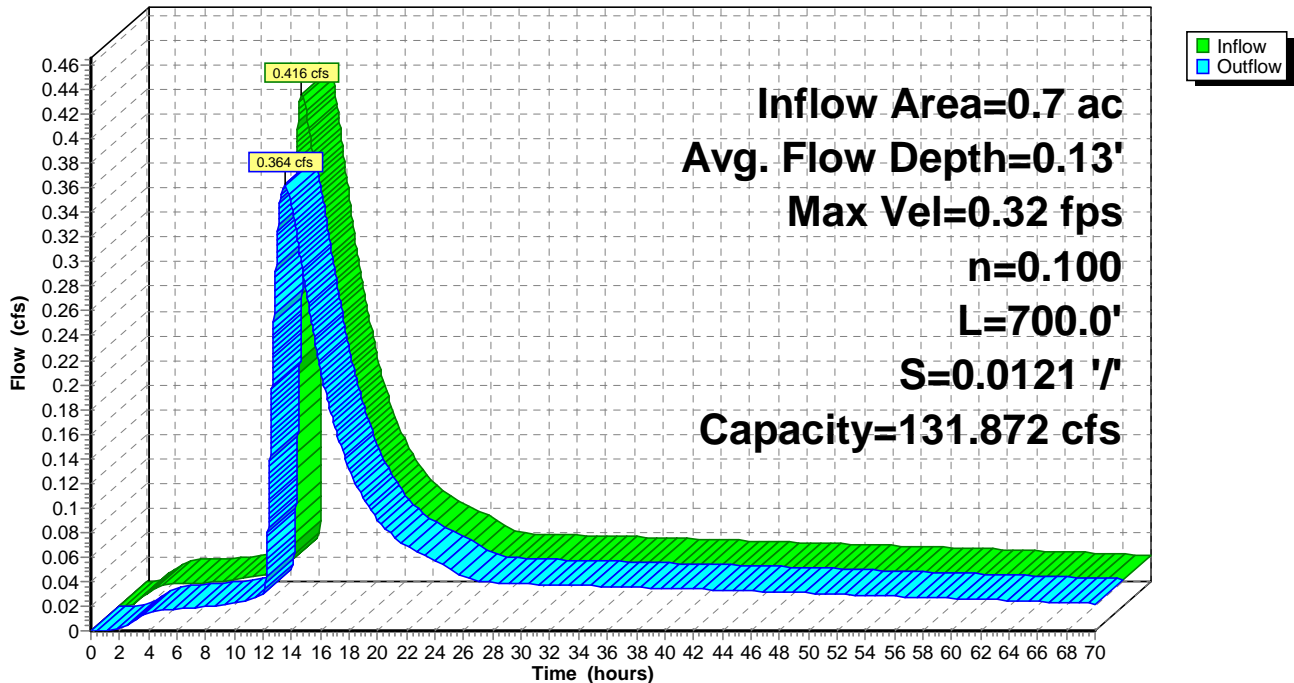
Peak Storage= 786 cf @ 13.52 hrs  
Average Depth at Peak Storage= 0.13'  
Bank-Full Depth= 2.00' Flow Area= 66.7 sf, Capacity= 131.872 cfs

50.00' x 2.00' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches  
Length= 700.0' Slope= 0.0121 1/'  
Inlet Invert= 67.50', Outlet Invert= 59.00'



## Reach 76R: GW12 to SP7

### Hydrograph



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**Summary for Pond 44P: Gravel Wetland 1**

Inflow Area = 0.4 ac, 54.15% Impervious, Inflow Depth = 5.24" for 25-YR event  
 Inflow = 2.465 cfs @ 12.07 hrs, Volume= 0.187 af  
 Outflow = 1.093 cfs @ 12.23 hrs, Volume= 0.187 af, Atten= 56%, Lag= 9.5 min  
 Primary = 0.785 cfs @ 12.23 hrs, Volume= 0.181 af  
 Secondary = 0.307 cfs @ 12.23 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.09' @ 12.23 hrs Surf.Area= 5,097 sf Storage= 3,008 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 180.4 min ( 941.1 - 760.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.48'	5,904 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.48	3,651	0.0	0	0
64.48	3,651	0.0	0	0
65.15	3,651	0.0	0	0
65.40	3,651	0.0	0	0
65.60	3,992	100.0	764	764
66.40	5,782	100.0	3,910	4,674
66.60	6,519	100.0	1,230	5,904

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.55'	<b>8.000" Round Culvert</b> L= 6.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.55' / 65.10' S= 0.0750 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#3	Secondary	66.05'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.785 cfs @ 12.23 hrs HW=66.09' (Free Discharge)

- ↑1=Orifice/Grate (Orifice Controls 0.020 cfs @ 4.78 fps)
- ↑2=Culvert (Inlet Controls 0.765 cfs @ 2.51 fps)

**Secondary OutFlow** Max=0.286 cfs @ 12.23 hrs HW=66.09' (Free Discharge)

- ↑3=Broad-Crested Rectangular Weir (Weir Controls 0.286 cfs @ 0.65 fps)



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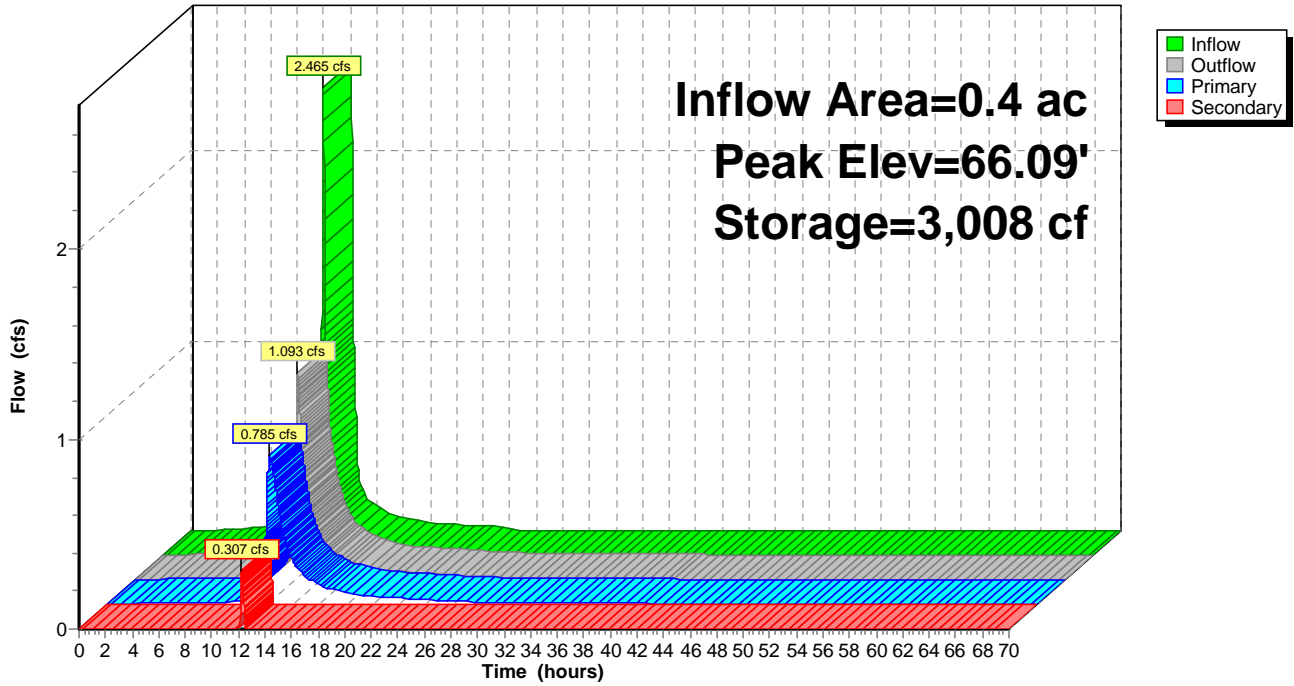
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**Pond 44P: Gravel Wetland 1**

Hydrograph



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**Summary for Pond 48P: Gravel Wetland 2**

Inflow Area = 0.4 ac, 70.32% Impervious, Inflow Depth = 5.38" for 25-YR event  
 Inflow = 2.398 cfs @ 12.07 hrs, Volume= 0.184 af  
 Outflow = 0.256 cfs @ 12.71 hrs, Volume= 0.169 af, Atten= 89%, Lag= 38.2 min  
 Primary = 0.256 cfs @ 12.71 hrs, Volume= 0.169 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 69.13' @ 12.71 hrs Surf.Area= 3,774 sf Storage= 4,722 cf

Plug-Flow detention time= 819.4 min calculated for 0.169 af (92% of inflow)  
 Center-of-Mass det. time= 776.2 min ( 1,531.4 - 755.2 )

Volume	Invert	Avail.Storage	Storage Description	
#1	64.48'	6,578 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.48	1,970	0.0	0	0
66.48	1,970	0.0	0	0
67.15	1,970	0.0	0	0
67.40	1,970	0.0	0	0
67.60	2,202	100.0	417	417
68.00	2,202	100.0	881	1,298
69.00	3,675	100.0	2,939	4,236
69.60	4,129	100.0	2,341	6,578

Device	Routing	Invert	Outlet Devices
#1	Primary	67.07'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	68.65'	<b>4.000" Round Culvert</b> L= 28.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.65' / 67.00' S= 0.0589 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	69.15'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.256 cfs @ 12.71 hrs HW=69.13' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.021 cfs @ 6.86 fps)

