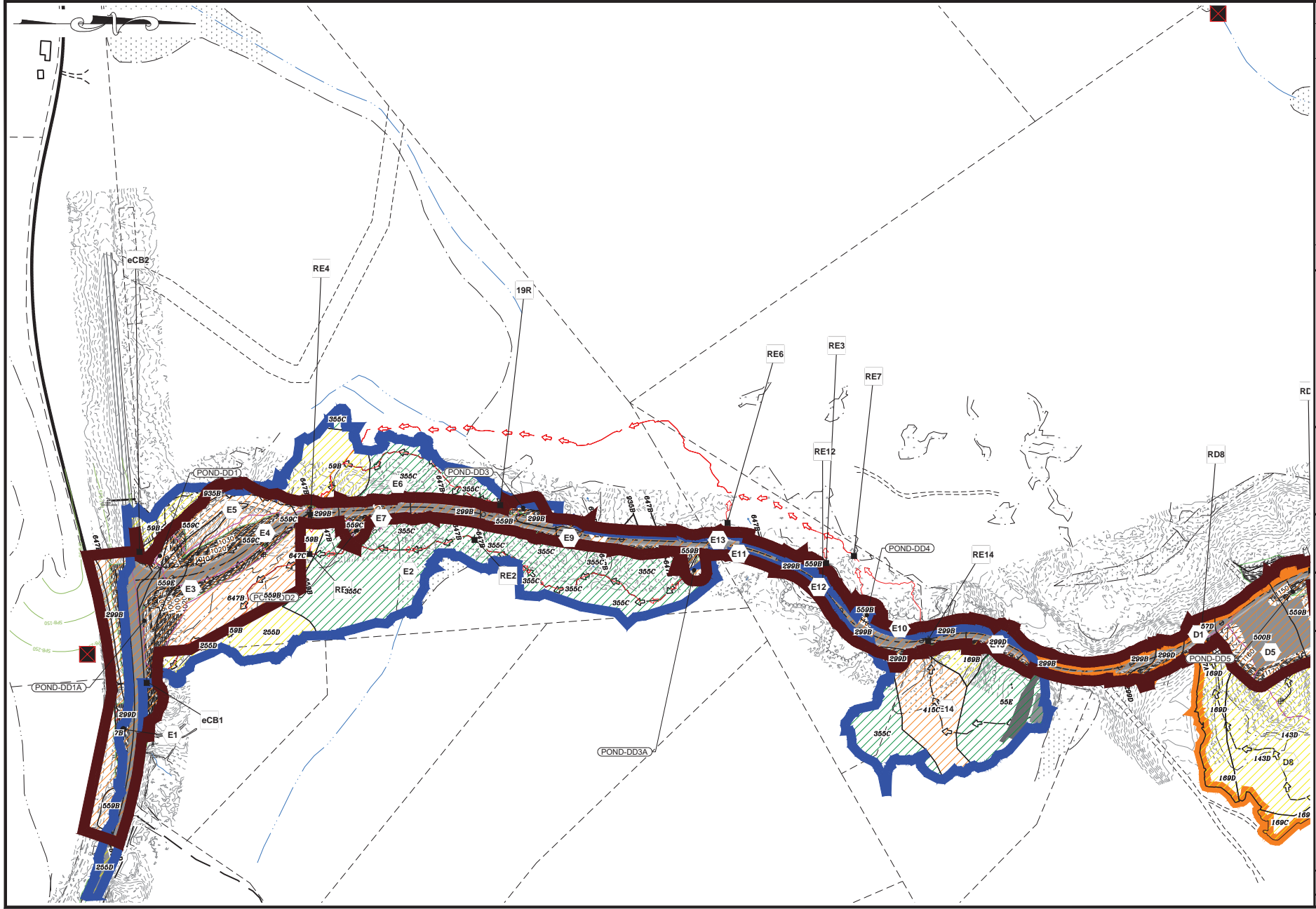


M:\CAD\PROJECTS\1101.03_GS_Phase 1 SW App-REV1\Production\In\1101 POST-DEV Color Coded Sells Plan.dwg Date Plotted: May 23, 2023 1:19pm Plotted By: NMESSNA

<p>CMA ENGINEERS Civil/Environmental/Structural</p> <p>Portsmouth, NH • Manchester, NH • Portland, ME 603.431-6166 • 603.627-0708 • 207.541-4225 c.m.a.e.n.g.i.n.e.e.r.s.c.o.m</p>		<p>designed by: [blank] checked by: [blank] approved by: [blank]</p>	<p>scale: 1" = 100' 0 100 200 300'</p>
<p>Granite State Landfill, LLC. Dalton, New Hampshire NHDES Alteration of Terrain Permit Application Post-Development Drainage Diagram</p>		<p>date: April 2023 drawing no: 1101 created by: AUS</p>	<p>date: [blank] drawing no: [blank] created by: AUS</p>
<p>drawing no: POSTDEV-4</p>		<p>sheet: 4 of 5</p>	



M:\CAD\PROJECTS\1101.03_GS_Phase 1 SW App-REV1\Production\In\1101 POST-DEV Color Coded Sals Plan.dwg Date Plotted: May 23, 2023 - 1:19pm Plotted By: NMESSINA

<p>CMAA ENGINEERS Civil/Environmental/Structural</p> <p>Portsmouth, NH • Manchester, NH • Portland, ME 603.431-6116 • 603.627-0708 • 207.561-1223 c.m.a.a.e.n.g.i.n.e.e.r.s.,c.o.m</p>		drawing no. POSTDEV-5
Granite State Landfill, LLC. Dalton, New Hampshire NHDES Alteration of Terrain Permit Application Post-Development Drainage Diagram Douglas Drive	designed by: AUS checked by: AUS drawn by: AUS approved by: AUS	sheet: 5 of 5
date: April 2023 title: 1101 project no: 1101 client: AUS	scale: 1" = 50' 0 100' 200'	revision:
revision:		date:

Appendix J.2.iii

10-Year, 24-Hour Storm Calculations (Full Calculations)

1101-POSTDEV_To OUTAB

Prepared by CMA Engineers

HydroCAD® 10.20-2g s/n 10642 © 2022 HydroCAD Software Solutions LLC

Type II 24-hr 10-yr Rainfall=3.31"

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Page 1

Summary for Subcatchment A1: WOODS & EX. QUARRY

Runoff = 15.2 cfs @ 13.14 hrs, Volume= 4.235 af, Depth> 0.57"
 Routed to Reach OUT-A : WETLANDS COMPLEX

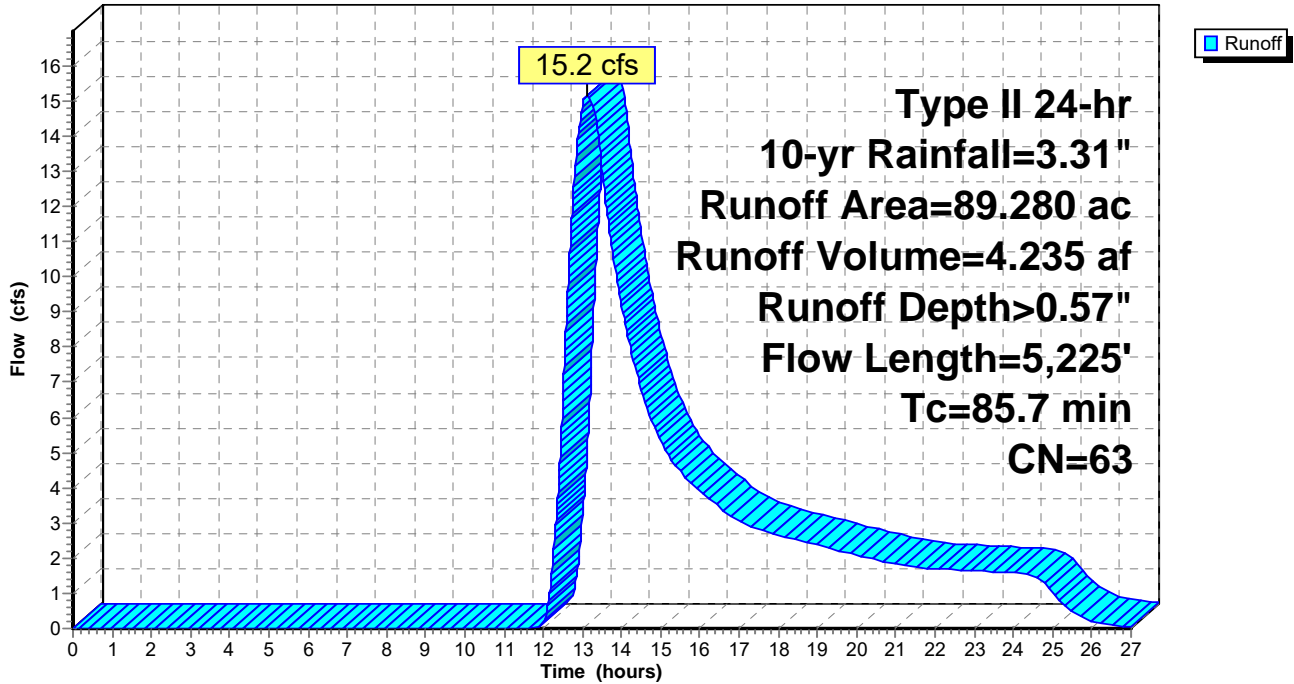
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
54.380	55	Woods, Good, HSG B
18.160	70	Woods, Good, HSG C
0.130	77	Woods, Good, HSG D
1.240	96	Gravel surface, HSG B
12.560	86	Fallow, bare soil, HSG B
0.060	98	Unconnected roofs, HSG B
0.560	71	Meadow, non-grazed, HSG C
2.040	58	Meadow, non-grazed, HSG B
0.150	96	Gravel surface, HSG C
89.280	63	Weighted Average
89.220	63	99.93% Pervious Area
0.060	98	0.07% Impervious Area
0.060		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	100	0.0400	0.05		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
49.5	3,400	0.2100	1.15		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
1.5	1,280	0.0800	14.12	282.43	Parabolic Channel, W=15.00' D=2.00' Area=20.0 sf Perim=15.7' n= 0.035 Earth, dense weeds
1.4	445	0.0250	5.12	136.46	Parabolic Channel, W=40.00' D=1.00' Area=26.7 sf Perim=40.1' n= 0.035
85.7	5,225	Total			

Subcatchment A1: WOODS & EX. QUARRY

Hydrograph



1101-POSTDEV_To OUTAB

Prepared by CMA Engineers

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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment A2: WOODS

Runoff = 14.6 cfs @ 12.96 hrs, Volume= 3.535 af, Depth> 0.61"
 Routed to Reach OUT-A : WETLANDS COMPLEX

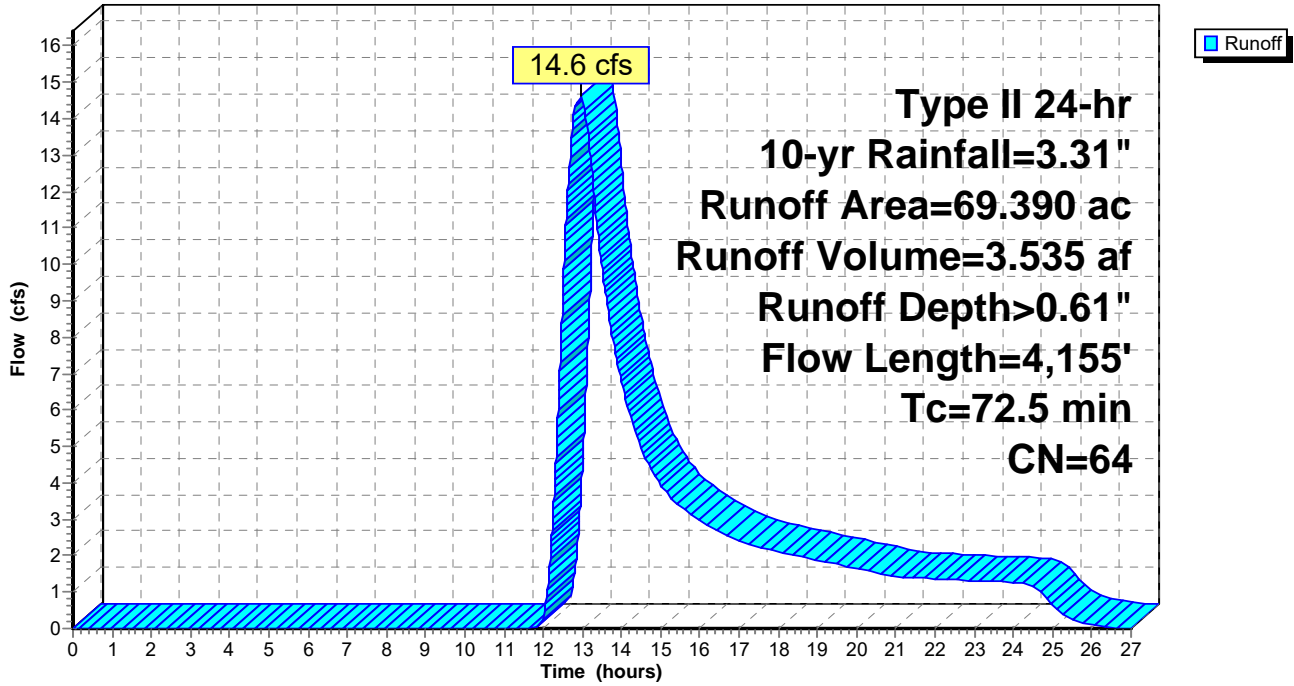
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.160	30	Woods, Good, HSG A
0.780	30	Meadow, non-grazed, HSG A
0.050	96	Gravel surface, HSG A
24.890	55	Woods, Good, HSG B
1.900	58	Meadow, non-grazed, HSG B
0.560	96	Gravel surface, HSG B
0.520	77	Woods, Good, HSG D
5.610	71	Meadow, non-grazed, HSG C
0.310	96	Gravel surface, HSG C
34.610	70	Woods, Good, HSG C
69.390	64	Weighted Average
69.390	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.2000	0.10		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
45.6	2,900	0.1800	1.06		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
1.1	530	0.0250	8.13	1,083.54	Parabolic Channel, W=100.00' D=2.00' Area=133.3 sf Perim=100.1' n= 0.035
8.3	625	0.0015	1.25	50.17	Parabolic Channel, W=60.00' D=1.00' Area=40.0 sf Perim=60.0' n= 0.035 Earth, dense weeds
72.5	4,155	Total			

Subcatchment A2: WOODS

Hydrograph



Summary for Subcatchment A3: LANDFILL

Runoff = 23.7 cfs @ 12.09 hrs, Volume= 1.611 af, Depth= 1.17"
 Routed to Pond PHW34 : HEADWALL

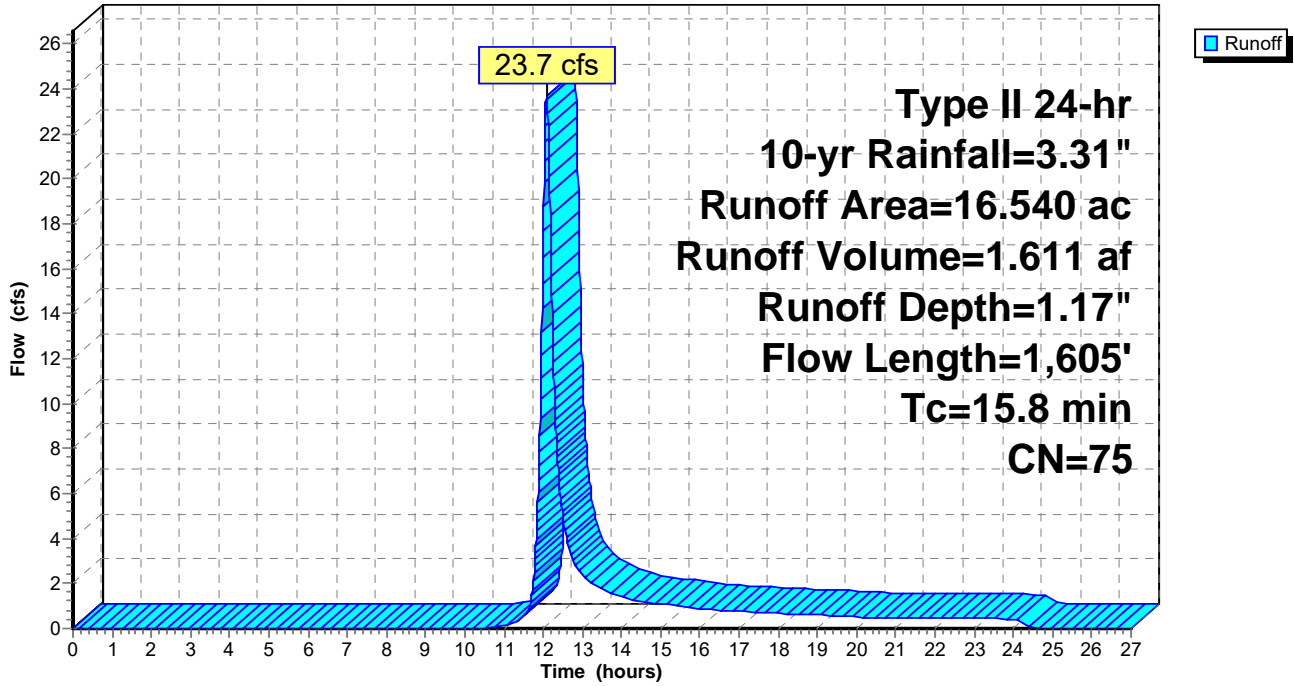
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.770	96	Gravel surface, HSG C
* 14.500	74	Landfill, Grass
0.210	96	Gravel surface, HSG B
0.170	58	Meadow, non-grazed, HSG B
0.890	71	Meadow, non-grazed, HSG C
16.540	75	Weighted Average
16.540	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
0.3	25	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.1	35	0.3300	4.02		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.6	175	0.0400	4.79	67.04	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.7	470	0.3300	11.54	129.83	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=1.50' Z= 3.0 '/' Top.W=12.00' n= 0.069 Riprap, 6-inch
2.5	800	0.0500	5.29	95.16	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
15.8	1,605	Total			

Subcatchment A3: LANDFILL

Hydrograph



Summary for Subcatchment A4: OVERLAND FLOW

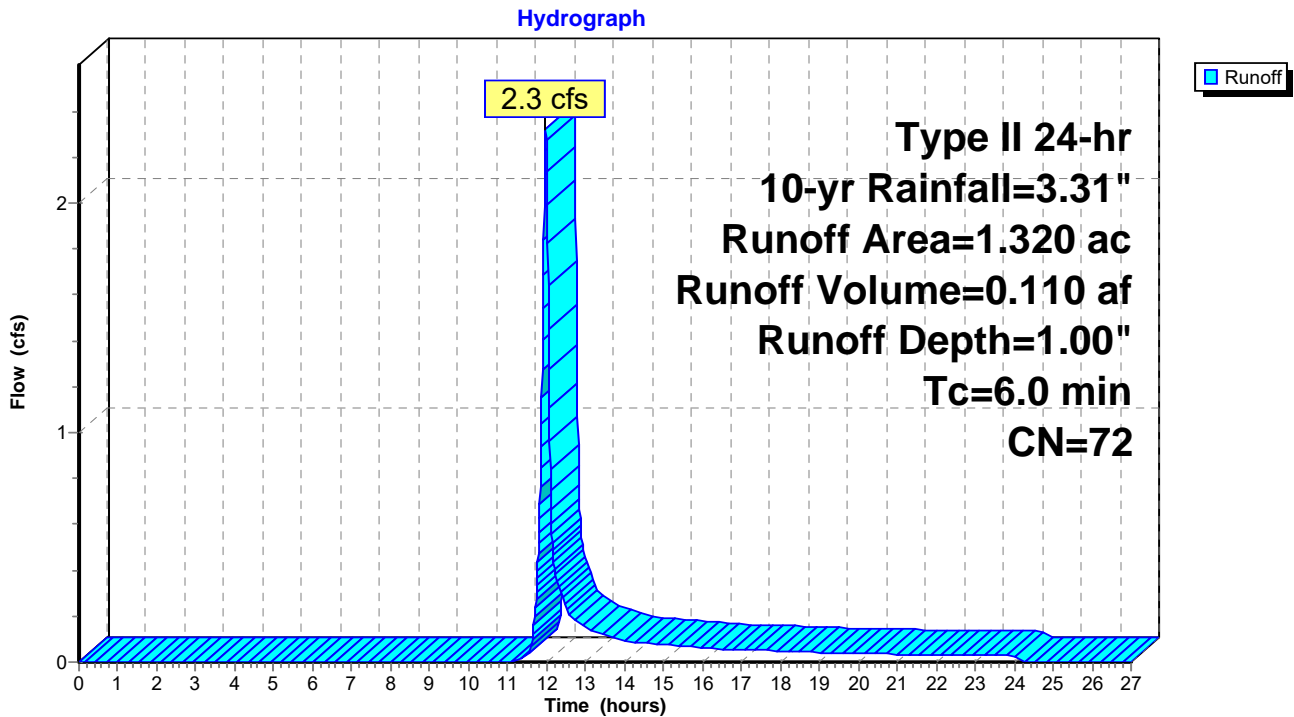
Runoff = 2.3 cfs @ 11.98 hrs, Volume= 0.110 af, Depth= 1.00"
 Routed to Pond FB13 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.060	70	Woods, Good, HSG C
0.040	96	Gravel surface, HSG C
1.220	71	Meadow, non-grazed, HSG C
1.320	72	Weighted Average
1.320	72	100.00% Pervious Area

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

Subcatchment A4: OVERLAND FLOW



Summary for Subcatchment B1: WOODS

Runoff = 1.1 cfs @ 13.09 hrs, Volume= 0.584 af, Depth= 0.15"
 Routed to Reach OUT-B : WETLANDS COMPLEX

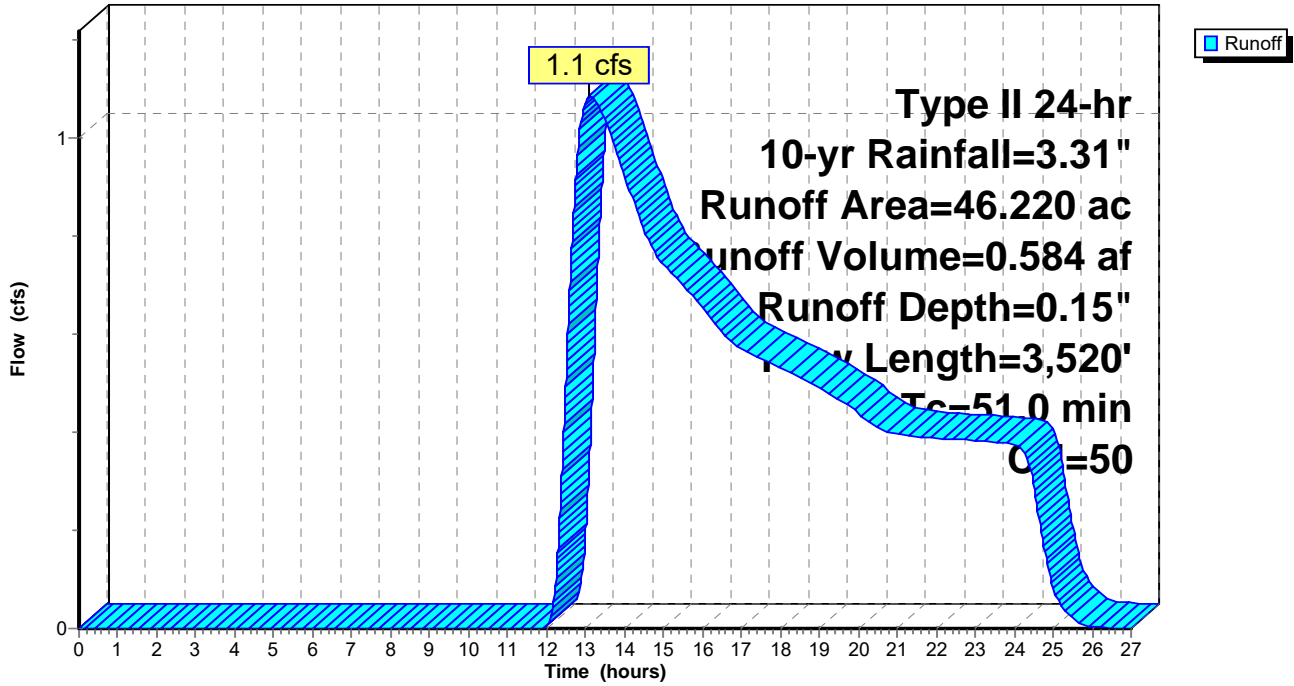
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.010	96	Gravel surface, HSG B
0.590	96	Gravel surface, HSG C
0.030	98	Paved parking, HSG C
0.980	78	Meadow, non-grazed, HSG D
1.580	77	Woods, Good, HSG D
0.010	58	Meadow, non-grazed, HSG B
1.740	55	Woods, Good, HSG B
2.230	30	Meadow, non-grazed, HSG A
20.790	30	Woods, Good, HSG A
1.270	71	Meadow, non-grazed, HSG C
16.990	70	Woods, Good, HSG C
46.220	50	Weighted Average
46.190	50	99.94% Pervious Area
0.030	98	0.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	100	0.0400	0.05		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
6.9	195	0.0350	0.47		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
5.7	2,105	0.0358	6.12	142.84	Parabolic Channel, W=35.00' D=1.00' Area=23.3 sf Perim=35.1' n= 0.035
5.1	1,120	0.0129	3.68	183.94	Parabolic Channel, W=75.00' D=1.00' Area=50.0 sf Perim=75.0' n= 0.035
51.0	3,520	Total			

Subcatchment B1: WOODS

Hydrograph



Summary for Subcatchment B2: OVERLAND FLOW

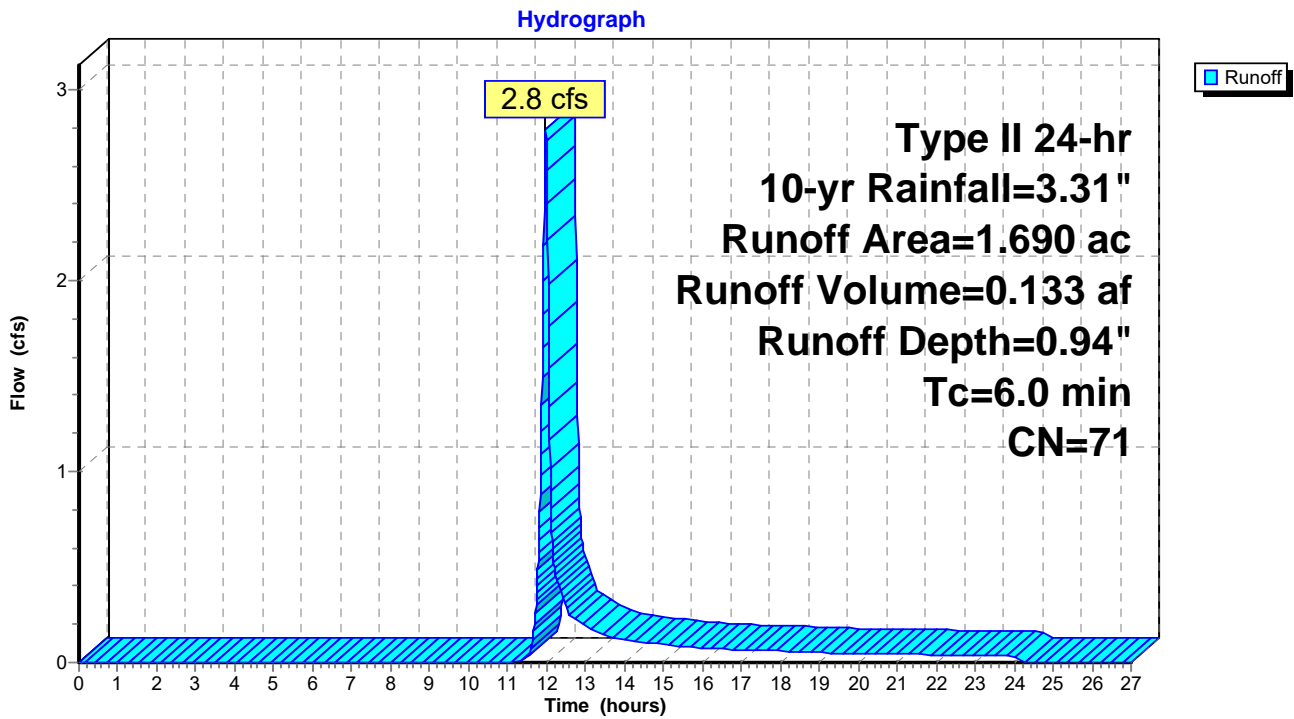
Runoff = 2.8 cfs @ 11.98 hrs, Volume= 0.133 af, Depth= 0.94"
 Routed to Pond FB12 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.690	71	Meadow, non-grazed, HSG C
1.690	71	100.00% Pervious Area

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

Subcatchment B2: OVERLAND FLOW



Summary for Subcatchment B3: OVERLAND FLOW

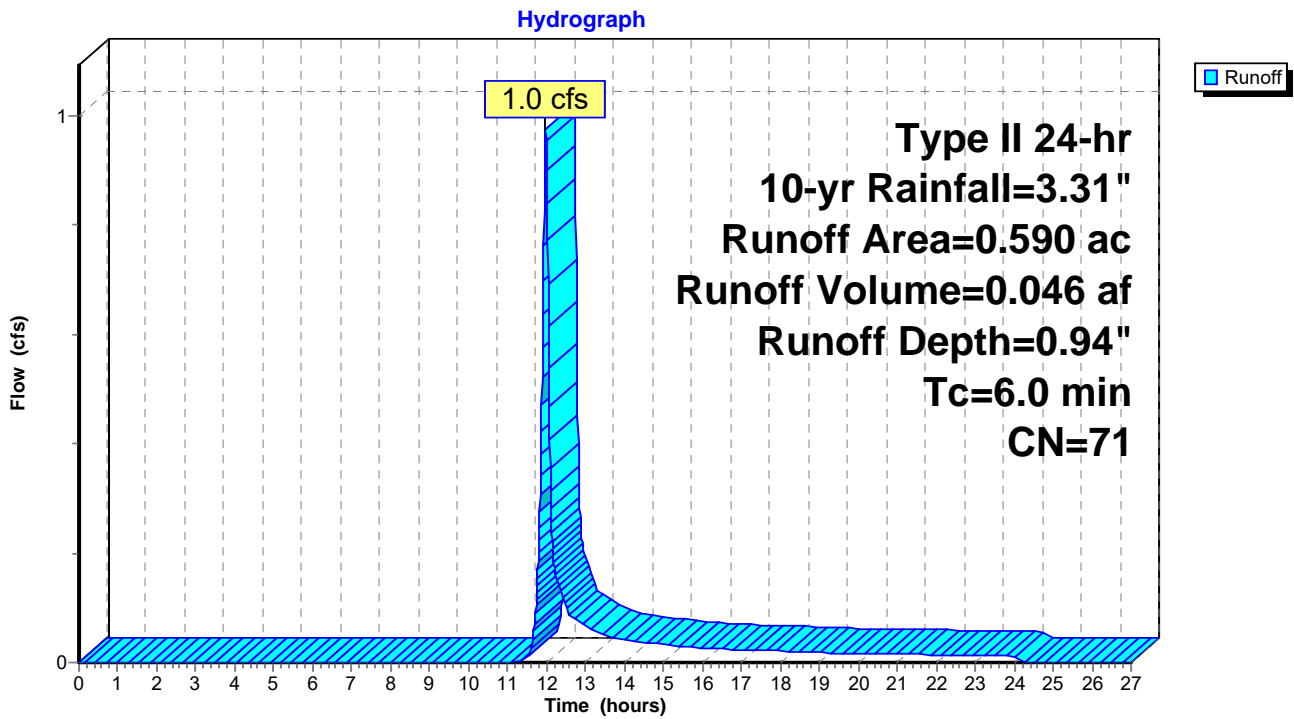
Runoff = 1.0 cfs @ 11.98 hrs, Volume= 0.046 af, Depth= 0.94"
 Routed to Pond FB11 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.590	71	Meadow, non-grazed, HSG C
0.590	71	100.00% Pervious Area

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

Subcatchment B3: OVERLAND FLOW



Summary for Subcatchment B4: LANDFILL

Runoff = 15.7 cfs @ 12.07 hrs, Volume= 1.015 af, Depth= 1.17"
 Routed to Pond PHW-28 : HEADWALL

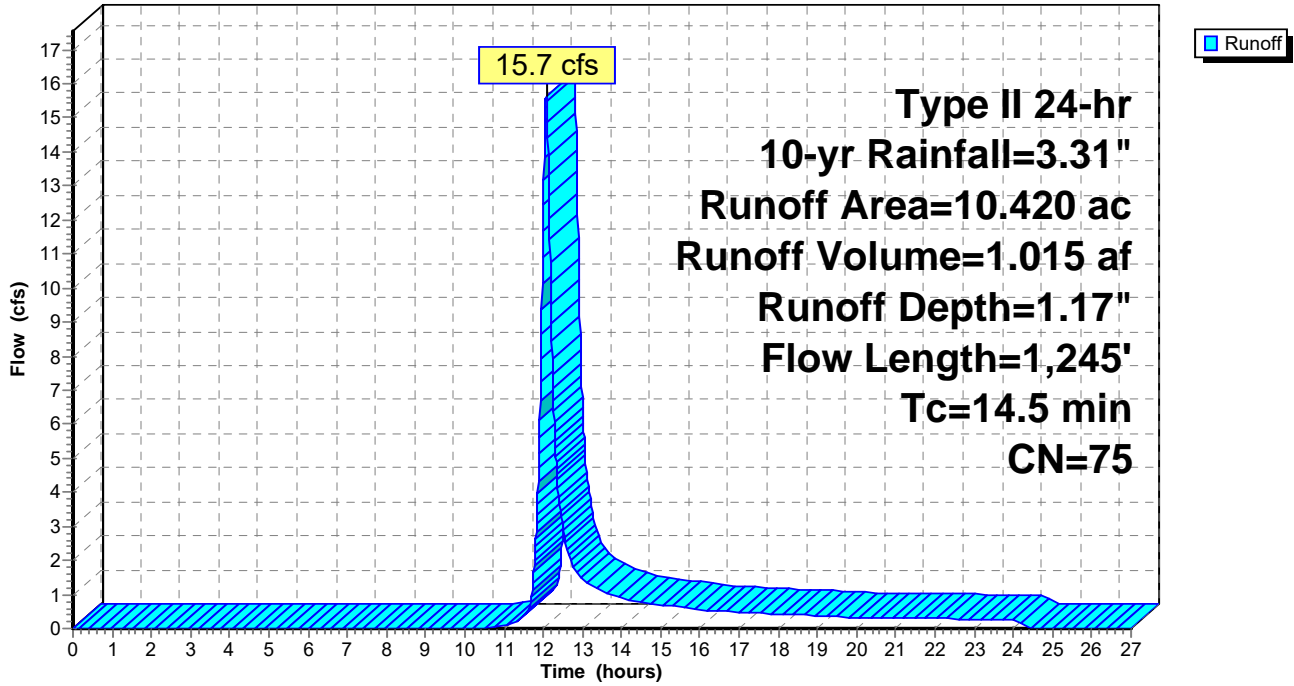
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.350	96	Gravel surface, HSG C
* 9.680	74	Landfill, Grass
0.030	96	Gravel surface, HSG B
0.360	71	Meadow, non-grazed, HSG C
10.420	75	Weighted Average
10.420	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
0.2	55	0.3300	4.02		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.2	350	0.0400	4.79	67.04	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.7	480	0.3300	11.54	129.83	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=1.50' Z= 3.0 '/' Top.W=12.00' n= 0.069 Riprap, 6-inch
0.8	260	0.0500	5.29	95.16	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
14.5	1,245	Total			

Subcatchment B4: LANDFILL

Hydrograph



1101-POSTDEV_To OUTAB

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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment B5: LANDFILL

Runoff = 24.5 cfs @ 12.08 hrs, Volume= 1.611 af, Depth= 1.17"

Routed to Pond PHW31 : HEADWALL

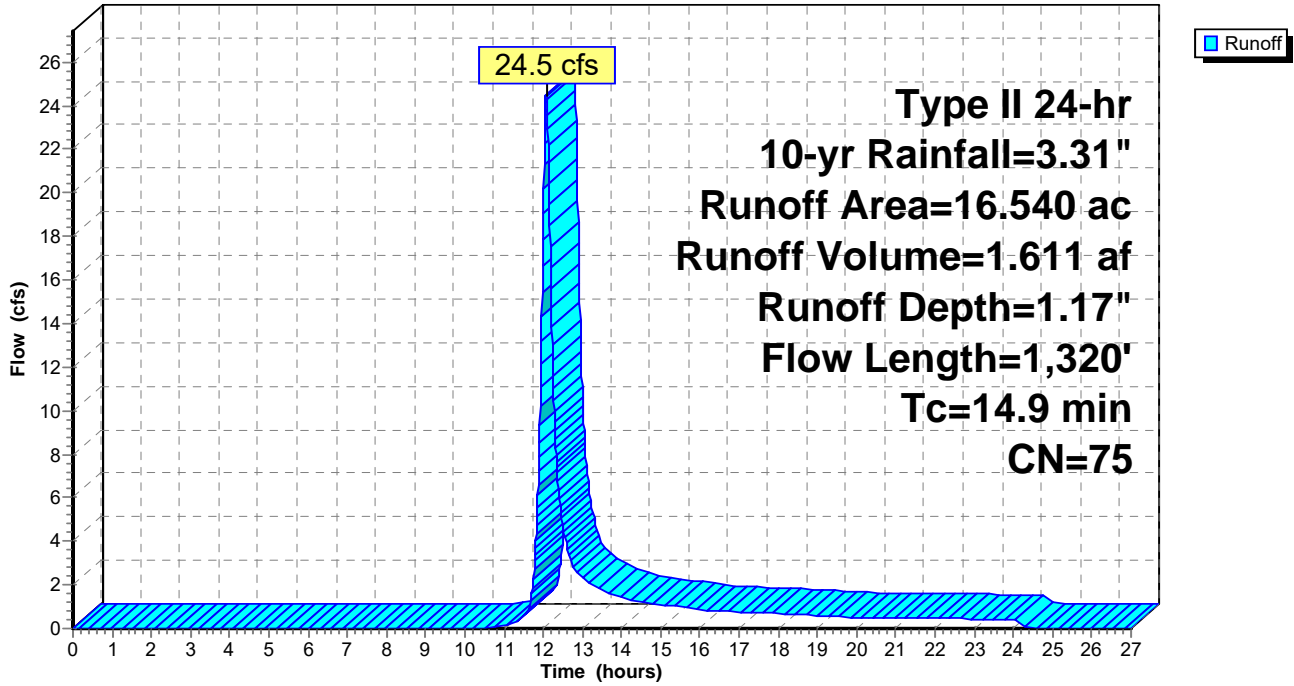
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
* 15.390	74	Landfill, Grass
0.610	96	Gravel surface, HSG C
0.540	71	Meadow, non-grazed, HSG C
16.540	75	Weighted Average
16.540	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
0.1	10	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	95	0.3300	4.02		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.7	205	0.0400	4.79	67.04	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.0 ' /' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.6	450	0.3300	11.54	129.83	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=1.50' Z= 3.0 ' /' Top.W=12.00' n= 0.069 Riprap, 6-inch
1.5	460	0.0500	5.29	95.16	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 3.0 ' /' Top.W=15.00' n= 0.069 Riprap, 6-inch
14.9	1,320	Total			

Subcatchment B5: LANDFILL

Hydrograph



1101-POSTDEV_To OUTAB

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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment B6: WOODS

Runoff = 3.3 cfs @ 12.16 hrs, Volume= 0.282 af, Depth= 1.00"
 Routed to Pond RB3 : CULVERT

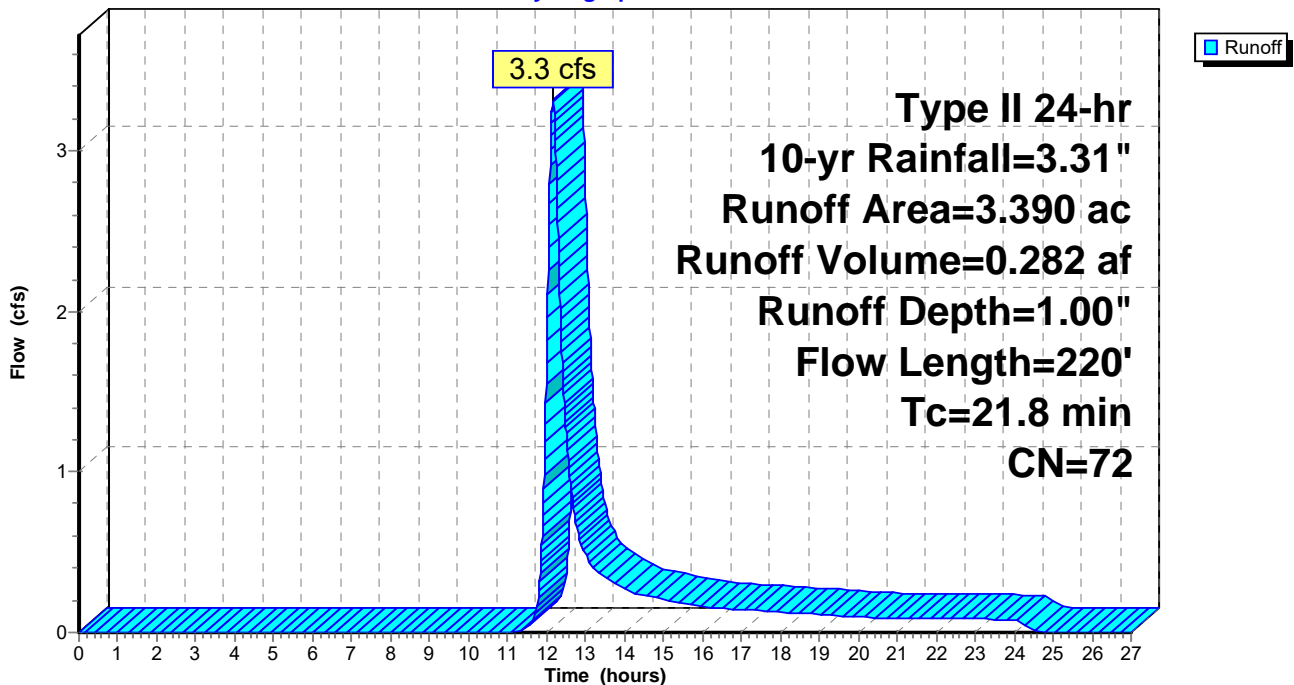
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.110	96	Gravel surface, HSG C
2.470	71	Meadow, non-grazed, HSG C
0.810	70	Woods, Good, HSG C
3.390	72	Weighted Average
3.390	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.1350	0.08		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
1.3	105	0.2850	1.33		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
0.0	15	0.5300	5.10		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
21.8	220	Total			

Subcatchment B6: WOODS

Hydrograph



1101-POSTDEV_To OUTAB

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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment B7: WOODS

Runoff = 3.1 cfs @ 12.15 hrs, Volume= 0.254 af, Depth= 1.05"