↑2=Culvert (Inlet Controls 0.235 cfs @ 2.70 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=64.48' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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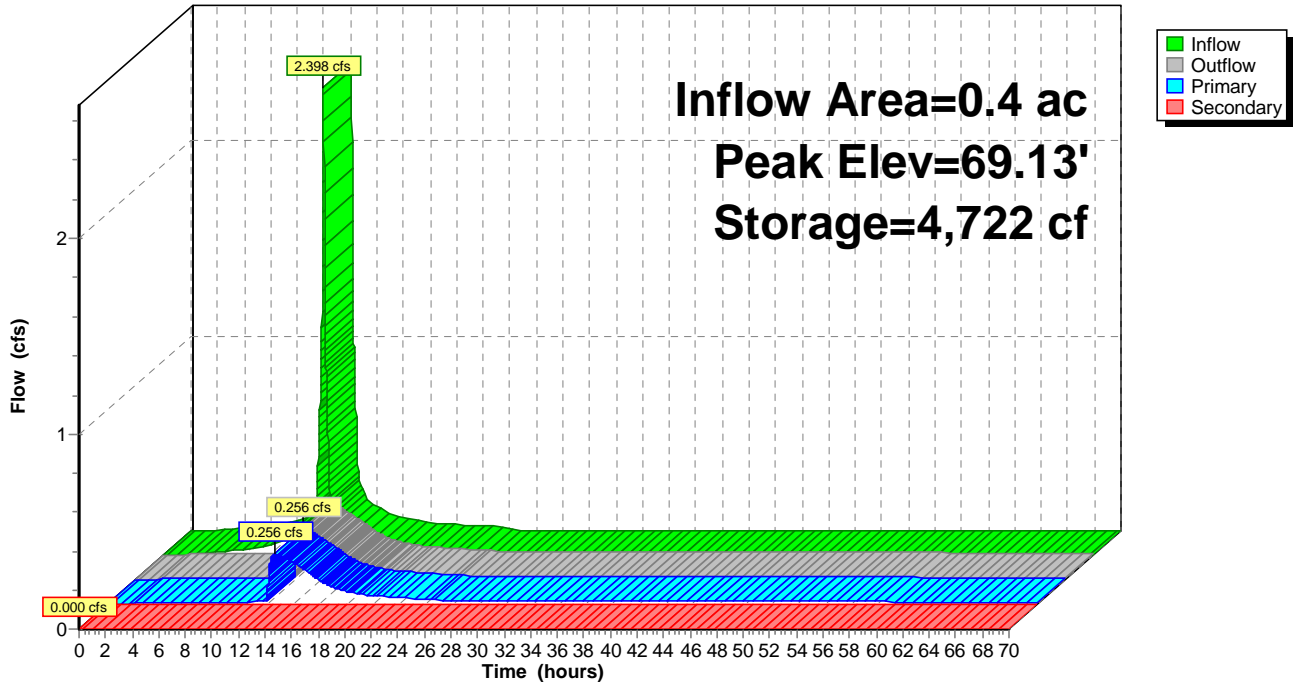
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**Pond 48P: Gravel Wetland 2**

Hydrograph



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**Summary for Pond 49P: Gravel Wetland 3**

Inflow Area = 0.8 ac, 75.86% Impervious, Inflow Depth = 5.30" for 25-YR event  
 Inflow = 4.340 cfs @ 12.07 hrs, Volume= 0.331 af  
 Outflow = 1.716 cfs @ 12.27 hrs, Volume= 0.331 af, Atten= 60%, Lag= 11.9 min  
 Primary = 0.965 cfs @ 12.27 hrs, Volume= 0.315 af  
 Secondary = 0.750 cfs @ 12.27 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 68.08' @ 12.27 hrs Surf.Area= 4,050 sf Storage= 5,261 cf

Plug-Flow detention time= 186.5 min calculated for 0.331 af (100% of inflow)  
 Center-of-Mass det. time= 186.7 min ( 944.5 - 757.8 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.48'	7,432 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.48	2,105	0.0	0	0
65.48	2,105	0.0	0	0
66.15	2,105	0.0	0	0
66.40	2,105	0.0	0	0
66.60	2,395	100.0	450	450
68.00	4,004	100.0	4,479	4,929
68.60	4,340	100.0	2,503	7,432

Device	Routing	Invert	Outlet Devices
#1	Primary	66.07'	<b>0.875" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.85'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.85' / 66.00' S= 0.0425 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.965 cfs @ 12.27 hrs HW=68.08' (Free Discharge)

↑1=**Orifice/Grate** (Orifice Controls 0.028 cfs @ 6.77 fps)

↑2=**Culvert** (Inlet Controls 0.937 cfs @ 4.77 fps)

**Secondary OutFlow** Max=0.739 cfs @ 12.27 hrs HW=68.08' (Free Discharge)

↑3=**Broad-Crested Rectangular Weir** (Weir Controls 0.739 cfs @ 0.90 fps)

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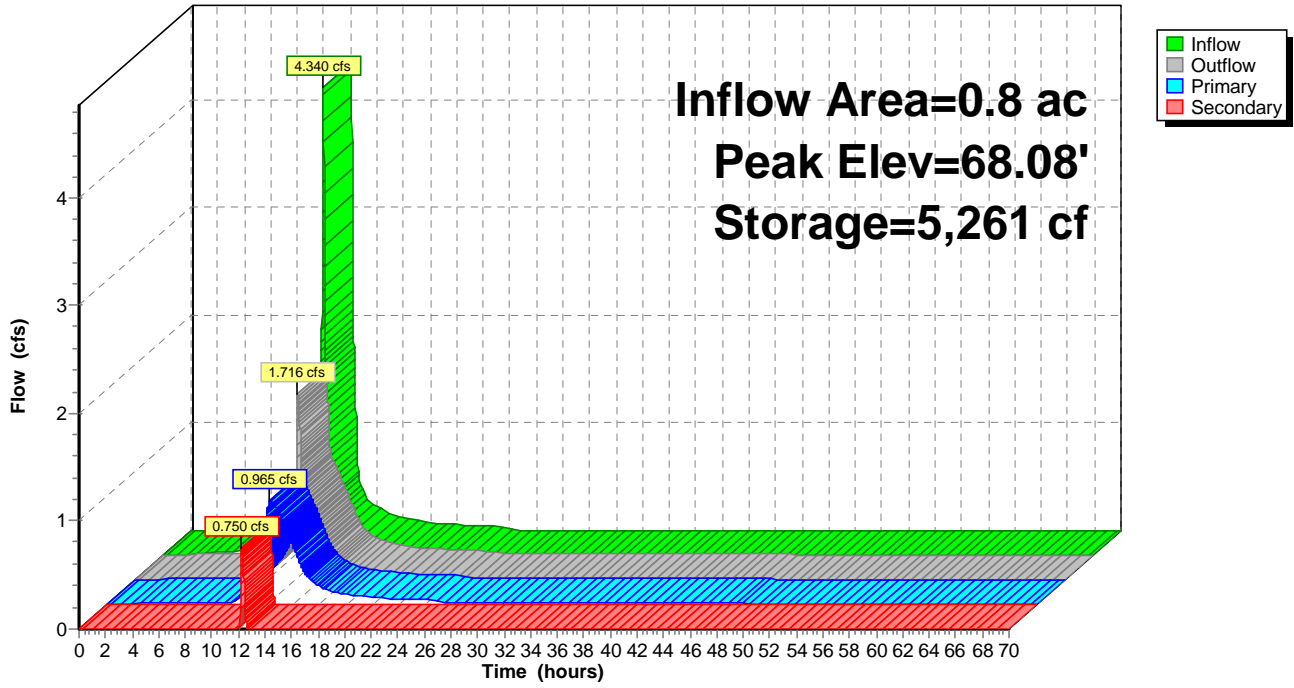
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**Pond 49P: Gravel Wetland 3**

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**Summary for Pond 51P: Gravel Wetland 4**

Inflow Area = 1.2 ac, 63.82% Impervious, Inflow Depth = 5.09" for 25-YR event  
 Inflow = 6.949 cfs @ 12.07 hrs, Volume= 0.520 af  
 Outflow = 0.536 cfs @ 13.04 hrs, Volume= 0.520 af, Atten= 92%, Lag= 58.4 min  
 Primary = 0.536 cfs @ 13.04 hrs, Volume= 0.520 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 68.01' @ 13.04 hrs Surf.Area= 10,523 sf Storage= 12,722 cf

Plug-Flow detention time= 386.0 min calculated for 0.520 af (100% of inflow)  
 Center-of-Mass det. time= 386.4 min ( 1,152.5 - 766.1 )

Volume	Invert	Avail.Storage	Storage Description	
#1	63.38'	21,781 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.38	4,633	0.0	0	0
65.48	4,633	0.0	0	0
66.05	4,633	0.0	0	0
66.30	4,633	0.0	0	0
66.50	5,029	100.0	966	966
68.00	10,498	100.0	11,645	12,611
68.80	12,427	100.0	9,170	21,781

Device	Routing	Invert	Outlet Devices
#1	Primary	66.27'	<b>1.500" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.65'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.65' / 66.20' S= 0.0225 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	68.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.536 cfs @ 13.04 hrs HW=68.01' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.077 cfs @ 6.24 fps)

↑2=Culvert (Inlet Controls 0.459 cfs @ 5.26 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=63.38' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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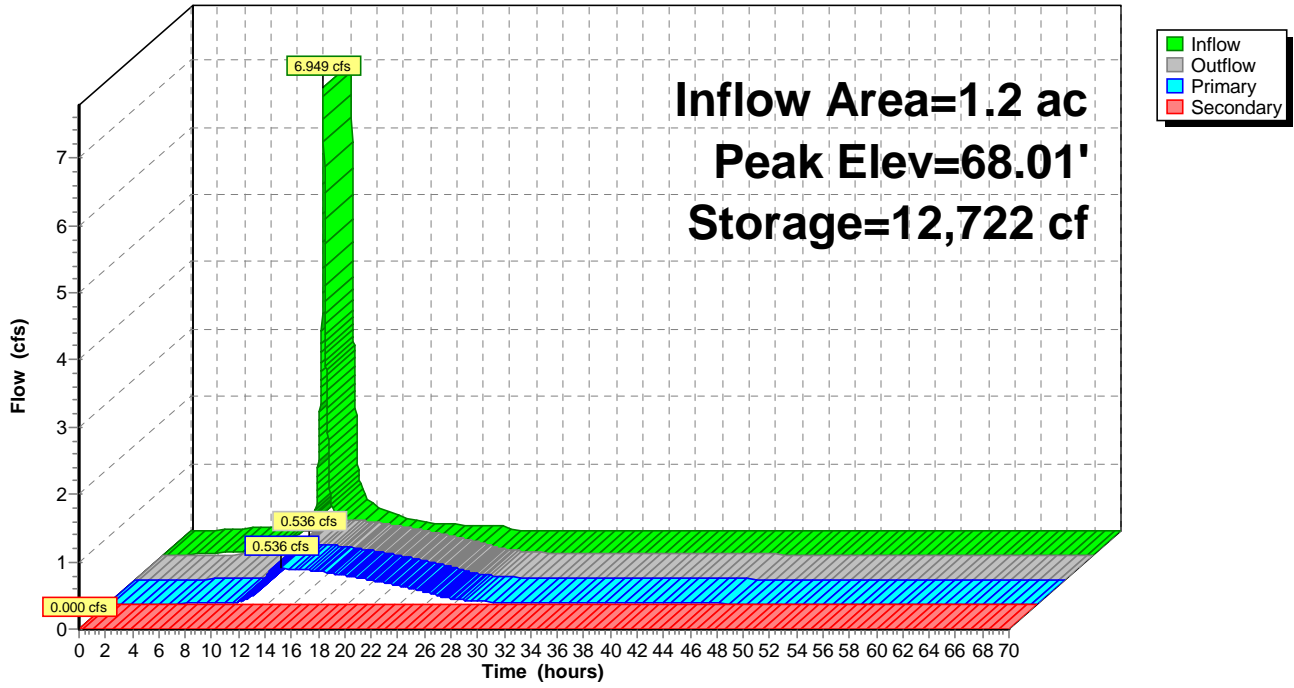
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**Pond 51P: Gravel Wetland 4**

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**Summary for Pond 52P: Gravel Wetland 5**

Inflow Area = 0.3 ac, 82.14% Impervious, Inflow Depth = 5.56" for 25-YR event  
 Inflow = 1.645 cfs @ 12.07 hrs, Volume= 0.130 af  
 Outflow = 1.391 cfs @ 12.12 hrs, Volume= 0.130 af, Atten= 15%, Lag= 2.8 min  
 Primary = 0.263 cfs @ 12.12 hrs, Volume= 0.107 af  
 Secondary = 1.128 cfs @ 12.12 hrs, Volume= 0.023 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.81' @ 12.12 hrs Surf.Area= 2,067 sf Storage= 2,091 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 364.4 min ( 1,109.1 - 744.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	4,333 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	1,414	0.0	0	0
64.68	1,414	0.0	0	0
65.35	1,414	0.0	0	0
65.60	1,414	0.0	0	0
66.00	1,612	100.0	605	605
67.00	2,175	100.0	1,894	2,499
67.80	2,411	100.0	1,834	4,333

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.30'	<b>4.000" Round Culvert</b> L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.30' / 65.00' S= 0.1300 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	66.70'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.264 cfs @ 12.12 hrs HW=66.81' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.018 cfs @ 5.91 fps)

↑ **2=Culvert** (Inlet Controls 0.245 cfs @ 2.81 fps)

**Secondary OutFlow** Max=1.103 cfs @ 12.12 hrs HW=66.81' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 1.103 cfs @ 1.02 fps)



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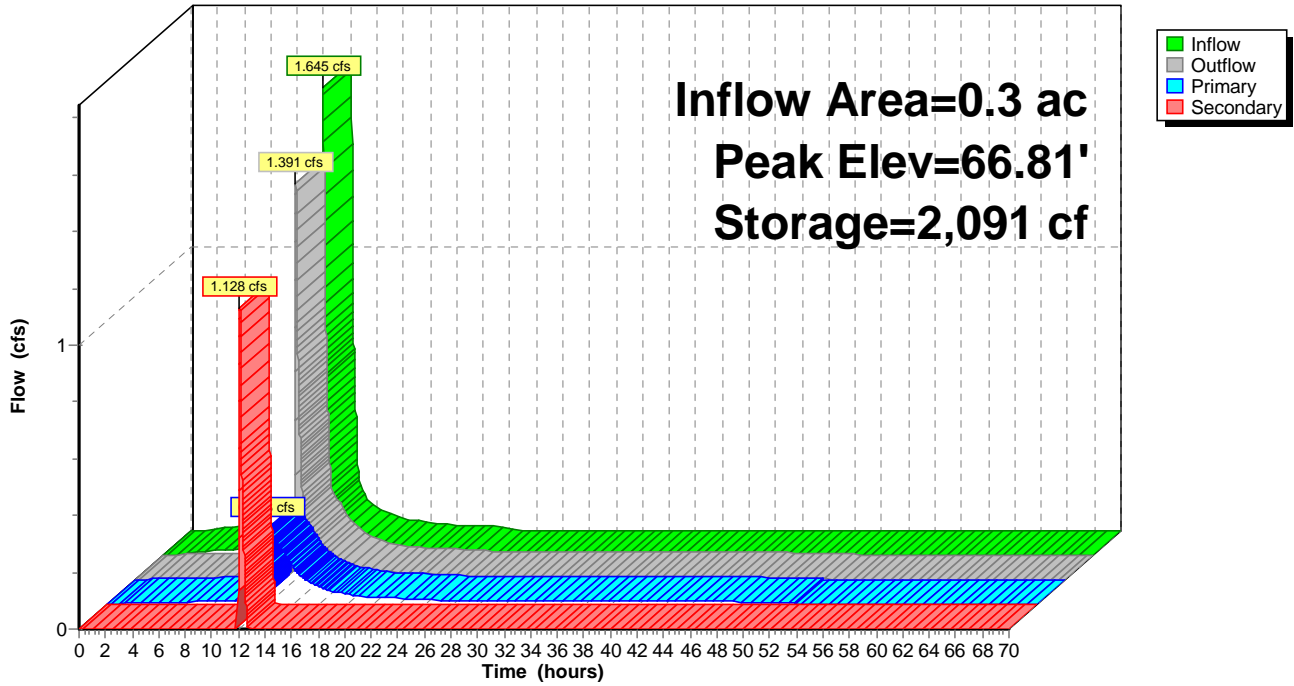
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**Pond 52P: Gravel Wetland 5**

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**Summary for Pond 53P: Gravel Wetland 8**

Inflow Area = 1.5 ac, 70.96% Impervious, Inflow Depth = 5.27" for 25-YR event  
 Inflow = 8.743 cfs @ 12.07 hrs, Volume= 0.664 af  
 Outflow = 7.299 cfs @ 12.12 hrs, Volume= 0.664 af, Atten= 17%, Lag= 3.0 min  
 Primary = 1.174 cfs @ 12.12 hrs, Volume= 0.485 af  
 Secondary = 6.125 cfs @ 12.12 hrs, Volume= 0.179 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.90' @ 12.12 hrs Surf.Area= 7,037 sf Storage= 6,948 cf  
 Flood Elev= 68.21' Surf.Area= 7,584 sf Storage= 9,188 cf

Plug-Flow detention time= 112.6 min calculated for 0.664 af (100% of inflow)  
 Center-of-Mass det. time= 112.8 min ( 873.2 - 760.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.60'	15,649 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.60	3,229	0	0
66.85	4,043	909	909
67.00	4,839	666	1,575
68.00	7,268	6,054	7,629
69.00	8,772	8,020	15,649

Device	Routing	Invert	Outlet Devices
#1	Primary	66.52'	<b>2.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.94'	<b>8.000" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.94' / 66.73' S= 0.0105 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#3	Secondary	67.60'	<b>15.0' long x 5.0' 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 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

**Primary OutFlow** Max=1.174 cfs @ 12.12 hrs HW=67.90' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.120 cfs @ 5.49 fps)

↑ **2=Culvert** (Inlet Controls 1.054 cfs @ 3.02 fps)

**Secondary OutFlow** Max=6.118 cfs @ 12.12 hrs HW=67.90' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 6.118 cfs @ 1.34 fps)