Routed to Reach RB5 : CULVERT

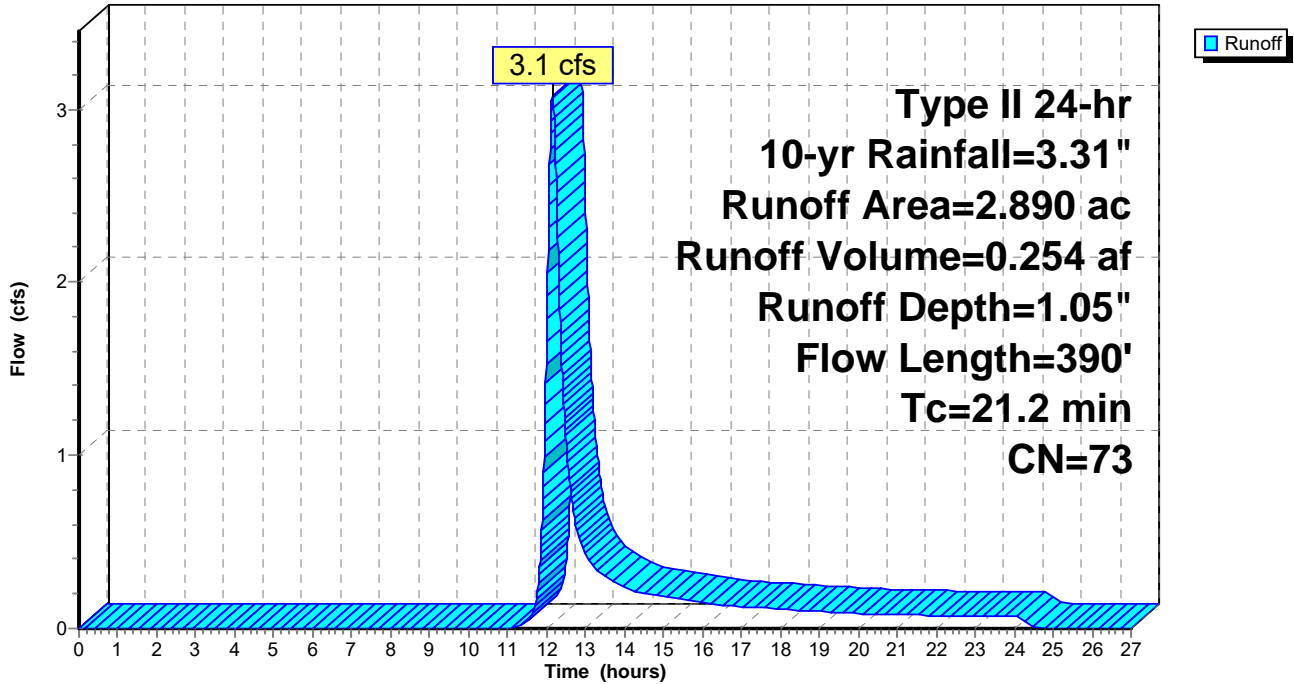
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.060	55	Woods, Good, HSG B
0.120	58	Meadow, non-grazed, HSG B
0.010	96	Gravel surface, HSG B
0.020	98	Paved parking, HSG B
0.160	98	Paved parking, HSG C
0.220	96	Gravel surface, HSG C
1.230	71	Meadow, non-grazed, HSG C
1.070	70	Woods, Good, HSG C
2.890	73	Weighted Average
2.710	72	93.77% Pervious Area
0.180	98	6.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	100	0.1500	0.08		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
1.0	85	0.3050	1.38		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
0.6	205	0.0125	5.26	14.02	Parabolic Channel, W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022
21.2	390	Total			

Subcatchment B7: WOODS

Hydrograph



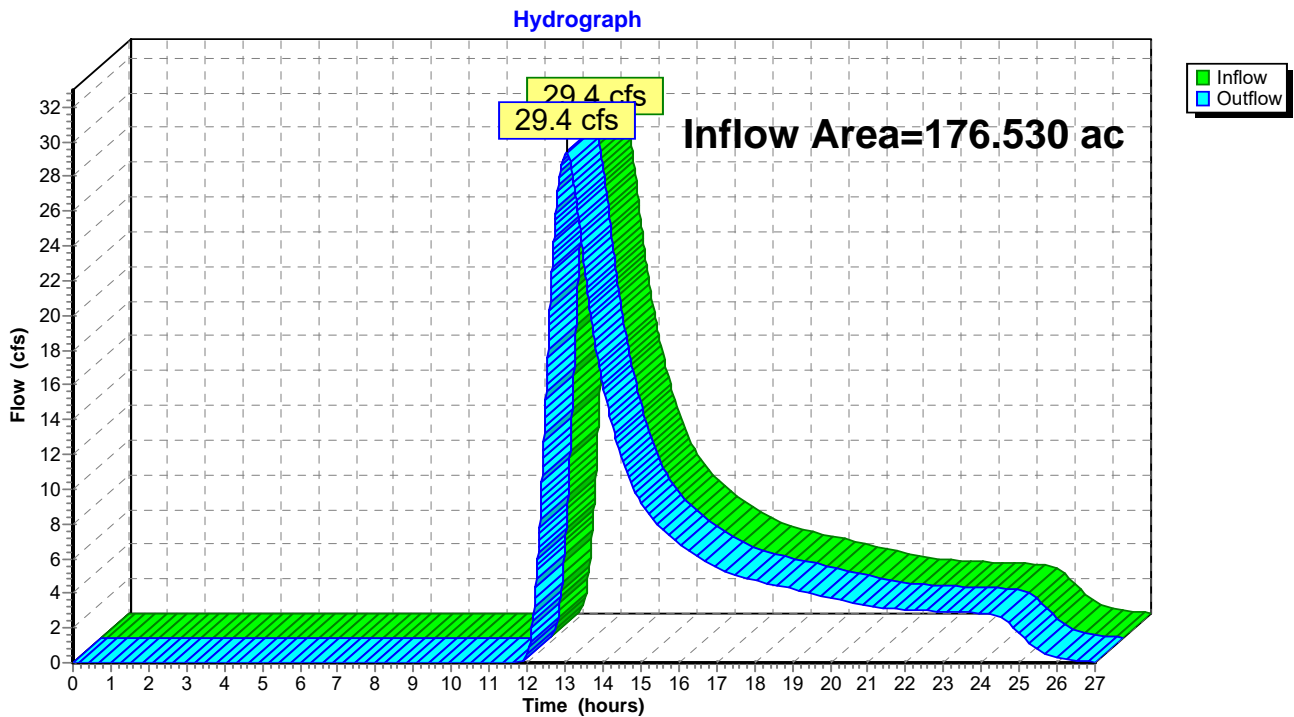
Summary for Reach OUT-A: WETLANDS COMPLEX

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

Inflow Area = 176.530 ac, 0.03% Impervious, Inflow Depth > 0.53" for 10-yr event
Inflow = 29.4 cfs @ 13.04 hrs, Volume= 7.769 af
Outflow = 29.4 cfs @ 13.04 hrs, Volume= 7.769 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3

Reach OUT-A: WETLANDS COMPLEX



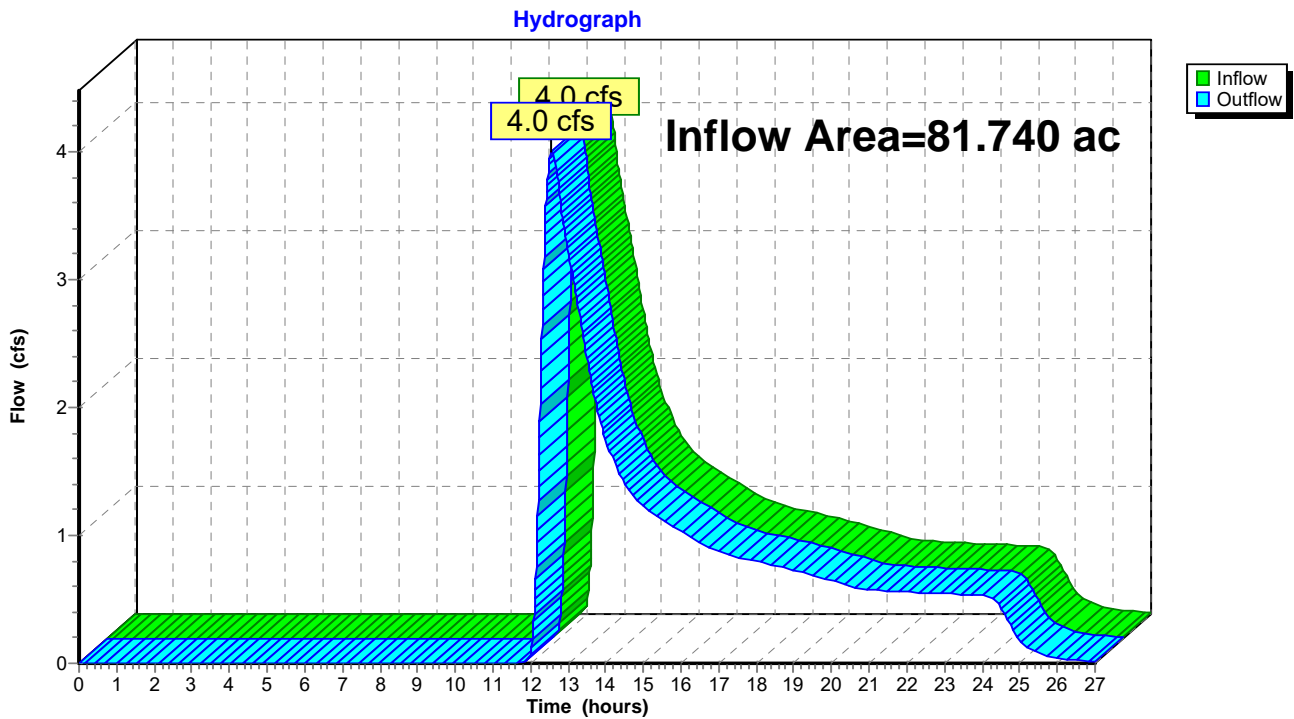
Summary for Reach OUT-B: WETLANDS COMPLEX

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

Inflow Area = 81.740 ac, 0.26% Impervious, Inflow Depth > 0.17" for 10-yr event
Inflow = 4.0 cfs @ 12.57 hrs, Volume= 1.140 af
Outflow = 4.0 cfs @ 12.57 hrs, Volume= 1.140 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node FDGA

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3

Reach OUT-B: WETLANDS COMPLEX



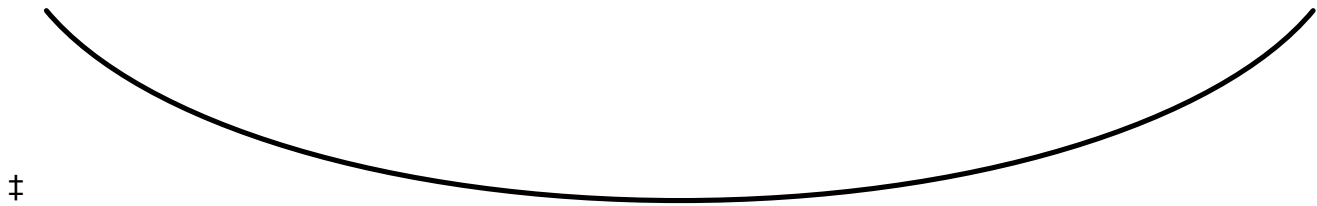
Summary for Reach RA1: WOODS

Inflow Area = 17.860 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RA2 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

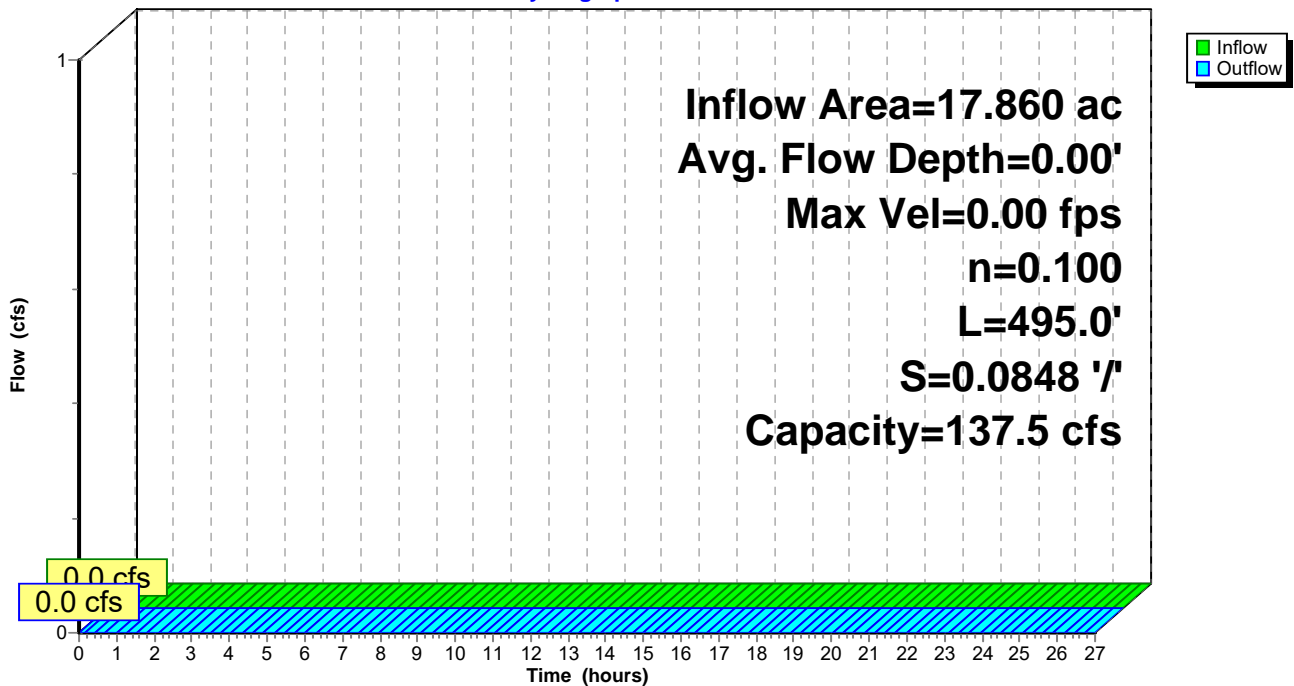
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 2.00' Flow Area= 26.7 sf, Capacity= 137.5 cfs

20.00' x 2.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 495.0' Slope= 0.0848 '/'
 Inlet Invert= 1,160.00', Outlet Invert= 1,118.00'



Reach RA1: WOODS

Hydrograph



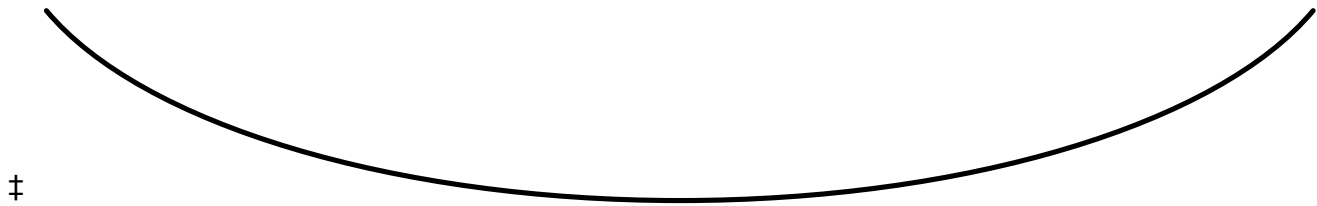
Summary for Reach RA2: WETLAND

Inflow Area = 17.860 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RA3 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

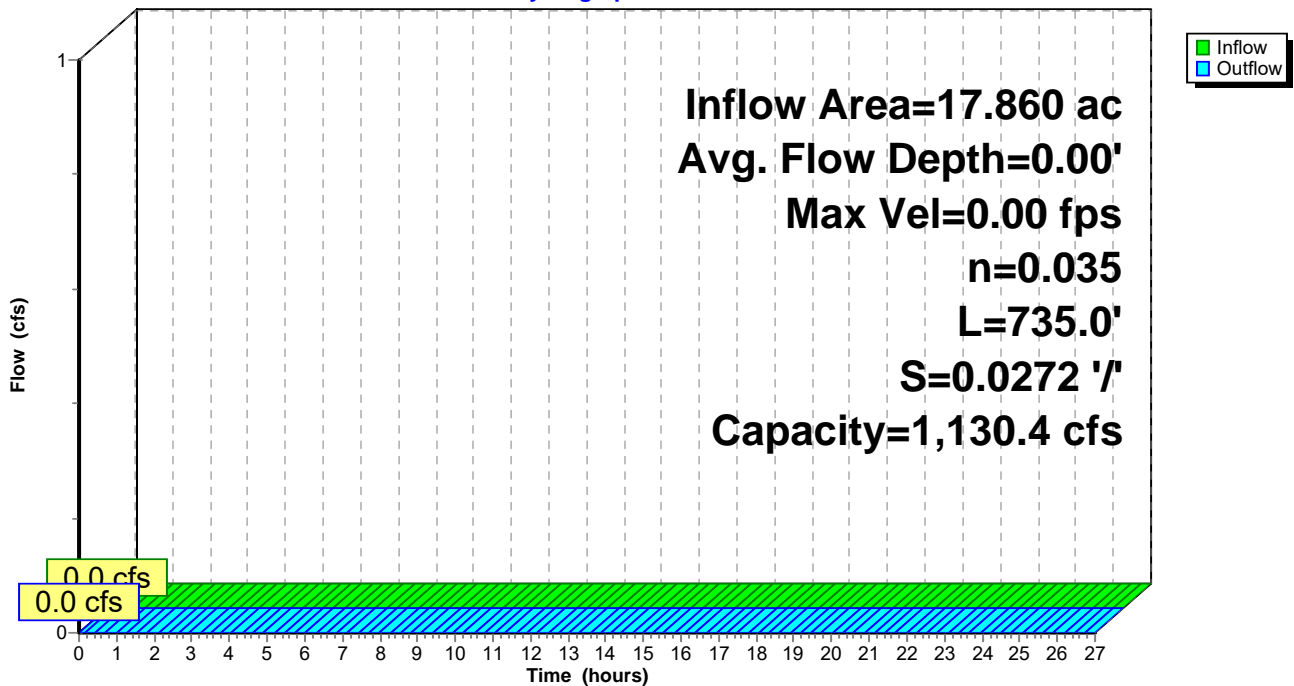
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,130.4 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 735.0' Slope= 0.0272 '/'
 Inlet Invert= 1,118.00', Outlet Invert= 1,098.00'



Reach RA2: WETLAND

Hydrograph



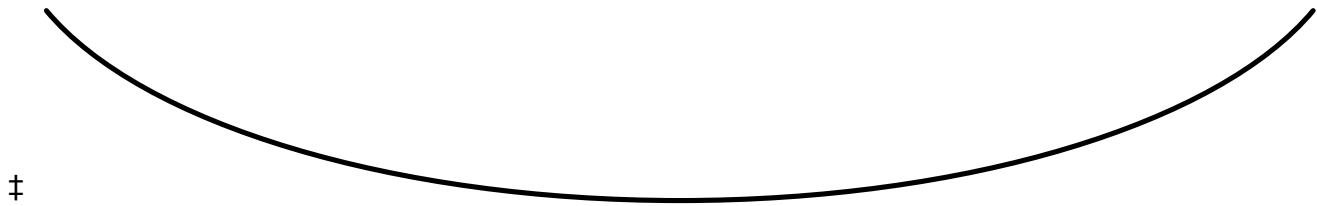
Summary for Reach RA3: WETLAND

Inflow Area = 17.860 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach OUT-A : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

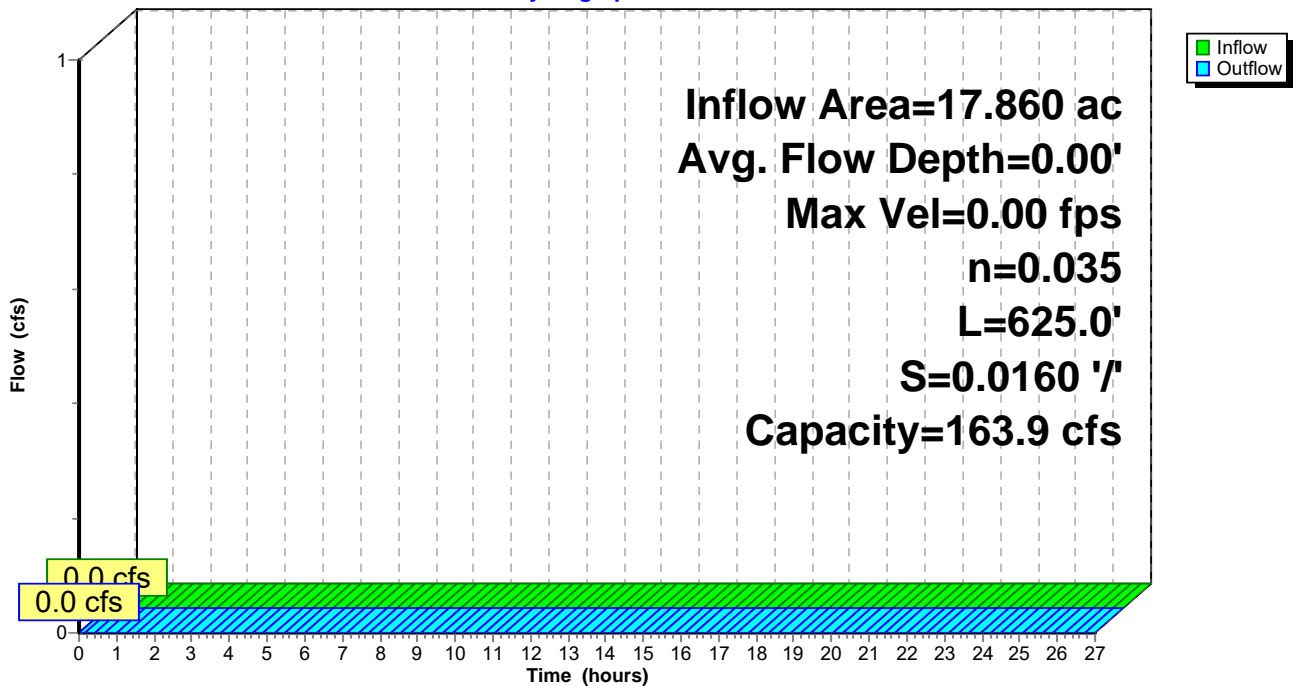
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 163.9 cfs

60.00' x 1.00' deep Parabolic Channel, n= 0.035
 Length= 625.0' Slope= 0.0160 '/'
 Inlet Invert= 1,098.00', Outlet Invert= 1,088.00'



Reach RA3: WETLAND

Hydrograph



Summary for Reach RB1: WETLAND

[62] Hint: Exceeded Reach RB2 OUTLET depth by 0.06' @ 12.74 hrs

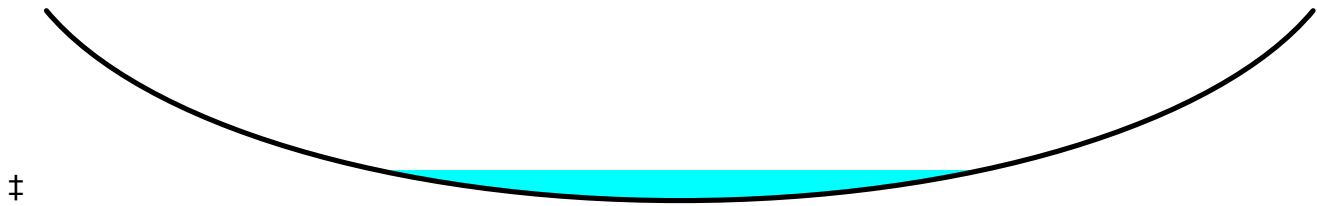
[62] Hint: Exceeded Reach RB4 OUTLET depth by 0.04' @ 12.76 hrs

Inflow Area = 24.510 ac, 0.73% Impervious, Inflow Depth > 0.26" for 10-yr event
Inflow = 4.8 cfs @ 12.29 hrs, Volume= 0.535 af
Outflow = 3.4 cfs @ 12.50 hrs, Volume= 0.533 af, Atten= 28%, Lag= 13.1 min
Routed to Reach OUT-B : WETLANDS COMPLEX

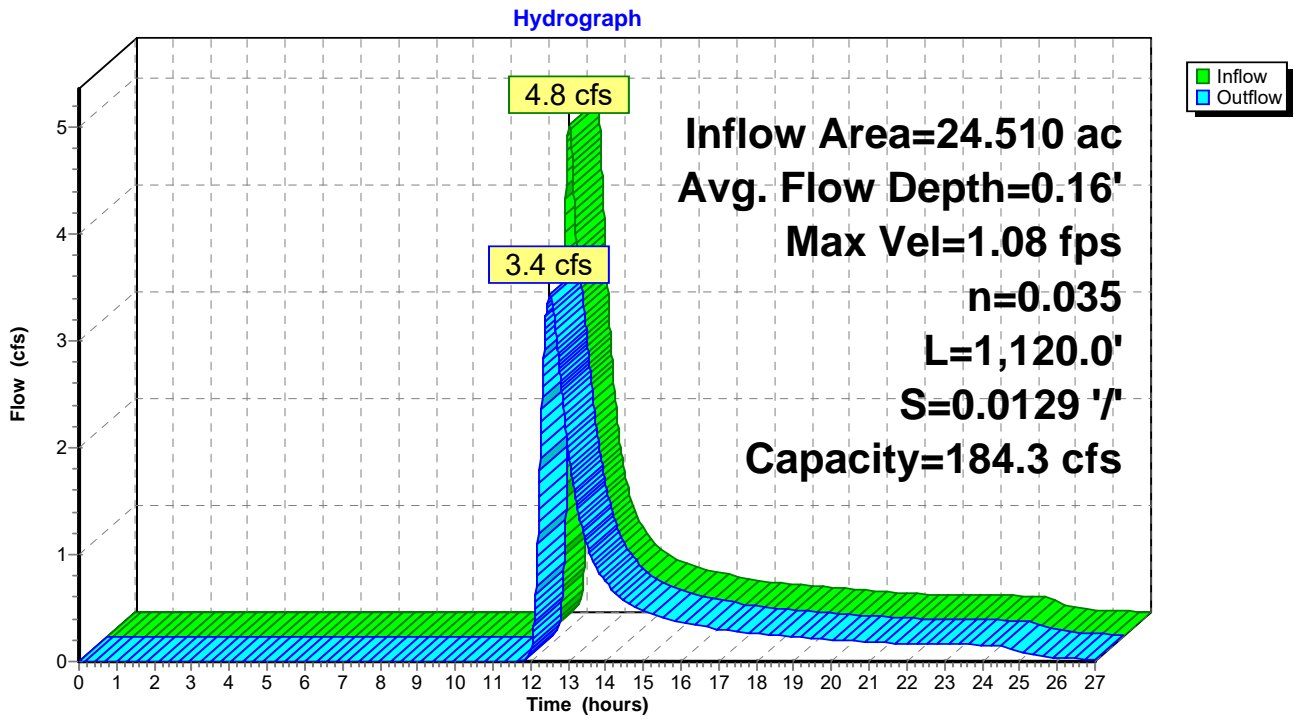
Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.08 fps, Min. Travel Time= 17.3 min
Avg. Velocity = 0.49 fps, Avg. Travel Time= 38.2 min

Peak Storage= 3,546 cf @ 12.50 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 29.89'
Bank-Full Depth= 1.00' Flow Area= 50.0 sf, Capacity= 184.3 cfs

75.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 1,120.0' Slope= 0.0129 '/'
Inlet Invert= 1,080.00', Outlet Invert= 1,065.50'



Reach RB1: WETLAND



Summary for Reach RB2: WETLAND

Inflow Area = 21.620 ac, 0.00% Impervious, Inflow Depth = 0.16" for 10-yr event
Inflow = 3.3 cfs @ 12.16 hrs, Volume= 0.282 af
Outflow = 2.7 cfs @ 12.27 hrs, Volume= 0.282 af, Atten= 18%, Lag= 6.5 min
Routed to Reach RB1 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.85 fps, Min. Travel Time= 9.5 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 24.4 min

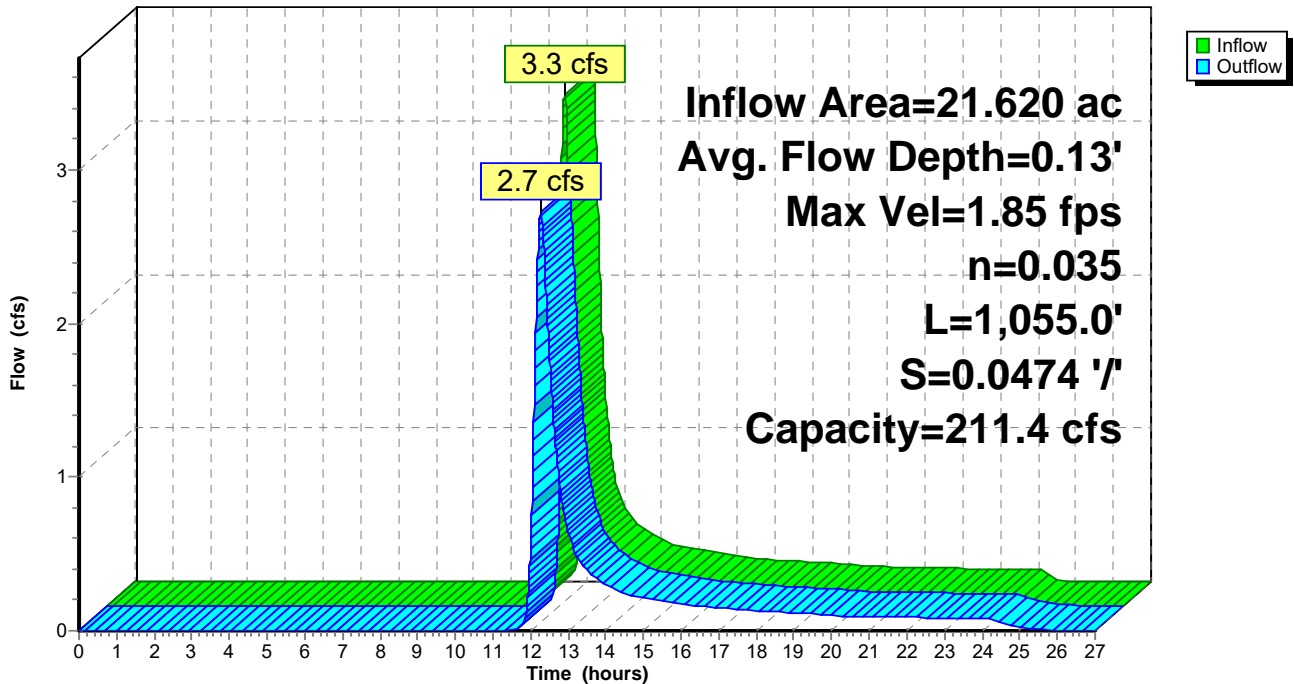
Peak Storage= 1,553 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.13', Surface Width= 16.47'
Bank-Full Depth= 1.00' Flow Area= 30.0 sf, Capacity= 211.4 cfs

45.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 1,055.0' Slope= 0.0474 '/'
Inlet Invert= 1,130.00', Outlet Invert= 1,080.00'



Reach RB2: WETLAND

Hydrograph



Summary for Reach RB4: WETLAND

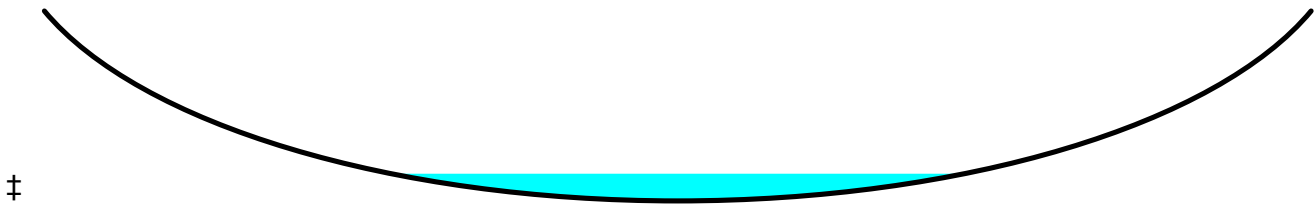
[62] Hint: Exceeded Reach RB5 OUTLET depth by 0.72' @ 24.97 hrs

Inflow Area = 2.890 ac, 6.23% Impervious, Inflow Depth = 1.05" for 10-yr event
 Inflow = 3.1 cfs @ 12.16 hrs, Volume= 0.254 af
 Outflow = 2.1 cfs @ 12.31 hrs, Volume= 0.253 af, Atten= 32%, Lag= 9.2 min
 Routed to Reach RB1 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Max. Velocity= 1.67 fps, Min. Travel Time= 16.0 min
 Avg. Velocity = 0.68 fps, Avg. Travel Time= 39.1 min

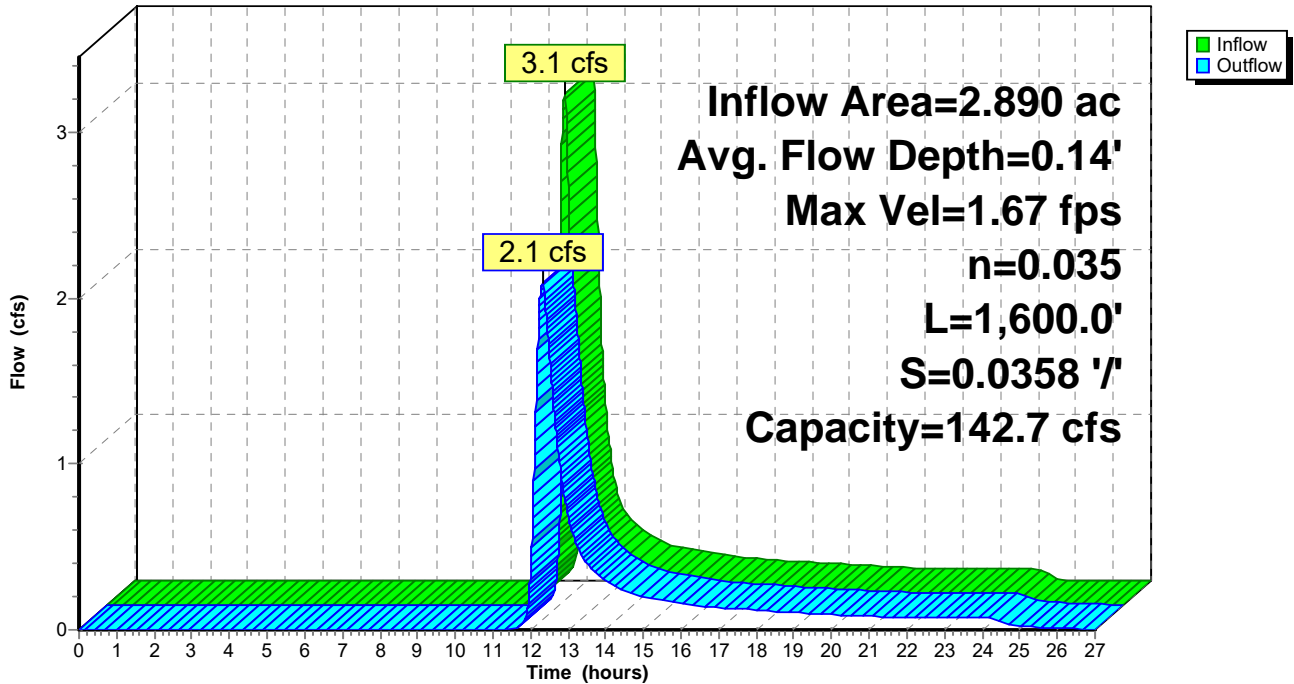
Peak Storage= 2,001 cf @ 12.31 hrs
 Average Depth at Peak Storage= 0.14' , Surface Width= 13.19'
 Bank-Full Depth= 1.00' Flow Area= 23.3 sf, Capacity= 142.7 cfs

35.00' x 1.00' deep Parabolic Channel, n= 0.035
 Length= 1,600.0' Slope= 0.0358 '/'
 Inlet Invert= 1,137.20', Outlet Invert= 1,080.00'



Reach RB4: WETLAND

Hydrograph



Summary for Reach RB5: CULVERT

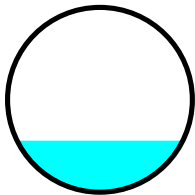
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2.890 ac, 6.23% Impervious, Inflow Depth = 1.05" for 10-yr event
Inflow = 3.1 cfs @ 12.15 hrs, Volume= 0.254 af
Outflow = 3.1 cfs @ 12.16 hrs, Volume= 0.254 af, Atten= 0%, Lag= 0.1 min
Routed to Reach RB4 : WETLAND

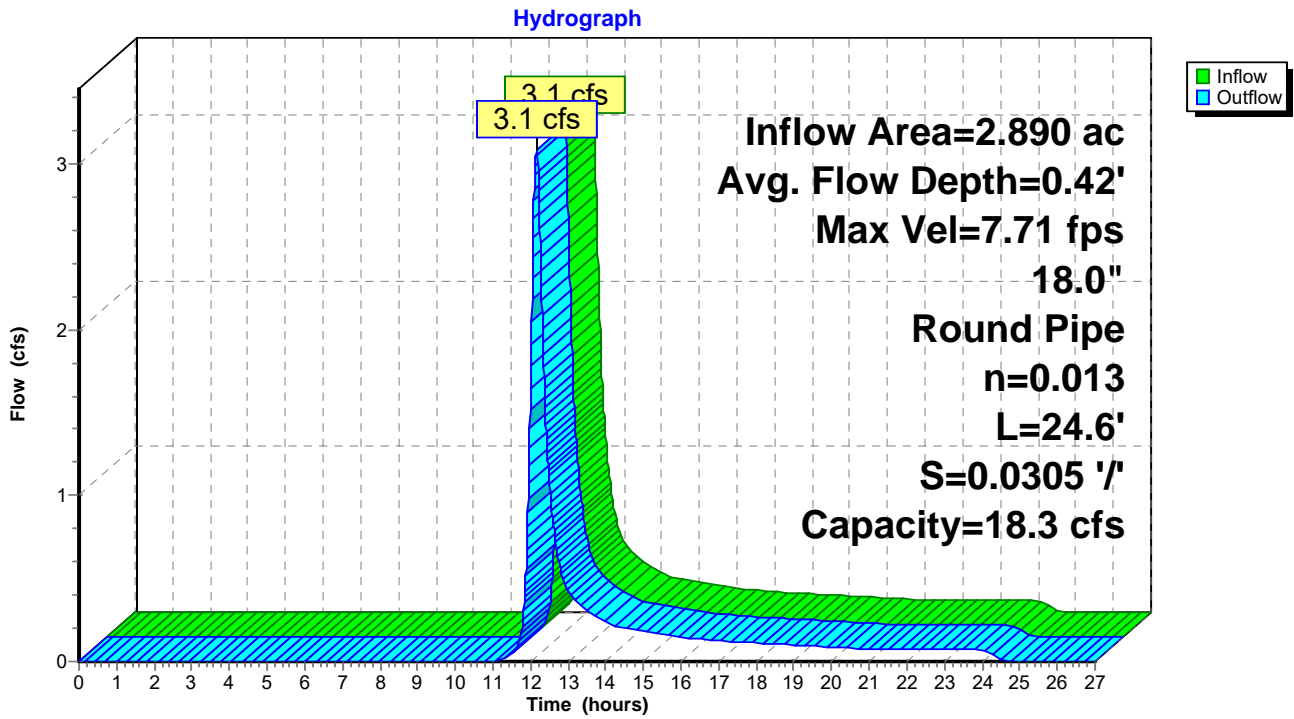
Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 7.71 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.1 min

Peak Storage= 10 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.42' , Surface Width= 1.34'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 18.3 cfs

18.0" Round Pipe
n= 0.013
Length= 24.6' Slope= 0.0305 '/'
Inlet Invert= 1,137.25', Outlet Invert= 1,136.50'



Reach RB5: CULVERT



Summary for Reach RB6: WETLAND

[62] Hint: Exceeded Reach RB7 OUTLET depth by 0.01' @ 15.05 hrs

Inflow Area = 11.010 ac, 0.00% Impervious, Inflow Depth = 0.02" for 10-yr event
 Inflow = 0.4 cfs @ 13.09 hrs, Volume= 0.022 af
 Outflow = 0.3 cfs @ 13.29 hrs, Volume= 0.022 af, Atten= 18%, Lag= 12.0 min
 Routed to Reach OUT-B : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Max. Velocity= 0.57 fps, Min. Travel Time= 14.0 min
 Avg. Velocity = 0.25 fps, Avg. Travel Time= 31.1 min

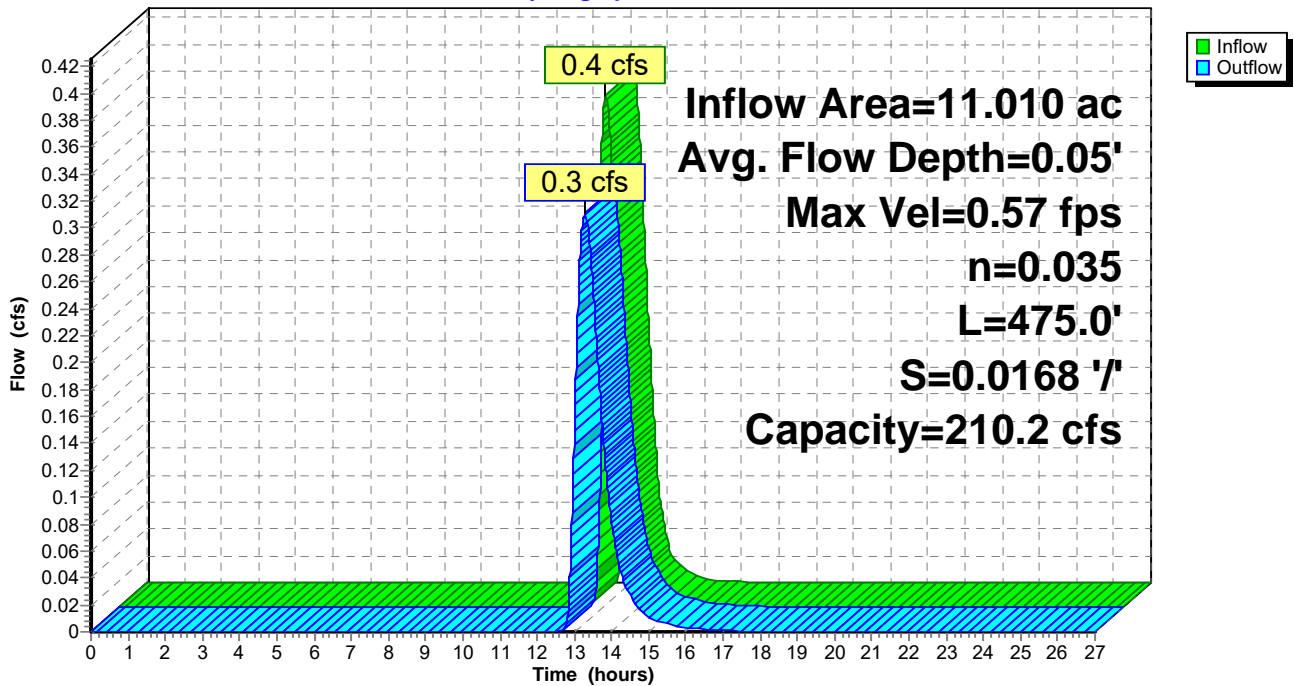
Peak Storage= 261 cf @ 13.29 hrs
 Average Depth at Peak Storage= 0.05' , Surface Width= 16.66'
 Bank-Full Depth= 1.00' Flow Area= 50.0 sf, Capacity= 210.2 cfs

75.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 475.0' Slope= 0.0168 '/'
 Inlet Invert= 1,070.00', Outlet Invert= 1,062.00'