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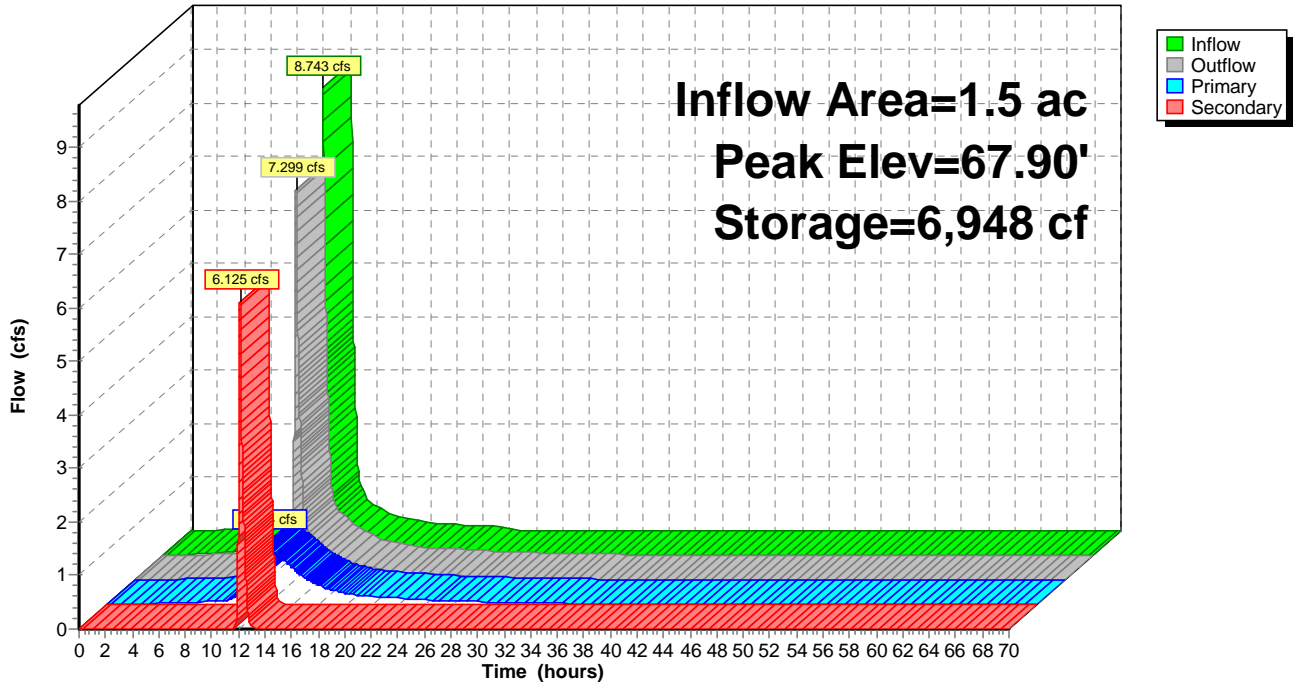
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**Pond 53P: Gravel Wetland 8**

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**Summary for Pond 58P: Gravel Wetland 7**

Inflow Area = 0.8 ac, 73.58% Impervious, Inflow Depth = 5.38" for 25-YR event  
 Inflow = 4.661 cfs @ 12.07 hrs, Volume= 0.359 af  
 Outflow = 1.742 cfs @ 12.29 hrs, Volume= 0.359 af, Atten= 63%, Lag= 13.1 min  
 Primary = 0.375 cfs @ 12.29 hrs, Volume= 0.305 af  
 Secondary = 1.367 cfs @ 12.29 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 66.02' @ 12.29 hrs Surf.Area= 6,645 sf Storage= 7,618 cf

Plug-Flow detention time= 514.6 min calculated for 0.359 af (100% of inflow)  
 Center-of-Mass det. time= 514.9 min ( 1,269.2 - 754.3 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.35'	11,555 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.35	4,339	0.0	0	0
64.20	4,339	0.0	0	0
64.60	4,339	0.0	0	0
65.00	4,680	100.0	1,804	1,804
66.00	6,629	100.0	5,655	7,458
66.60	7,026	100.0	4,096	11,555

Device	Routing	Invert	Outlet Devices	
#1	Primary	64.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600	
#2	Primary	65.20'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.20' / 64.00' S= 0.0600 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf	
#3	Secondary	65.90'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59	

**Primary OutFlow** Max=0.375 cfs @ 12.29 hrs HW=66.02' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.034 cfs @ 6.30 fps)

↑ **2=Culvert** (Inlet Controls 0.341 cfs @ 3.90 fps)

**Secondary OutFlow** Max=1.364 cfs @ 12.29 hrs HW=66.02' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 1.364 cfs @ 1.10 fps)

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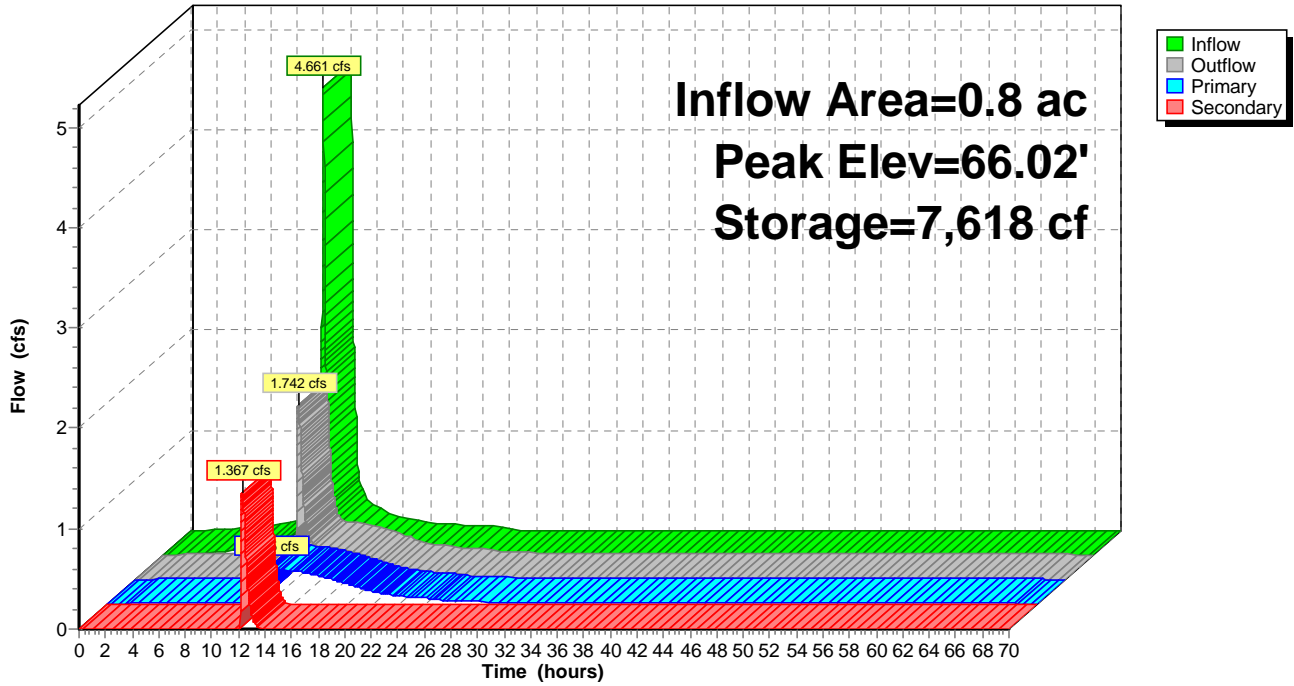
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**Pond 58P: Gravel Wetland 7**

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**Summary for Pond 59P: Gravel Wetland 6**

Inflow Area = 0.6 ac, 74.97% Impervious, Inflow Depth = 5.56" for 25-YR event  
 Inflow = 3.249 cfs @ 12.07 hrs, Volume= 0.256 af  
 Outflow = 0.338 cfs @ 12.73 hrs, Volume= 0.251 af, Atten= 90%, Lag= 39.6 min  
 Primary = 0.282 cfs @ 12.73 hrs, Volume= 0.249 af  
 Secondary = 0.056 cfs @ 12.73 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.11' @ 12.73 hrs Surf.Area= 5,820 sf Storage= 6,577 cf

Plug-Flow detention time= 816.8 min calculated for 0.251 af (98% of inflow)  
 Center-of-Mass det. time= 804.3 min ( 1,549.0 - 744.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.68'	9,534 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.68	3,048	0.0	0	0
64.68	3,048	0.0	0	0
65.35	3,048	0.0	0	0
65.60	3,048	0.0	0	0
66.00	3,524	100.0	1,314	1,314
67.00	5,709	100.0	4,617	5,931
67.60	6,303	100.0	3,604	9,534

Device	Routing	Invert	Outlet Devices
#1	Primary	65.27'	<b>1.000" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	66.60'	<b>4.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 66.60' / 65.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Secondary	67.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.282 cfs @ 12.73 hrs HW=67.11' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.035 cfs @ 6.46 fps)

↑ **2=Culvert** (Inlet Controls 0.247 cfs @ 2.83 fps)

**Secondary OutFlow** Max=0.042 cfs @ 12.73 hrs HW=67.11' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 0.042 cfs @ 0.34 fps)

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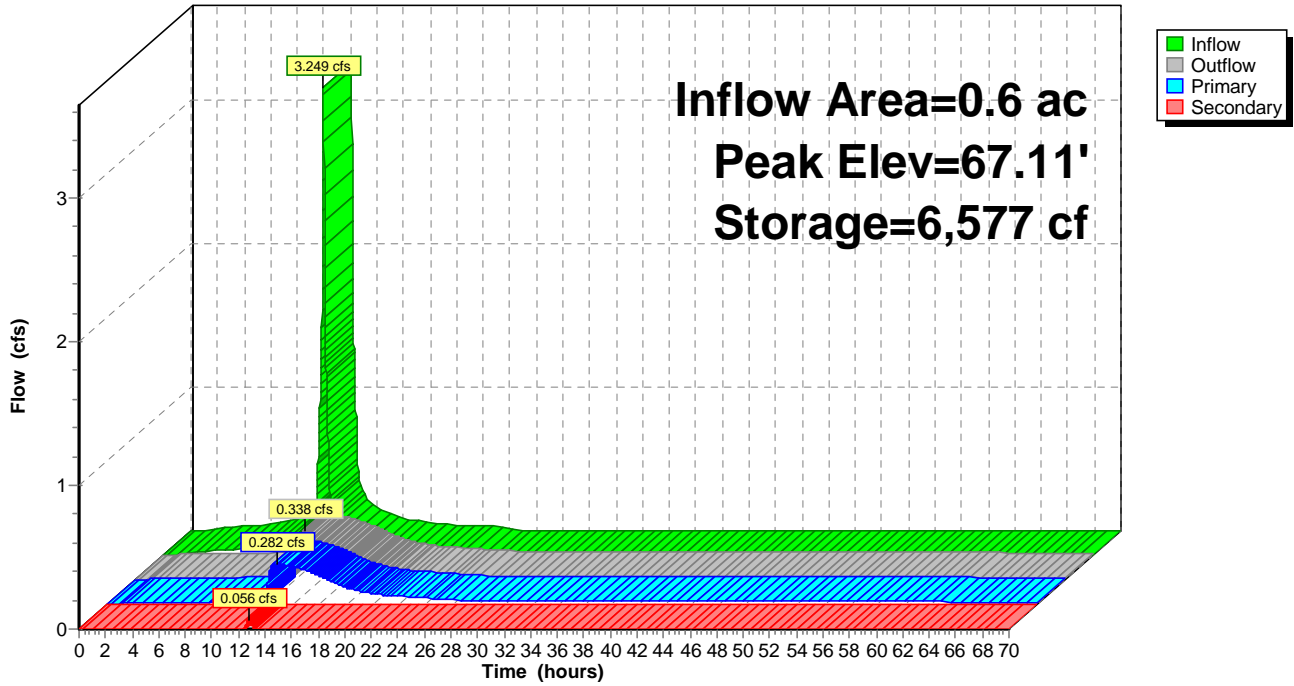
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**Pond 59P: Gravel Wetland 6**

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**Summary for Pond 60P: Gravel Wetland 12**

Inflow Area = 0.7 ac, 70.92% Impervious, Inflow Depth = 5.40" for 25-YR event  
 Inflow = 4.005 cfs @ 12.07 hrs, Volume= 0.309 af  
 Outflow = 0.416 cfs @ 12.74 hrs, Volume= 0.297 af, Atten= 90%, Lag= 40.1 min  
 Primary = 0.416 cfs @ 12.74 hrs, Volume= 0.297 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 70.11' @ 12.74 hrs Surf.Area= 6,451 sf Storage= 7,901 cf

Plug-Flow detention time= 887.8 min calculated for 0.297 af (96% of inflow)  
 Center-of-Mass det. time= 862.8 min ( 1,615.8 - 752.9 )

Volume	Invert	Avail.Storage	Storage Description	
#1	65.68'	11,160 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.68	4,209	0.0	0	0
67.68	4,209	0.0	0	0
68.35	4,209	0.0	0	0
68.60	4,209	0.0	0	0
69.00	4,547	100.0	1,751	1,751
70.00	6,384	100.0	5,466	7,217
70.60	6,760	100.0	3,943	11,160

Device	Routing	Invert	Outlet Devices
#1	Primary	68.27'	<b>1.125" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	69.70'	<b>6.000" Round Culvert</b> L= 40.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 69.70' / 68.00' S= 0.0425 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	70.20'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.416 cfs @ 12.74 hrs HW=70.11' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.044 cfs @ 6.44 fps)

↑ **2=Culvert** (Inlet Controls 0.371 cfs @ 2.17 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=65.68' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** ( Controls 0.000 cfs)



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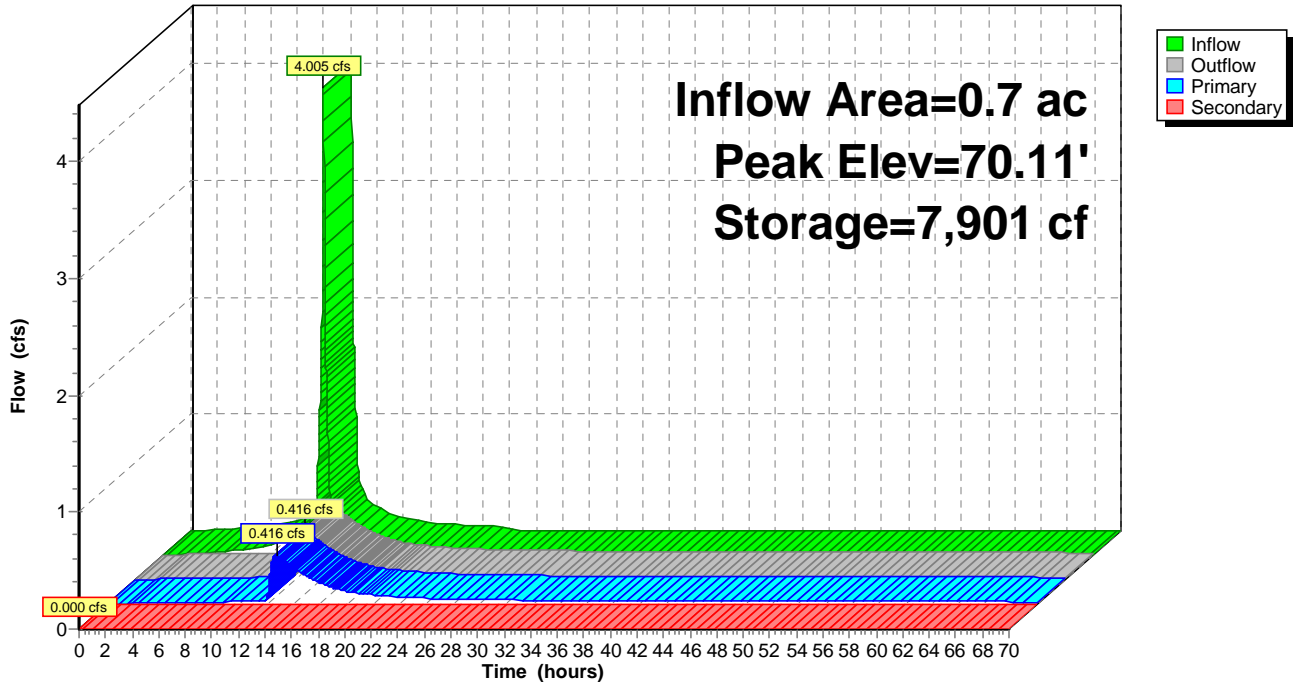
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**Pond 60P: Gravel Wetland 12**

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**Summary for Pond 62P: Gravel Wetland 10**

Inflow Area = 1.0 ac, 73.26% Impervious, Inflow Depth = 5.26" for 25-YR event  
 Inflow = 6.006 cfs @ 12.07 hrs, Volume= 0.457 af  
 Outflow = 0.695 cfs @ 12.63 hrs, Volume= 0.429 af, Atten= 88%, Lag= 33.8 min  
 Primary = 0.695 cfs @ 12.63 hrs, Volume= 0.429 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 67.69' @ 12.63 hrs Surf.Area= 5,681 sf Storage= 11,607 cf

Plug-Flow detention time= 831.9 min calculated for 0.429 af (94% of inflow)  
 Center-of-Mass det. time= 798.7 min ( 1,558.4 - 759.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	62.28'	17,061 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.28	3,476	0.0	0	0
64.28	3,476	0.0	0	0
64.95	3,476	0.0	0	0
65.20	3,476	0.0	0	0
65.40	3,804	100.0	728	728
68.00	5,931	100.0	12,655	13,383
68.60	6,329	100.0	3,678	17,061

Device	Routing	Invert	Outlet Devices
#1	Primary	65.07'	<b>1.250" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	67.00'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 67.00' / 65.00' S= 0.1000 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	68.00'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.696 cfs @ 12.63 hrs HW=67.69' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.066 cfs @ 7.72 fps)

↑2=Culvert (Inlet Controls 0.630 cfs @ 3.21 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=62.28' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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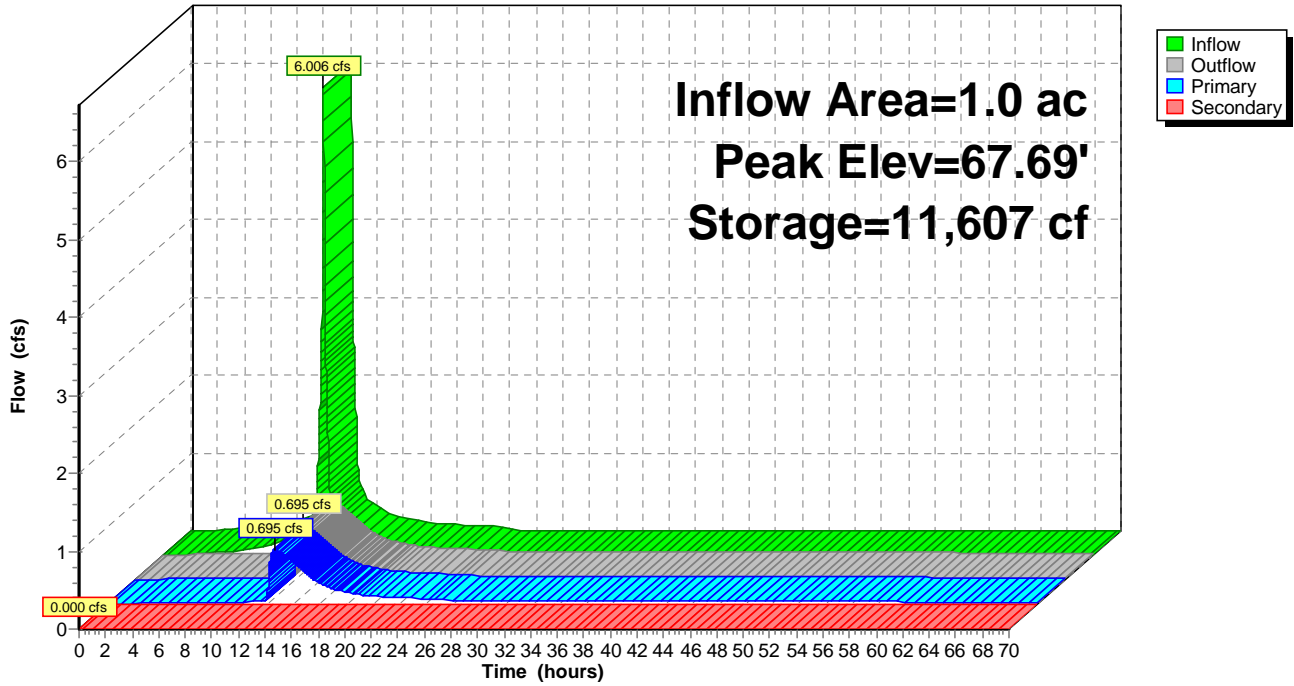
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**Pond 62P: Gravel Wetland 10**