Reach RB6: WETLAND

Hydrograph



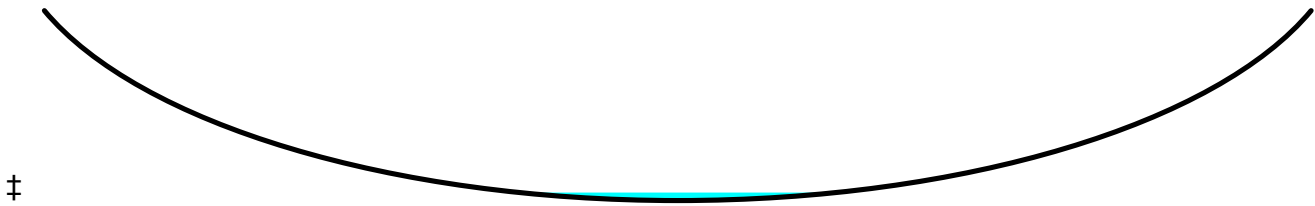
Summary for Reach RB7: WETLAND

Inflow Area = 11.010 ac, 0.00% Impervious, Inflow Depth = 0.02" for 10-yr event
 Inflow = 0.5 cfs @ 12.89 hrs, Volume= 0.022 af
 Outflow = 0.4 cfs @ 13.09 hrs, Volume= 0.022 af, Atten= 21%, Lag= 11.8 min
 Routed to Reach RB6 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Max. Velocity= 1.40 fps, Min. Travel Time= 12.5 min
 Avg. Velocity = 0.71 fps, Avg. Travel Time= 24.7 min

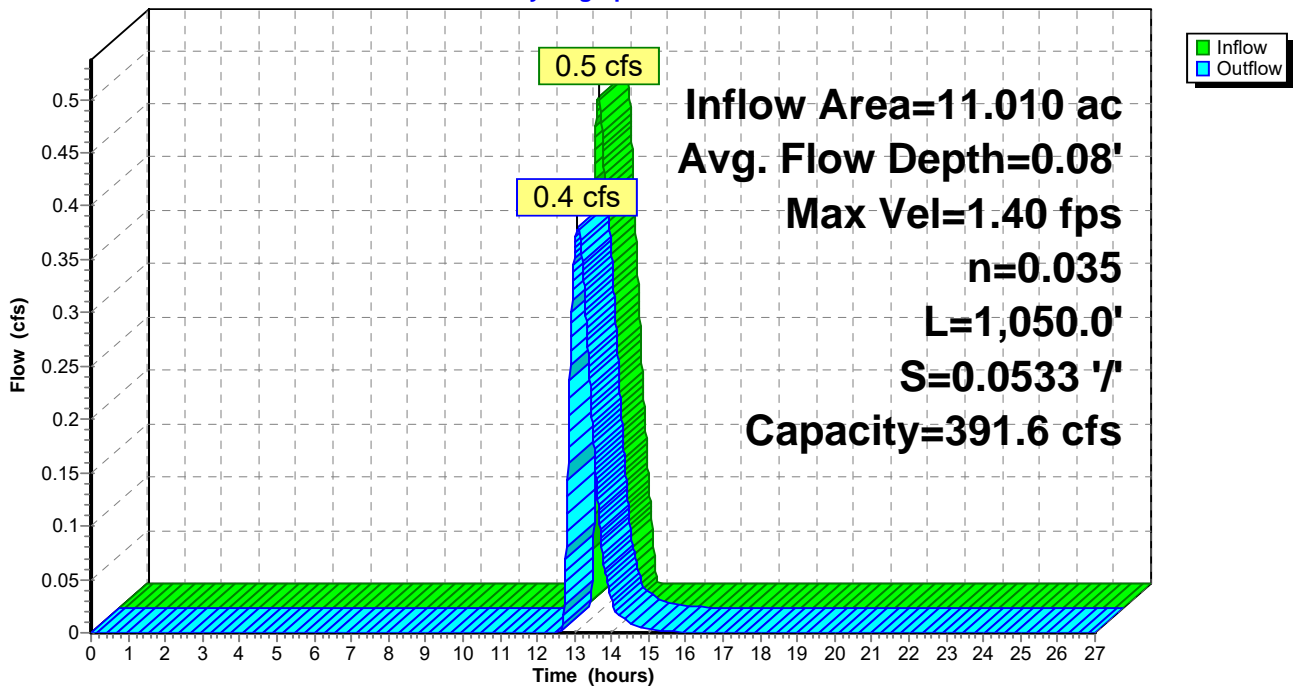
Peak Storage= 285 cf @ 13.09 hrs
 Average Depth at Peak Storage= 0.08' , Surface Width= 5.03'
 Bank-Full Depth= 2.00' Flow Area= 33.3 sf, Capacity= 391.6 cfs

25.00' x 2.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 1,050.0' Slope= 0.0533 '/'
 Inlet Invert= 1,126.00', Outlet Invert= 1,070.00'



Reach RB7: WETLAND

Hydrograph



Summary for Pond FB11: FOREBAY

Inflow Area = 11.010 ac, 0.00% Impervious, Inflow Depth = 1.16" for 10-yr event
 Inflow = 16.1 cfs @ 12.07 hrs, Volume= 1.062 af
 Outflow = 16.1 cfs @ 12.08 hrs, Volume= 1.037 af, Atten= 0%, Lag= 0.4 min
 Discarded = 0.3 cfs @ 12.08 hrs, Volume= 0.300 af
 Primary = 15.8 cfs @ 12.08 hrs, Volume= 0.738 af
 Routed to Pond P11 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,144.27' @ 12.08 hrs Surf.Area= 2,179 sf Storage= 3,640 cf

Plug-Flow detention time= 54.2 min calculated for 1.037 af (98% of inflow)
 Center-of-Mass det. time= 41.1 min (902.7 - 861.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,142.00'	4,149 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,142.00	1,025	0	0
1,144.00	2,040	3,065	3,065
1,144.50	2,295	1,084	4,149

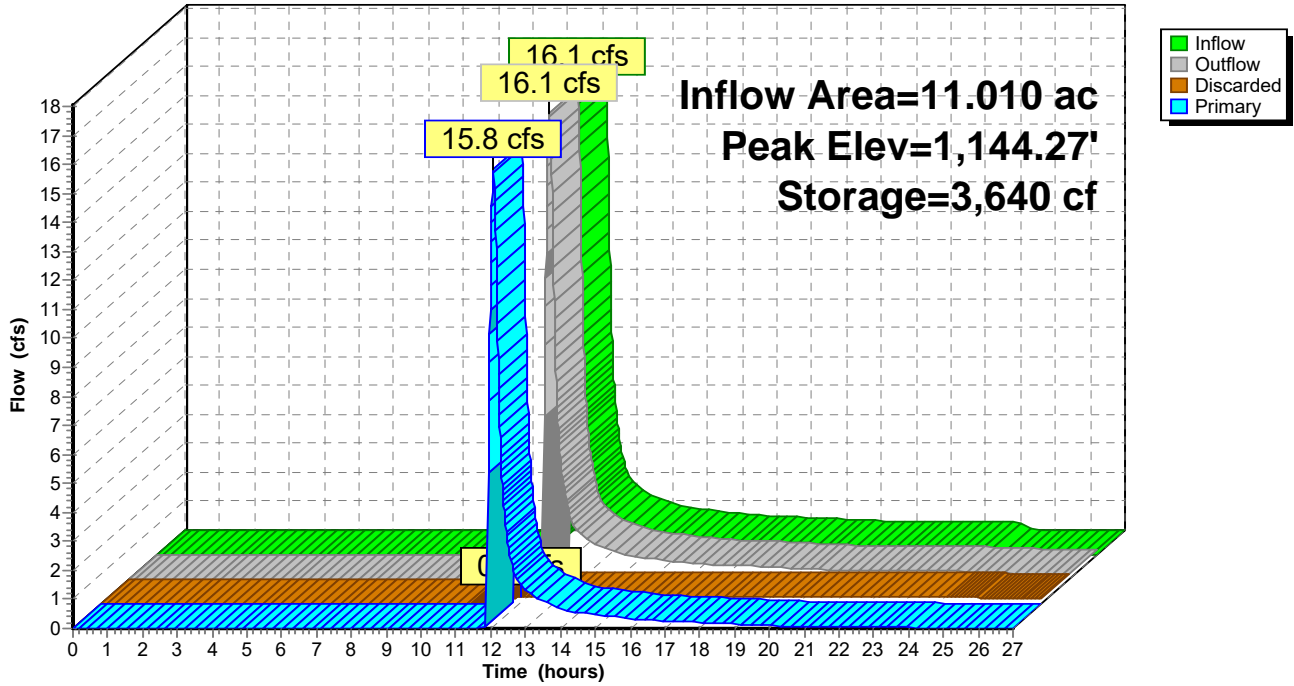
Device	Routing	Invert	Outlet Devices
#1	Primary	1,144.00'	45.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,142.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.3 cfs @ 12.08 hrs HW=1,144.27' (Free Discharge)
 ↳**2=Exfiltration** (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=15.8 cfs @ 12.08 hrs HW=1,144.27' TW=1,141.95' (Dynamic Tailwater)
 ↳**1=Broad-Crested Rectangular Weir** (Weir Controls 15.8 cfs @ 1.27 fps)

Pond FB11: FOREBAY

Hydrograph



Summary for Pond FB12: FOREBAY

Inflow Area = 18.230 ac, 0.00% Impervious, Inflow Depth = 1.15" for 10-yr event
 Inflow = 25.8 cfs @ 12.07 hrs, Volume= 1.744 af
 Outflow = 22.4 cfs @ 12.14 hrs, Volume= 1.745 af, Atten= 13%, Lag= 4.1 min
 Discarded = 1.0 cfs @ 12.14 hrs, Volume= 1.135 af
 Primary = 21.4 cfs @ 12.14 hrs, Volume= 0.610 af
 Routed to Pond P12 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,139.22' @ 12.14 hrs Surf.Area= 8,831 sf Storage= 16,929 cf

Plug-Flow detention time= 124.1 min calculated for 1.744 af (100% of inflow)
 Center-of-Mass det. time= 124.2 min (986.2 - 862.0)

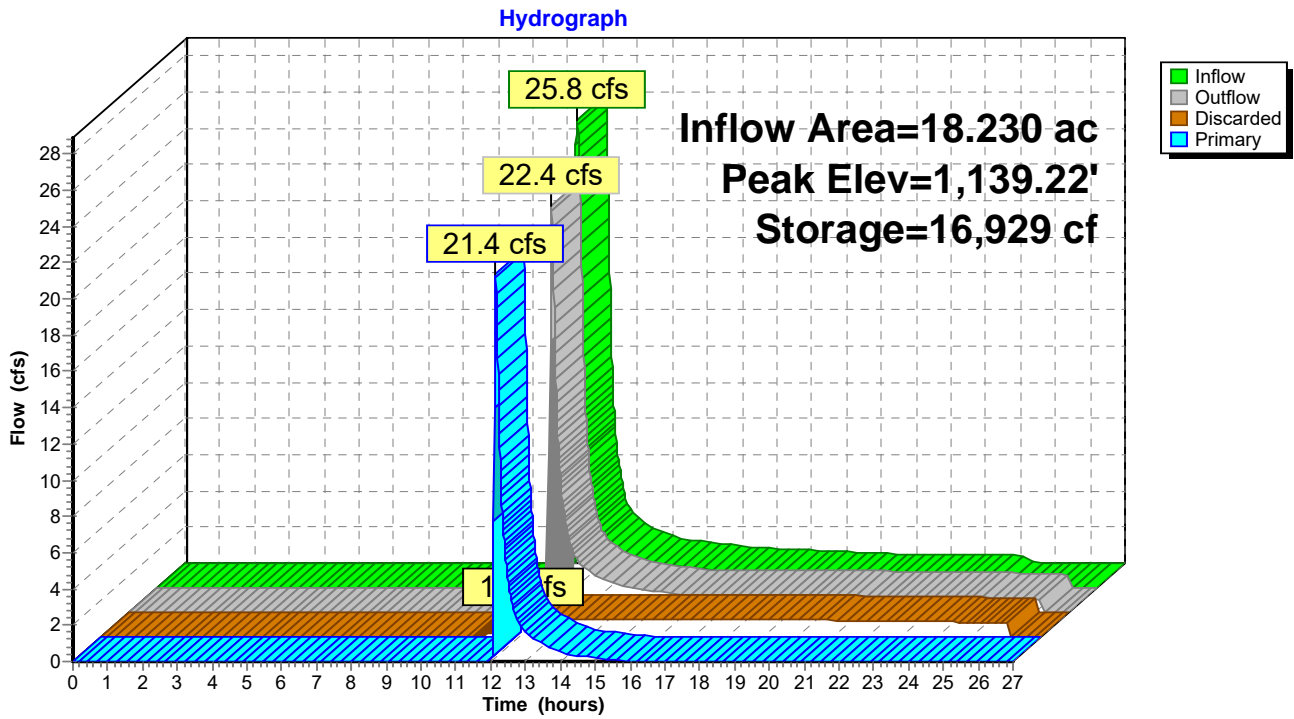
Volume	Invert	Avail.Storage	Storage Description
#1	1,137.00'	19,431 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,137.00	6,410	0	0
1,139.00	8,590	15,000	15,000
1,139.50	9,135	4,431	19,431

Device	Routing	Invert	Outlet Devices
#1	Primary	1,139.00'	85.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,137.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.0 cfs @ 12.14 hrs HW=1,139.22' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 1.0 cfs)

Primary OutFlow Max=21.3 cfs @ 12.14 hrs HW=1,139.22' TW=1,134.04' (Dynamic Tailwater)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 21.3 cfs @ 1.13 fps)

Pond FB12: FOREBAY



Summary for Pond FB13: FOREBAY

Inflow Area = 17.860 ac, 0.00% Impervious, Inflow Depth = 1.16" for 10-yr event
 Inflow = 24.6 cfs @ 12.08 hrs, Volume= 1.721 af
 Outflow = 24.4 cfs @ 12.10 hrs, Volume= 1.676 af, Atten= 1%, Lag= 1.0 min
 Discarded = 0.6 cfs @ 12.10 hrs, Volume= 0.745 af
 Primary = 23.8 cfs @ 12.10 hrs, Volume= 0.931 af
 Routed to Pond P13 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,167.35' @ 12.10 hrs Surf.Area= 5,451 sf Storage= 10,331 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 74.3 min (936.9 - 862.5)

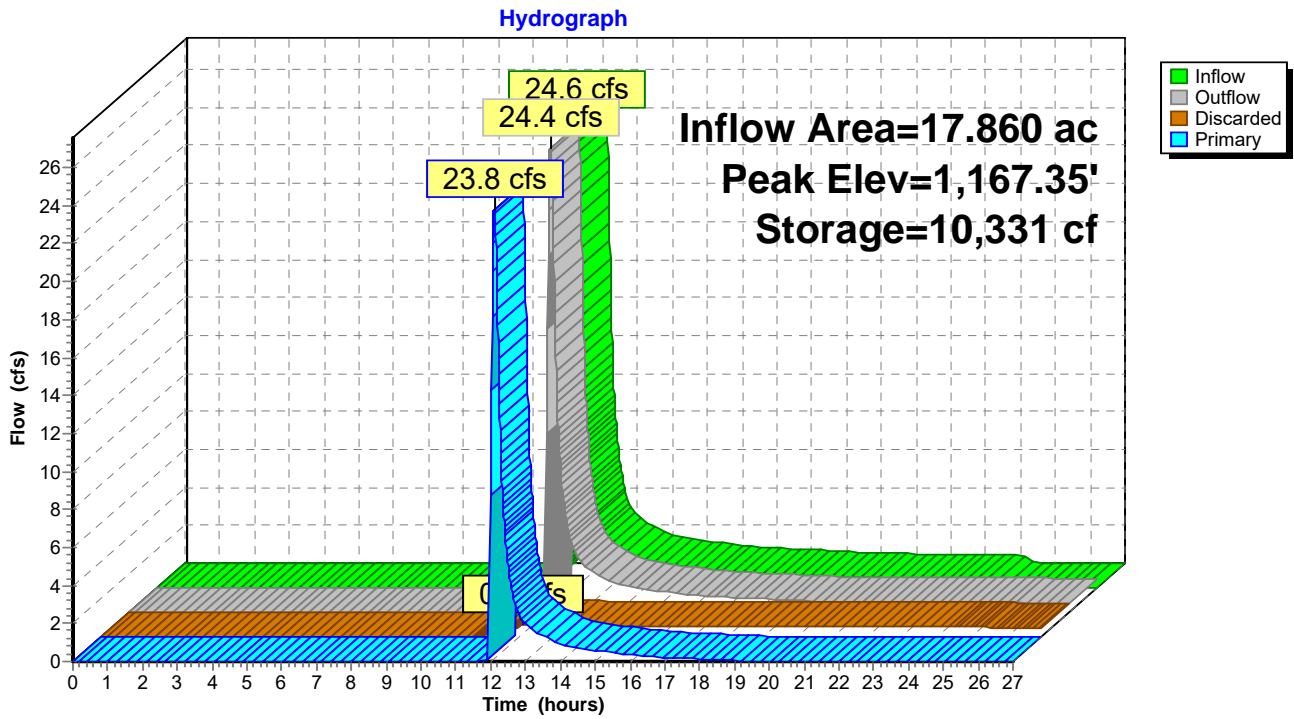
Volume	Invert	Avail.Storage	Storage Description
#1	1,165.00'	11,155 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,165.00	3,340	0	0
1,167.00	5,135	8,475	8,475
1,167.50	5,585	2,680	11,155

Device	Routing	Invert	Outlet Devices
#1	Primary	1,167.00'	45.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,165.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.6 cfs @ 12.10 hrs HW=1,167.35' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.6 cfs)

Primary OutFlow Max=23.8 cfs @ 12.10 hrs HW=1,167.35' TW=1,163.21' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 23.8 cfs @ 1.47 fps)

Pond FB13: FOREBAY



Summary for Pond P11: INFILTRATION BASIN

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=109)

Inflow Area = 11.010 ac, 0.00% Impervious, Inflow Depth = 0.80" for 10-yr event
 Inflow = 15.8 cfs @ 12.08 hrs, Volume= 0.738 af
 Outflow = 1.5 cfs @ 12.89 hrs, Volume= 0.738 af, Atten= 91%, Lag= 48.9 min
 Discarded = 1.0 cfs @ 12.89 hrs, Volume= 0.716 af
 Primary = 0.5 cfs @ 12.89 hrs, Volume= 0.022 af
 Routed to Reach RB7 : WETLAND
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RB7 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,143.44' @ 12.89 hrs Surf.Area= 8,417 sf Storage= 17,225 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 189.9 min (997.1 - 807.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,141.00'	22,080 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,141.00	5,680	0	0
1,144.00	9,040	22,080	22,080

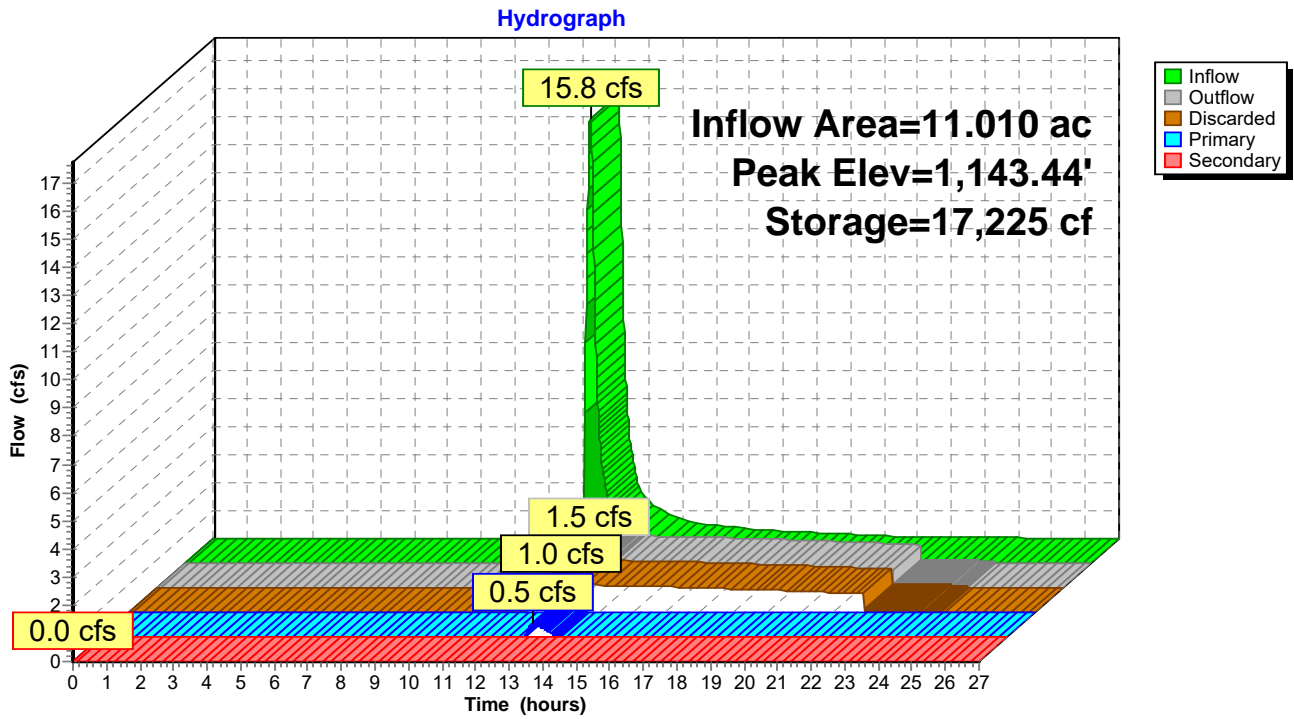
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,141.00'	5.000 in/hr Exfiltration over Surface area
#2	Primary	1,140.00'	24.0" Round Culvert L= 87.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,140.00' / 1,126.00' S= 0.1607 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#3	Device 2	1,143.40'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,143.50'	10.0' long + 3.0 '/' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=1.0 cfs @ 12.89 hrs HW=1,143.44' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.0 cfs)

Primary OutFlow Max=0.5 cfs @ 12.89 hrs HW=1,143.44' TW=1,126.07' (Dynamic Tailwater)
 ↑2=Culvert (Passes 0.5 cfs of 23.6 cfs potential flow)
 ↑3=Orifice/Grate (Weir Controls 0.5 cfs @ 0.68 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,141.00' TW=1,126.00' (Dynamic Tailwater)
 ↑4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P11: INFILTRATION BASIN



Summary for Pond P12: INFILTRATION BASIN

Inflow Area = 18.230 ac, 0.00% Impervious, Inflow Depth = 0.40" for 10-yr event
 Inflow = 21.4 cfs @ 12.14 hrs, Volume= 0.610 af
 Outflow = 6.4 cfs @ 12.39 hrs, Volume= 0.610 af, Atten= 70%, Lag= 15.1 min
 Discarded = 6.4 cfs @ 12.39 hrs, Volume= 0.610 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RB2 : WETLAND
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RB2 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,134.14' @ 12.39 hrs Surf.Area= 55,531 sf Storage= 7,813 cf

Plug-Flow detention time= 10.7 min calculated for 0.609 af (100% of inflow)
 Center-of-Mass det. time= 10.7 min (768.2 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,134.00'	116,305 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,134.00	55,100	0	0
1,136.00	61,205	116,305	116,305

Device	Routing	Invert	Outlet Devices
#1	Primary	1,132.00'	24.0" Round Culvert L= 64.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,132.00' / 1,130.00' S= 0.0308 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Discarded	1,134.00'	5.000 in/hr Exfiltration over Surface area Phase-In= 0.01'
#3	Secondary	1,135.50'	10.0' long + 3.0 '/' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#4	Device 1	1,135.40'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=6.4 cfs @ 12.39 hrs HW=1,134.14' (Free Discharge)

↑ **2=Exfiltration** (Exfiltration Controls 6.4 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,134.00' TW=1,130.00' (Dynamic Tailwater)

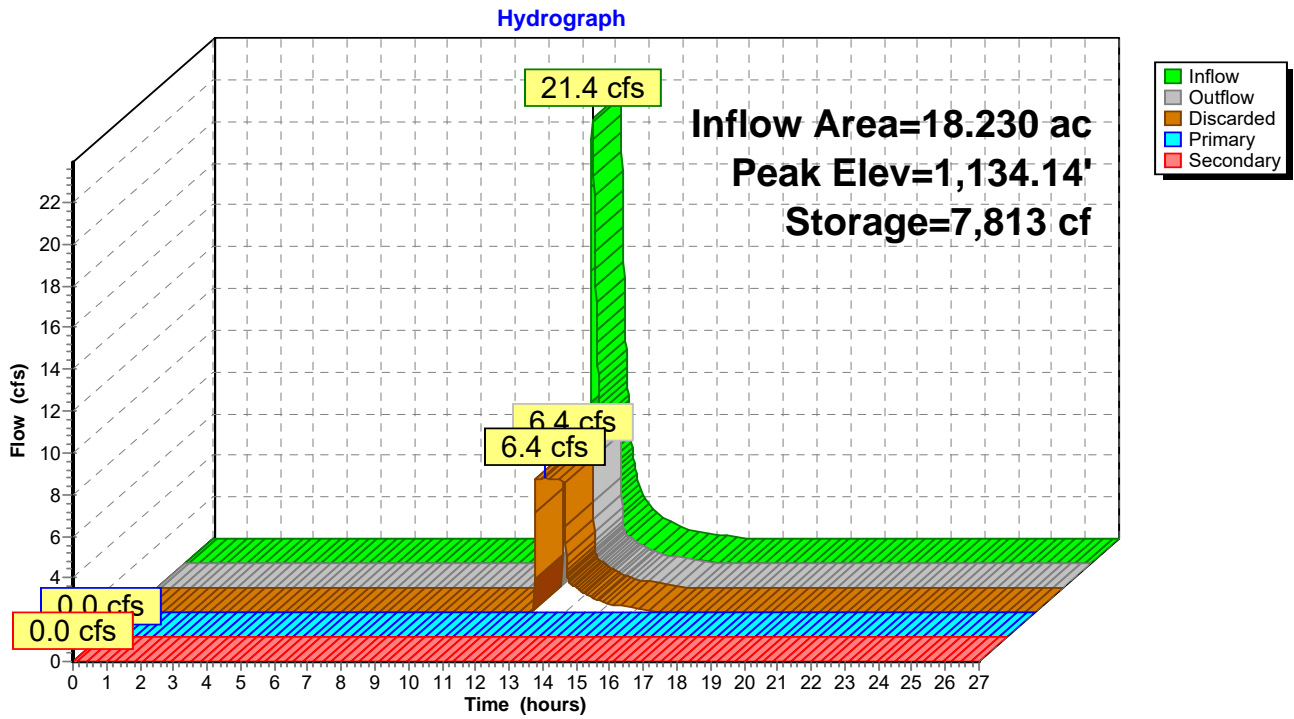
↑ **1=Culvert** (Passes 0.0 cfs of 15.1 cfs potential flow)

↑ **4=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,134.00' TW=1,130.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond P12: INFILTRATION BASIN



Summary for Pond P13: INFILTRATION BASIN

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=186)

Inflow Area = 17.860 ac, 0.00% Impervious, Inflow Depth = 0.63" for 10-yr event
 Inflow = 23.8 cfs @ 12.10 hrs, Volume= 0.931 af
 Outflow = 2.9 cfs @ 12.72 hrs, Volume= 0.931 af, Atten= 88%, Lag= 37.2 min
 Discarded = 2.9 cfs @ 12.72 hrs, Volume= 0.931 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RA1 : WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RA1 : WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,163.80' @ 12.72 hrs Surf.Area= 25,212 sf Storage= 19,520 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 65.4 min (842.2 - 776.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,163.00'	110,640 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,163.00	23,580	0	0
1,167.00	31,740	110,640	110,640

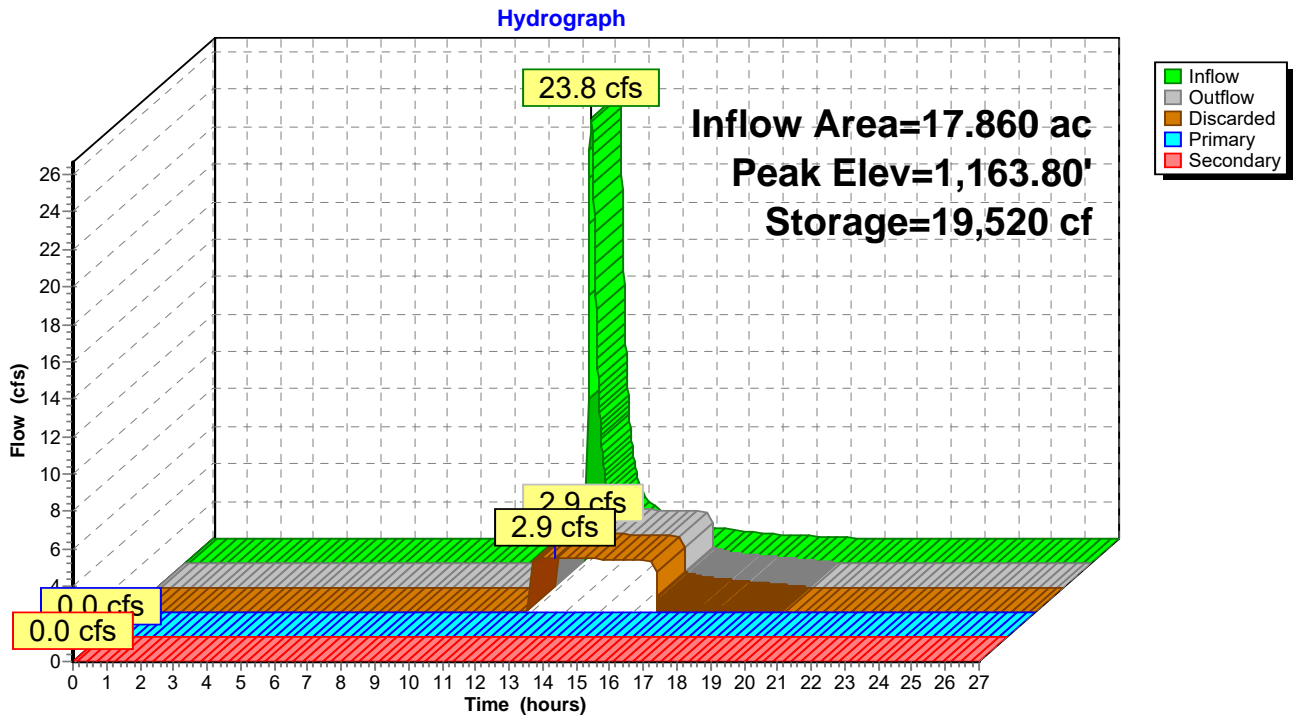
Device	Routing	Invert	Outlet Devices
#1	Primary	1,163.00'	24.0" Round Culvert L= 74.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,163.00' / 1,160.00' S= 0.0403 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	1,166.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#3	Device 1	1,166.40'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Discarded	1,163.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=2.9 cfs @ 12.72 hrs HW=1,163.80' (Free Discharge)
 ↑4=Exfiltration (Exfiltration Controls 2.9 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,163.00' TW=1,160.00' (Dynamic Tailwater)
 ↑1=Culvert (Controls 0.0 cfs)
 ↑3=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,163.00' TW=1,160.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P13: INFILTRATION BASIN



Summary for Pond PHW-28: HEADWALL

[57] Hint: Peaked at 1,177.07' (Flood elevation advised)

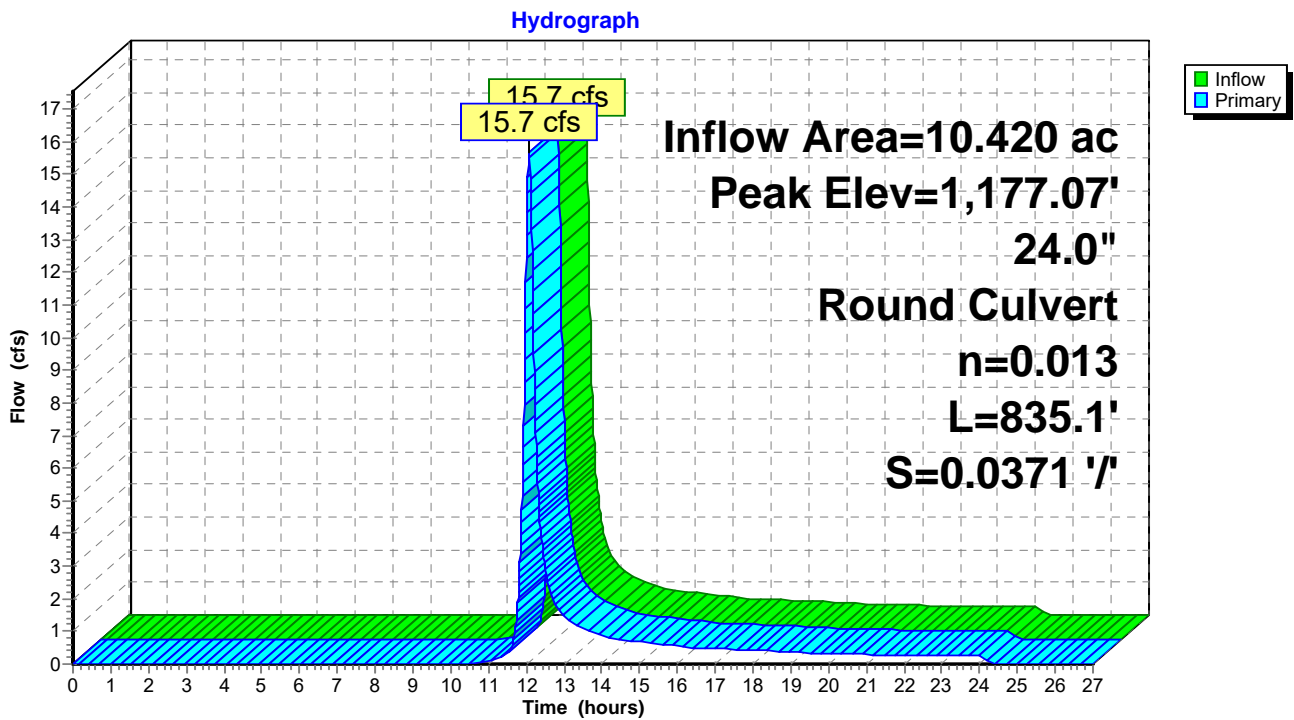
Inflow Area = 10.420 ac, 0.00% Impervious, Inflow Depth = 1.17" for 10-yr event
 Inflow = 15.7 cfs @ 12.07 hrs, Volume= 1.015 af
 Outflow = 15.7 cfs @ 12.07 hrs, Volume= 1.015 af, Atten= 0%, Lag= 0.0 min
 Primary = 15.7 cfs @ 12.07 hrs, Volume= 1.015 af
 Routed to Pond FB11 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,177.07' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,175.00'	24.0" Round Culvert L= 835.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,175.00' / 1,144.00' S= 0.0371 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=15.6 cfs @ 12.07 hrs HW=1,177.07' TW=1,144.27' (Dynamic Tailwater)
 ←**1=Culvert** (Inlet Controls 15.6 cfs @ 4.98 fps)

Pond PHW-28: HEADWALL



Summary for Pond PHW31: HEADWALL

[57] Hint: Peaked at 1,184.62' (Flood elevation advised)

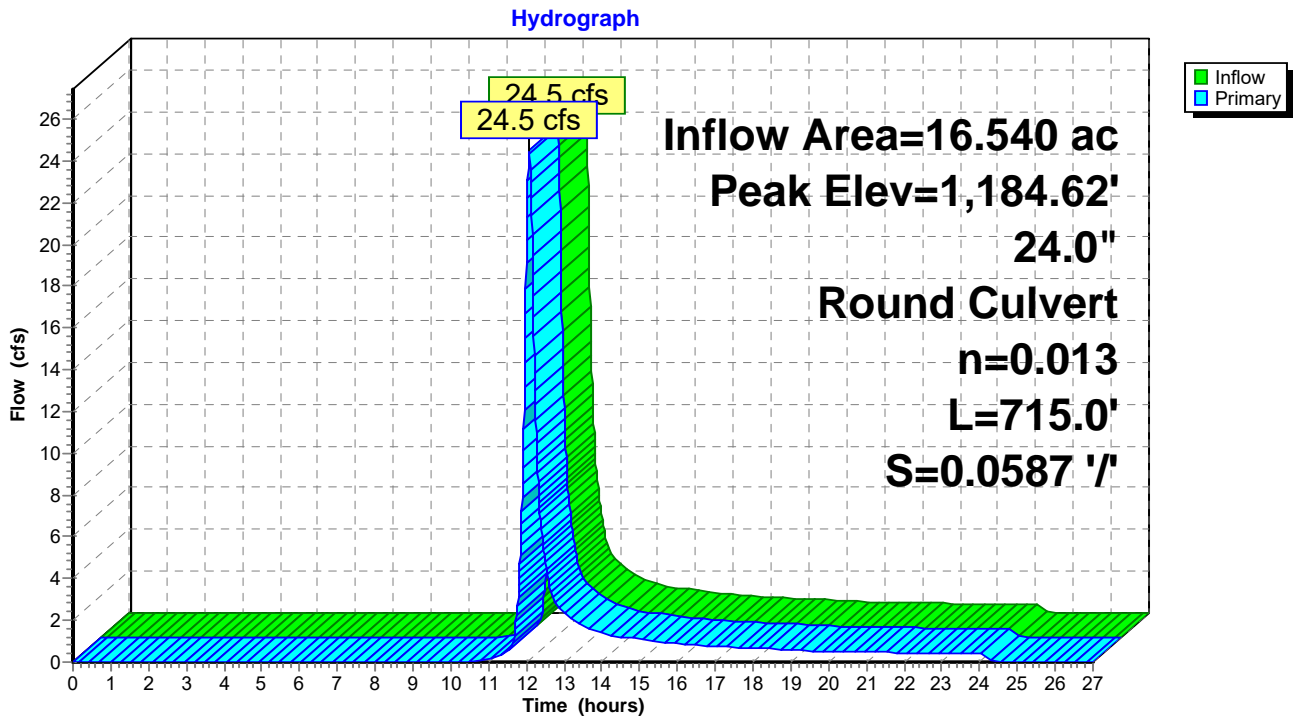
Inflow Area = 16.540 ac, 0.00% Impervious, Inflow Depth = 1.17" for 10-yr event
 Inflow = 24.5 cfs @ 12.08 hrs, Volume= 1.611 af
 Outflow = 24.5 cfs @ 12.08 hrs, Volume= 1.611 af, Atten= 0%, Lag= 0.0 min
 Primary = 24.5 cfs @ 12.08 hrs, Volume= 1.611 af
 Routed to Pond FB12 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,184.62' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,181.00'	24.0" Round Culvert L= 715.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,181.00' / 1,139.00' S= 0.0587 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=24.5 cfs @ 12.08 hrs HW=1,184.62' TW=1,138.99' (Dynamic Tailwater)
 ↳ **1=Culvert** (Inlet Controls 24.5 cfs @ 7.79 fps)

Pond PHW31: HEADWALL



Summary for Pond PHW34: HEADWALL

[57] Hint: Peaked at 1,199.46' (Flood elevation advised)

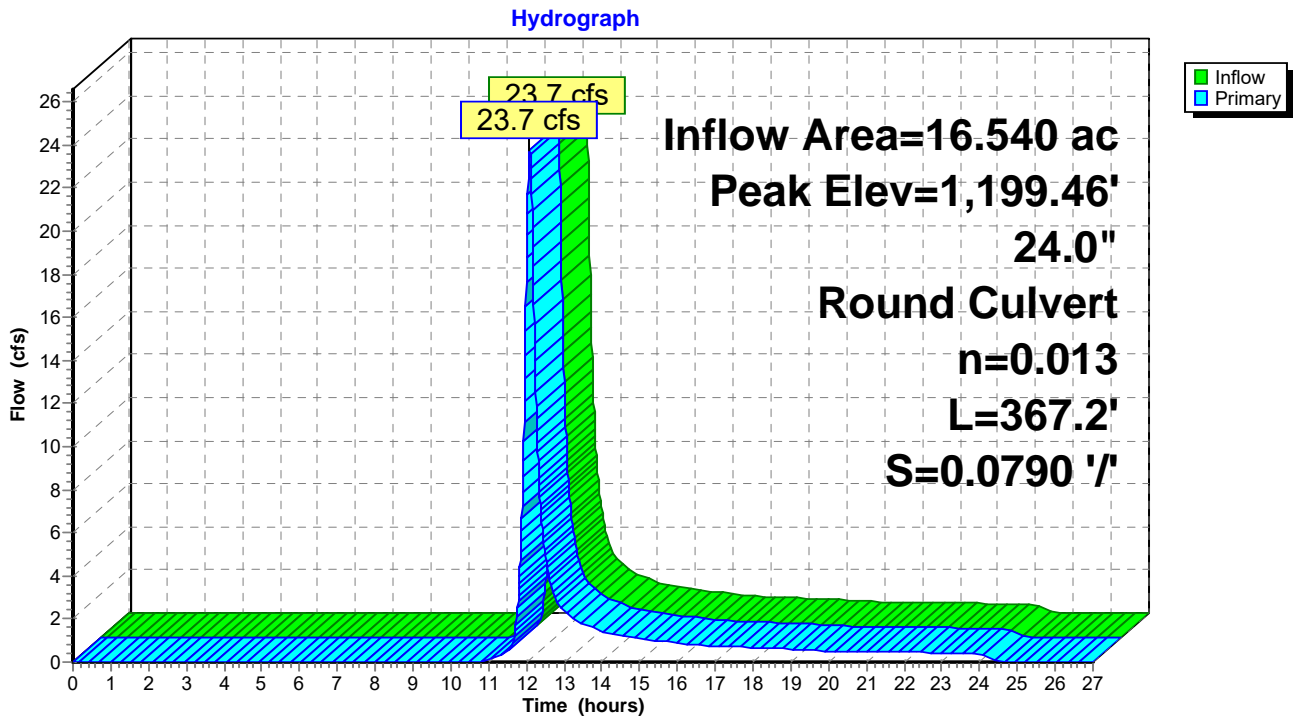
Inflow Area = 16.540 ac, 0.00% Impervious, Inflow Depth = 1.17" for 10-yr event
 Inflow = 23.7 cfs @ 12.09 hrs, Volume= 1.611 af
 Outflow = 23.7 cfs @ 12.09 hrs, Volume= 1.611 af, Atten= 0%, Lag= 0.0 min
 Primary = 23.7 cfs @ 12.09 hrs, Volume= 1.611 af
 Routed to Pond FB13 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,199.46' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,196.00'	24.0" Round Culvert L= 367.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,196.00' / 1,167.00' S= 0.0790 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=23.7 cfs @ 12.09 hrs HW=1,199.46' TW=1,167.35' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 23.7 cfs @ 7.55 fps)

Pond PHW34: HEADWALL



Summary for Pond RB3: CULVERT

Inflow Area = 3.390 ac, 0.00% Impervious, Inflow Depth = 1.00" for 10-yr event
 Inflow = 3.3 cfs @ 12.16 hrs, Volume= 0.282 af
 Outflow = 3.3 cfs @ 12.16 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.3 cfs @ 12.16 hrs, Volume= 0.282 af
 Routed to Reach RB2 : WETLAND
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RB2 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 1,134.20' @ 12.16 hrs Surf.Area= 1 sf Storage= 1 cf

Plug-Flow detention time= 0.0 min calculated for 0.282 af (100% of inflow)
 Center-of-Mass det. time= 0.0 min (877.8 - 877.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,133.25'	738 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,133.25	0	0	0
1,135.00	2	2	2
1,136.00	1,470	736	738

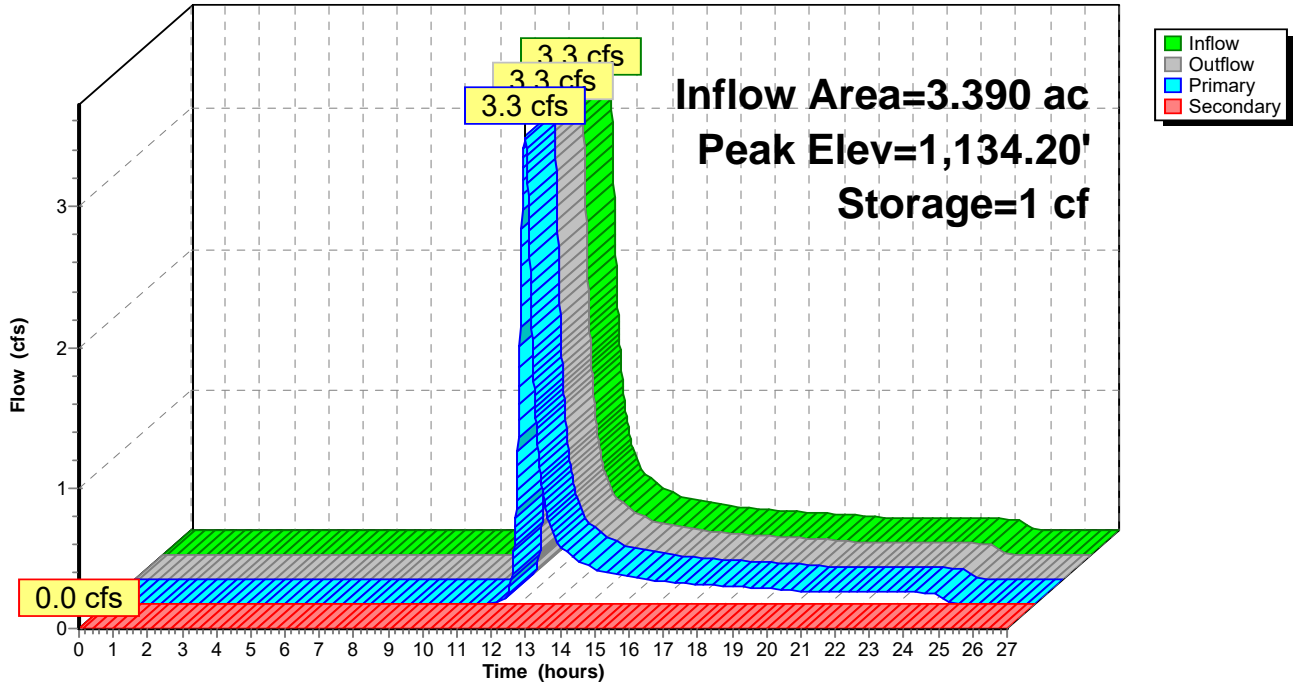
Device	Routing	Invert	Outlet Devices
#1	Primary	1,133.25'	15.0" Round Culvert L= 26.3' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,133.25' / 1,132.00' S= 0.0475 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	1,135.50'	45.0' long + 10.0 ' SideZ x 24.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

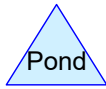
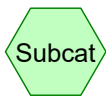
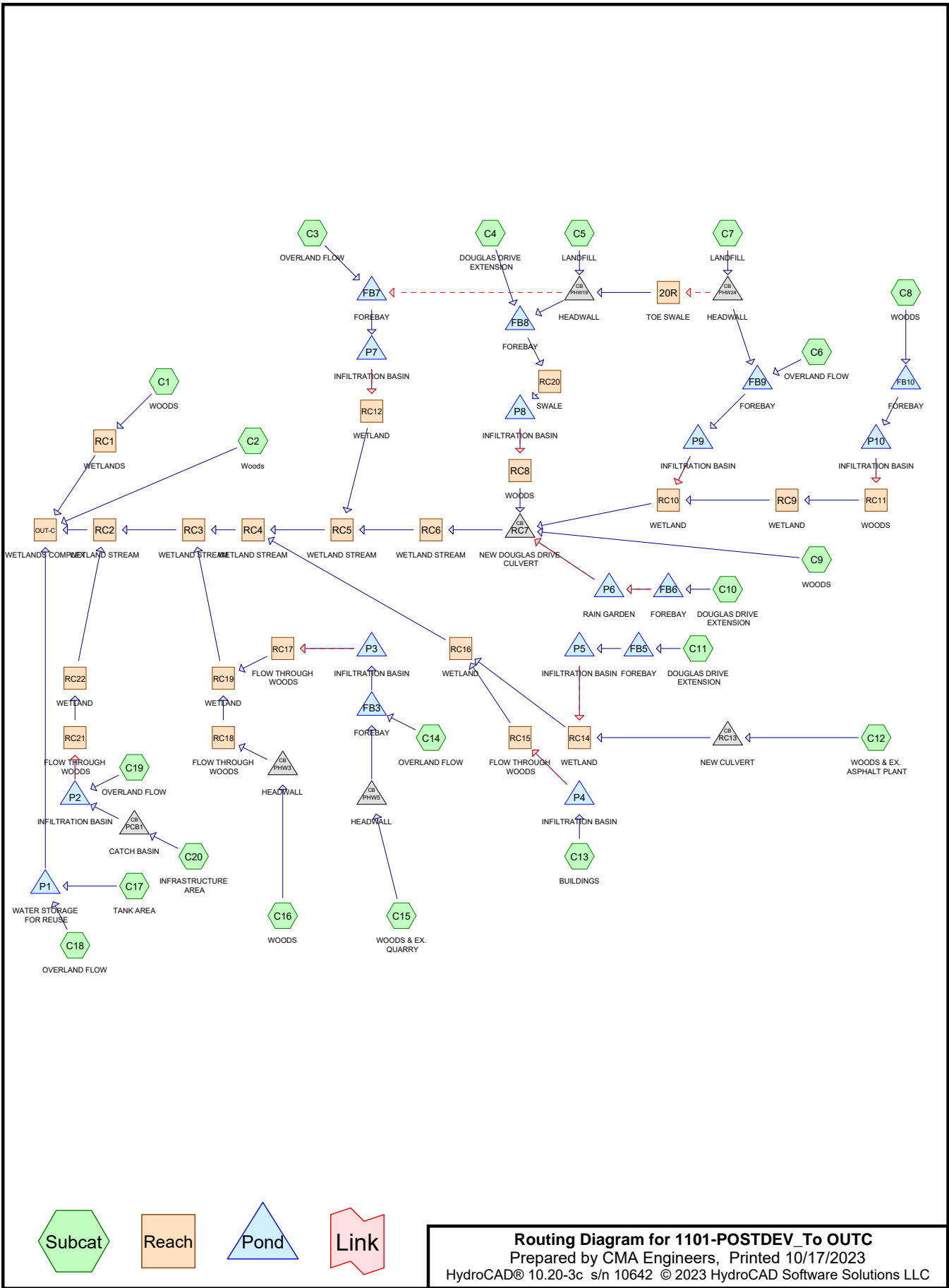
Primary OutFlow Max=3.3 cfs @ 12.16 hrs HW=1,134.20' TW=1,130.12' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 3.3 cfs @ 3.32 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,133.25' TW=1,130.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RB3: CULVERT

Hydrograph





Routing Diagram for 1101-POSTDEV_To OUTC
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Project Notes

Rainfall events imported from "1101 Pre-development.hcp"

1101-POSTDEV_To OUTC

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-yr	Type II 24-hr		Default	24.00	1	3.31	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.400	77	Fallow, bare soil, HSG A (C15)
9.740	86	Fallow, bare soil, HSG B (C12, C15)
0.640	96	Gravel surface, HSG A (C11, C12, C15)
2.170	96	Gravel surface, HSG B (C10, C11, C12, C15, C2, C7)
3.150	96	Gravel surface, HSG C (C10, C11, C14, C15, C16, C2, C20, C4, C5, C7)
0.080	96	Gravel surface, HSG D (C10, C5)
30.460	74	Landfill, Grass (C5, C7)
1.970	30	Meadow, non-grazed, HSG A (C1, C11, C12, C13, C15, C2, C3)
8.770	58	Meadow, non-grazed, HSG B (C11, C12, C15, C16, C2, C7, C8, C9)
25.570	71	Meadow, non-grazed, HSG C (C1, C10, C11, C13, C14, C15, C16, C19, C2, C20, C3, C4, C5, C6, C7, C8, C9)
2.520	78	Meadow, non-grazed, HSG D (C1, C10, C2, C4, C5, C9)
0.600	98	Paved parking, HSG A (C11, C13, C15)
0.270	98	Paved parking, HSG B (C10, C11, C15, C2)
5.930	98	Paved parking, HSG C (C10, C11, C13, C15, C17, C2, C20, C4)
0.020	98	Paved parking, HSG D (C10)
0.010	98	Roofs, HSG A (C11)
0.610	98	Roofs, HSG C (C11, C13, C20)
0.020	98	Unconnected roofs, HSG A (C12)
0.090	98	Unconnected roofs, HSG B (C12)
0.270	98	Water Surface, HSG C (C18)
10.550	30	Woods, Good, HSG A (C1, C12, C2)
53.240	55	Woods, Good, HSG B (C10, C12, C15, C16, C2, C8, C9)
102.380	70	Woods, Good, HSG C (C1, C12, C2, C3, C8, C9)
10.280	77	Woods, Good, HSG D (C1, C12, C2, C9)
270.740	68	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
15.190	HSG A	C1, C11, C12, C13, C15, C2, C3
74.280	HSG B	C10, C11, C12, C15, C16, C2, C7, C8, C9
137.910	HSG C	C1, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C2, C20, C3, C4, C5, C6, C7, C8, C9
12.900	HSG D	C1, C10, C12, C2, C4, C5, C9
30.460	Other	C5, C7
270.740		TOTAL AREA

1101-POSTDEV_To OUTC

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Type II 24-hr 10-yr Rainfall=3.31"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: WOODS	Runoff Area=39.170 ac 0.00% Impervious Runoff Depth=0.61" Flow Length=2,195' Tc=40.4 min CN=64 Runoff=12.7 cfs 1.995 af
Subcatchment C10: DOUGLAS DRIVE	Runoff Area=2.010 ac 31.34% Impervious Runoff Depth=1.35" Flow Length=210' Tc=17.3 min CN=78 Runoff=3.2 cfs 0.227 af
Subcatchment C11: DOUGLAS DRIVE	Runoff Area=1.850 ac 73.51% Impervious Runoff Depth=2.27" Tc=6.0 min CN=90 Runoff=7.2 cfs 0.350 af
Subcatchment C12: WOODS & EX.	Runoff Area=54.070 ac 0.20% Impervious Runoff Depth=0.75" Flow Length=3,290' Tc=43.9 min CN=67 Runoff=21.9 cfs 3.359 af
Subcatchment C13: BUILDINGS	Runoff Area=0.970 ac 40.21% Impervious Runoff Depth=1.49" Tc=6.0 min CN=80 Runoff=2.6 cfs 0.120 af
Subcatchment C14: OVERLAND FLOW	Runoff Area=0.930 ac 0.00% Impervious Runoff Depth=1.00" Tc=6.0 min CN=72 Runoff=1.6 cfs 0.077 af
Subcatchment C15: WOODS & EX. QUARRY	Runoff Area=15.910 ac 2.77% Impervious Runoff Depth=0.75" Flow Length=1,520' Tc=37.9 min CN=67 Runoff=7.2 cfs 0.988 af
Subcatchment C16: WOODS	Runoff Area=6.130 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=950' Tc=39.0 min CN=56 Runoff=0.7 cfs 0.161 af
Subcatchment C17: TANK AREA	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth=3.08" Tc=6.0 min CN=98 Runoff=1.0 cfs 0.056 af
Subcatchment C18: OVERLAND FLOW	Runoff Area=0.270 ac 100.00% Impervious Runoff Depth=3.08" Tc=6.0 min CN=98 Runoff=1.3 cfs 0.069 af
Subcatchment C19: OVERLAND FLOW	Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.94" Tc=6.0 min CN=71 Runoff=1.7 cfs 0.083 af
Subcatchment C2: Woods	Runoff Area=61.700 ac 0.26% Impervious Runoff Depth=0.75" Flow Length=3,605' Tc=29.2 min CN=67 Runoff=33.6 cfs 3.833 af
Subcatchment C20: INFRASTRUCTURE	Runoff Area=5.960 ac 66.44% Impervious Runoff Depth=2.18" Tc=6.0 min CN=89 Runoff=22.6 cfs 1.084 af
Subcatchment C3: OVERLAND FLOW	Runoff Area=0.780 ac 0.00% Impervious Runoff Depth=0.70" Flow Length=100' Slope=0.1300 '/' Tc=20.8 min CN=66 Runoff=0.5 cfs 0.045 af
Subcatchment C4: DOUGLAS DRIVE	Runoff Area=1.420 ac 19.72% Impervious Runoff Depth=1.35" Tc=6.0 min CN=78 Runoff=3.4 cfs 0.160 af
Subcatchment C5: LANDFILL	Runoff Area=12.500 ac 0.00% Impervious Runoff Depth=1.23" Flow Length=1,530' Tc=14.9 min CN=76 Runoff=19.6 cfs 1.280 af

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Type II 24-hr 10-yr Rainfall=3.31"

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Subcatchment C6: OVERLAND FLOW	Runoff Area=1.290 ac 0.00% Impervious Runoff Depth=0.94" Tc=6.0 min CN=71 Runoff=2.1 cfs 0.102 af
Subcatchment C7: LANDFILL	Runoff Area=23.350 ac 0.00% Impervious Runoff Depth=1.17" Flow Length=2,945' Tc=25.0 min CN=75 Runoff=25.4 cfs 2.275 af
Subcatchment C8: WOODS	Runoff Area=24.830 ac 0.00% Impervious Runoff Depth=0.49" Flow Length=3,485' Tc=44.5 min CN=61 Runoff=5.3 cfs 1.013 af
Subcatchment C9: WOODS	Runoff Area=16.330 ac 0.00% Impervious Runoff Depth=0.65" Flow Length=1,960' Tc=32.0 min CN=65 Runoff=6.9 cfs 0.891 af
Reach 20R: TOE SWALE	Avg. Flow Depth=0.81' Max Vel=2.98 fps Inflow=13.5 cfs 0.528 af n=0.069 L=1,065.0' S=0.0423 '/' Capacity=78.3 cfs Outflow=12.1 cfs 0.528 af
Reach OUT-C: WETLANDS COMPLEX	Inflow=60.8 cfs 11.057 af Outflow=60.8 cfs 11.057 af
Reach RC1: WETLANDS	Avg. Flow Depth=0.37' Max Vel=1.66 fps Inflow=12.7 cfs 1.995 af n=0.035 L=525.0' S=0.0099 '/' Capacity=107.5 cfs Outflow=12.3 cfs 1.995 af
Reach RC10: WETLAND	Avg. Flow Depth=0.26' Max Vel=2.72 fps Inflow=6.8 cfs 0.477 af n=0.035 L=1,010.0' S=0.0433 '/' Capacity=496.7 cfs Outflow=5.8 cfs 0.477 af
Reach RC11: WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=255.0' S=0.0784 '/' Capacity=31.5 cfs Outflow=0.0 cfs 0.000 af
Reach RC12: WETLAND	Avg. Flow Depth=0.21' Max Vel=3.46 fps Inflow=3.2 cfs 0.107 af n=0.035 L=310.0' S=0.0905 '/' Capacity=405.6 cfs Outflow=3.2 cfs 0.107 af
Reach RC14: WETLAND	Avg. Flow Depth=0.43' Max Vel=4.14 fps Inflow=22.2 cfs 3.380 af n=0.035 L=440.0' S=0.0500 '/' Capacity=610.7 cfs Outflow=22.1 cfs 3.380 af
Reach RC15: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=165.0' S=0.2000 '/' Capacity=33.2 cfs Outflow=0.0 cfs 0.000 af
Reach RC16: WETLAND	Avg. Flow Depth=0.43' Max Vel=2.98 fps Inflow=22.1 cfs 3.380 af n=0.035 L=319.0' S=0.0265 '/' Capacity=140.5 cfs Outflow=22.1 cfs 3.380 af
Reach RC17: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=158.1' S=0.1265 '/' Capacity=80.5 cfs Outflow=0.0 cfs 0.000 af
Reach RC18: FLOW THROUGH WOODS	Avg. Flow Depth=0.11' Max Vel=1.07 fps Inflow=0.7 cfs 0.161 af n=0.100 L=195.0' S=0.1641 '/' Capacity=76.3 cfs Outflow=0.7 cfs 0.161 af
Reach RC19: WETLAND	Avg. Flow Depth=0.09' Max Vel=1.40 fps Inflow=0.7 cfs 0.161 af n=0.035 L=545.0' S=0.0454 '/' Capacity=114.7 cfs Outflow=0.6 cfs 0.161 af
Reach RC2: WETLAND STREAM	Avg. Flow Depth=0.38' Max Vel=3.09 fps Inflow=34.1 cfs 5.230 af n=0.035 L=445.0' S=0.0332 '/' Capacity=1,248.5 cfs Outflow=33.9 cfs 5.229 af
Reach RC20: SWALE	Avg. Flow Depth=0.15' Max Vel=2.41 fps Inflow=13.2 cfs 0.618 af n=0.022 L=64.0' S=0.0156 '/' Capacity=994.2 cfs Outflow=13.2 cfs 0.618 af

1101-POSTDEV_To OUTC

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Type II 24-hr 10-yr Rainfall=3.31"

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Reach RC21: FLOW THROUGH WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=140.0' S=0.1000 '/' Capacity=47.6 cfs Outflow=0.0 cfs 0.000 af

Reach RC22: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=1,155.0' S=0.0515 '/' Capacity=306.0 cfs Outflow=0.0 cfs 0.000 af

Reach RC3: WETLAND STREAM Avg. Flow Depth=0.37' Max Vel=3.16 fps Inflow=35.5 cfs 5.234 af
n=0.035 L=1,160.0' S=0.0351 '/' Capacity=1,284.7 cfs Outflow=34.1 cfs 5.230 af

Reach RC4: WETLAND STREAM Avg. Flow Depth=0.67' Max Vel=4.79 fps Inflow=35.1 cfs 5.074 af
n=0.035 L=645.0' S=0.0376 '/' Capacity=1,660.9 cfs Outflow=34.8 cfs 5.073 af

Reach RC5: WETLAND STREAM Avg. Flow Depth=0.22' Max Vel=2.67 fps Inflow=13.4 cfs 1.695 af
n=0.035 L=205.0' S=0.0498 '/' Capacity=1,529.4 cfs Outflow=13.4 cfs 1.694 af

Reach RC6: WETLAND STREAM Avg. Flow Depth=0.27' Max Vel=1.57 fps Inflow=10.5 cfs 1.588 af
n=0.035 L=315.0' S=0.0135 '/' Capacity=795.1 cfs Outflow=10.3 cfs 1.587 af

Reach RC8: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=210.0' S=0.0464 '/' Capacity=97.7 cfs Outflow=0.0 cfs 0.000 af

Reach RC9: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=955.0' S=0.0335 '/' Capacity=436.9 cfs Outflow=0.0 cfs 0.000 af

Pond FB10: FOREBAY Peak Elev=1,212.09' Storage=2,942 cf Inflow=5.3 cfs 1.013 af
Discarded=0.2 cfs 0.285 af Primary=5.1 cfs 0.700 af Outflow=5.3 cfs 0.985 af

Pond FB3: FOREBAY Peak Elev=1,122.11' Storage=3,053 cf Inflow=7.4 cfs 1.066 af
Discarded=0.2 cfs 0.275 af Primary=7.2 cfs 0.762 af Outflow=7.4 cfs 1.038 af

Pond FB5: FOREBAY Peak Elev=1,133.40' Storage=1,436 cf Inflow=7.2 cfs 0.350 af
Discarded=0.2 cfs 0.155 af Primary=7.0 cfs 0.195 af Outflow=7.1 cfs 0.350 af

Pond FB6: FOREBAY Peak Elev=1,125.61' Storage=3,946 cf Inflow=3.2 cfs 0.227 af
Primary=0.0 cfs 0.000 af Secondary=0.4 cfs 0.227 af Outflow=0.4 cfs 0.227 af

Pond FB7: FOREBAY Peak Elev=1,142.18' Storage=4,215 cf Inflow=13.2 cfs 0.950 af
Discarded=0.3 cfs 0.343 af Primary=12.9 cfs 0.598 af Outflow=13.2 cfs 0.941 af

Pond FB8: FOREBAY Peak Elev=1,151.31' Storage=6,226 cf Inflow=13.7 cfs 1.065 af
Discarded=0.4 cfs 0.447 af Primary=13.2 cfs 0.618 af Outflow=13.6 cfs 1.064 af

Pond FB9: FOREBAY Peak Elev=1,177.19' Storage=4,423 cf Inflow=12.4 cfs 1.848 af
Discarded=0.3 cfs 0.390 af Primary=12.0 cfs 1.423 af Outflow=12.3 cfs 1.813 af

Pond P1: WATER STORAGE FOR REUSE Peak Elev=1,136.04' Storage=5,473 cf Inflow=2.3 cfs 0.126 af
Outflow=0.0 cfs 0.000 af

Pond P10: INFILTRATION BASIN Peak Elev=1,208.82' Storage=11,781 cf Inflow=5.1 cfs 0.700 af
Discarded=0.9 cfs 0.700 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.9 cfs 0.700 af

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Pond P2: INFILTRATION BASIN Peak Elev=1,108.83' Storage=23,813 cf Inflow=24.3 cfs 1.167 af
Discarded=1.2 cfs 1.167 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.2 cfs 1.167 af

Pond P3: INFILTRATION BASIN Peak Elev=1,118.98' Storage=17,483 cf Inflow=7.2 cfs 0.762 af
Discarded=0.7 cfs 0.724 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.7 cfs 0.724 af

Pond P4: INFILTRATION BASIN Peak Elev=1,139.13' Storage=940 cf Inflow=2.6 cfs 0.120 af
Discarded=0.8 cfs 0.120 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.8 cfs 0.120 af

Pond P5: INFILTRATION BASIN Peak Elev=1,132.32' Storage=5,515 cf Inflow=7.0 cfs 0.195 af
Discarded=0.4 cfs 0.174 af Primary=1.0 cfs 0.020 af Secondary=0.0 cfs 0.000 af Outflow=1.4 cfs 0.195 af

Pond P6: RAIN GARDEN Peak Elev=1,124.44' Storage=1,820 cf Inflow=0.4 cfs 0.227 af
Primary=0.4 cfs 0.220 af Secondary=0.0 cfs 0.000 af Outflow=0.4 cfs 0.220 af

Pond P7: INFILTRATION BASIN Peak Elev=1,140.26' Storage=13,657 cf Inflow=12.9 cfs 0.598 af
Discarded=1.4 cfs 0.491 af Primary=3.2 cfs 0.107 af Secondary=0.0 cfs 0.000 af Outflow=4.6 cfs 0.598 af

Pond P8: INFILTRATION BASIN Peak Elev=1,147.65' Storage=19,372 cf Inflow=13.2 cfs 0.618 af
Discarded=1.0 cfs 0.618 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.0 cfs 0.618 af

Pond P9: INFILTRATION BASIN Peak Elev=1,175.36' Storage=14,814 cf Inflow=12.0 cfs 1.423 af
Discarded=0.9 cfs 0.945 af Primary=6.8 cfs 0.477 af Secondary=0.0 cfs 0.000 af Outflow=7.7 cfs 1.423 af

Pond PCB1: CATCH BASIN Peak Elev=1,147.19' Inflow=22.6 cfs 1.084 af
15.0" Round Culvert n=0.013 L=145.3' S=0.1445 '/' Outflow=22.6 cfs 1.084 af

Pond PHW19: HEADWALL Peak Elev=1,170.71' Inflow=25.5 cfs 1.809 af
Primary=12.7 cfs 0.904 af Secondary=12.7 cfs 0.904 af Outflow=25.5 cfs 1.809 af

Pond PHW24: HEADWALL Peak Elev=1,215.64' Inflow=25.4 cfs 2.275 af
Primary=12.0 cfs 1.747 af Secondary=13.5 cfs 0.528 af Outflow=25.4 cfs 2.275 af

Pond PHW3: HEADWALL Peak Elev=1,153.88' Inflow=0.7 cfs 0.161 af
15.0" Round Culvert n=0.013 L=541.7' S=0.0471 '/' Outflow=0.7 cfs 0.161 af

Pond PHW5: HEADWALL Peak Elev=1,142.10' Inflow=7.2 cfs 0.988 af
15.0" Round Culvert n=0.013 L=353.3' S=0.0509 '/' Outflow=7.2 cfs 0.988 af

Pond RC13: NEW CULVERT Peak Elev=1,127.20' Inflow=21.9 cfs 3.359 af
72.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=53.0' S=0.0189 '/' Outflow=21.9 cfs 3.359 af

Pond RC7: NEW DOUGLAS DRIVE CULVERT Peak Elev=1,110.76' Inflow=10.5 cfs 1.588 af
144.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=43.2' S=0.0058 '/' Outflow=10.5 cfs 1.588 af

Total Runoff Area = 270.740 ac Runoff Volume = 18.171 af Average Runoff Depth = 0.81"
97.11% Pervious = 262.920 ac 2.89% Impervious = 7.820 ac

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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment C1: WOODS

Runoff = 12.7 cfs @ 12.44 hrs, Volume= 1.995 af, Depth= 0.61"
 Routed to Reach RC1 : WETLANDS

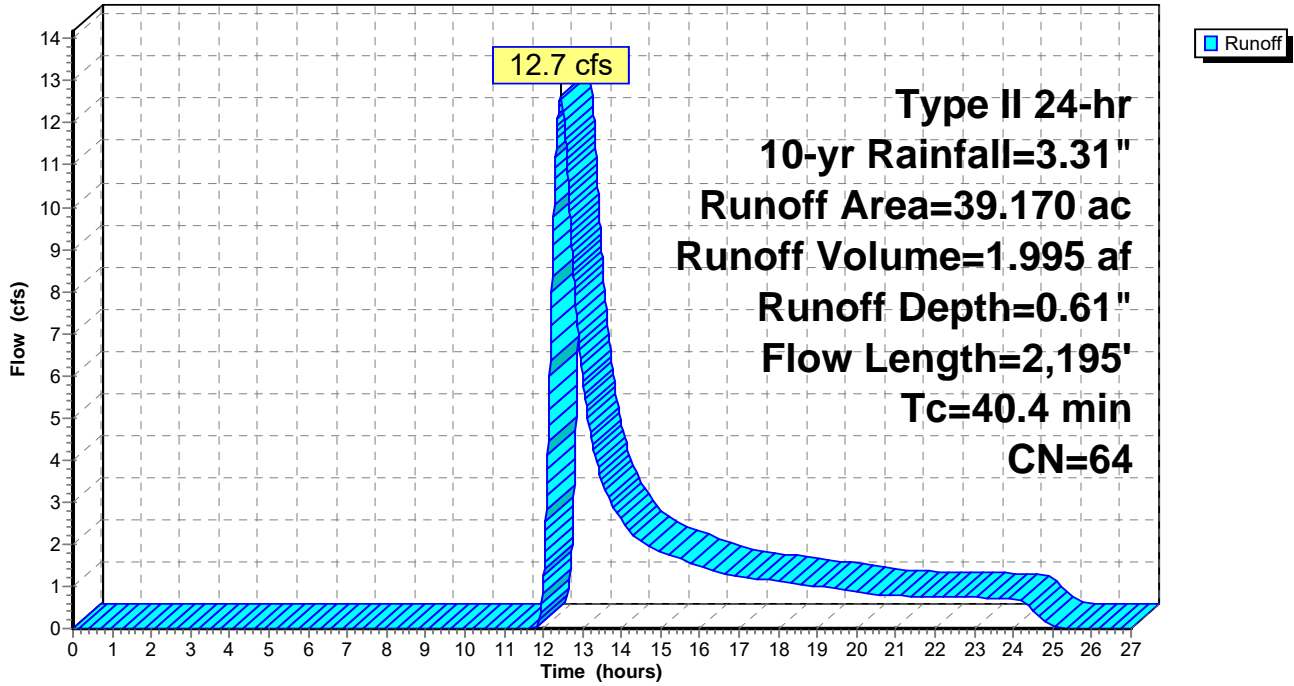
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
6.300	30	Woods, Good, HSG A
2.430	77	Woods, Good, HSG D
0.080	78	Meadow, non-grazed, HSG D
0.270	30	Meadow, non-grazed, HSG A
0.840	71	Meadow, non-grazed, HSG C
29.250	70	Woods, Good, HSG C
39.170	64	Weighted Average
39.170	64	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.2150	0.10		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
20.3	835	0.0750	0.68		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
3.1	1,260	0.0450	6.87	228.95	Parabolic Channel, W=50.00' D=1.00' Area=33.3 sf Perim=50.1' n= 0.035 Earth, dense weeds
40.4	2,195	Total			

Subcatchment C1: WOODS

Hydrograph



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Summary for Subcatchment C10: DOUGLAS DRIVE EXTENSION

Runoff = 3.2 cfs @ 12.10 hrs, Volume= 0.227 af, Depth= 1.35"

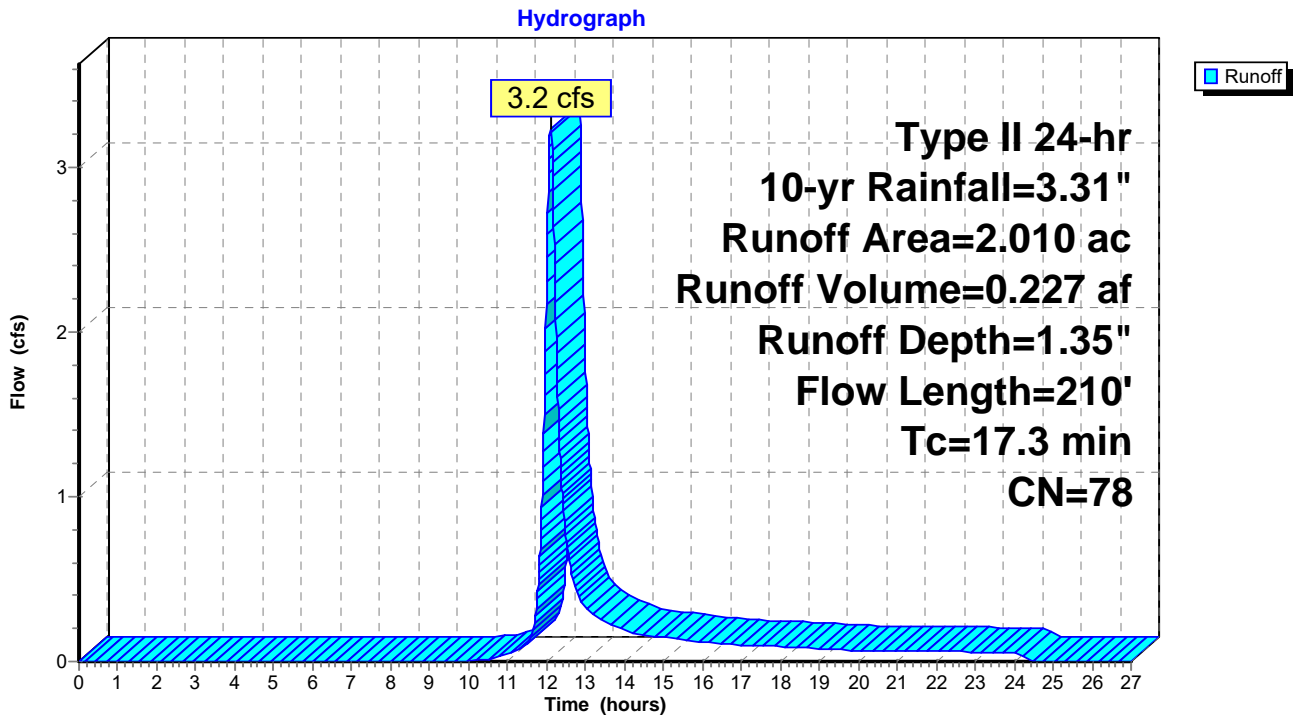
Routed to Pond FB6 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.380	55	Woods, Good, HSG B
0.020	98	Paved parking, HSG D
0.010	96	Gravel surface, HSG D
0.120	98	Paved parking, HSG B
0.020	96	Gravel surface, HSG B
0.490	98	Paved parking, HSG C
0.090	96	Gravel surface, HSG C
0.870	71	Meadow, non-grazed, HSG C
0.010	78	Meadow, non-grazed, HSG D
2.010	78	Weighted Average
1.380	69	68.66% Pervious Area
0.630	98	31.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	100	0.2800	0.11		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
2.0	110	0.1300	0.90		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
17.3	210	Total			

Subcatchment C10: DOUGLAS DRIVE EXTENSION



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Summary for Subcatchment C11: DOUGLAS DRIVE EXTENSION

Runoff = 7.2 cfs @ 11.97 hrs, Volume= 0.350 af, Depth= 2.27"

Routed to Pond FB5 : FOREBAY

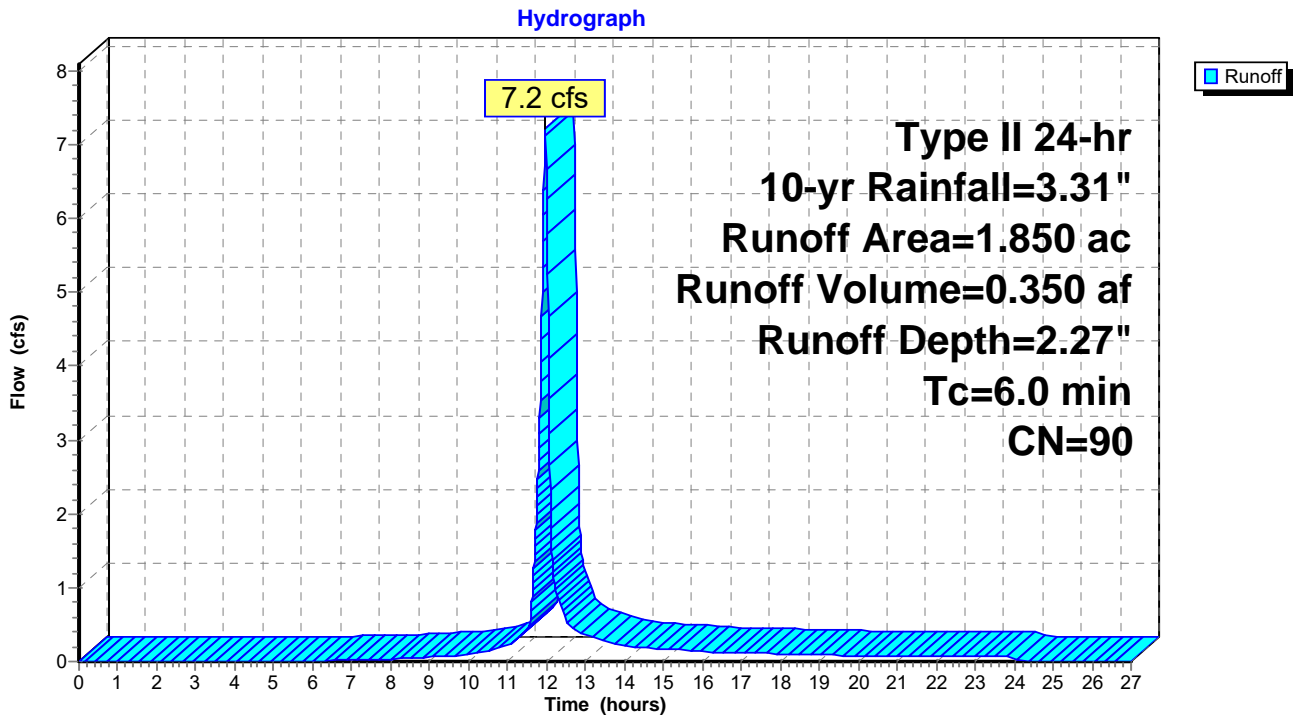
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs

Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.180	98	Roofs, HSG C
0.010	98	Roofs, HSG A
0.490	98	Paved parking, HSG A
0.040	96	Gravel surface, HSG A
0.590	98	Paved parking, HSG C
0.020	96	Gravel surface, HSG C
0.090	98	Paved parking, HSG B
0.010	96	Gravel surface, HSG B
0.080	30	Meadow, non-grazed, HSG A
0.020	58	Meadow, non-grazed, HSG B
0.320	71	Meadow, non-grazed, HSG C
1.850	90	Weighted Average
0.490	67	26.49% Pervious Area
1.360	98	73.51% Impervious Area

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

Subcatchment C11: DOUGLAS DRIVE EXTENSION



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment C12: WOODS & EX. ASPHALT PLANT

Runoff = 21.9 cfs @ 12.48 hrs, Volume= 3.359 af, Depth= 0.75"
 Routed to Pond RC13 : NEW CULVERT

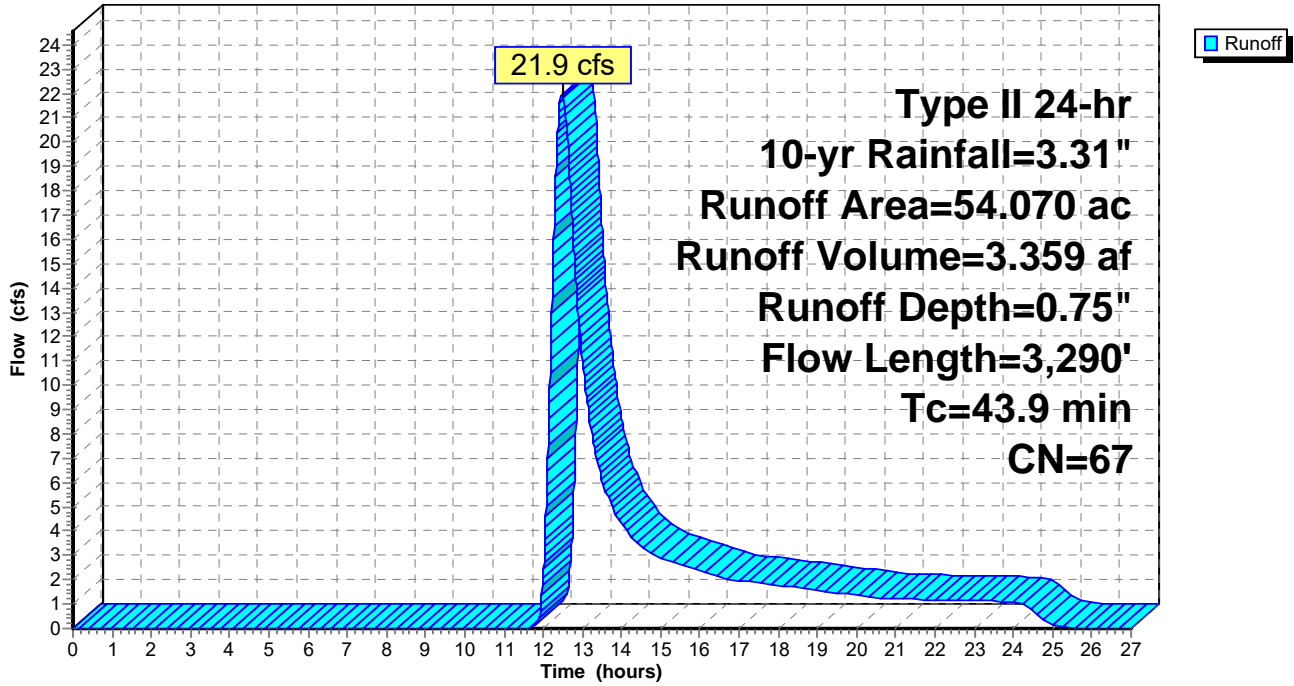
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
17.950	55	Woods, Good, HSG B
1.980	58	Meadow, non-grazed, HSG B
6.860	86	Fallow, bare soil, HSG B
0.490	30	Meadow, non-grazed, HSG A
0.730	30	Woods, Good, HSG A
0.090	98	Unconnected roofs, HSG B
0.020	98	Unconnected roofs, HSG A
0.510	96	Gravel surface, HSG A
1.100	96	Gravel surface, HSG B
3.700	77	Woods, Good, HSG D
20.640	70	Woods, Good, HSG C
54.070	67	Weighted Average
53.960	67	99.80% Pervious Area
0.110	98	0.20% Impervious Area
0.110		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	100	0.1150	0.08		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
16.3	600	0.0600	0.61		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
5.5	2,400	0.0200	7.24	386.23	Parabolic Channel, wetland W=40.00' D=2.00' Area=53.3 sf Perim=40.3' n= 0.035
0.3	190	0.0400	11.89	79.24	Parabolic Channel, stream W=5.00' D=2.00' Area=6.7 sf Perim=6.7' n= 0.025
43.9	3,290	Total			

Subcatchment C12: WOODS & EX. ASPHALT PLANT

Hydrograph



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Summary for Subcatchment C13: BUILDINGS

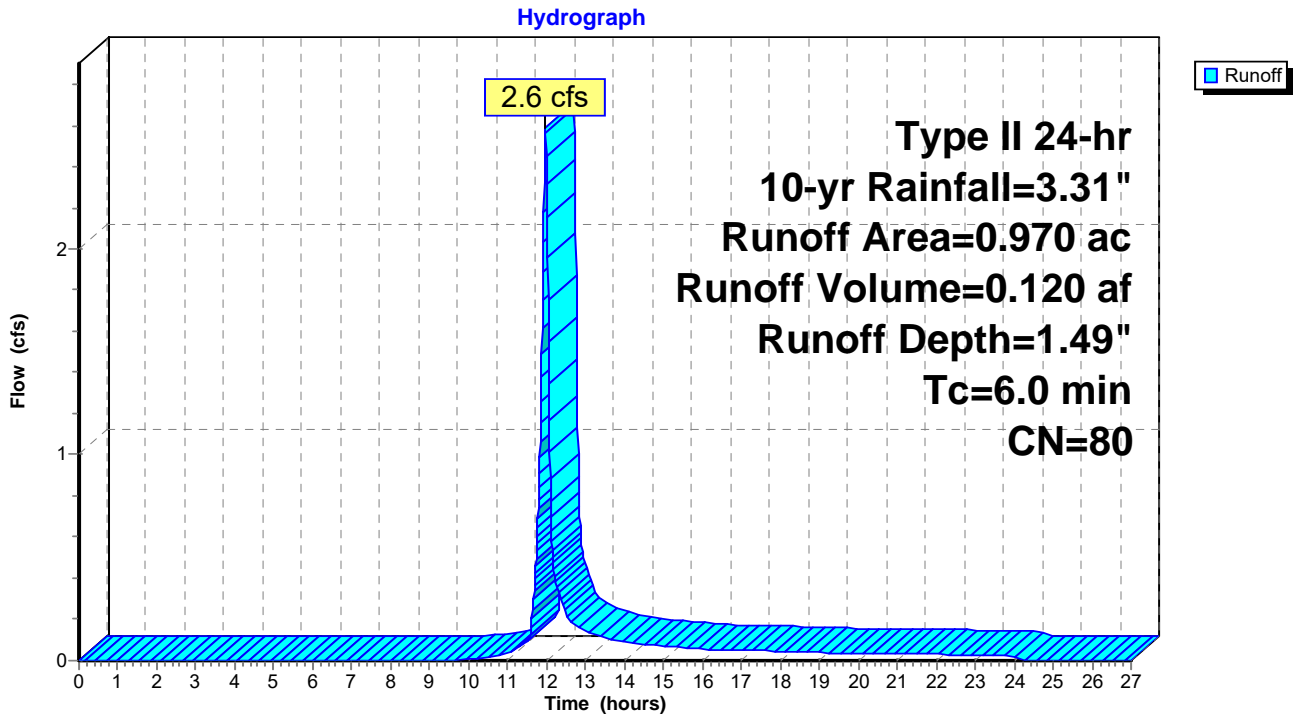
Runoff = 2.6 cfs @ 11.98 hrs, Volume= 0.120 af, Depth= 1.49"
 Routed to Pond P4 : INFILTRATION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.310	98	Paved parking, HSG C
0.060	98	Roofs, HSG C
0.020	98	Paved parking, HSG A
0.050	30	Meadow, non-grazed, HSG A
0.530	71	Meadow, non-grazed, HSG C
0.970	80	Weighted Average
0.580	67	59.79% Pervious Area
0.390	98	40.21% Impervious Area