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**Summary for Pond 63P: Gravel Wetland 11**

Inflow Area = 0.4 ac, 56.12% Impervious, Inflow Depth = 5.41" for 25-YR event  
 Inflow = 2.057 cfs @ 12.07 hrs, Volume= 0.159 af  
 Outflow = 0.093 cfs @ 14.37 hrs, Volume= 0.121 af, Atten= 95%, Lag= 138.1 min  
 Primary = 0.093 cfs @ 14.37 hrs, Volume= 0.121 af  
 Secondary = 0.000 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs  
 Peak Elev= 65.76' @ 14.37 hrs Surf.Area= 4,997 sf Storage= 4,737 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 1,060.2 min ( 1,813.4 - 753.2 )

Volume	Invert	Avail.Storage	Storage Description	
#1	61.68'	9,324 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.68	3,385	0.0	0	0
63.68	3,385	0.0	0	0
64.35	3,385	0.0	0	0
64.60	3,385	0.0	0	0
65.00	3,712	100.0	1,419	1,419
66.00	5,399	100.0	4,556	5,975
66.60	5,765	100.0	3,349	9,324

Device	Routing	Invert	Outlet Devices
#1	Primary	64.27'	<b>0.750" Vert. Orifice/Grate</b> C= 0.600
#2	Primary	65.60'	<b>6.000" Round Culvert</b> L= 20.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 65.60' / 64.00' S= 0.0800 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#3	Secondary	66.10'	<b>10.0' long (Profile 6) Broad-Crested Rectangular Weir</b> Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

**Primary OutFlow** Max=0.093 cfs @ 14.37 hrs HW=65.76' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 0.018 cfs @ 5.82 fps)

↑2=Culvert (Inlet Controls 0.075 cfs @ 1.37 fps)

**Secondary OutFlow** Max=0.000 cfs @ 0.00 hrs HW=61.68' (Free Discharge)

↑3=Broad-Crested Rectangular Weir ( Controls 0.000 cfs)

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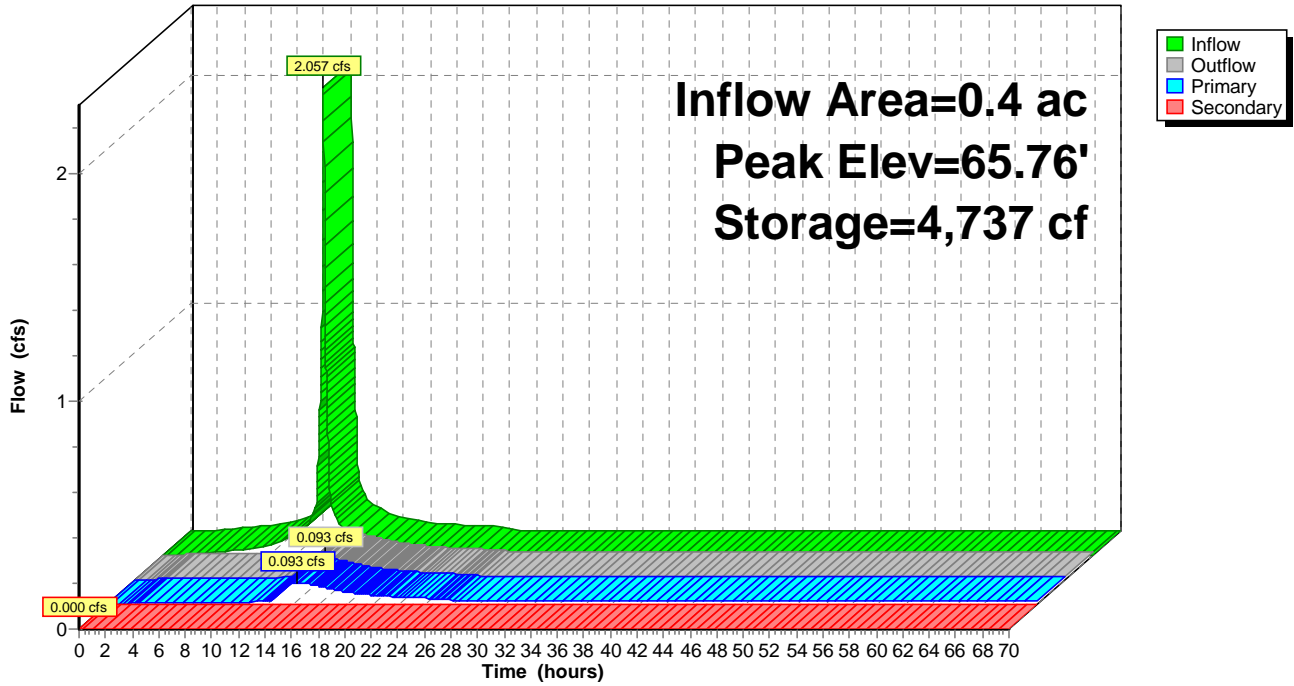
POST - CANAL & TOTAL  
Type III 24-hr 25-YR Rainfall=5.80"

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**Pond 63P: Gravel Wetland 11**

Hydrograph



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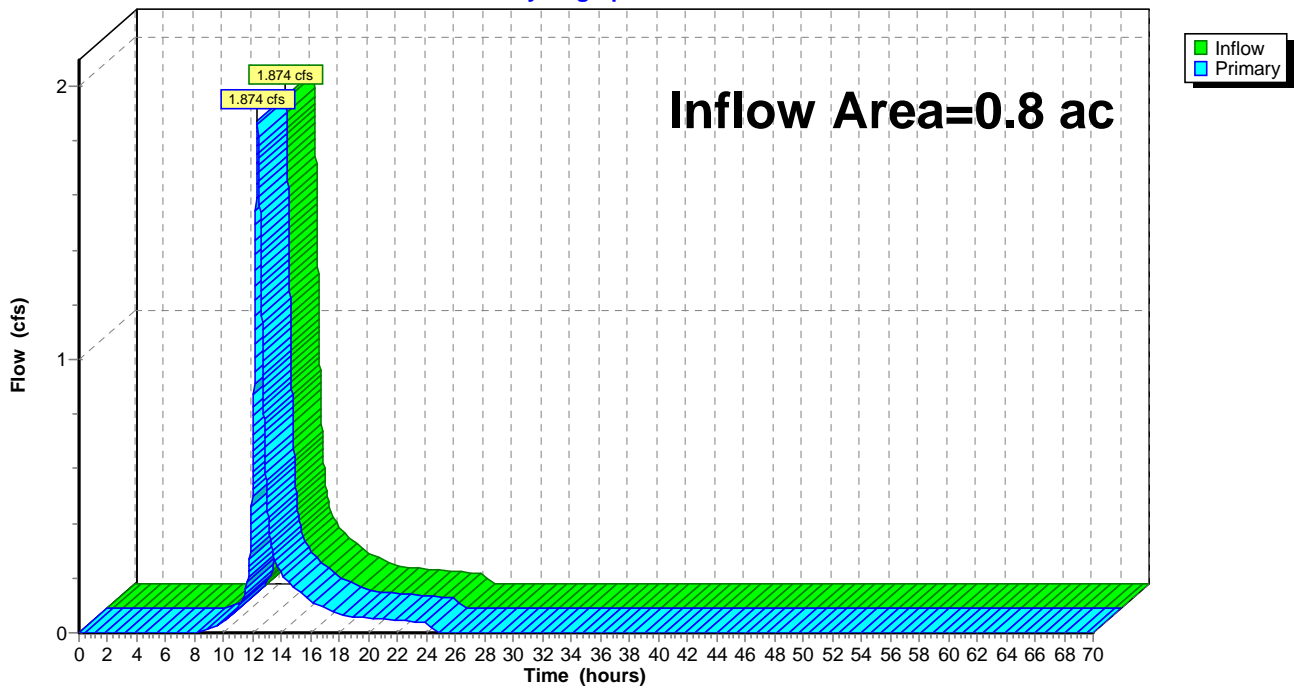
**Summary for Link 42L: Study Point 3**

Inflow Area = 0.8 ac, 0.00% Impervious, Inflow Depth = 3.21" for 25-YR event  
Inflow = 1.874 cfs @ 12.34 hrs, Volume= 0.214 af  
Primary = 1.874 cfs @ 12.34 hrs, Volume= 0.214 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