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

Subcatchment C13: BUILDINGS



Summary for Subcatchment C14: OVERLAND FLOW

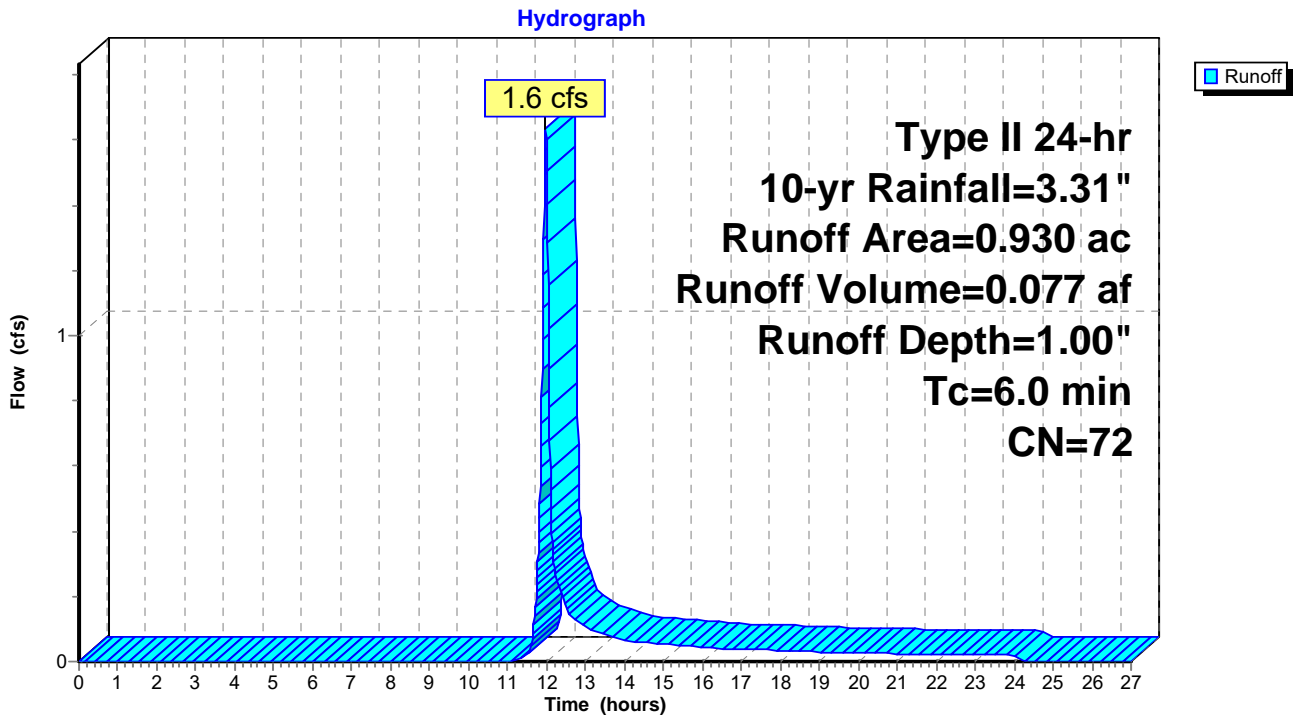
Runoff = 1.6 cfs @ 11.98 hrs, Volume= 0.077 af, Depth= 1.00"
 Routed to Pond FB3 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.890	71	Meadow, non-grazed, HSG C
0.040	96	Gravel surface, HSG C
0.930	72	Weighted Average
0.930	72	100.00% Pervious Area

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

Subcatchment C14: OVERLAND FLOW



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Summary for Subcatchment C15: WOODS & EX. QUARRY

Runoff = 7.2 cfs @ 12.42 hrs, Volume= 0.988 af, Depth= 0.75"

Routed to Pond PHW5 : HEADWALL

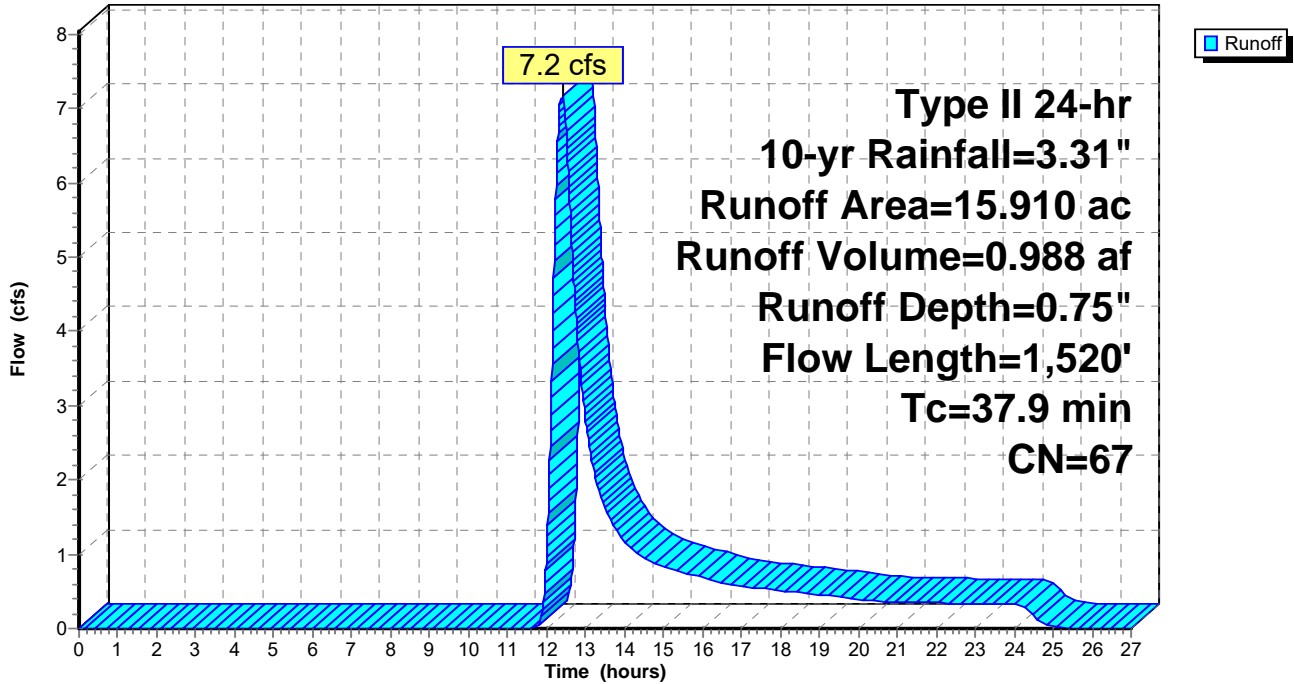
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
6.680	55	Woods, Good, HSG B
3.050	58	Meadow, non-grazed, HSG B
2.880	86	Fallow, bare soil, HSG B
1.400	77	Fallow, bare soil, HSG A
0.090	96	Gravel surface, HSG A
0.730	96	Gravel surface, HSG B
0.050	96	Gravel surface, HSG C
0.320	98	Paved parking, HSG C
0.090	98	Paved parking, HSG A
0.030	98	Paved parking, HSG B
0.090	58	Meadow, non-grazed, HSG B
0.170	30	Meadow, non-grazed, HSG A
0.330	71	Meadow, non-grazed, HSG C
15.910	67	Weighted Average
15.470	66	97.23% Pervious Area
0.440	98	2.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.1750	0.09		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
16.7	750	0.0900	0.75		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
2.1	505	0.0625	4.03		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.7	165	0.0100	4.11	12.32	Trap/Vee/Rect Channel Flow, Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00' n= 0.022 Earth, clean & straight
37.9	1,520	Total			

Subcatchment C15: WOODS & EX. QUARRY

Hydrograph



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Summary for Subcatchment C16: WOODS

Runoff = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af, Depth= 0.31"
 Routed to Pond PHW3 : HEADWALL

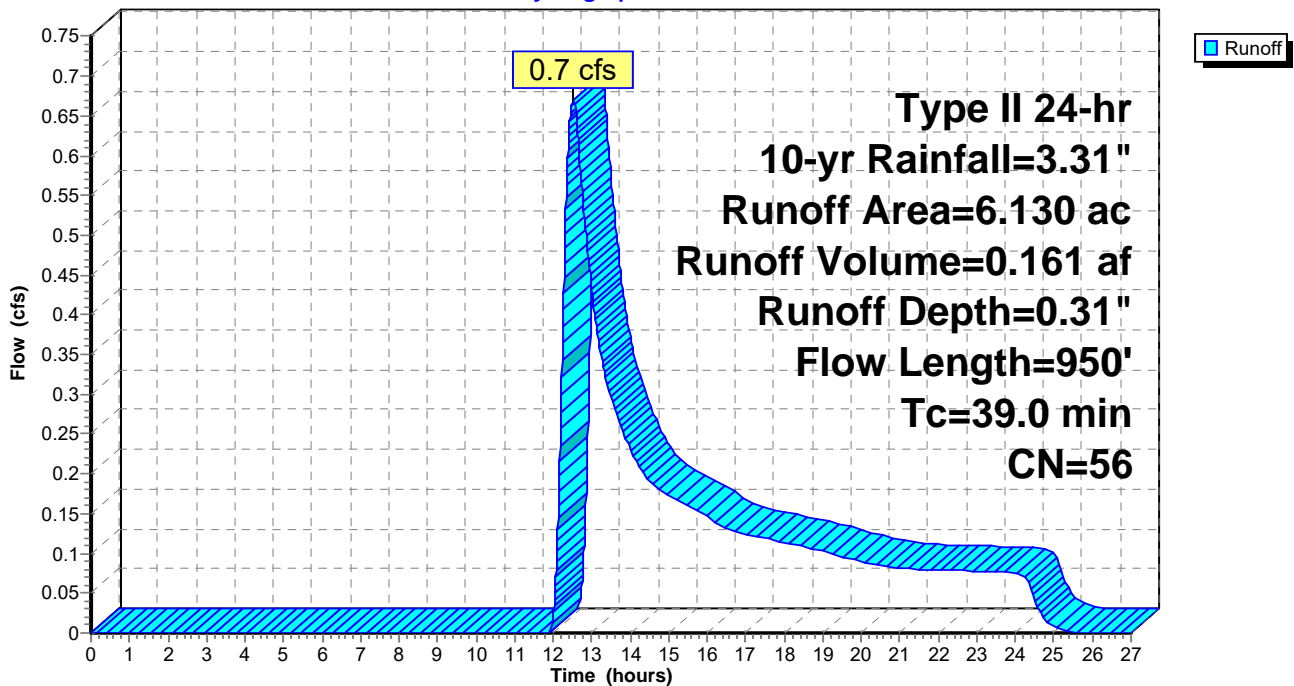
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.030	96	Gravel surface, HSG C
4.350	55	Woods, Good, HSG B
1.630	58	Meadow, non-grazed, HSG B
0.120	71	Meadow, non-grazed, HSG C
6.130	56	Weighted Average
6.130	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	100	0.0850	0.07		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
12.0	540	0.0900	0.75		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
2.4	310	0.0925	2.13		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
39.0	950	Total			

Subcatchment C16: WOODS

Hydrograph



Summary for Subcatchment C17: TANK AREA

Runoff = 1.0 cfs @ 11.97 hrs, Volume= 0.056 af, Depth= 3.08"

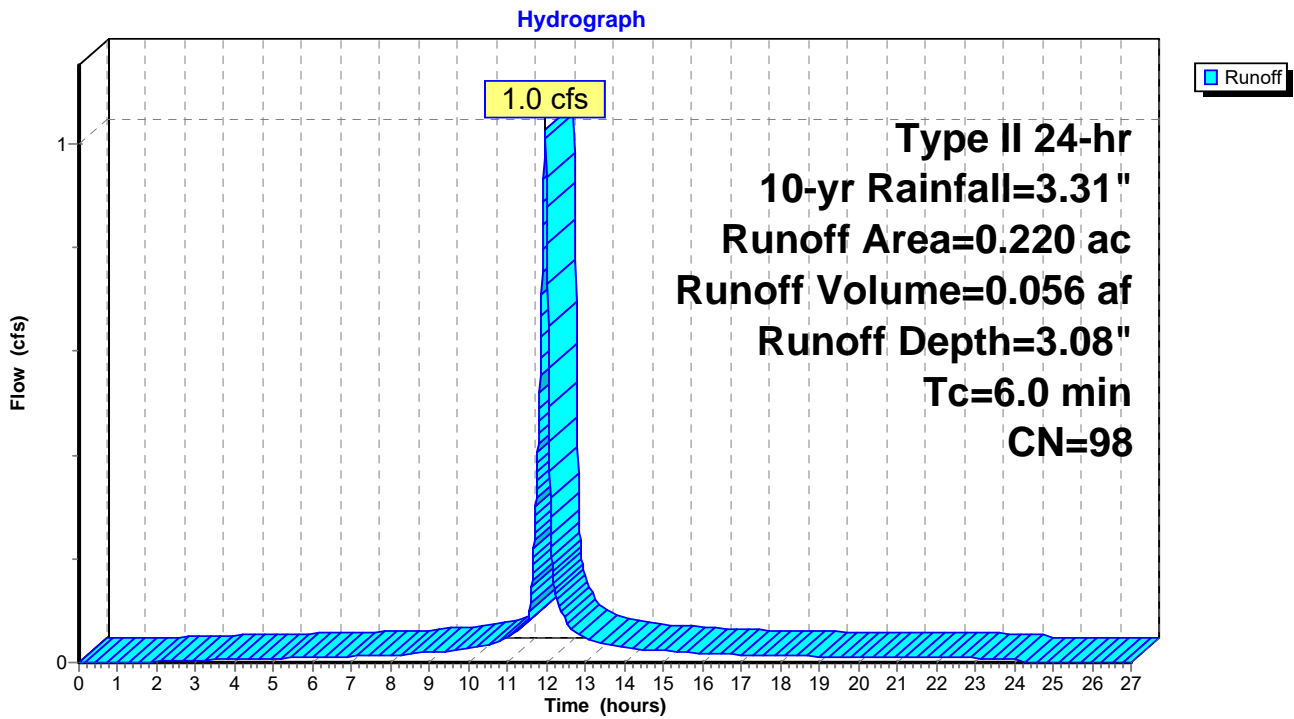
Routed to Pond P1 : WATER STORAGE FOR REUSE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.220	98	Paved parking, HSG C
0.220	98	100.00% Impervious Area

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

Subcatchment C17: TANK AREA



Summary for Subcatchment C18: OVERLAND FLOW

Runoff = 1.3 cfs @ 11.97 hrs, Volume= 0.069 af, Depth= 3.08"

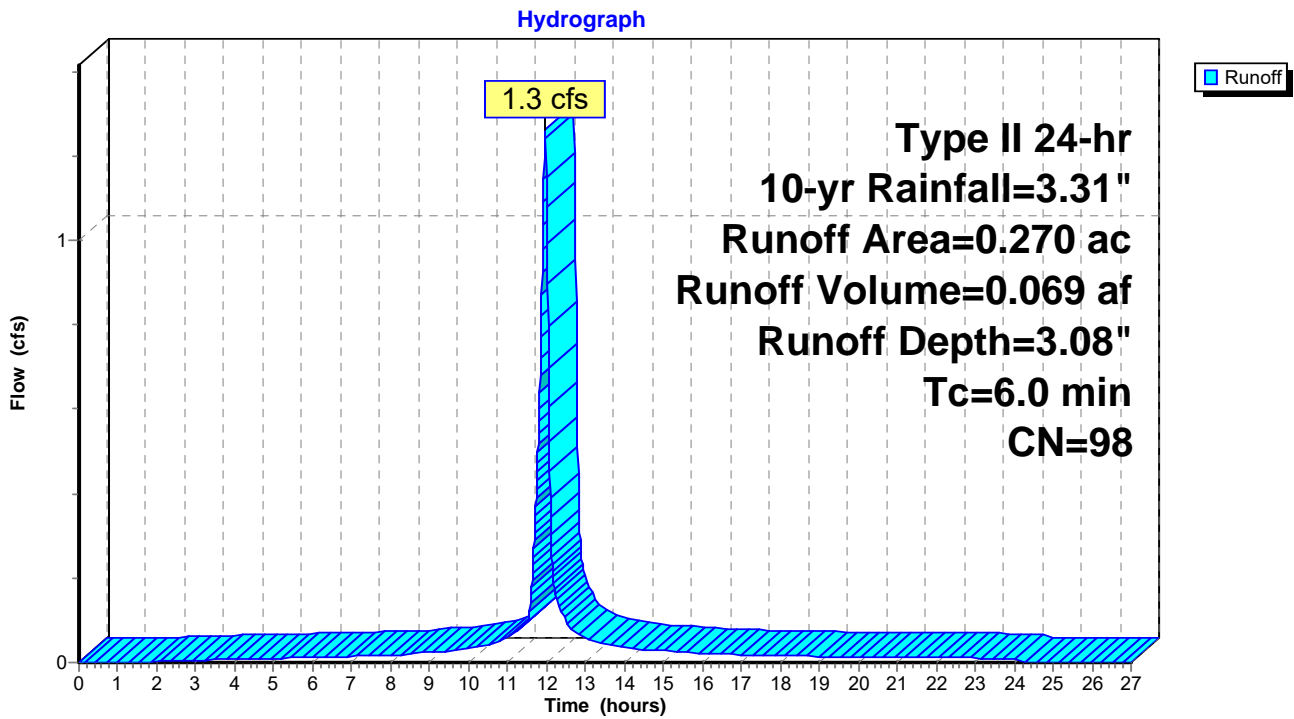
Routed to Pond P1 : WATER STORAGE FOR REUSE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.270	98	Water Surface, HSG C
0.270	98	100.00% Impervious Area

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

Subcatchment C18: OVERLAND FLOW



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment C19: OVERLAND FLOW

Runoff = 1.7 cfs @ 11.98 hrs, Volume= 0.083 af, Depth= 0.94"

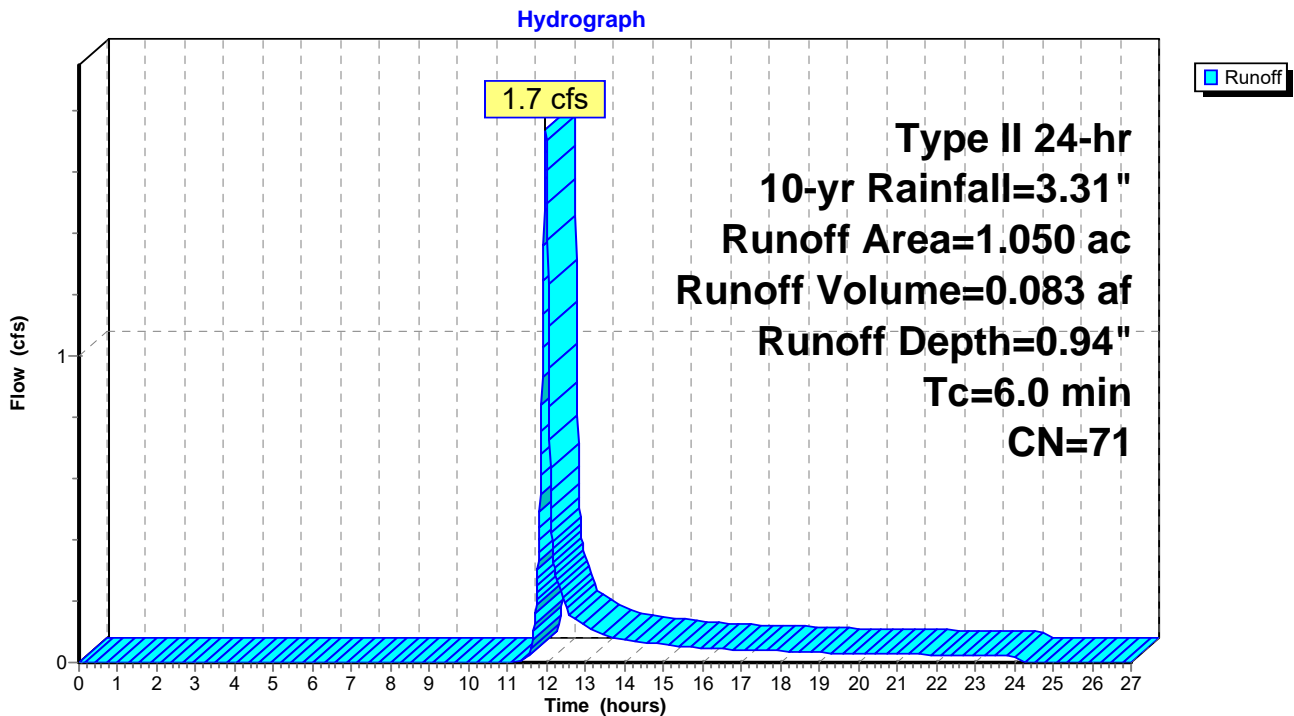
Routed to Pond P2 : INFILTRATION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.050	71	Meadow, non-grazed, HSG C
1.050	71	100.00% Pervious Area

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

Subcatchment C19: OVERLAND FLOW



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment C2: Woods

Runoff = 33.6 cfs @ 12.27 hrs, Volume= 3.833 af, Depth= 0.75"
 Routed to Reach OUT-C : WETLANDS COMPLEX

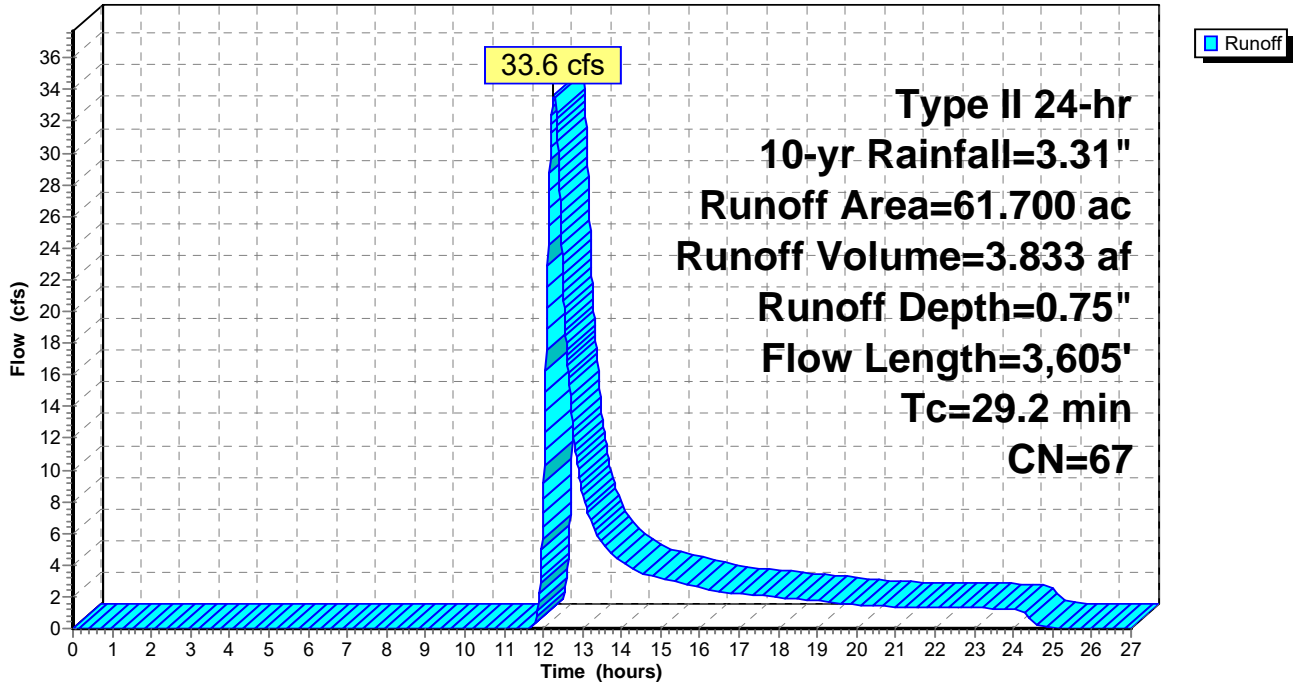
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
3.520	30	Woods, Good, HSG A
0.830	30	Meadow, non-grazed, HSG A
3.210	55	Woods, Good, HSG B
0.690	58	Meadow, non-grazed, HSG B
3.540	77	Woods, Good, HSG D
2.000	78	Meadow, non-grazed, HSG D
4.920	71	Meadow, non-grazed, HSG C
0.130	98	Paved parking, HSG C
0.030	98	Paved parking, HSG B
0.400	96	Gravel surface, HSG C
0.020	96	Gravel surface, HSG B
42.410	70	Woods, Good, HSG C
61.700	67	Weighted Average
61.540	67	99.74% Pervious Area
0.160	98	0.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	100	0.1400	0.08		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
3.4	190	0.1350	0.92		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
1.0	660	0.0500	11.37	379.12	Parabolic Channel, W=25.00' D=2.00' Area=33.3 sf Perim=25.4' n= 0.035 Earth, dense weeds
4.6	2,655	0.0350	9.62	1,282.06	Parabolic Channel, W=100.00' D=2.00' Area=133.3 sf Perim=100.1' n= 0.035 Earth, dense weeds
29.2	3,605	Total			

Subcatchment C2: Woods

Hydrograph



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment C20: INFRASTRUCTURE AREA

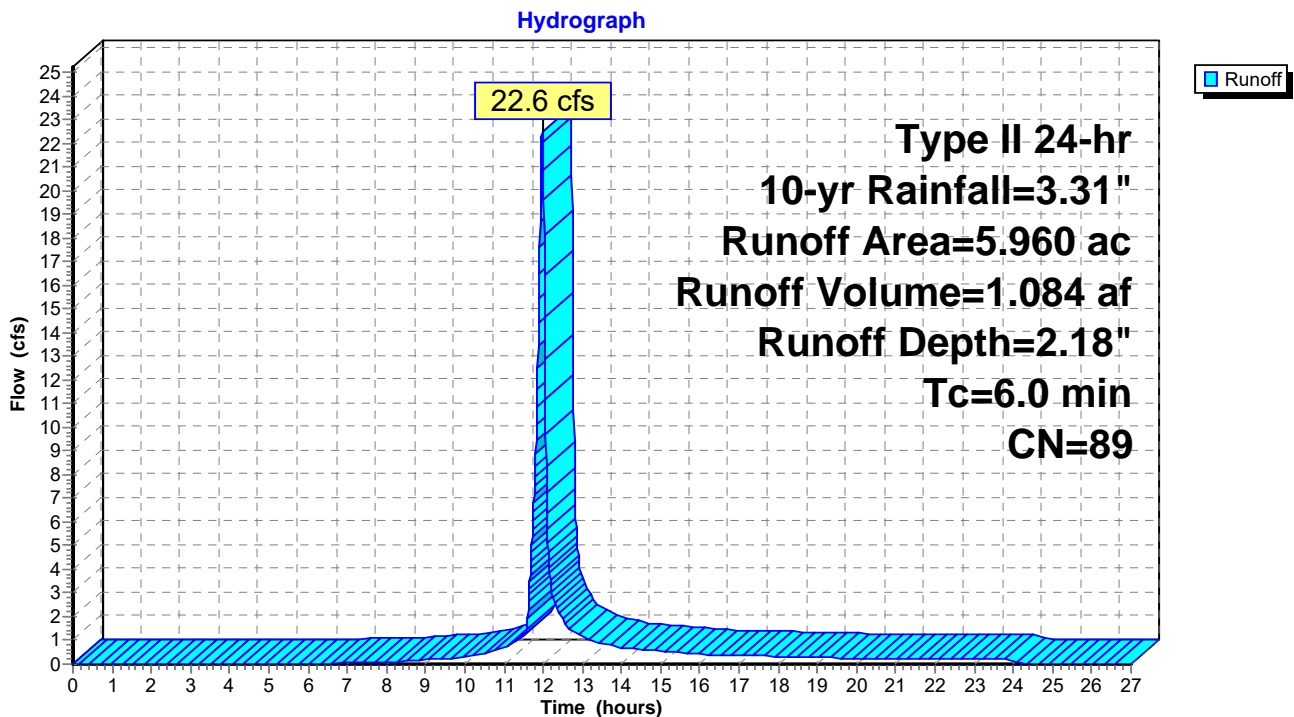
Runoff = 22.6 cfs @ 11.97 hrs, Volume= 1.084 af, Depth= 2.18"
Routed to Pond PCB1 : CATCH BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
3.590	98	Paved parking, HSG C
0.370	98	Roofs, HSG C
0.070	96	Gravel surface, HSG C
1.930	71	Meadow, non-grazed, HSG C
5.960	89	Weighted Average
2.000	72	33.56% Pervious Area
3.960	98	66.44% Impervious Area

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

Subcatchment C20: INFRASTRUCTURE AREA



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Summary for Subcatchment C3: OVERLAND FLOW

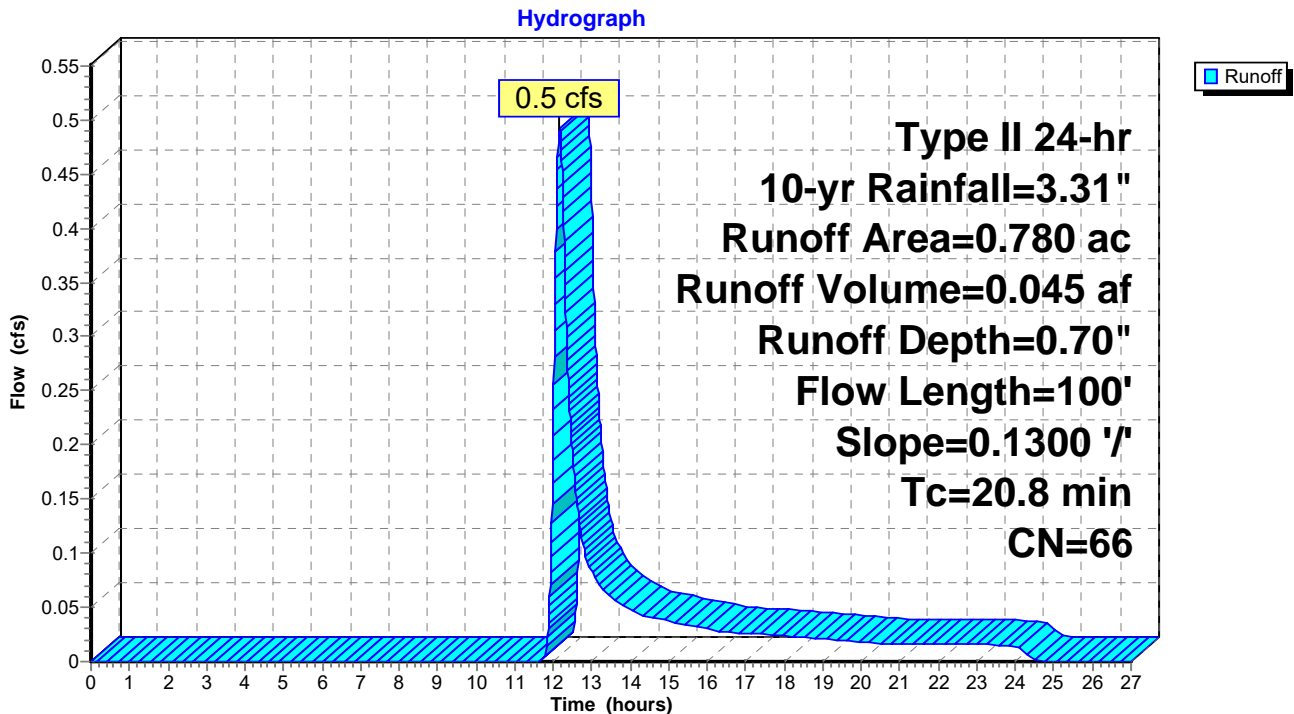
Runoff = 0.5 cfs @ 12.17 hrs, Volume= 0.045 af, Depth= 0.70"
Routed to Pond FB7 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.300	70	Woods, Good, HSG C
0.080	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.780	66	Weighted Average
0.780	66	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	100	0.1300	0.08		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"

Subcatchment C3: OVERLAND FLOW



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment C4: DOUGLAS DRIVE EXTENSION

Runoff = 3.4 cfs @ 11.98 hrs, Volume= 0.160 af, Depth= 1.35"

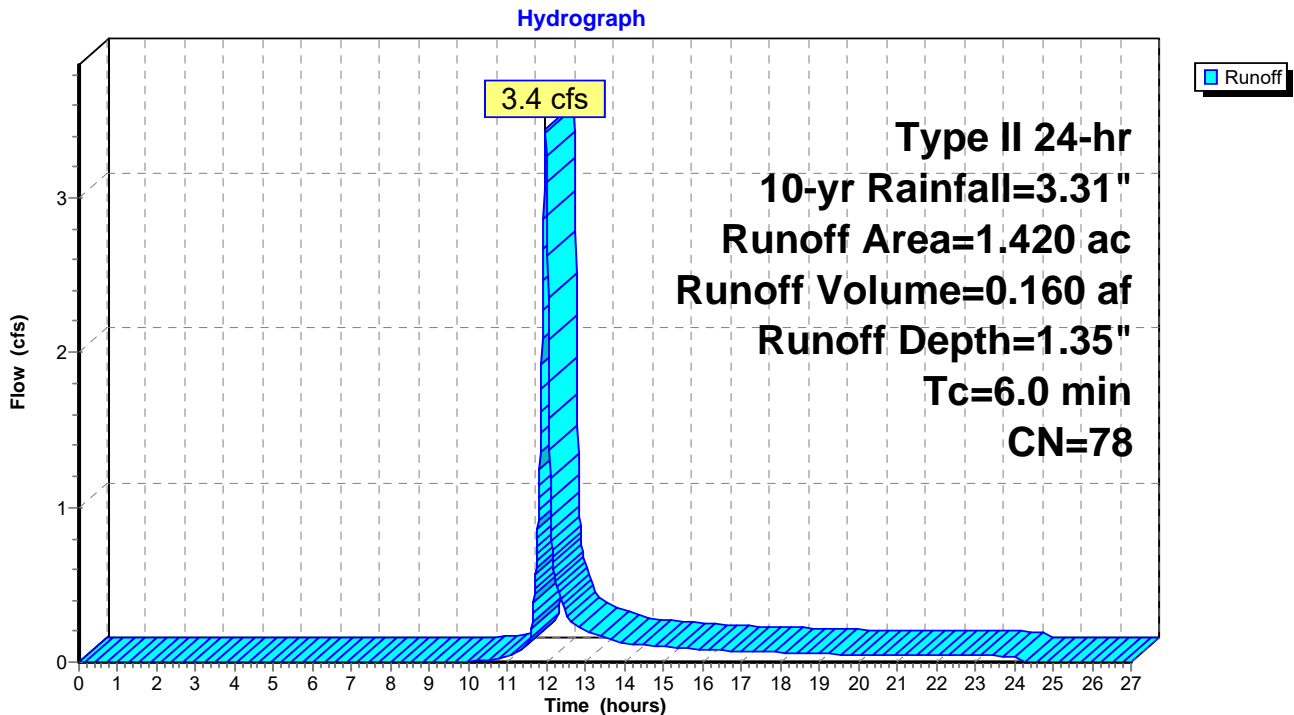
Routed to Pond FB8 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.280	98	Paved parking, HSG C
0.070	96	Gravel surface, HSG C
0.150	78	Meadow, non-grazed, HSG D
0.920	71	Meadow, non-grazed, HSG C
1.420	78	Weighted Average
1.140	73	80.28% Pervious Area
0.280	98	19.72% Impervious Area

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

Subcatchment C4: DOUGLAS DRIVE EXTENSION



Summary for Subcatchment C5: LANDFILL

Runoff = 19.6 cfs @ 12.07 hrs, Volume= 1.280 af, Depth= 1.23"

Routed to Pond PHW19 : HEADWALL

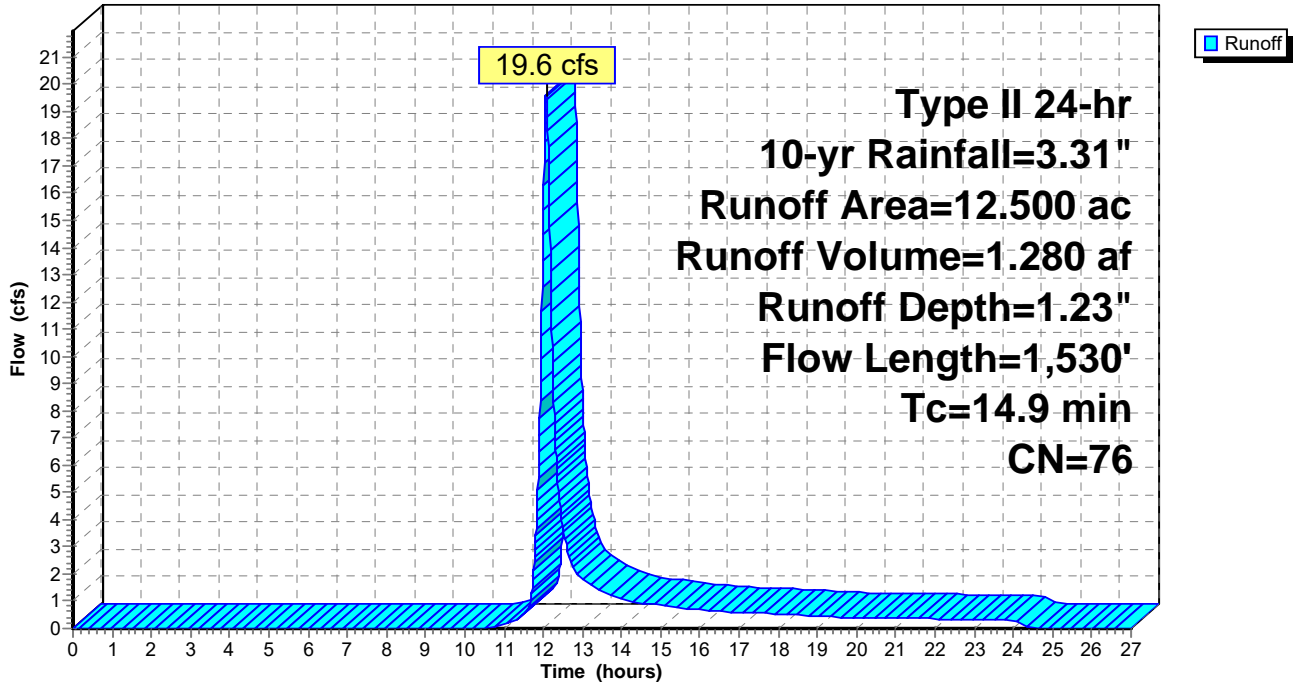
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
0.070	96	Gravel surface, HSG D
0.010	78	Meadow, non-grazed, HSG D
* 10.500	74	Landfill, Grass
0.830	71	Meadow, non-grazed, HSG C
12.500	76	Weighted Average
12.500	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	75	0.0500	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
1.8	25	0.3300	0.23		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
0.1	15	0.3300	4.02		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.6	175	0.0400	4.79	67.04	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.7	460	0.3300	11.54	129.83	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=1.50' Z= 3.0 '/' Top.W=12.00' n= 0.069 Riprap, 6-inch
2.5	780	0.0500	5.29	95.16	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
14.9	1,530	Total			

Subcatchment C5: LANDFILL

Hydrograph



Summary for Subcatchment C6: OVERLAND FLOW

Runoff = 2.1 cfs @ 11.98 hrs, Volume= 0.102 af, Depth= 0.94"

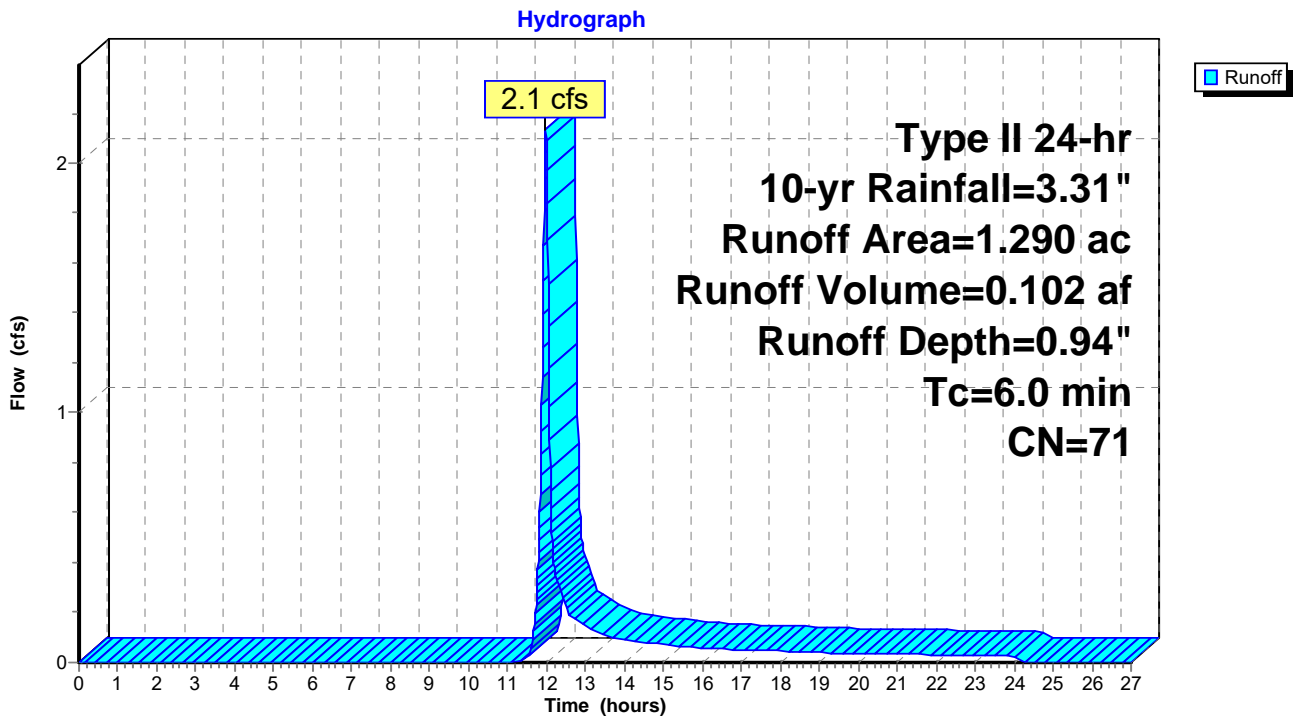
Routed to Pond FB9 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.290	71	Meadow, non-grazed, HSG C
1.290	71	100.00% Pervious Area

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

Subcatchment C6: OVERLAND FLOW



Summary for Subcatchment C7: LANDFILL

Runoff = 25.4 cfs @ 12.20 hrs, Volume= 2.275 af, Depth= 1.17"
 Routed to Pond PHW24 : HEADWALL

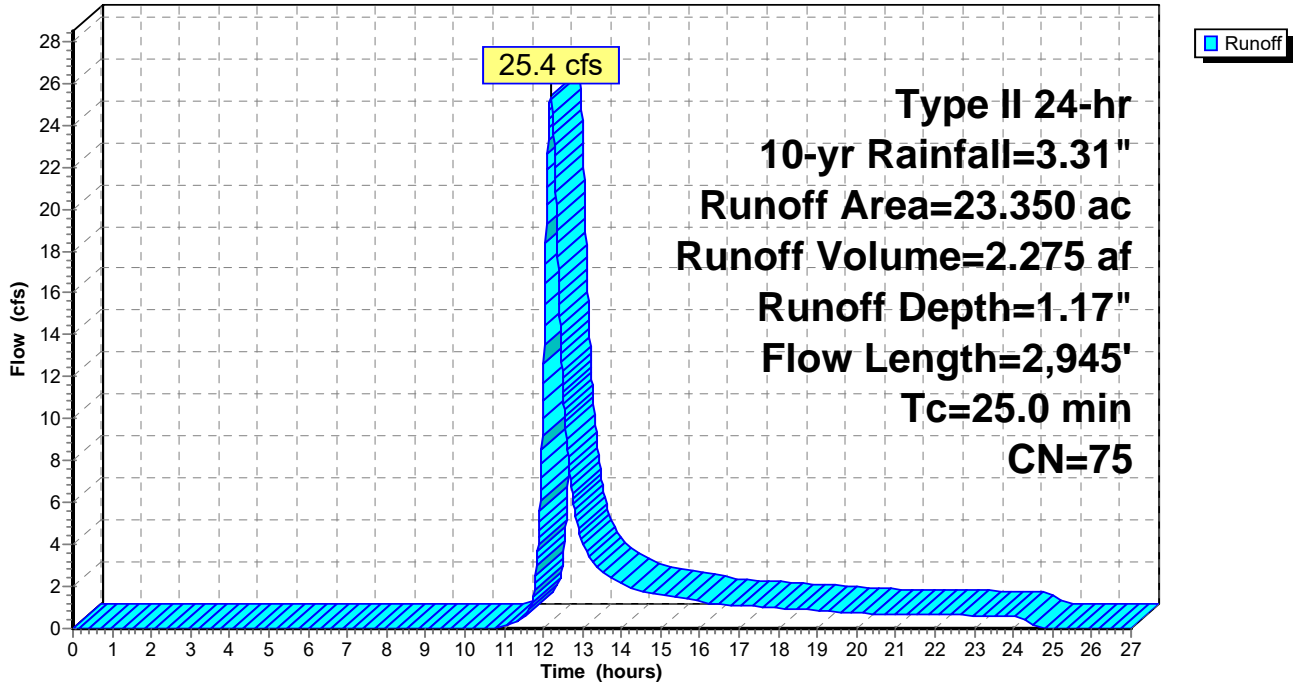
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.290	96	Gravel surface, HSG B
1.290	96	Gravel surface, HSG C
0.190	58	Meadow, non-grazed, HSG B
* 19.960	74	Landfill, Grass
1.620	71	Meadow, non-grazed, HSG C
23.350	75	Weighted Average
23.350	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
0.1	10	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	105	0.3300	4.02		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	860	0.0400	4.79	67.04	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
0.1	80	0.3300	11.09	108.14	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.50' Z= 3.0 '/' Top.W=11.00' n= 0.069 Riprap, 6-inch
7.5	750	0.0050	1.67	30.09	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
2.3	1,040	0.1000	7.48	134.57	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.069 Riprap, 6-inch
25.0	2,945	Total			

Subcatchment C7: LANDFILL

Hydrograph



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Summary for Subcatchment C8: WOODS

Runoff = 5.3 cfs @ 12.52 hrs, Volume= 1.013 af, Depth= 0.49"
 Routed to Pond FB10 : FOREBAY

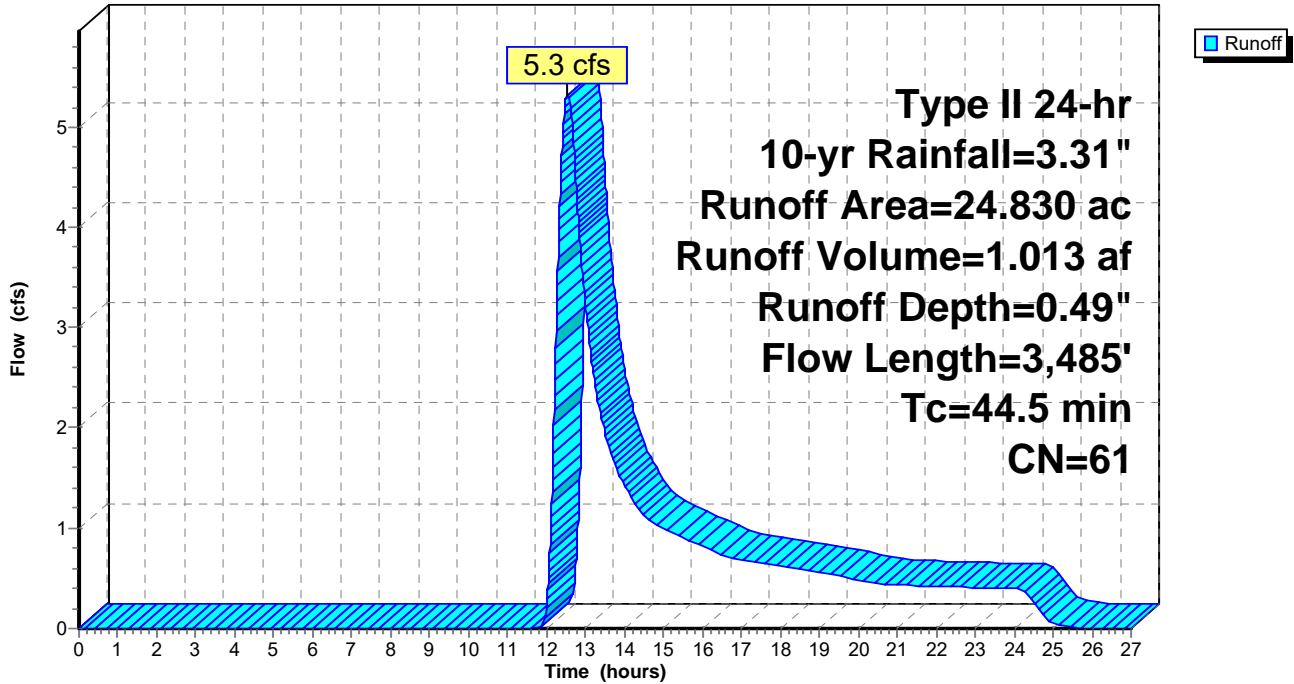
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
14.900	55	Woods, Good, HSG B
0.670	58	Meadow, non-grazed, HSG B
6.160	71	Meadow, non-grazed, HSG C
3.100	70	Woods, Good, HSG C
24.830	61	Weighted Average
24.830	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.2000	0.10		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
11.8	600	0.1150	0.85		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
1.3	570	0.1000	7.53	120.43	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.5 '/' Top.W=13.00' n= 0.069 Riprap, 6-inch
11.6	1,175	0.0050	1.68	26.93	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.5 '/' Top.W=13.00' n= 0.069 Riprap, 6-inch
2.3	1,040	0.1000	7.53	120.43	Trap/Vee/Rect Channel Flow, Bot.W=3.00' D=2.00' Z= 2.5 '/' Top.W=13.00' n= 0.069 Riprap, 6-inch
44.5	3,485	Total			

Subcatchment C8: WOODS

Hydrograph



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Summary for Subcatchment C9: WOODS

Runoff = 6.9 cfs @ 12.33 hrs, Volume= 0.891 af, Depth= 0.65"

Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

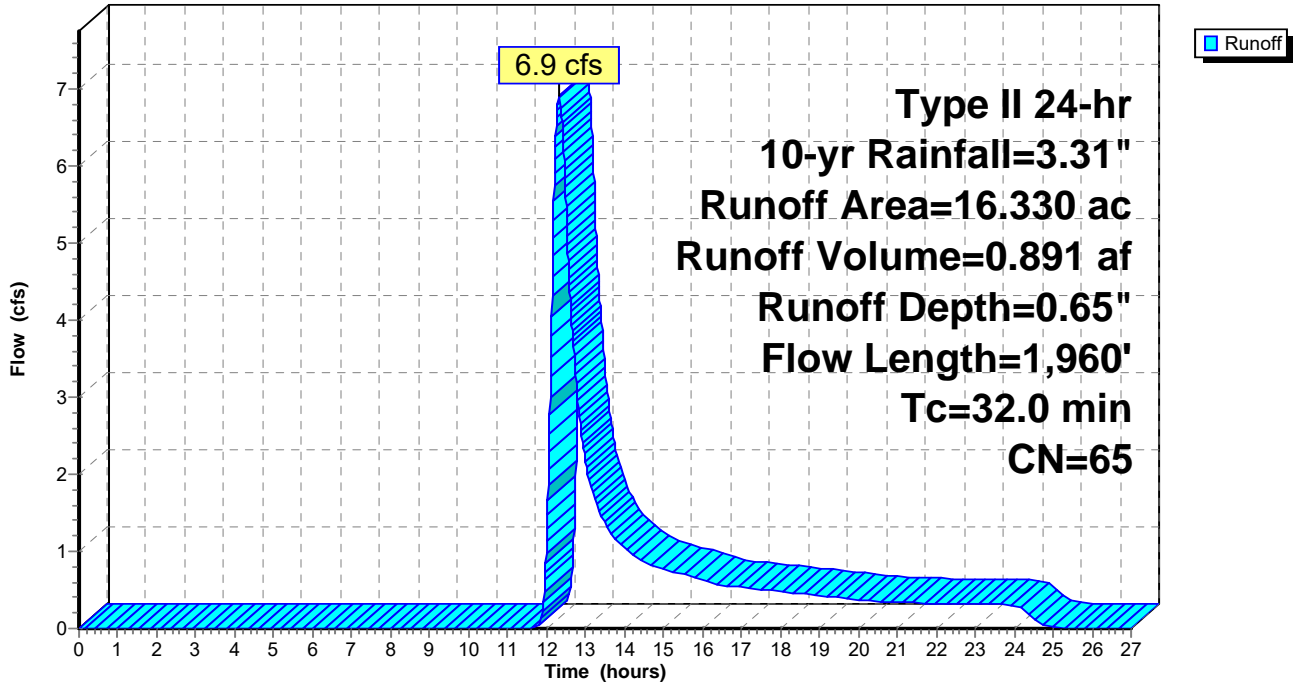
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
5.770	55	Woods, Good, HSG B
0.450	58	Meadow, non-grazed, HSG B
0.610	77	Woods, Good, HSG D
0.270	78	Meadow, non-grazed, HSG D
2.550	71	Meadow, non-grazed, HSG C
6.680	70	Woods, Good, HSG C
16.330	65	Weighted Average
16.330	65	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.3	100	0.0600	0.06		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
0.8	50	0.1900	1.09		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
2.9	1,810	0.0400	10.23	477.30	Parabolic Channel, W=35.00' D=2.00' Area=46.7 sf Perim=35.3' n= 0.035
32.0	1,960	Total			

Subcatchment C9: WOODS

Hydrograph



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Reach 20R: TOE SWALE

Inflow = 13.5 cfs @ 12.19 hrs, Volume= 0.528 af
 Outflow = 12.1 cfs @ 12.26 hrs, Volume= 0.528 af, Atten= 11%, Lag= 4.3 min
 Routed to Pond PHW19 : HEADWALL

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.98 fps, Min. Travel Time= 6.0 min
 Avg. Velocity = 0.65 fps, Avg. Travel Time= 27.3 min

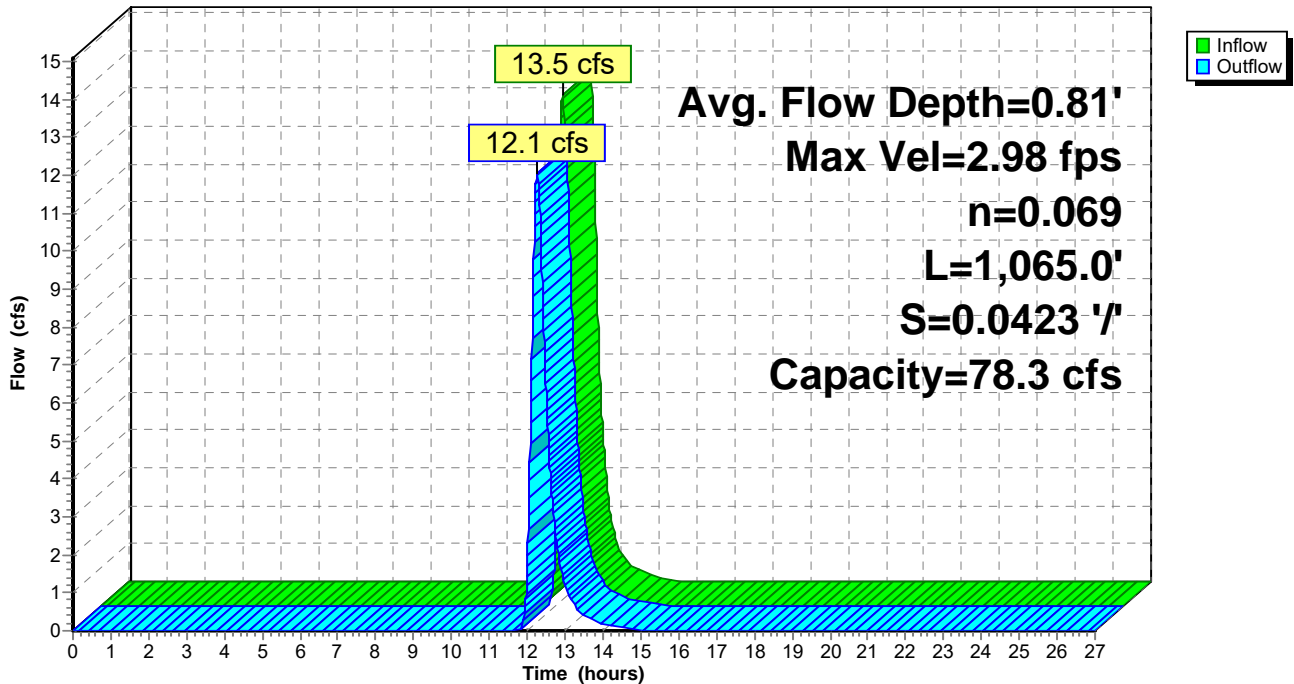
Peak Storage= 4,314 cf @ 12.26 hrs
 Average Depth at Peak Storage= 0.81' , Surface Width= 7.04'
 Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 78.3 cfs

3.00' x 2.00' deep channel, n= 0.069 Riprap, 6-inch
 Side Slope Z-value= 2.5 '/ Top Width= 13.00'
 Length= 1,065.0' Slope= 0.0423 '/
 Inlet Invert= 1,214.50', Outlet Invert= 1,169.50'



Reach 20R: TOE SWALE

Hydrograph

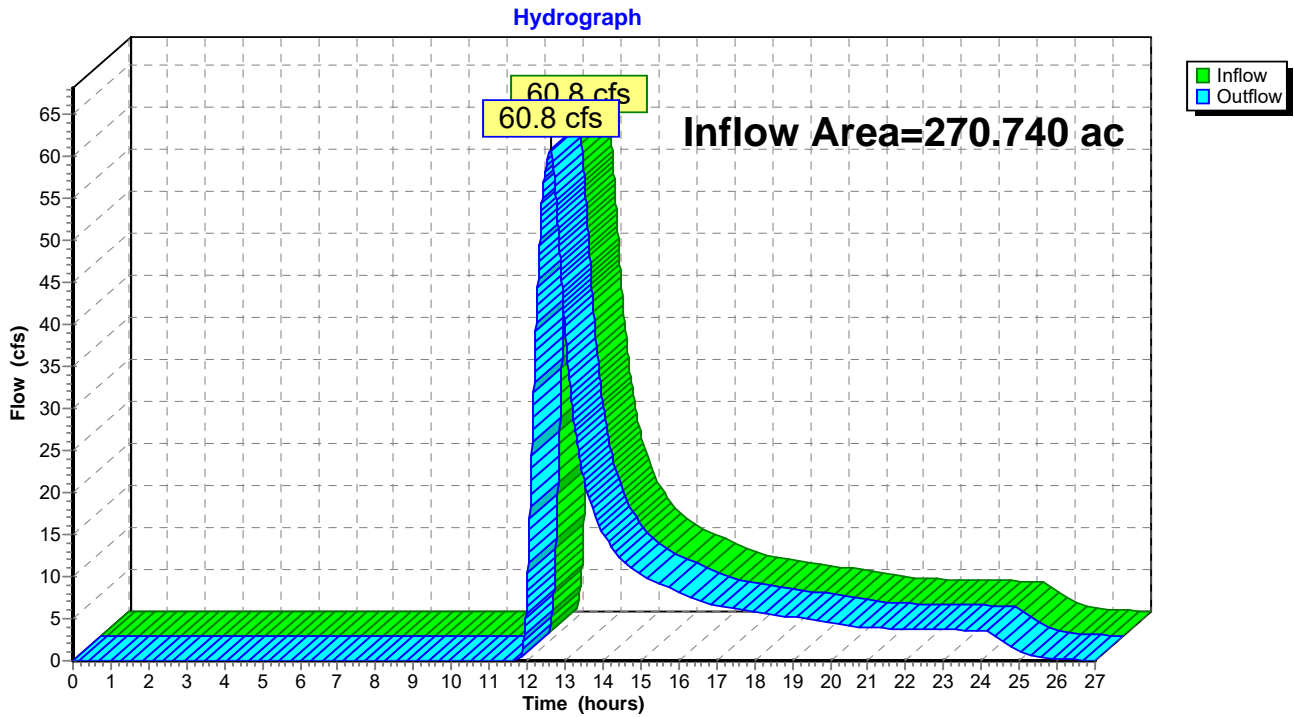


Summary for Reach OUT-C: WETLANDS COMPLEX

Inflow Area = 270.740 ac, 2.89% Impervious, Inflow Depth > 0.49" for 10-yr event
Inflow = 60.8 cfs @ 12.61 hrs, Volume= 11.057 af
Outflow = 60.8 cfs @ 12.61 hrs, Volume= 11.057 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs

Reach OUT-C: WETLANDS COMPLEX



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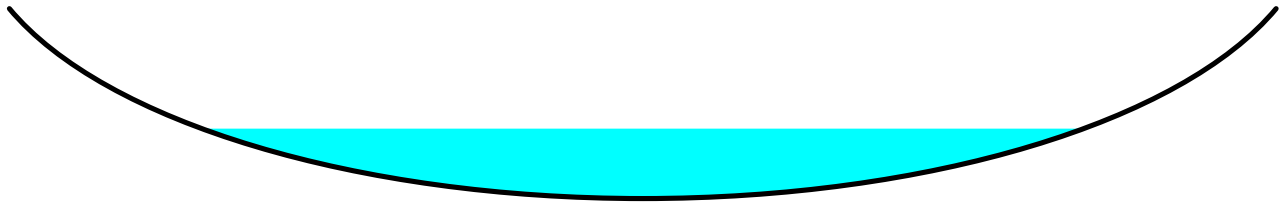
Summary for Reach RC1: WETLANDS

Inflow Area = 39.170 ac, 0.00% Impervious, Inflow Depth = 0.61" for 10-yr event
Inflow = 12.7 cfs @ 12.44 hrs, Volume= 1.995 af
Outflow = 12.3 cfs @ 12.52 hrs, Volume= 1.995 af, Atten= 3%, Lag= 5.0 min
Routed to Reach OUT-C : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.66 fps, Min. Travel Time= 5.3 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 11.5 min

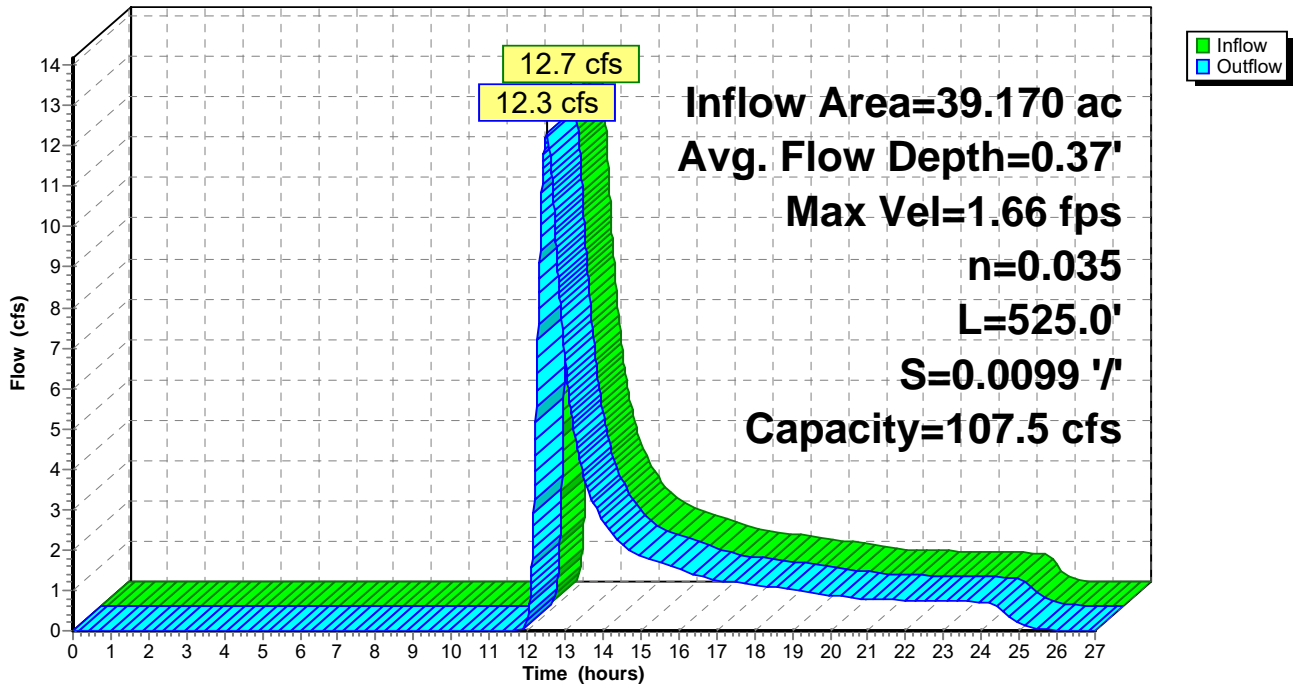
Peak Storage= 3,900 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.37' , Surface Width= 30.31'
Bank-Full Depth= 1.00' Flow Area= 33.3 sf, Capacity= 107.5 cfs

50.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 525.0' Slope= 0.0099 '/'
Inlet Invert= 1,020.94', Outlet Invert= 1,015.73'



Reach RC1: WETLANDS

Hydrograph



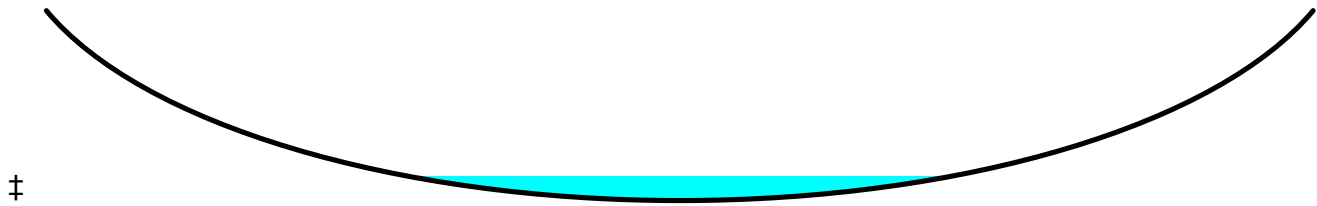
Summary for Reach RC10: WETLAND

Inflow Area = 49.470 ac, 0.00% Impervious, Inflow Depth = 0.12" for 10-yr event
 Inflow = 6.8 cfs @ 12.48 hrs, Volume= 0.477 af
 Outflow = 5.8 cfs @ 12.60 hrs, Volume= 0.477 af, Atten= 15%, Lag= 7.0 min
 Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.72 fps, Min. Travel Time= 6.2 min
 Avg. Velocity = 1.05 fps, Avg. Travel Time= 16.0 min

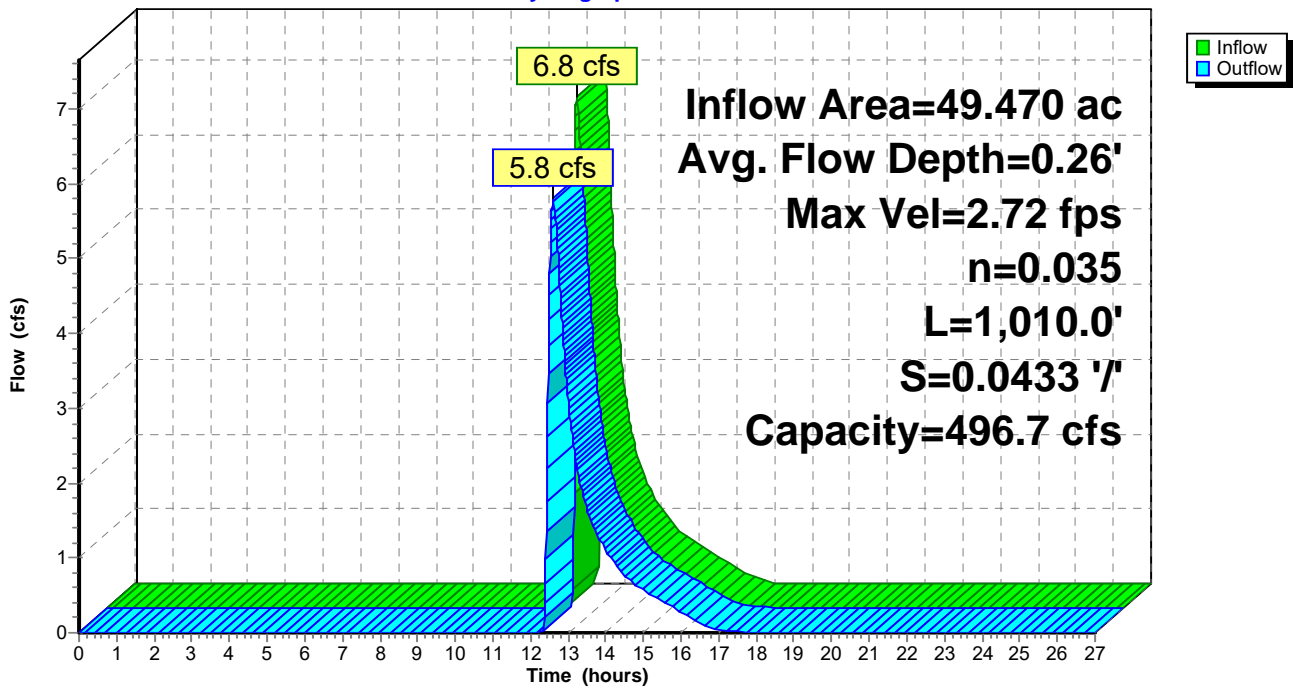
Peak Storage= 2,157 cf @ 12.60 hrs
 Average Depth at Peak Storage= 0.26' , Surface Width= 12.52'
 Bank-Full Depth= 2.00' Flow Area= 46.7 sf, Capacity= 496.7 cfs

35.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 1,010.0' Slope= 0.0433 '/'
 Inlet Invert= 1,154.00', Outlet Invert= 1,110.25'



Reach RC10: WETLAND

Hydrograph



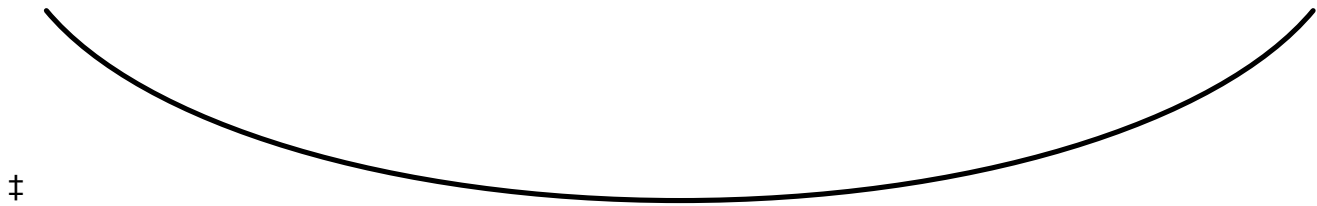
Summary for Reach RC11: WOODS

Inflow Area = 24.830 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RC9 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

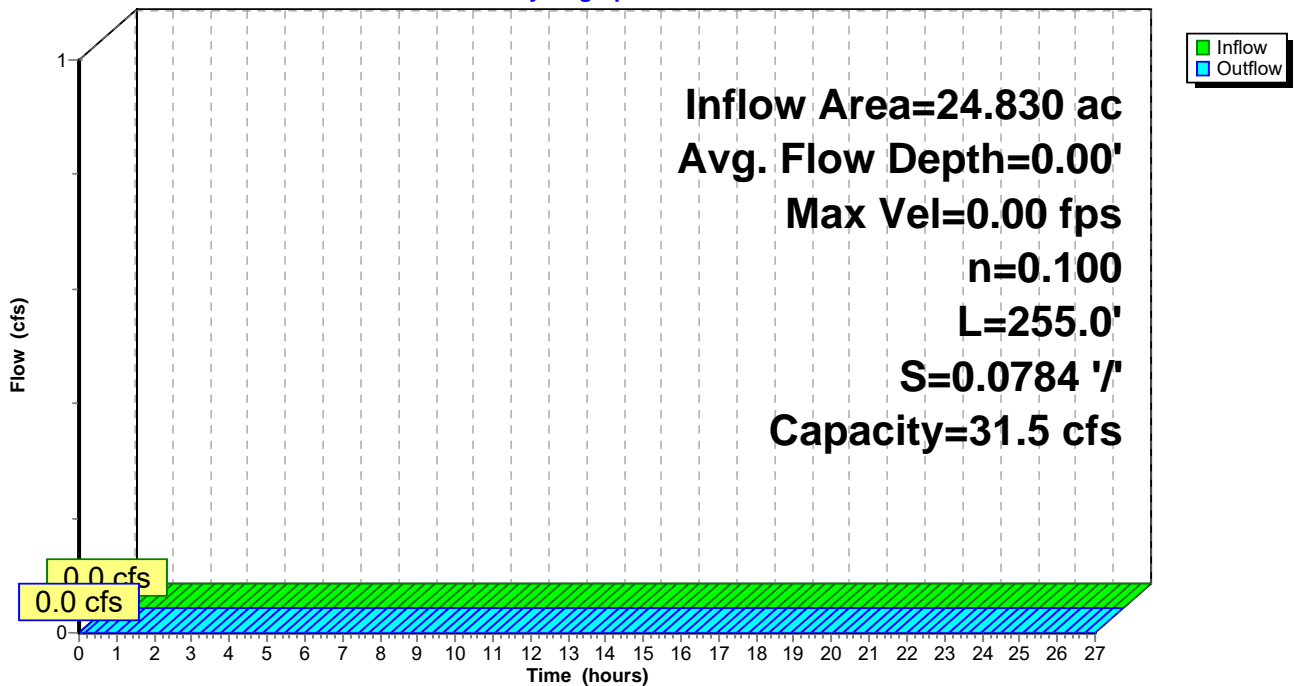
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 10.0 sf, Capacity= 31.5 cfs

15.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 255.0' Slope= 0.0784 '/'
 Inlet Invert= 1,206.00', Outlet Invert= 1,186.00'



Reach RC11: WOODS

Hydrograph



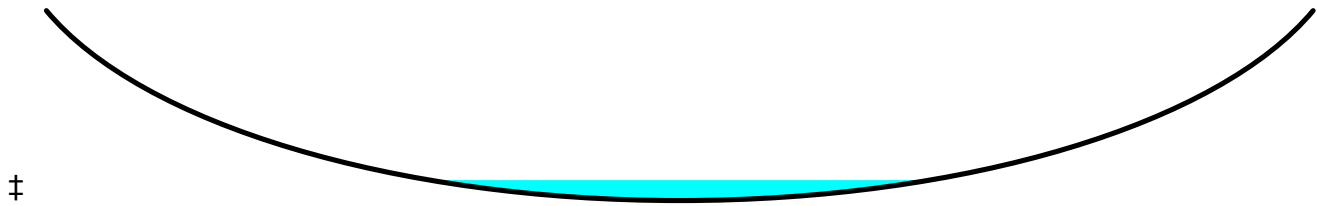
Summary for Reach RC12: WETLAND

Inflow Area = 0.780 ac, 0.00% Impervious, Inflow Depth = 1.65" for 10-yr event
 Inflow = 3.2 cfs @ 12.53 hrs, Volume= 0.107 af
 Outflow = 3.2 cfs @ 12.55 hrs, Volume= 0.107 af, Atten= 1%, Lag= 1.2 min
 Routed to Reach RC5 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 3.46 fps, Min. Travel Time= 1.5 min
 Avg. Velocity = 1.69 fps, Avg. Travel Time= 3.0 min

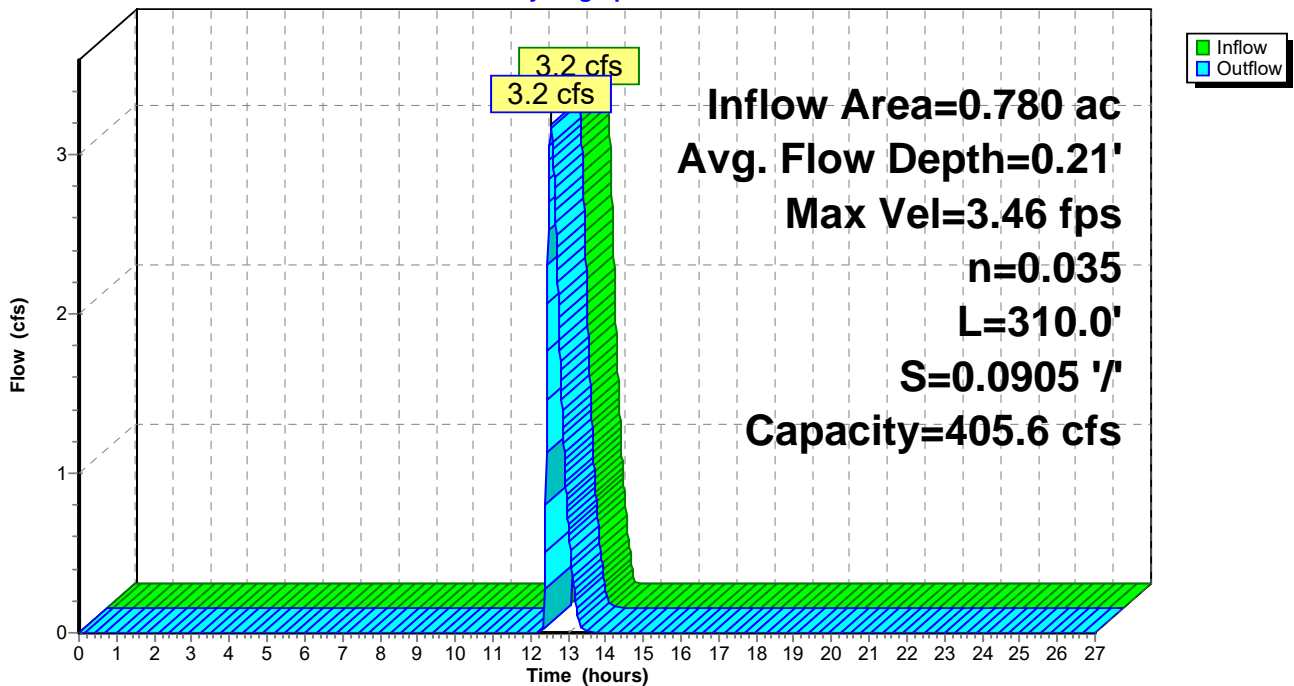
Peak Storage= 285 cf @ 12.55 hrs
 Average Depth at Peak Storage= 0.21' , Surface Width= 6.51'
 Bank-Full Depth= 2.00' Flow Area= 26.7 sf, Capacity= 405.6 cfs

20.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 310.0' Slope= 0.0905 '/'
 Inlet Invert= 1,133.81', Outlet Invert= 1,105.76'



Reach RC12: WETLAND

Hydrograph



Summary for Reach RC14: WETLAND

Inflow Area = 55.920 ac, 2.63% Impervious, Inflow Depth = 0.73" for 10-yr event
 Inflow = 22.2 cfs @ 12.48 hrs, Volume= 3.380 af
 Outflow = 22.1 cfs @ 12.49 hrs, Volume= 3.380 af, Atten= 0%, Lag= 1.0 min
 Routed to Reach RC16 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 4.14 fps, Min. Travel Time= 1.8 min
 Avg. Velocity = 1.84 fps, Avg. Travel Time= 4.0 min

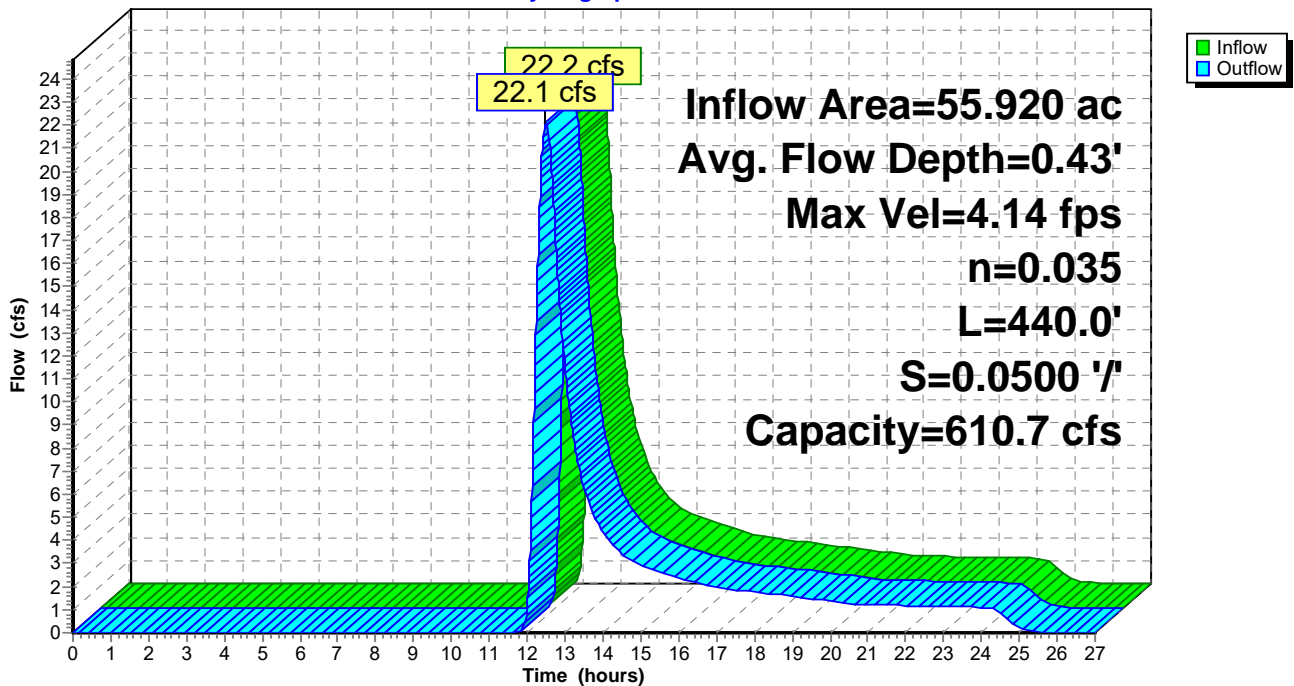
Peak Storage= 2,354 cf @ 12.49 hrs
 Average Depth at Peak Storage= 0.43' , Surface Width= 18.58'
 Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 610.7 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 440.0' Slope= 0.0500 '/'
 Inlet Invert= 1,126.00', Outlet Invert= 1,104.00'



Reach RC14: WETLAND

Hydrograph



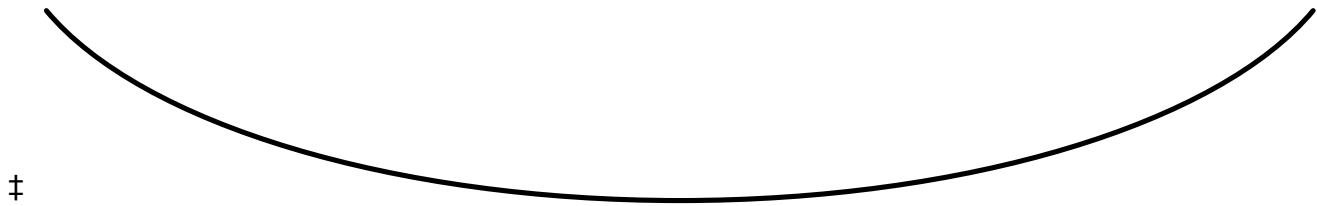
Summary for Reach RC15: FLOW THROUGH WOODS

Inflow Area = 0.970 ac, 40.21% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RC16 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

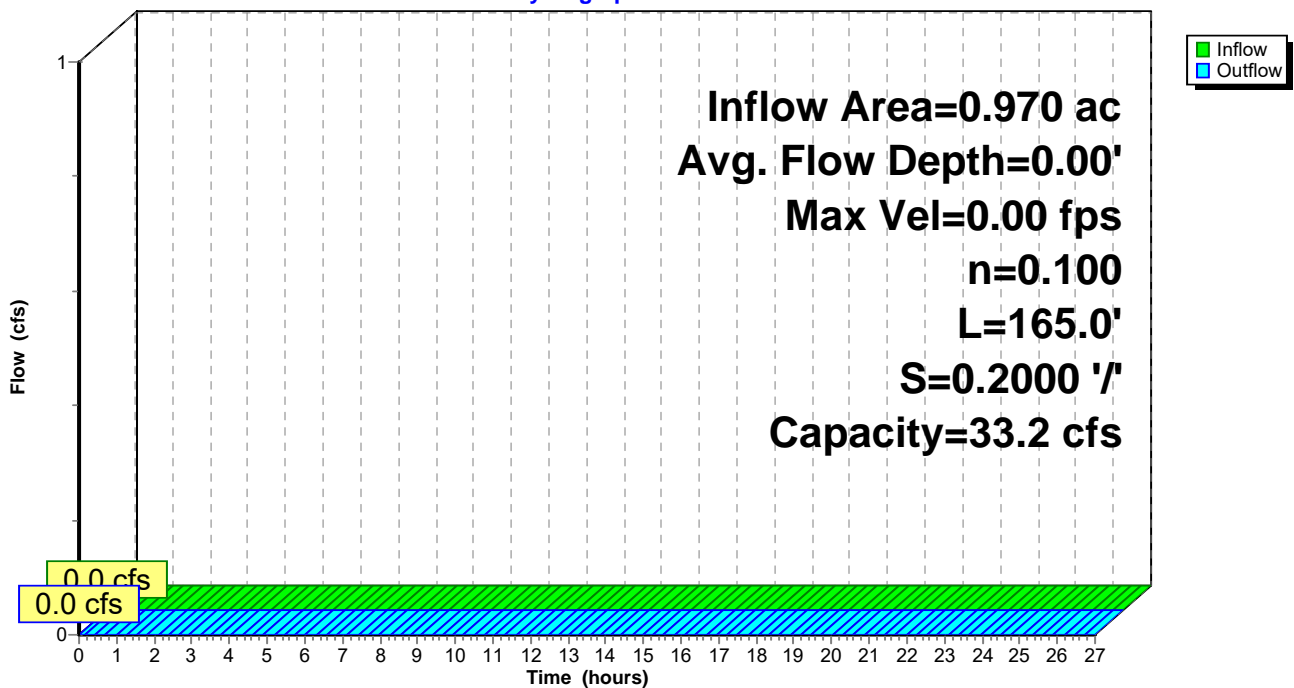
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 33.2 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 165.0' Slope= 0.2000 '/'
 Inlet Invert= 1,137.00', Outlet Invert= 1,104.00'