**Link 42L: Study Point 3**

Hydrograph



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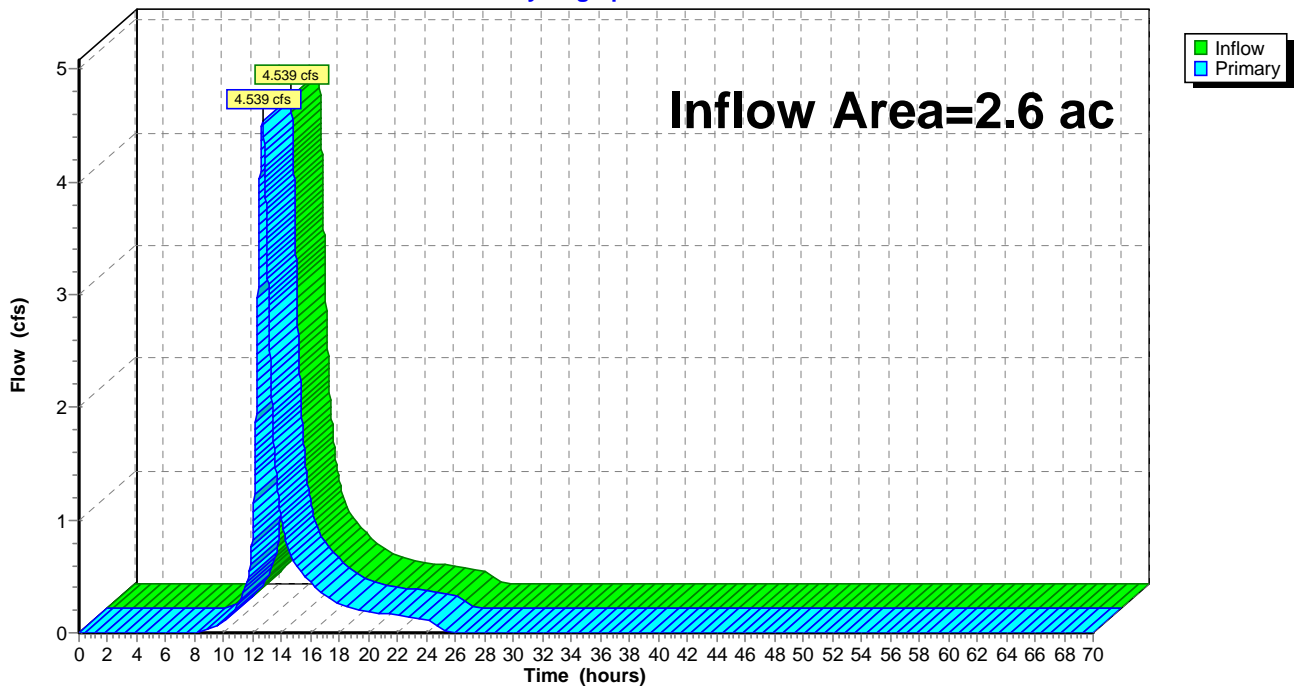
## Summary for Link 43L: Study Point 4

Inflow Area = 2.6 ac, 2.64% Impervious, Inflow Depth = 3.31" for 25-YR event  
Inflow = 4.539 cfs @ 12.66 hrs, Volume= 0.728 af  
Primary = 4.539 cfs @ 12.66 hrs, Volume= 0.728 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 43L: Study Point 4

Hydrograph



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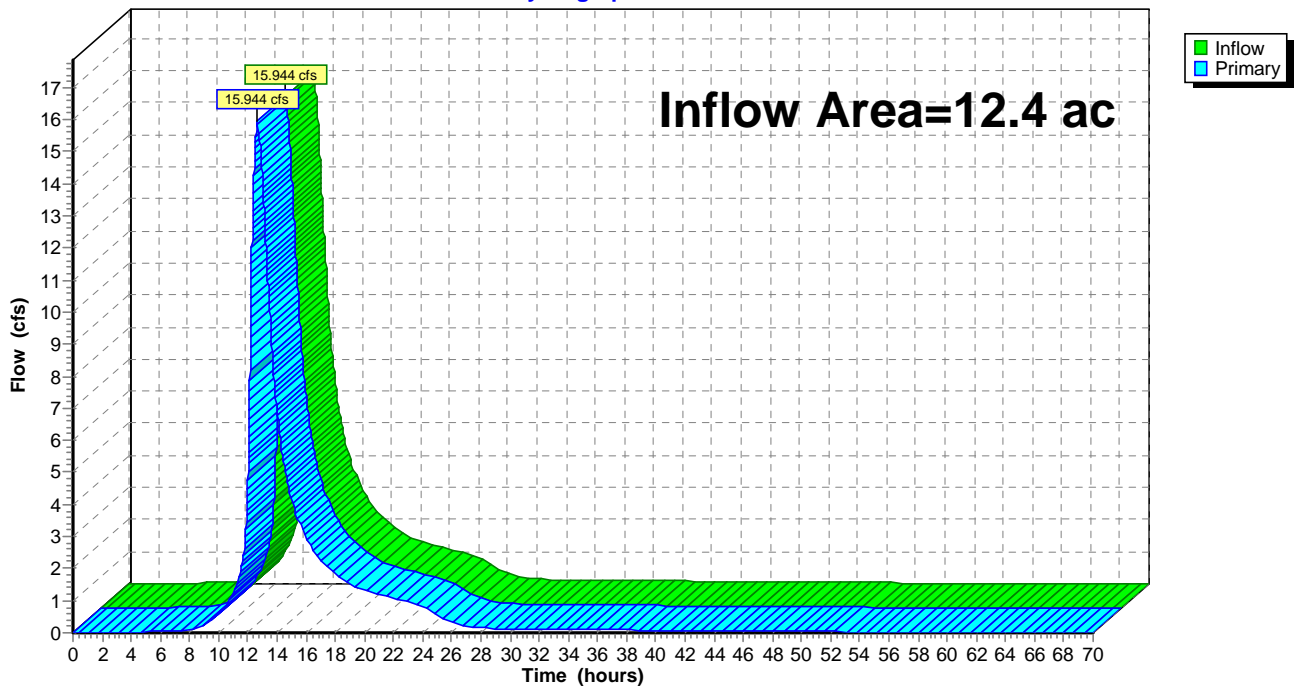
## Summary for Link 46L: Study Point 5

Inflow Area = 12.4 ac, 18.14% Impervious, Inflow Depth > 4.11" for 25-YR event  
Inflow = 15.944 cfs @ 12.66 hrs, Volume= 4.253 af  
Primary = 15.944 cfs @ 12.66 hrs, Volume= 4.253 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 46L: Study Point 5

Hydrograph





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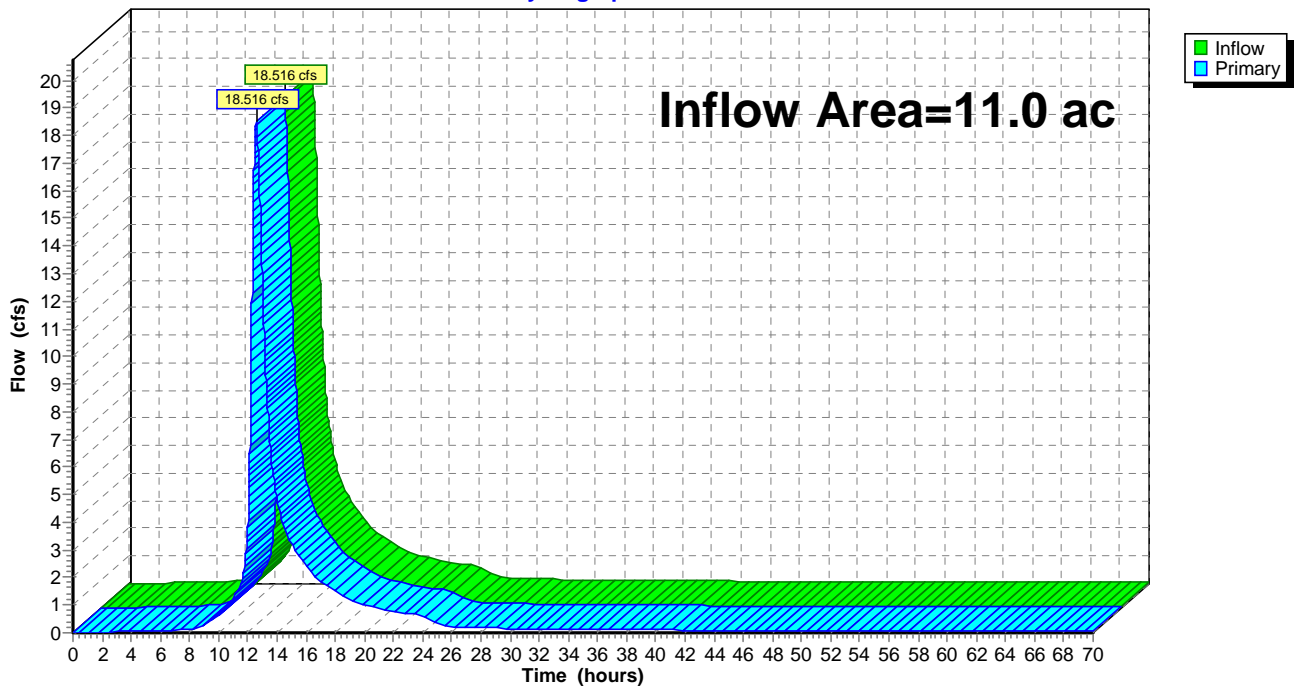
**Summary for Link 55L: Study Point 6**

Inflow Area = 11.0 ac, 25.80% Impervious, Inflow Depth > 4.16" for 25-YR event  
Inflow = 18.516 cfs @ 12.59 hrs, Volume= 3.820 af  
Primary = 18.516 cfs @ 12.59 hrs, Volume= 3.820 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