Reach RC15: FLOW THROUGH WOODS

Hydrograph



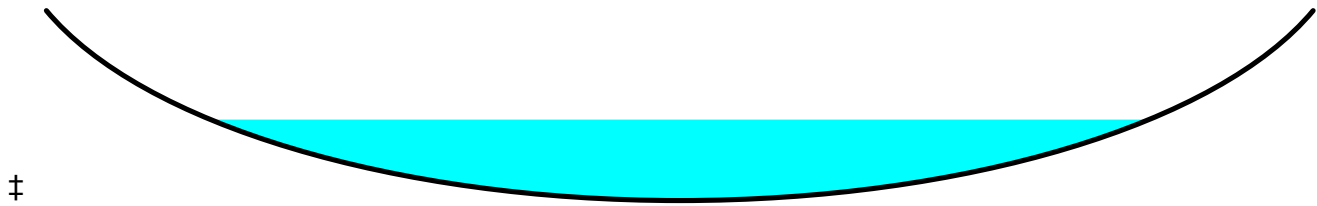
Summary for Reach RC16: WETLAND

Inflow Area = 56.890 ac, 3.27% Impervious, Inflow Depth = 0.71" for 10-yr event
 Inflow = 22.1 cfs @ 12.49 hrs, Volume= 3.380 af
 Outflow = 22.1 cfs @ 12.52 hrs, Volume= 3.380 af, Atten= 0%, Lag= 1.3 min
 Routed to Reach RC4 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.98 fps, Min. Travel Time= 1.8 min
 Avg. Velocity = 1.32 fps, Avg. Travel Time= 4.0 min

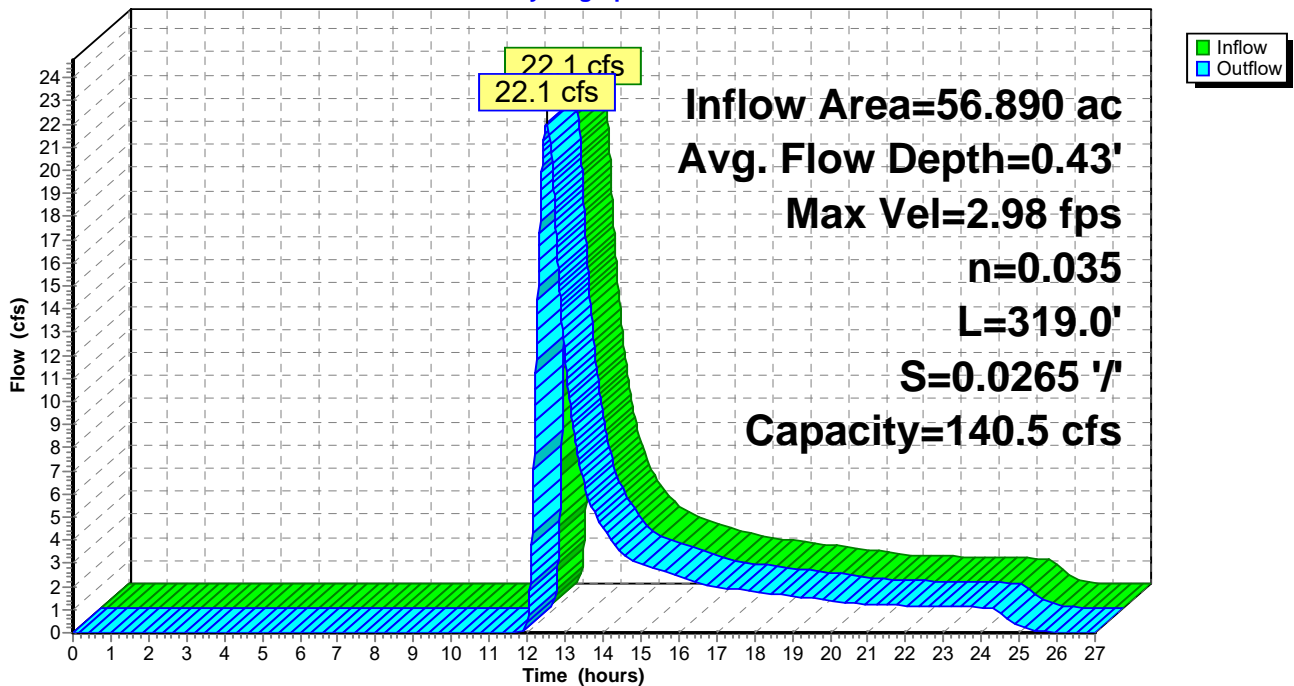
Peak Storage= 2,361 cf @ 12.52 hrs
 Average Depth at Peak Storage= 0.43' , Surface Width= 26.09'
 Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 140.5 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.035
 Length= 319.0' Slope= 0.0265 '/'
 Inlet Invert= 1,104.00', Outlet Invert= 1,095.55'



Reach RC16: WETLAND

Hydrograph



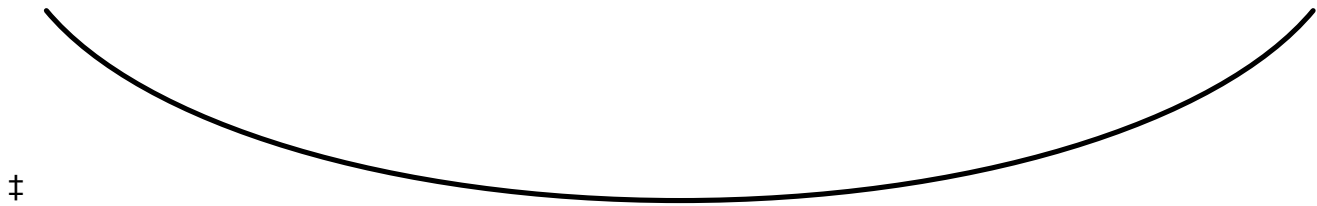
Summary for Reach RC17: FLOW THROUGH WOODS

Inflow Area = 16.840 ac, 2.61% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RC19 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

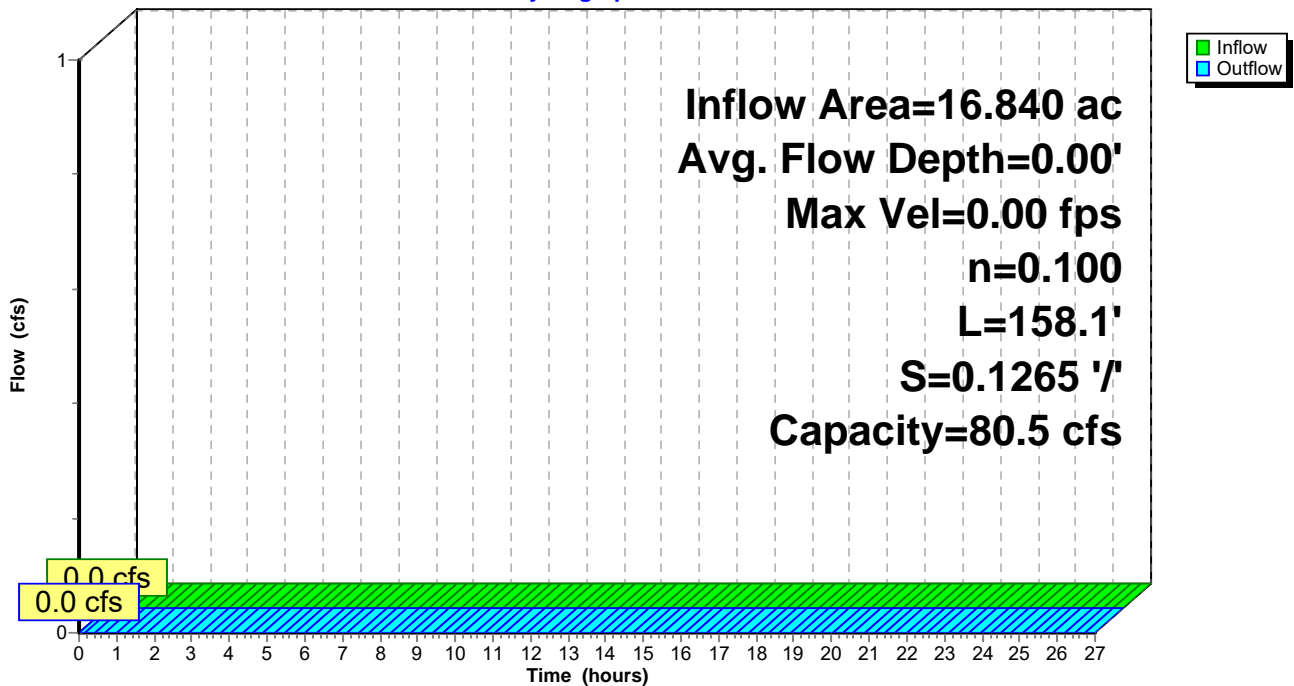
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 80.5 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 158.1' Slope= 0.1265 '/'
 Inlet Invert= 1,116.00', Outlet Invert= 1,096.00'



Reach RC17: FLOW THROUGH WOODS

Hydrograph



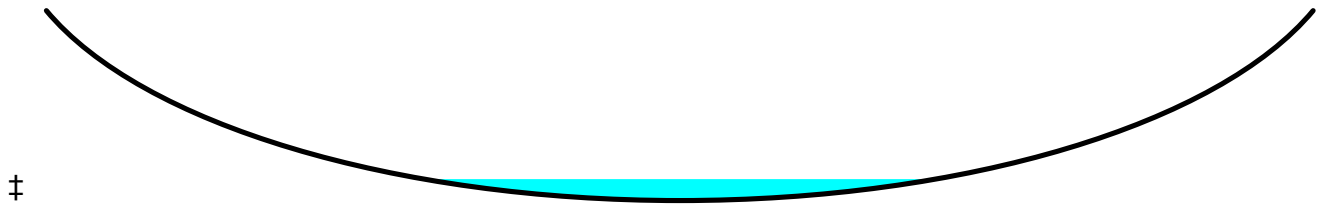
Summary for Reach RC18: FLOW THROUGH WOODS

Inflow Area = 6.130 ac, 0.00% Impervious, Inflow Depth = 0.31" for 10-yr event
 Inflow = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af
 Outflow = 0.7 cfs @ 12.56 hrs, Volume= 0.161 af, Atten= 1%, Lag= 2.3 min
 Routed to Reach RC19 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.07 fps, Min. Travel Time= 3.0 min
 Avg. Velocity = 0.59 fps, Avg. Travel Time= 5.5 min

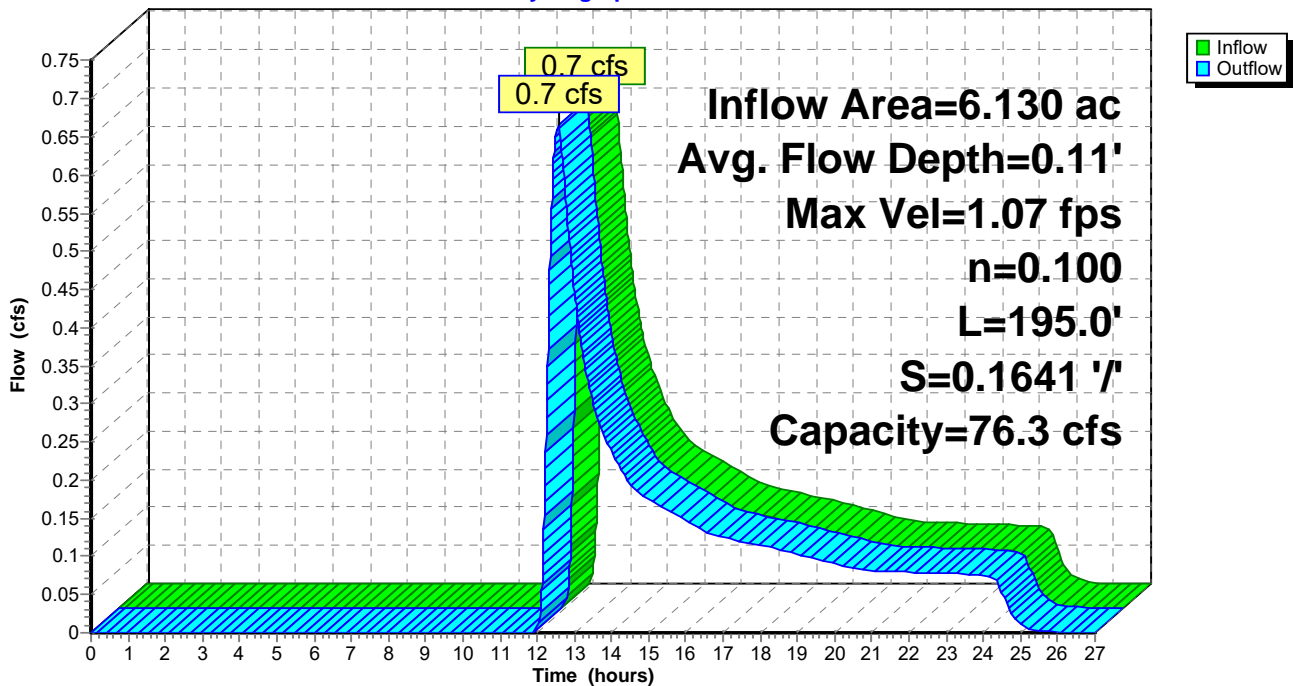
Peak Storage= 122 cf @ 12.56 hrs
 Average Depth at Peak Storage= 0.11' , Surface Width= 8.36'
 Bank-Full Depth= 1.00' Flow Area= 16.7 sf, Capacity= 76.3 cfs

25.00' x 1.00' deep Parabolic Channel, n= 0.100 Very weedy reaches w/pools
 Length= 195.0' Slope= 0.1641 '/'
 Inlet Invert= 1,128.00', Outlet Invert= 1,096.00'



Reach RC18: FLOW THROUGH WOODS

Hydrograph



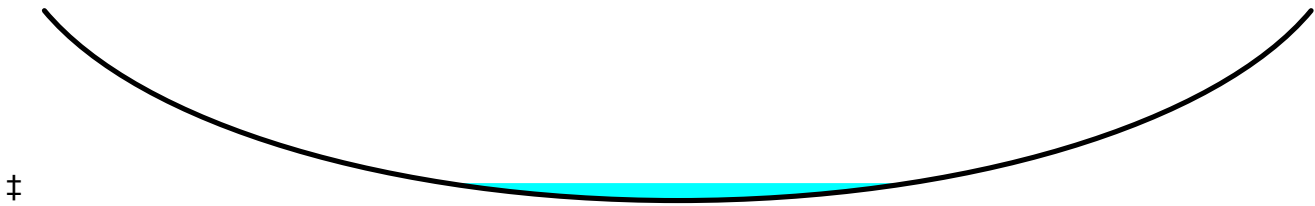
Summary for Reach RC19: WETLAND

Inflow Area = 22.970 ac, 1.92% Impervious, Inflow Depth = 0.08" for 10-yr event
Inflow = 0.7 cfs @ 12.56 hrs, Volume= 0.161 af
Outflow = 0.6 cfs @ 12.65 hrs, Volume= 0.161 af, Atten= 3%, Lag= 5.1 min
Routed to Reach RC3 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.40 fps, Min. Travel Time= 6.5 min
Avg. Velocity = 0.78 fps, Avg. Travel Time= 11.6 min

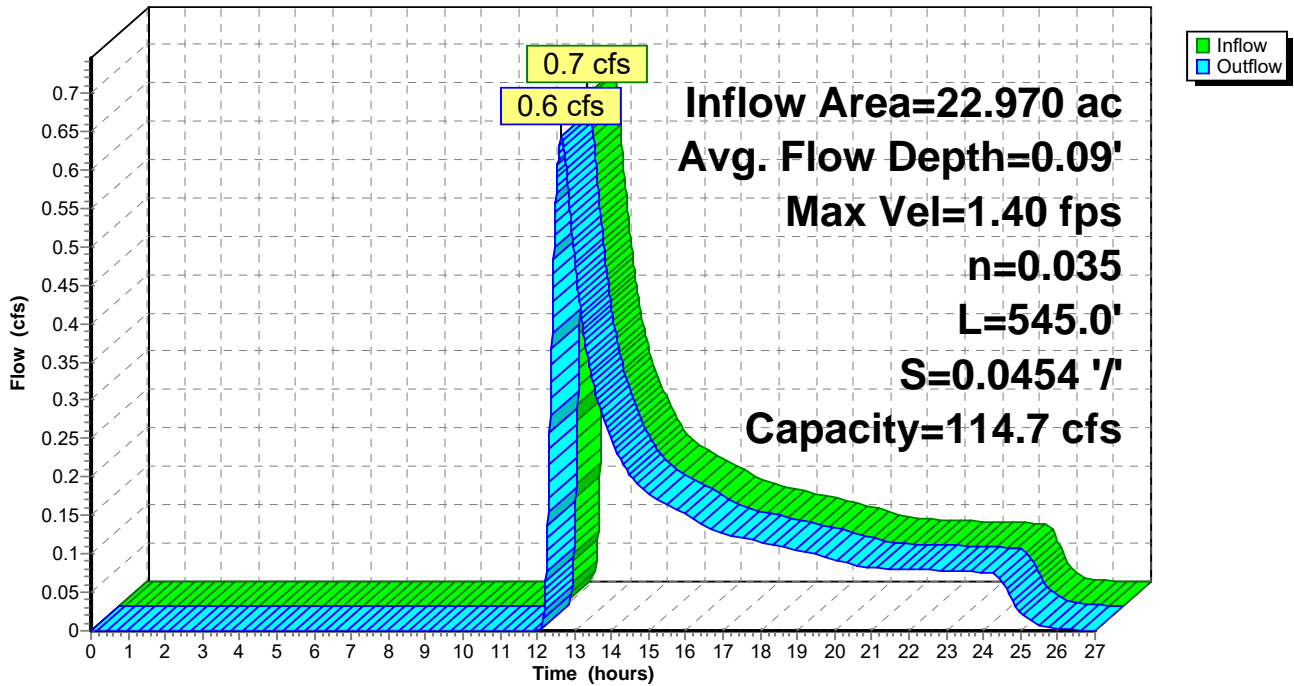
Peak Storage= 250 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.09' , Surface Width= 7.55'
Bank-Full Depth= 1.00' Flow Area= 16.7 sf, Capacity= 114.7 cfs

25.00' x 1.00' deep Parabolic Channel, n= 0.035
Length= 545.0' Slope= 0.0454 '/'
Inlet Invert= 1,096.00', Outlet Invert= 1,071.27'



Reach RC19: WETLAND

Hydrograph



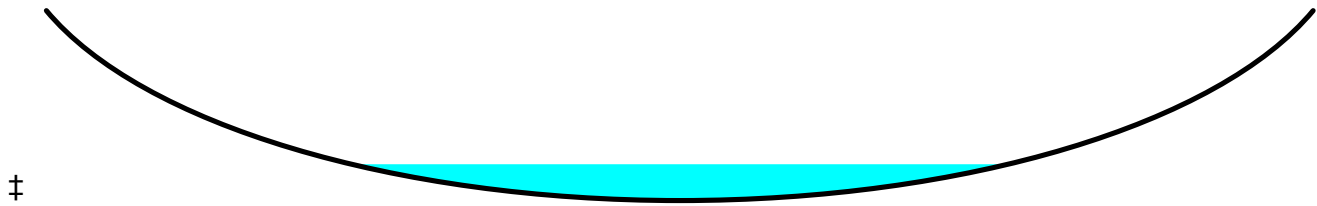
Summary for Reach RC2: WETLAND STREAM

Inflow Area = 169.380 ac, 4.23% Impervious, Inflow Depth > 0.37" for 10-yr event
 Inflow = 34.1 cfs @ 12.67 hrs, Volume= 5.230 af
 Outflow = 33.9 cfs @ 12.70 hrs, Volume= 5.229 af, Atten= 1%, Lag= 1.8 min
 Routed to Reach OUT-C : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 3.09 fps, Min. Travel Time= 2.4 min
 Avg. Velocity = 1.32 fps, Avg. Travel Time= 5.6 min

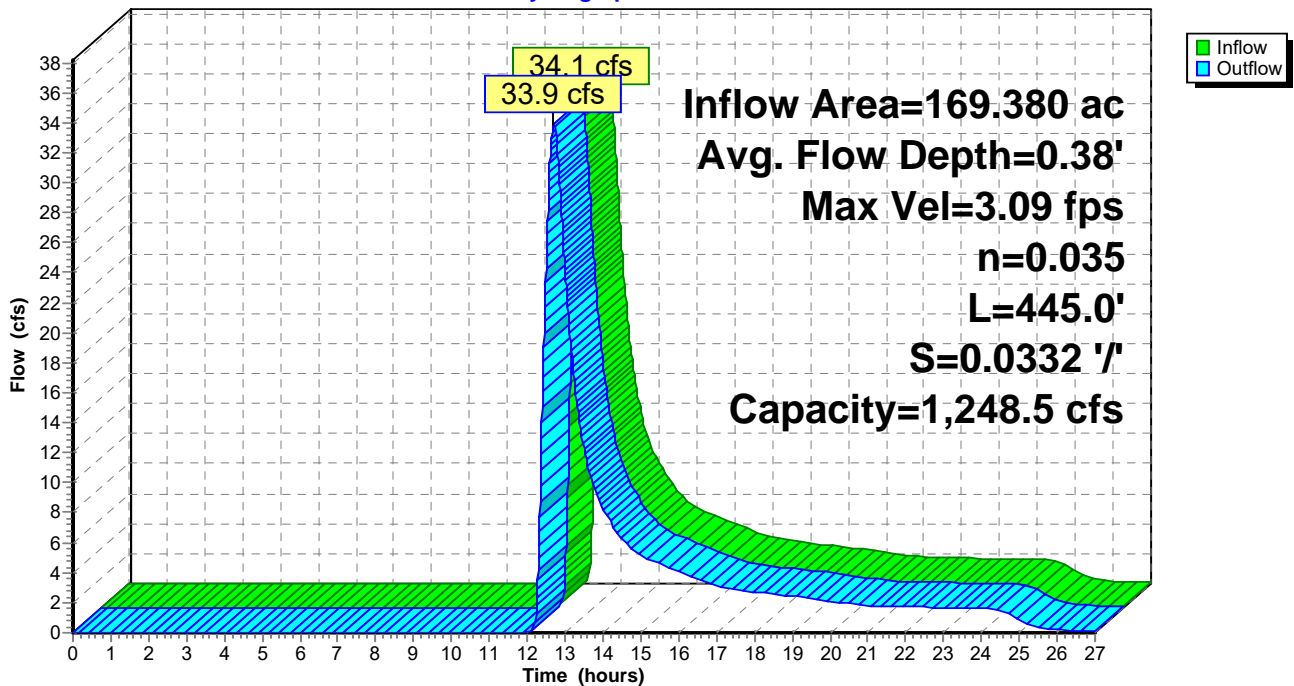
Peak Storage= 4,883 cf @ 12.70 hrs
 Average Depth at Peak Storage= 0.38' , Surface Width= 43.50'
 Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,248.5 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 445.0' Slope= 0.0332 '/'
 Inlet Invert= 1,030.50', Outlet Invert= 1,015.73'



Reach RC2: WETLAND STREAM

Hydrograph



Summary for Reach RC20: SWALE

Inflow Area = 13.920 ac, 2.01% Impervious, Inflow Depth = 0.53" for 10-yr event
 Inflow = 13.2 cfs @ 12.11 hrs, Volume= 0.618 af
 Outflow = 13.2 cfs @ 12.12 hrs, Volume= 0.618 af, Atten= 0%, Lag= 0.3 min
 Routed to Pond P8 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.41 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 0.86 fps, Avg. Travel Time= 1.2 min

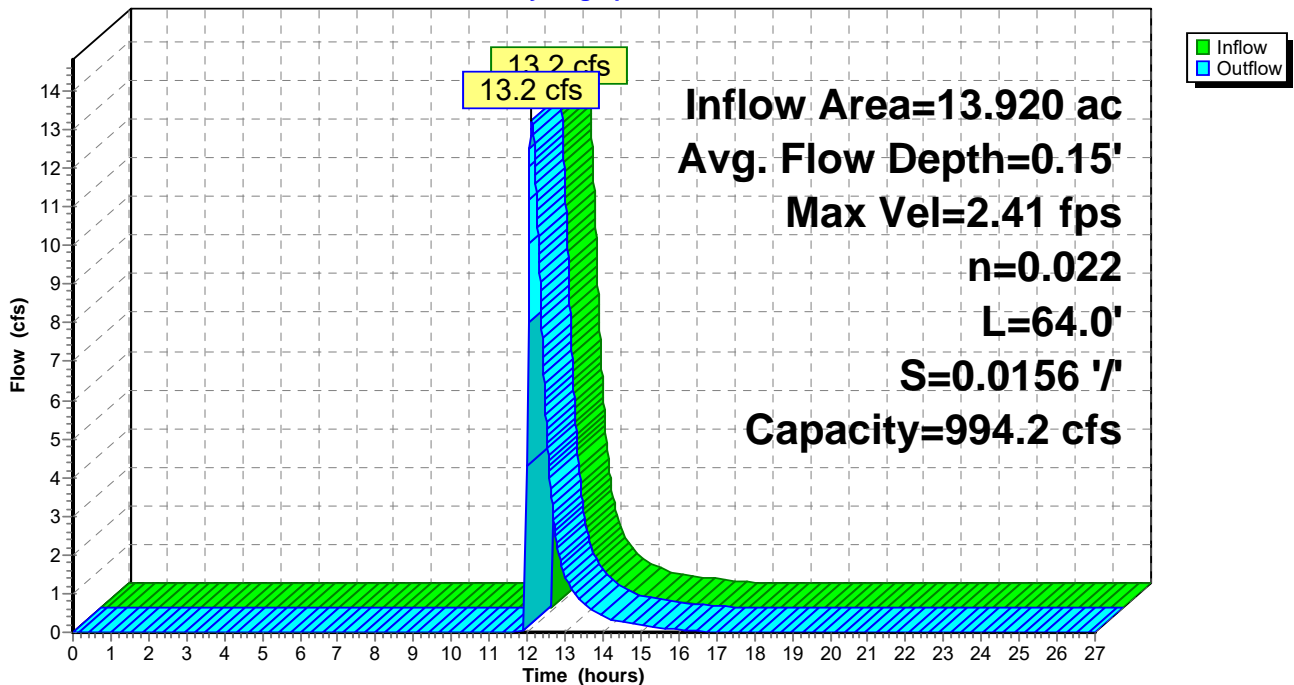
Peak Storage= 351 cf @ 12.12 hrs
 Average Depth at Peak Storage= 0.15' , Surface Width= 35.93'
 Bank-Full Depth= 2.00' Flow Area= 82.0 sf, Capacity= 994.2 cfs

35.00' x 2.00' deep channel, n= 0.022
 Side Slope Z-value= 3.0 '/' Top Width= 47.00'
 Length= 64.0' Slope= 0.0156 '/'
 Inlet Invert= 1,151.00', Outlet Invert= 1,150.00'



Reach RC20: SWALE

Hydrograph



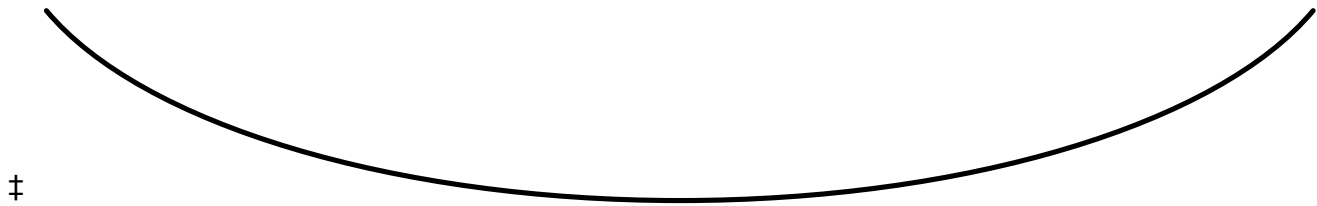
Summary for Reach RC21: FLOW THROUGH WOODS

Inflow Area = 7.010 ac, 56.49% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RC22 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

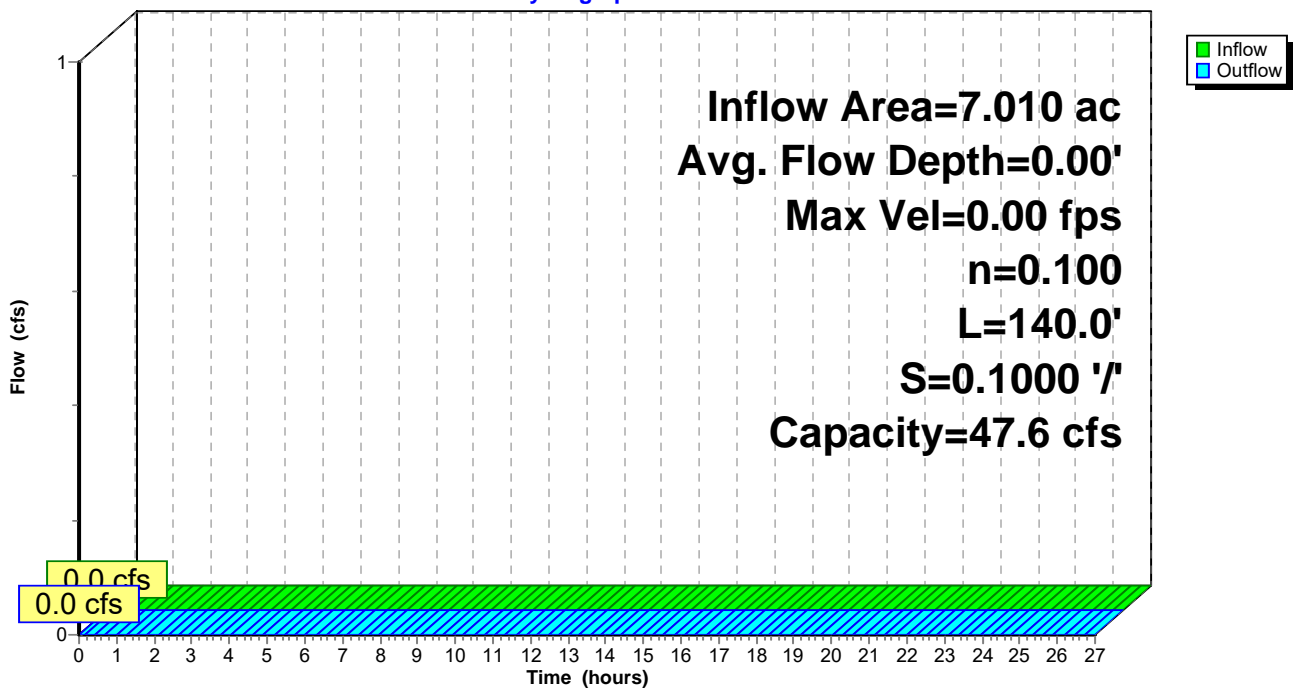
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 47.6 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 140.0' Slope= 0.1000 '/'
 Inlet Invert= 1,104.00', Outlet Invert= 1,090.00'



Reach RC21: FLOW THROUGH WOODS

Hydrograph



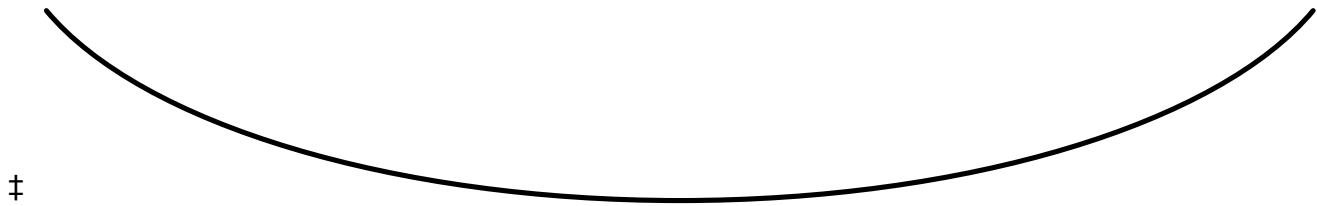
Summary for Reach RC22: WETLAND

Inflow Area = 7.010 ac, 56.49% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RC2 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

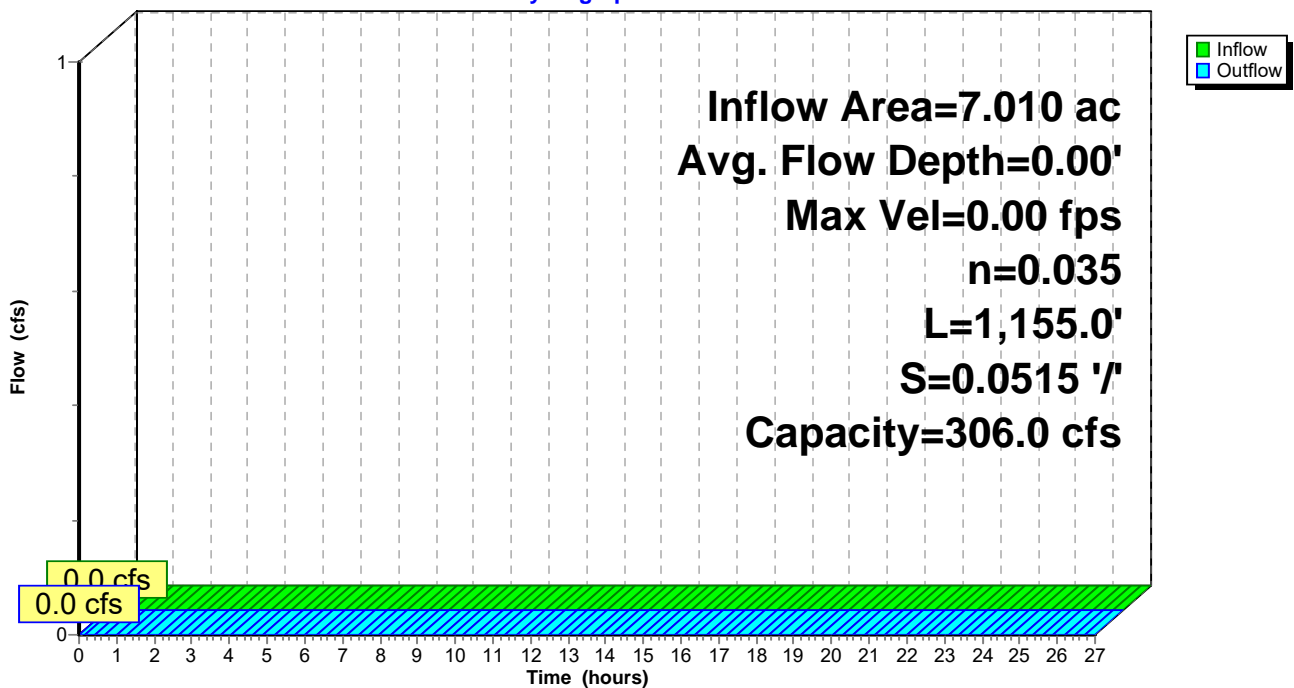
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 2.00' Flow Area= 26.7 sf, Capacity= 306.0 cfs

20.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 1,155.0' Slope= 0.0515 '/'
 Inlet Invert= 1,090.00', Outlet Invert= 1,030.50'



Reach RC22: WETLAND

Hydrograph



Summary for Reach RC3: WETLAND STREAM

Inflow Area = 162.370 ac, 1.98% Impervious, Inflow Depth > 0.39" for 10-yr event
 Inflow = 35.5 cfs @ 12.60 hrs, Volume= 5.234 af
 Outflow = 34.1 cfs @ 12.67 hrs, Volume= 5.230 af, Atten= 4%, Lag= 4.5 min
 Routed to Reach RC2 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 3.16 fps, Min. Travel Time= 6.1 min
 Avg. Velocity = 1.34 fps, Avg. Travel Time= 14.4 min

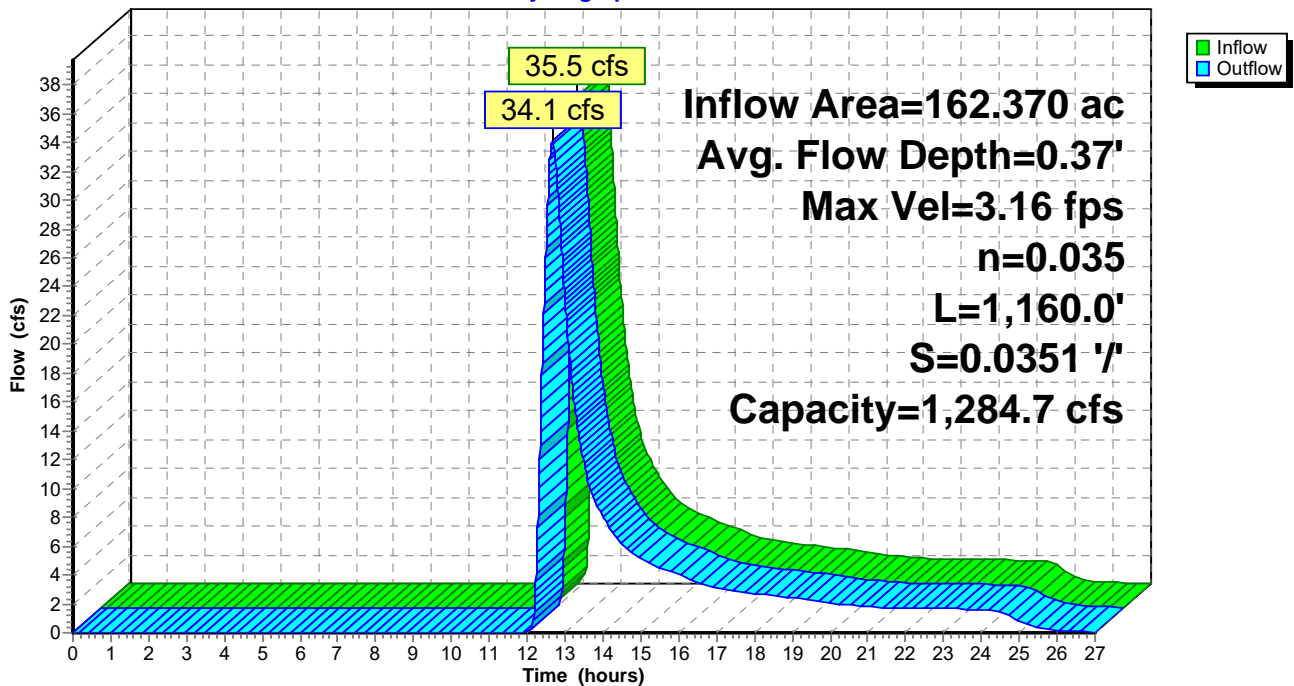
Peak Storage= 12,527 cf @ 12.67 hrs
 Average Depth at Peak Storage= 0.37' , Surface Width= 43.26'
 Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,284.7 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 1,160.0' Slope= 0.0351 '/
 Inlet Invert= 1,071.27', Outlet Invert= 1,030.50'



Reach RC3: WETLAND STREAM

Hydrograph



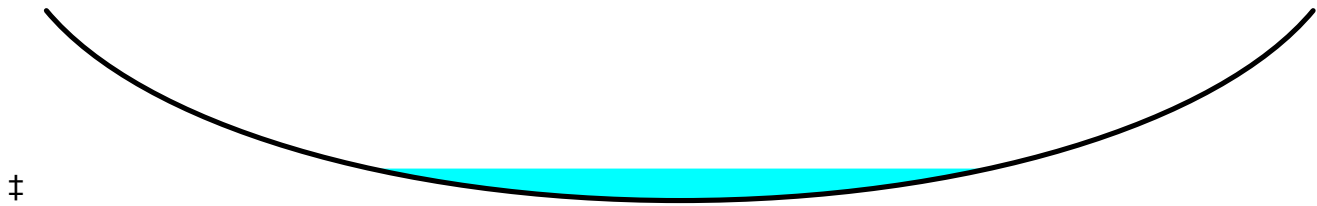
Summary for Reach RC4: WETLAND STREAM

Inflow Area = 139.400 ac, 1.99% Impervious, Inflow Depth > 0.44" for 10-yr event
 Inflow = 35.1 cfs @ 12.57 hrs, Volume= 5.074 af
 Outflow = 34.8 cfs @ 12.60 hrs, Volume= 5.073 af, Atten= 1%, Lag= 1.6 min
 Routed to Reach RC3 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 4.79 fps, Min. Travel Time= 2.2 min
 Avg. Velocity = 1.98 fps, Avg. Travel Time= 5.4 min

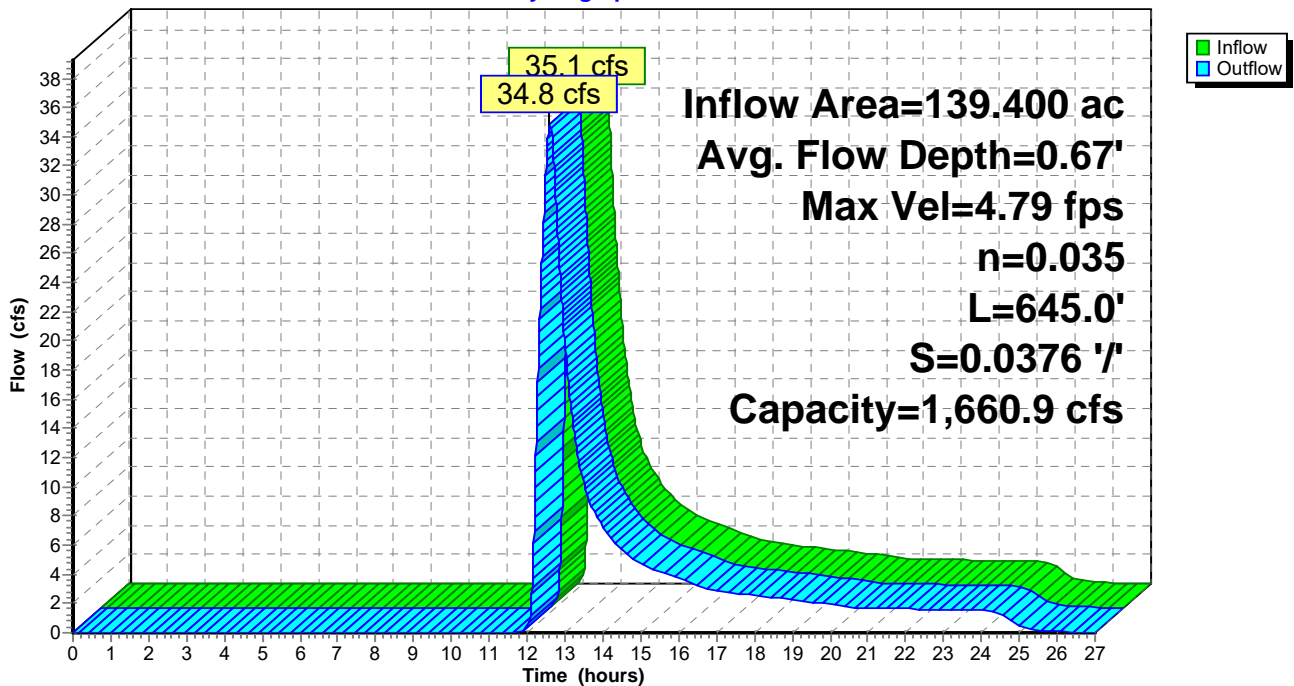
Peak Storage= 4,690 cf @ 12.60 hrs
 Average Depth at Peak Storage= 0.67' , Surface Width= 16.34'
 Bank-Full Depth= 4.00' Flow Area= 106.7 sf, Capacity= 1,660.9 cfs