**Link 55L: Study Point 6**

Hydrograph



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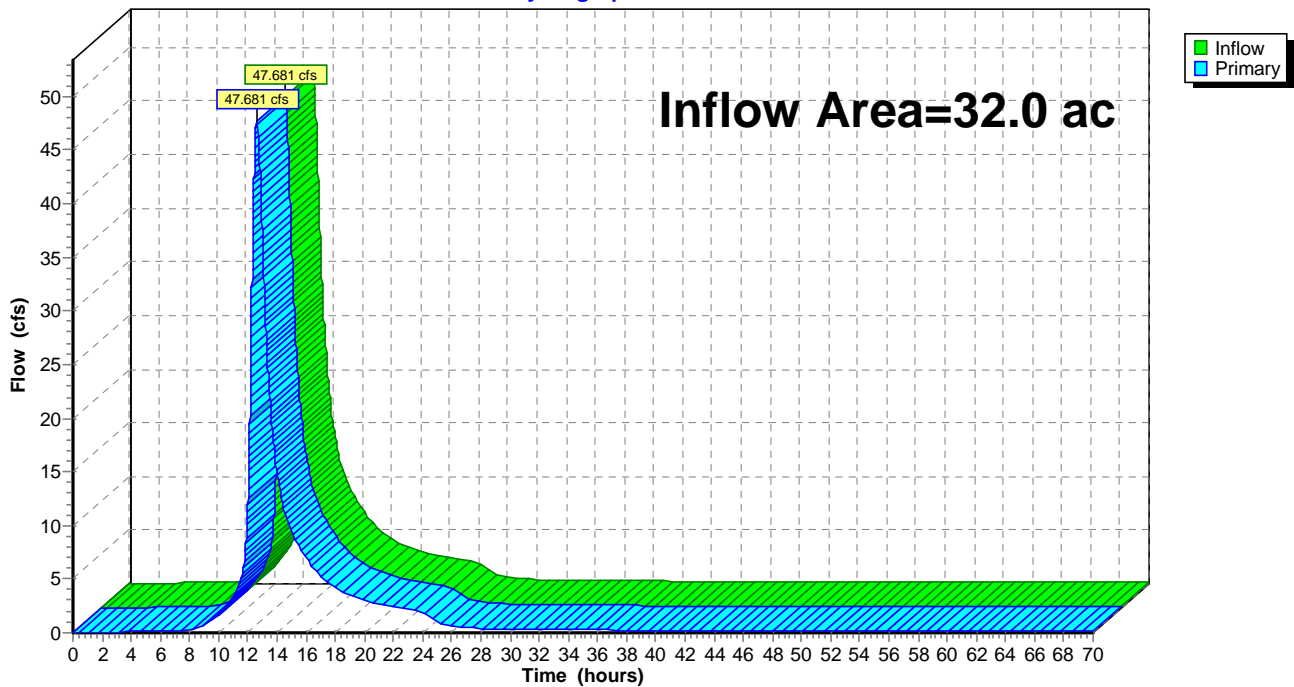
## Summary for Link 56L: Canal Subtotal

Inflow Area = 32.0 ac, 18.28% Impervious, Inflow Depth > 3.99" for 25-YR event  
Inflow = 47.681 cfs @ 12.61 hrs, Volume= 10.654 af  
Primary = 47.681 cfs @ 12.61 hrs, Volume= 10.654 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 56L: Canal Subtotal

Hydrograph



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## Summary for Link 57L: Energy East Subtotal (Linked)

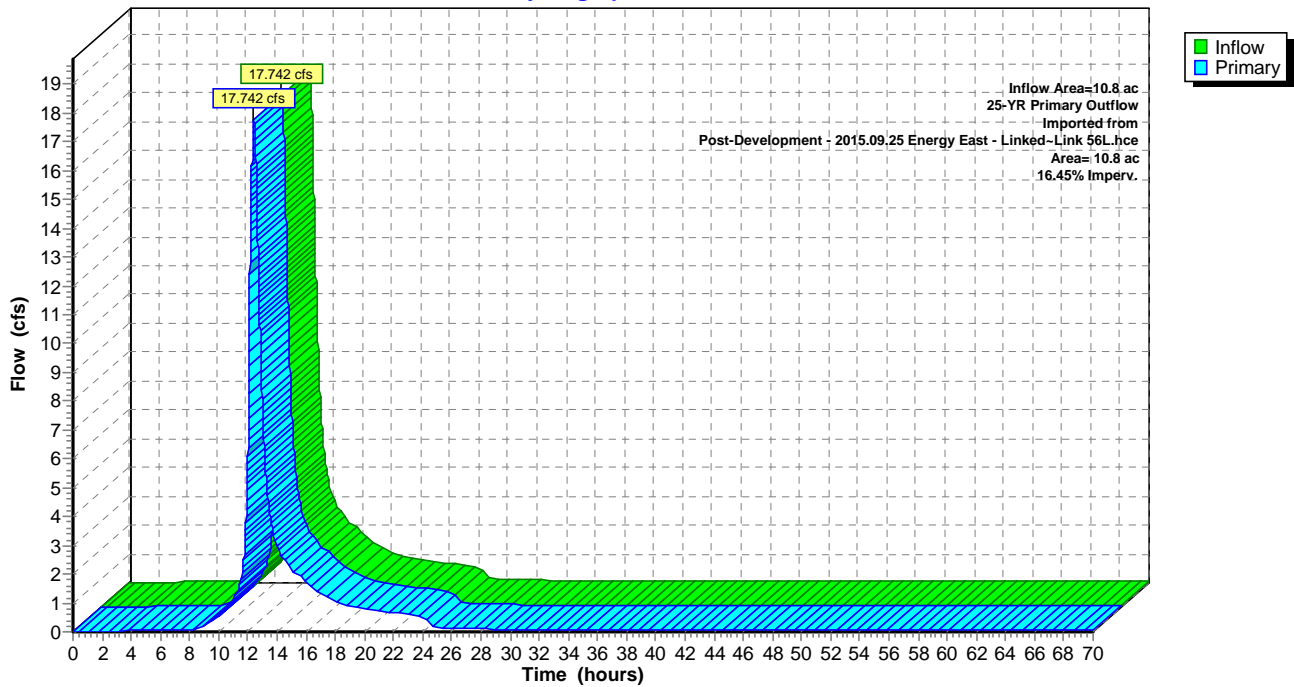
Inflow Area = 10.8 ac, 16.45% Impervious, Inflow Depth > 3.38" for 25-YR event  
Inflow = 17.742 cfs @ 12.42 hrs, Volume= 3.049 af  
Primary = 17.742 cfs @ 12.42 hrs, Volume= 3.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

25-YR Primary Outflow Imported from Post-Development - 2015.09.25 Energy East - Linked~Link 56L.hce

## Link 57L: Energy East Subtotal (Linked)

Hydrograph



# Post-Development - 2015.09.25 Canal and Total

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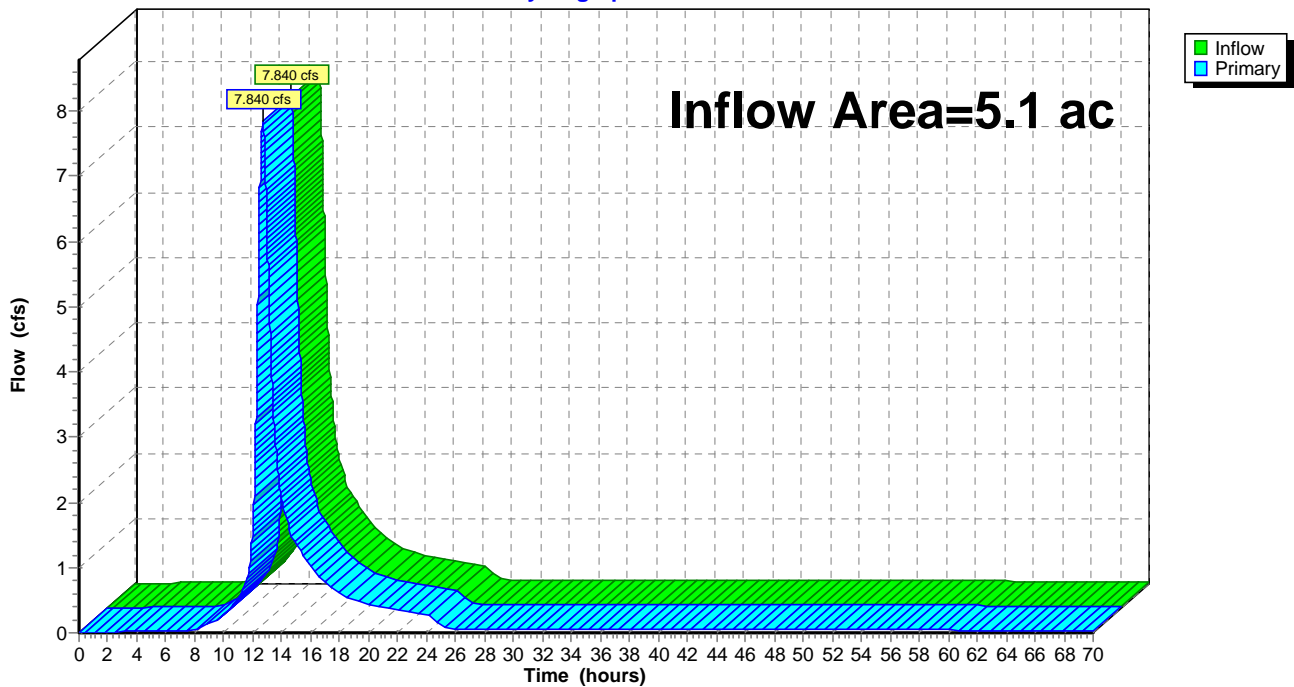
## Summary for Link 61L: Study Point 7

Inflow Area = 5.1 ac, 13.37% Impervious, Inflow Depth > 3.84" for 25-YR event  
Inflow = 7.840 cfs @ 12.67 hrs, Volume= 1.640 af  
Primary = 7.840 cfs @ 12.67 hrs, Volume= 1.640 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 61L: Study Point 7

Hydrograph



# Post-Development - 2015.09.25 Canal and Total

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## Summary for Link 62L: Post-Development Total

Inflow Area = 42.8 ac, 17.82% Impervious, Inflow Depth > 3.84" for 25-YR event  
Inflow = 63.646 cfs @ 12.56 hrs, Volume= 13.704 af  
Primary = 63.646 cfs @ 12.56 hrs, Volume= 13.704 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-70.00 hrs, dt= 0.01 hrs

## Link 62L: Post-Development Total

Hydrograph