40.00' x 4.00' deep Parabolic Channel, n= 0.035
 Length= 645.0' Slope= 0.0376 '/'
 Inlet Invert= 1,095.55', Outlet Invert= 1,071.27'



Reach RC4: WETLAND STREAM

Hydrograph



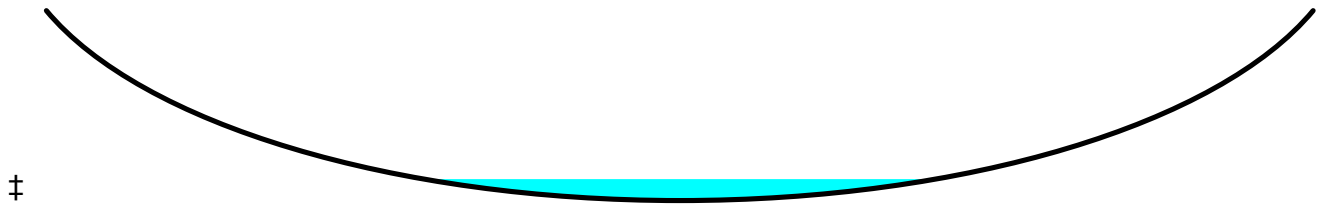
Summary for Reach RC5: WETLAND STREAM

Inflow Area = 82.510 ac, 1.10% Impervious, Inflow Depth > 0.25" for 10-yr event
 Inflow = 13.4 cfs @ 12.58 hrs, Volume= 1.695 af
 Outflow = 13.4 cfs @ 12.60 hrs, Volume= 1.694 af, Atten= 0%, Lag= 0.9 min
 Routed to Reach RC4 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.67 fps, Min. Travel Time= 1.3 min
 Avg. Velocity = 1.06 fps, Avg. Travel Time= 3.2 min

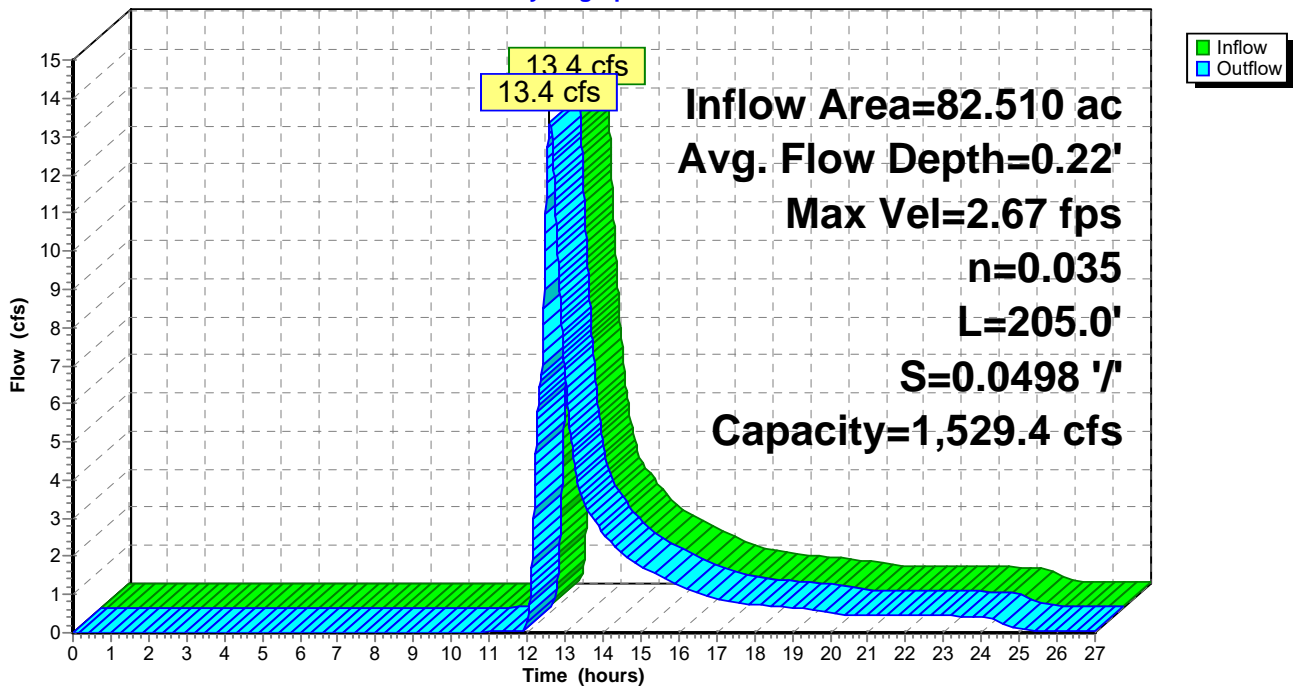
Peak Storage= 1,026 cf @ 12.60 hrs
 Average Depth at Peak Storage= 0.22' , Surface Width= 33.48'
 Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 1,529.4 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 205.0' Slope= 0.0498 '/'
 Inlet Invert= 1,105.76', Outlet Invert= 1,095.55'



Reach RC5: WETLAND STREAM

Hydrograph



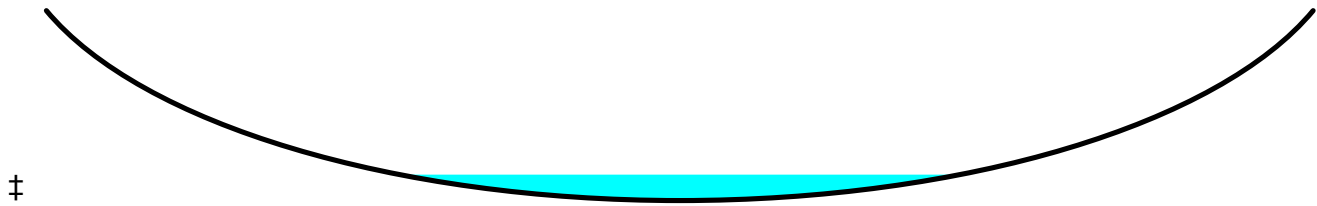
Summary for Reach RC6: WETLAND STREAM

Inflow Area = 81.730 ac, 1.11% Impervious, Inflow Depth > 0.23" for 10-yr event
 Inflow = 10.5 cfs @ 12.55 hrs, Volume= 1.588 af
 Outflow = 10.3 cfs @ 12.60 hrs, Volume= 1.587 af, Atten= 2%, Lag= 2.6 min
 Routed to Reach RC5 : WETLAND STREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.57 fps, Min. Travel Time= 3.3 min
 Avg. Velocity = 0.66 fps, Avg. Travel Time= 8.0 min

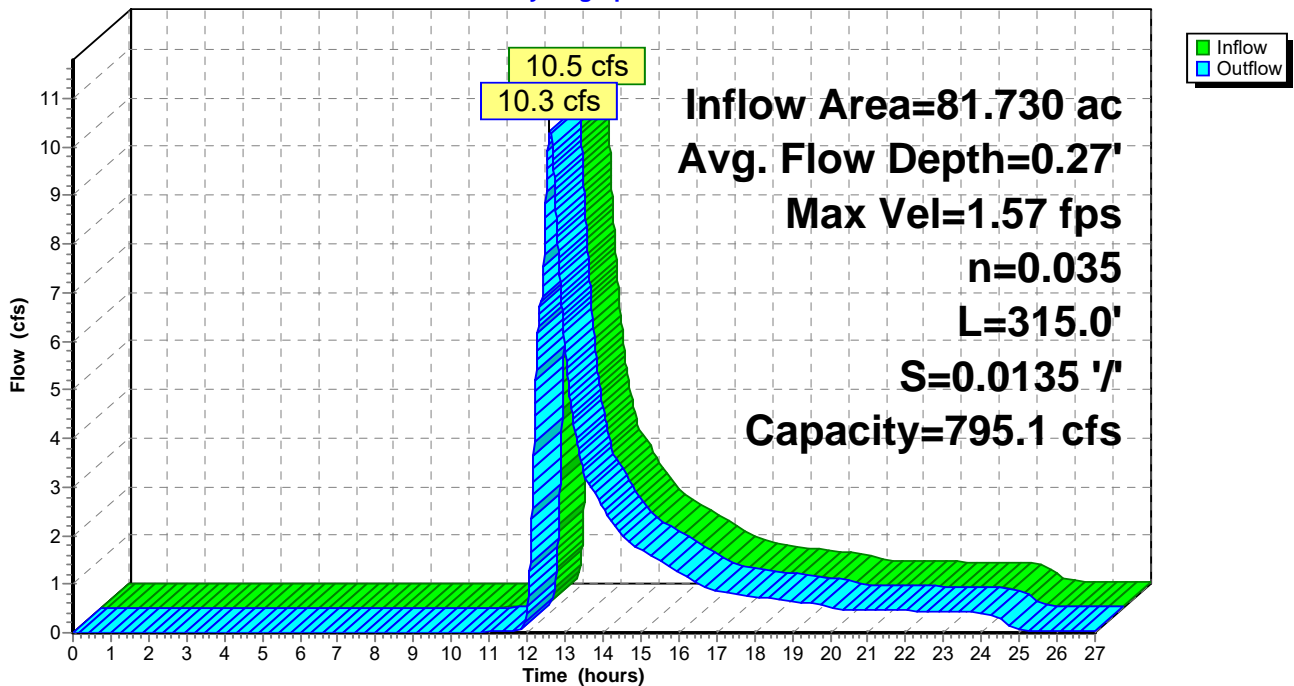
Peak Storage= 2,073 cf @ 12.60 hrs
 Average Depth at Peak Storage= 0.27' , Surface Width= 36.68'
 Bank-Full Depth= 2.00' Flow Area= 133.3 sf, Capacity= 795.1 cfs

100.00' x 2.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 315.0' Slope= 0.0135 '/'
 Inlet Invert= 1,110.00', Outlet Invert= 1,105.76'



Reach RC6: WETLAND STREAM

Hydrograph



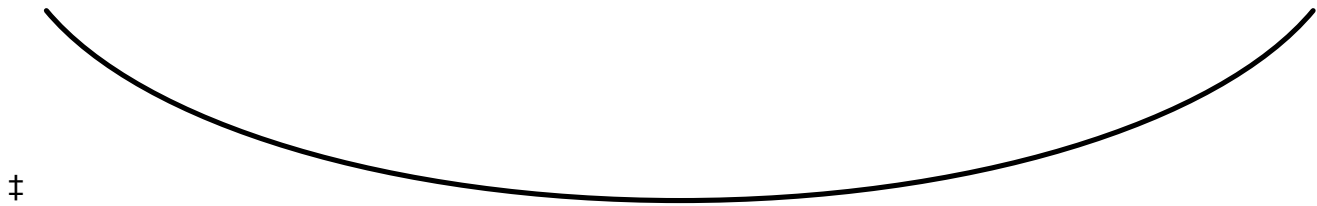
Summary for Reach RC8: WOODS

Inflow Area = 13.920 ac, 2.01% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

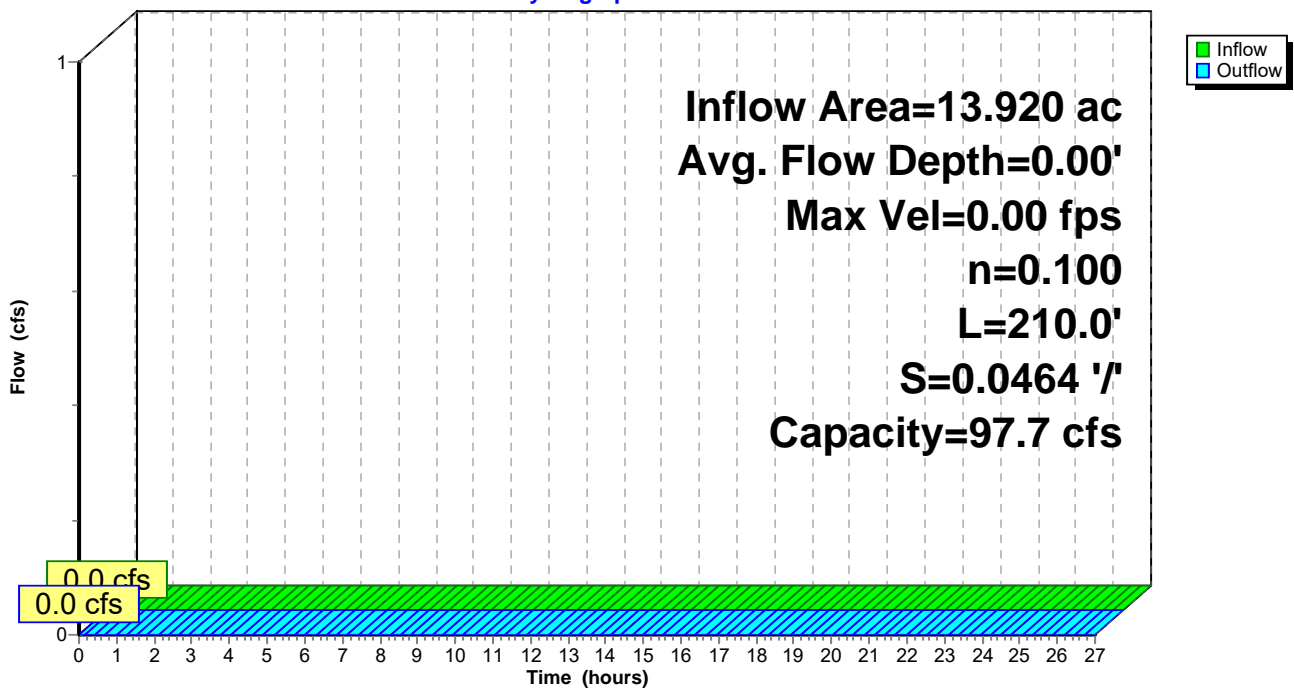
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 97.7 cfs

60.00' x 1.00' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 210.0' Slope= 0.0464 '/'
 Inlet Invert= 1,120.00', Outlet Invert= 1,110.25'



Reach RC8: WOODS

Hydrograph



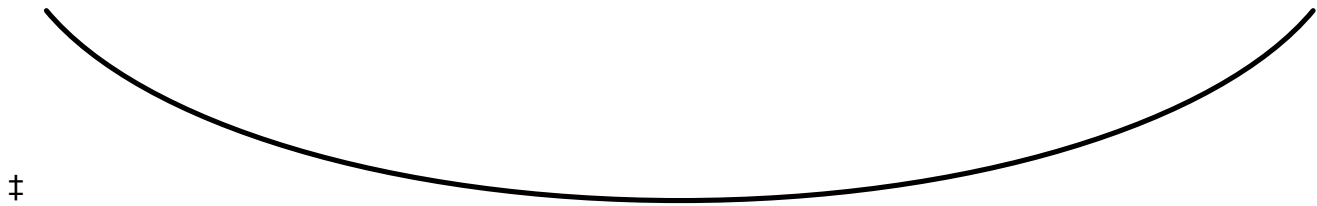
Summary for Reach RC9: WETLAND

Inflow Area = 24.830 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RC10 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

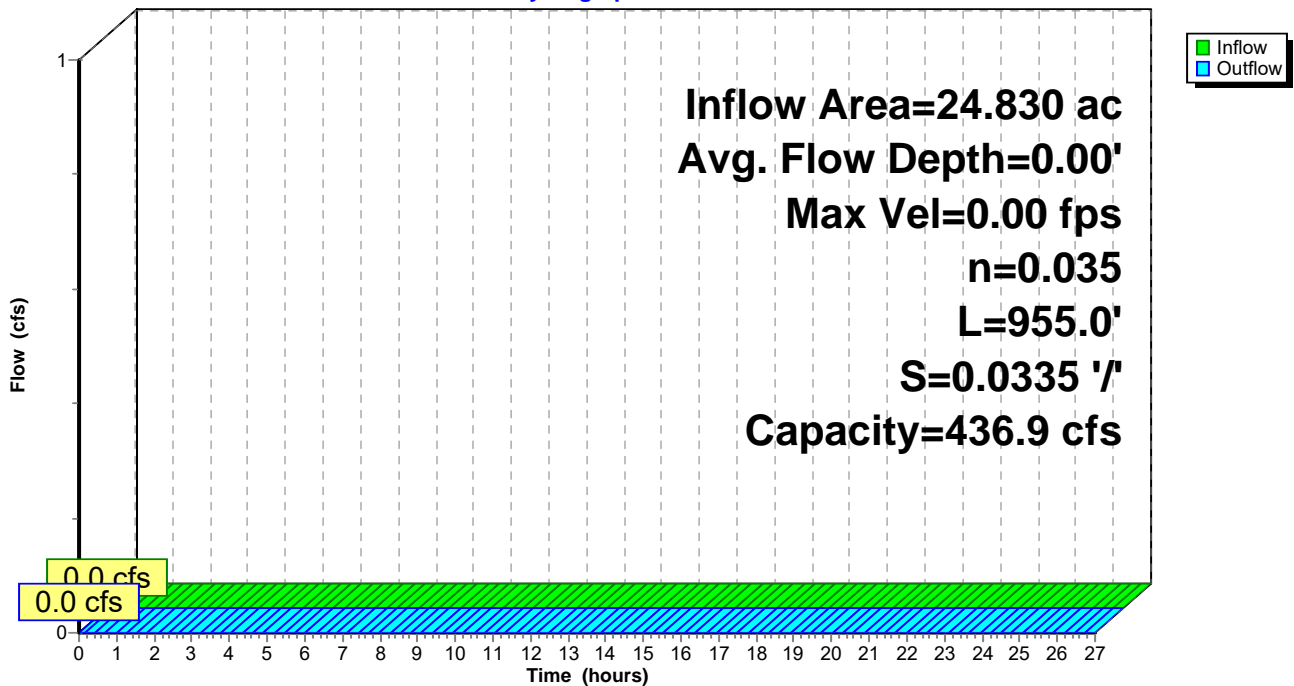
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 2.00' Flow Area= 46.7 sf, Capacity= 436.9 cfs

35.00' x 2.00' deep Parabolic Channel, n= 0.035
 Length= 955.0' Slope= 0.0335 '/'
 Inlet Invert= 1,186.00', Outlet Invert= 1,154.00'



Reach RC9: WETLAND

Hydrograph



1101-POSTDEV_To OUTC

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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Pond FB10: FOREBAY

Inflow Area = 24.830 ac, 0.00% Impervious, Inflow Depth = 0.49" for 10-yr event
 Inflow = 5.3 cfs @ 12.52 hrs, Volume= 1.013 af
 Outflow = 5.3 cfs @ 12.53 hrs, Volume= 0.985 af, Atten= 0%, Lag= 0.7 min
 Discarded = 0.2 cfs @ 12.53 hrs, Volume= 0.285 af
 Primary = 5.1 cfs @ 12.53 hrs, Volume= 0.700 af
 Routed to Pond P10 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,212.09' @ 12.53 hrs Surf.Area= 2,129 sf Storage= 2,942 cf

Plug-Flow detention time= 50.6 min calculated for 0.985 af (97% of inflow)
 Center-of-Mass det. time= 35.9 min (980.5 - 944.6)

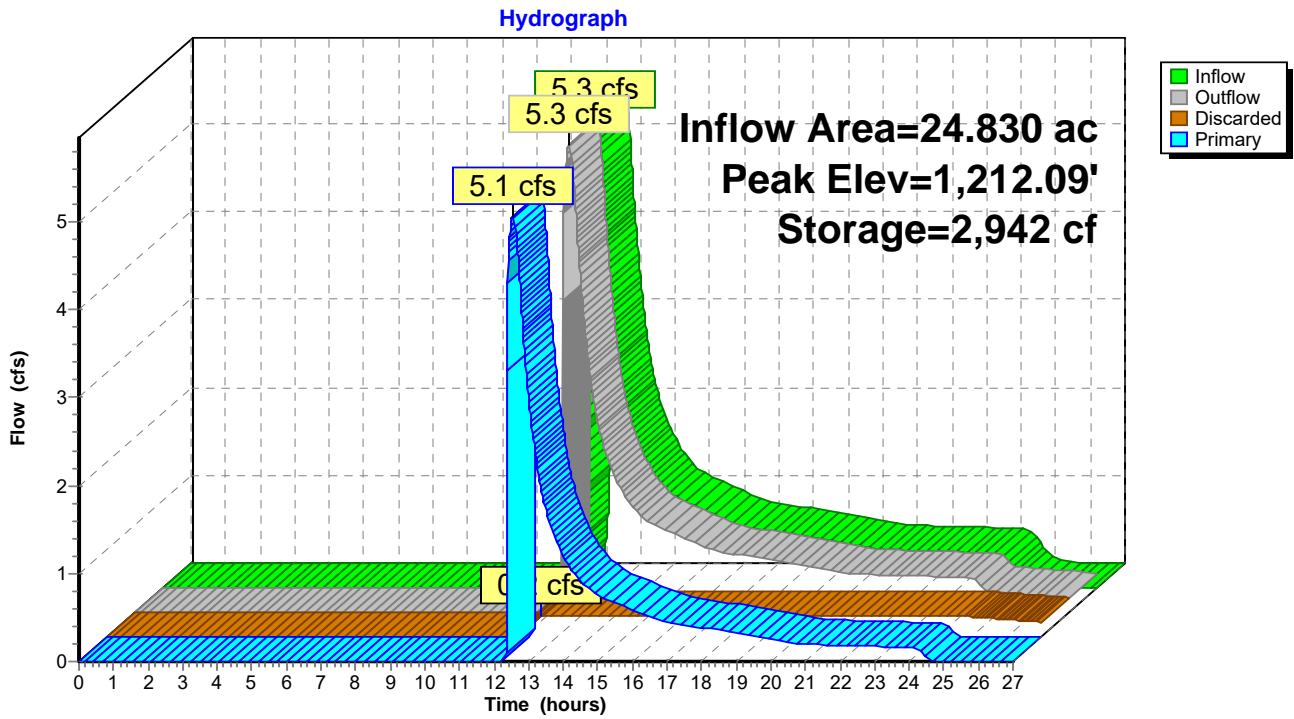
Volume	Invert	Avail.Storage	Storage Description
#1	1,210.00'	5,423 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,210.00	745	0	0
1,212.00	2,020	2,765	2,765
1,213.00	3,295	2,658	5,423

Device	Routing	Invert	Outlet Devices
#1	Primary	1,212.00'	85.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,210.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.2 cfs @ 12.53 hrs HW=1,212.09' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=5.1 cfs @ 12.53 hrs HW=1,212.09' TW=1,207.37' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 5.1 cfs @ 0.70 fps)

Pond FB10: FOREBAY



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Summary for Pond FB3: FOREBAY

Inflow Area = 16.840 ac, 2.61% Impervious, Inflow Depth = 0.76" for 10-yr event
 Inflow = 7.4 cfs @ 12.39 hrs, Volume= 1.066 af
 Outflow = 7.4 cfs @ 12.40 hrs, Volume= 1.038 af, Atten= 0%, Lag= 0.6 min
 Discarded = 0.2 cfs @ 12.40 hrs, Volume= 0.275 af
 Primary = 7.2 cfs @ 12.40 hrs, Volume= 0.762 af
 Routed to Pond P3 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,122.11' @ 12.40 hrs Surf.Area= 1,983 sf Storage= 3,053 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 35.0 min (942.4 - 907.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,120.00'	3,865 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,120.00	915	0	0
1,122.00	1,920	2,835	2,835
1,122.50	2,200	1,030	3,865

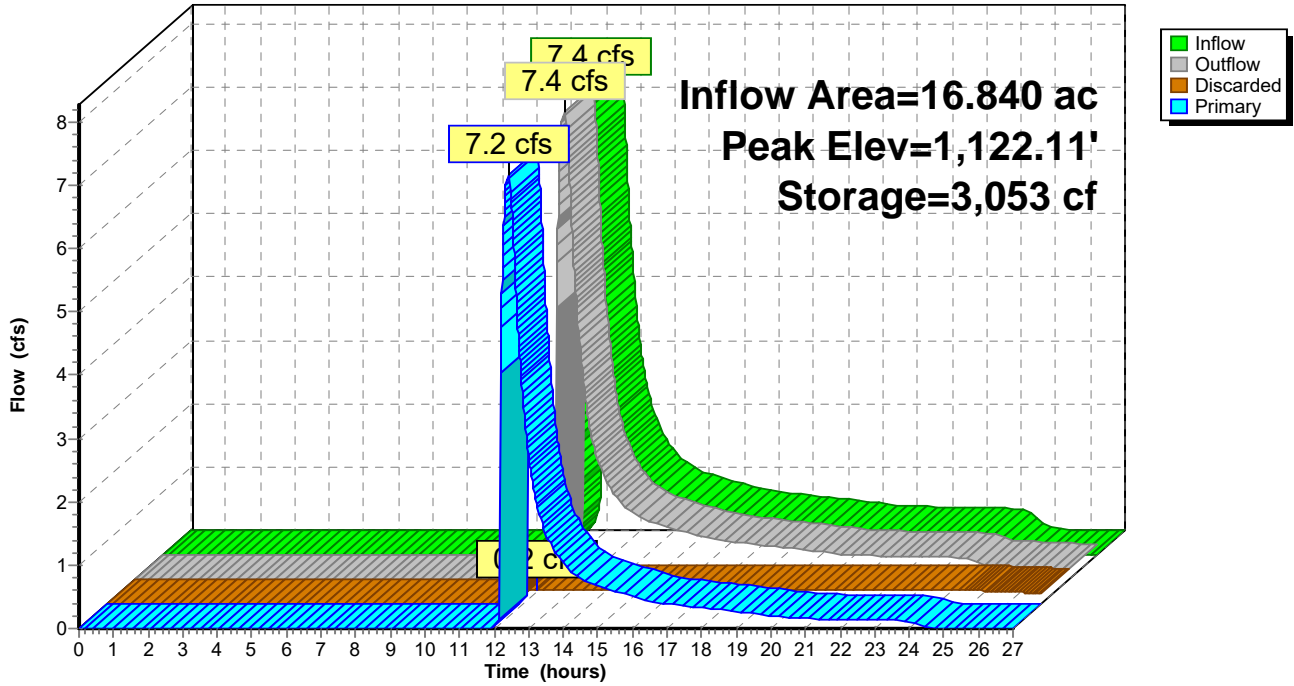
Device	Routing	Invert	Outlet Devices
#1	Primary	1,122.00'	80.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,120.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.2 cfs @ 12.40 hrs HW=1,122.11' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=7.2 cfs @ 12.40 hrs HW=1,122.11' TW=1,116.44' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 7.2 cfs @ 0.80 fps)

Pond FB3: FOREBAY

Hydrograph



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Summary for Pond FB5: FOREBAY

Inflow Area = 1.850 ac, 73.51% Impervious, Inflow Depth = 2.27" for 10-yr event
 Inflow = 7.2 cfs @ 11.97 hrs, Volume= 0.350 af
 Outflow = 7.1 cfs @ 11.98 hrs, Volume= 0.350 af, Atten= 1%, Lag= 0.7 min
 Discarded = 0.2 cfs @ 11.98 hrs, Volume= 0.155 af
 Primary = 7.0 cfs @ 11.98 hrs, Volume= 0.195 af
 Routed to Pond P5 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,133.40' @ 11.98 hrs Surf.Area= 1,324 sf Storage= 1,436 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 36.9 min (839.4 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,132.00'	3,153 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,132.00	730	0	0
1,134.00	1,580	2,310	2,310
1,134.50	1,792	843	3,153

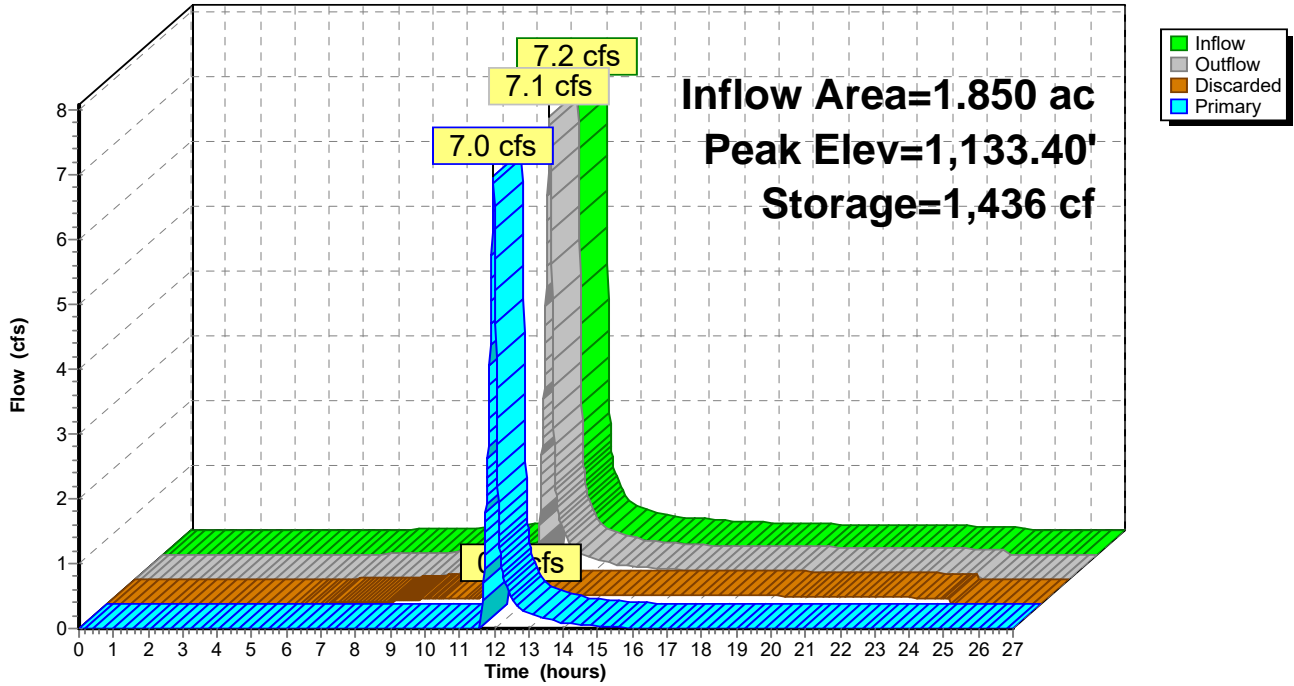
Device	Routing	Invert	Outlet Devices
#1	Primary	1,133.00'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,132.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.2 cfs @ 11.98 hrs HW=1,133.40' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=7.0 cfs @ 11.98 hrs HW=1,133.40' TW=1,131.58' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 7.0 cfs @ 1.57 fps)

Pond FB5: FOREBAY

Hydrograph



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Summary for Pond FB6: FOREBAY

Inflow Area = 2.010 ac, 31.34% Impervious, Inflow Depth = 1.35" for 10-yr event
 Inflow = 3.2 cfs @ 12.10 hrs, Volume= 0.227 af
 Outflow = 0.4 cfs @ 12.84 hrs, Volume= 0.227 af, Atten= 88%, Lag= 44.2 min
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond P6 : RAIN GARDEN
 Secondary = 0.4 cfs @ 12.84 hrs, Volume= 0.227 af
 Routed to Pond P6 : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,125.61' @ 12.84 hrs Surf.Area= 3,302 sf Storage= 3,946 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 99.5 min (954.0 - 854.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,124.00'	7,305 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,124.00	1,600	0	0
1,126.00	3,715	5,315	5,315
1,126.50	4,245	1,990	7,305

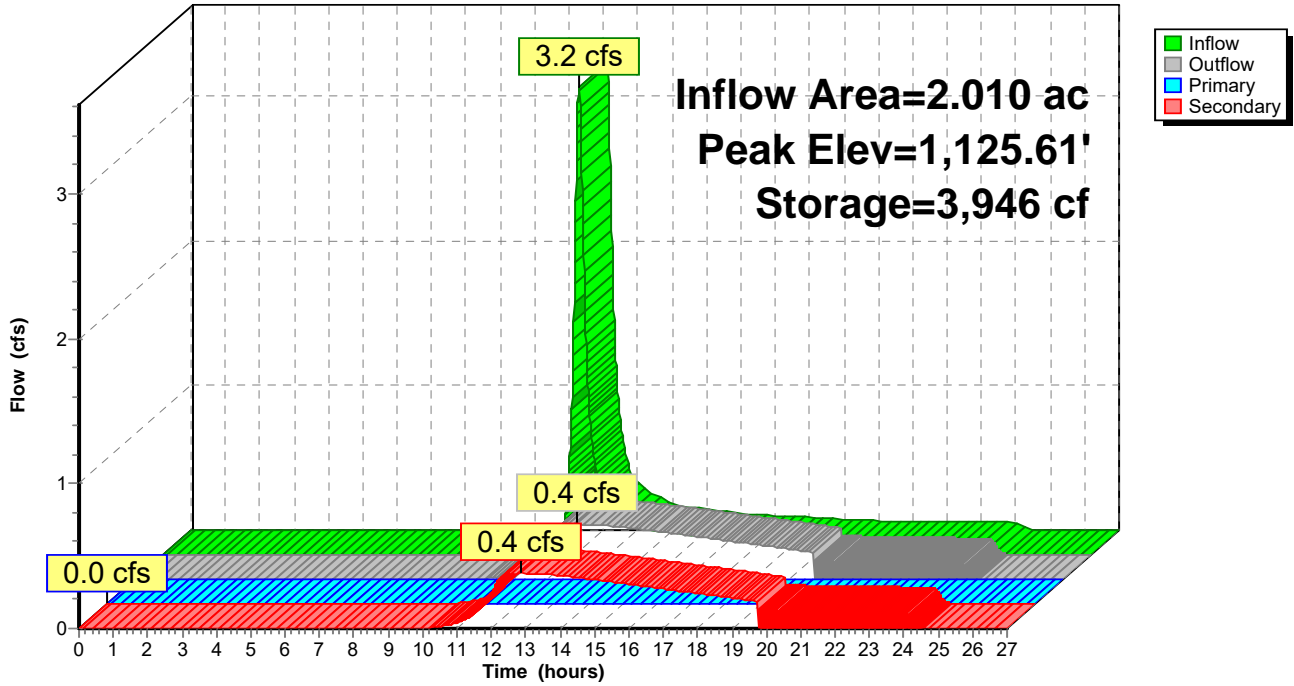
Device	Routing	Invert	Outlet Devices
#1	Primary	1,126.00'	90.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Secondary	1,124.00'	5.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,124.00' TW=1,122.25' (Dynamic Tailwater)
 ↳1=**Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Secondary OutFlow Max=0.4 cfs @ 12.84 hrs HW=1,125.61' TW=1,124.15' (Dynamic Tailwater)
 ↳2=**Exfiltration** (Exfiltration Controls 0.4 cfs)

Pond FB6: FOREBAY

Hydrograph



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Summary for Pond FB7: FOREBAY

Inflow Area = 0.780 ac, 0.00% Impervious, Inflow Depth = 14.61" for 10-yr event
 Inflow = 13.2 cfs @ 12.12 hrs, Volume= 0.950 af
 Outflow = 13.2 cfs @ 12.13 hrs, Volume= 0.941 af, Atten= 0%, Lag= 0.4 min
 Discarded = 0.3 cfs @ 12.13 hrs, Volume= 0.343 af
 Primary = 12.9 cfs @ 12.13 hrs, Volume= 0.598 af
 Routed to Pond P7 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,142.18' @ 12.13 hrs Surf.Area= 2,571 sf Storage= 4,215 cf

Plug-Flow detention time= 67.1 min calculated for 0.941 af (99% of inflow)
 Center-of-Mass det. time= 61.6 min (891.7 - 830.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,140.00'	5,066 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,140.00	1,295	0	0
1,142.00	2,465	3,760	3,760
1,142.50	2,757	1,306	5,066

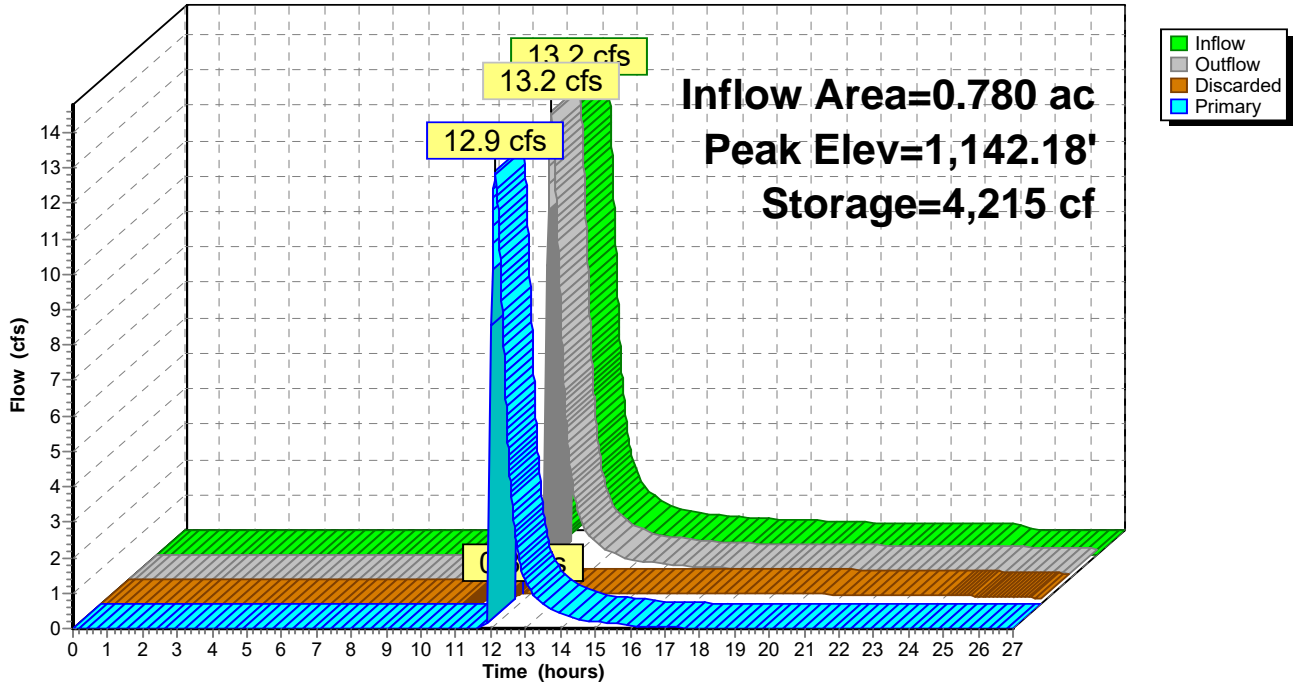
Device	Routing	Invert	Outlet Devices
#1	Primary	1,142.00'	70.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,140.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.3 cfs @ 12.13 hrs HW=1,142.18' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=12.9 cfs @ 12.13 hrs HW=1,142.18' TW=1,139.41' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 12.9 cfs @ 1.01 fps)

Pond FB7: FOREBAY

Hydrograph



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Summary for Pond FB8: FOREBAY

Inflow Area = 13.920 ac, 2.01% Impervious, Inflow Depth = 0.92" for 10-yr event
 Inflow = 13.7 cfs @ 12.10 hrs, Volume= 1.065 af
 Outflow = 13.6 cfs @ 12.11 hrs, Volume= 1.064 af, Atten= 1%, Lag= 0.9 min
 Discarded = 0.4 cfs @ 12.12 hrs, Volume= 0.447 af
 Primary = 13.2 cfs @ 12.11 hrs, Volume= 0.618 af
 Routed to Reach RC20 : SWALE

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,151.31' @ 12.12 hrs Surf.Area= 3,392 sf Storage= 6,226 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 79.0 min (908.2 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,149.00'	6,869 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,149.00	1,990	0	0
1,151.00	3,202	5,192	5,192
1,151.50	3,505	1,677	6,869

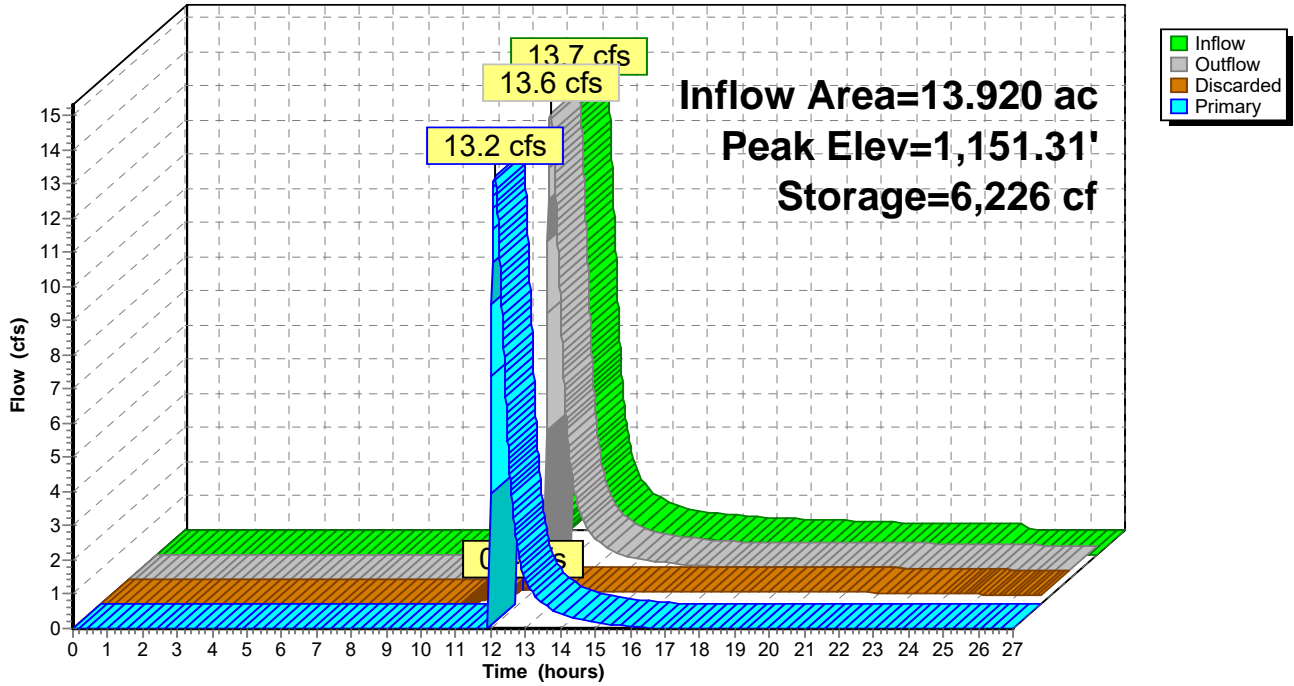
Device	Routing	Invert	Outlet Devices
#1	Primary	1,151.00'	35.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,149.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.4 cfs @ 12.12 hrs HW=1,151.31' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.4 cfs)

Primary OutFlow Max=13.2 cfs @ 12.11 hrs HW=1,151.31' TW=1,151.15' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 13.2 cfs @ 1.17 fps)

Pond FB8: FOREBAY

Hydrograph



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Summary for Pond FB9: FOREBAY

Inflow Area = 24.640 ac, 0.00% Impervious, Inflow Depth = 0.90" for 10-yr event
 Inflow = 12.4 cfs @ 12.20 hrs, Volume= 1.848 af
 Outflow = 12.3 cfs @ 12.22 hrs, Volume= 1.813 af, Atten= 0%, Lag= 0.7 min
 Discarded = 0.3 cfs @ 12.22 hrs, Volume= 0.390 af
 Primary = 12.0 cfs @ 12.22 hrs, Volume= 1.423 af
 Routed to Pond P9 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,177.19' @ 12.22 hrs Surf.Area= 2,777 sf Storage= 4,423 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 29.8 min (937.8 - 908.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,175.00'	5,314 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,175.00	1,260	0	0
1,177.00	2,645	3,905	3,905
1,177.50	2,990	1,409	5,314

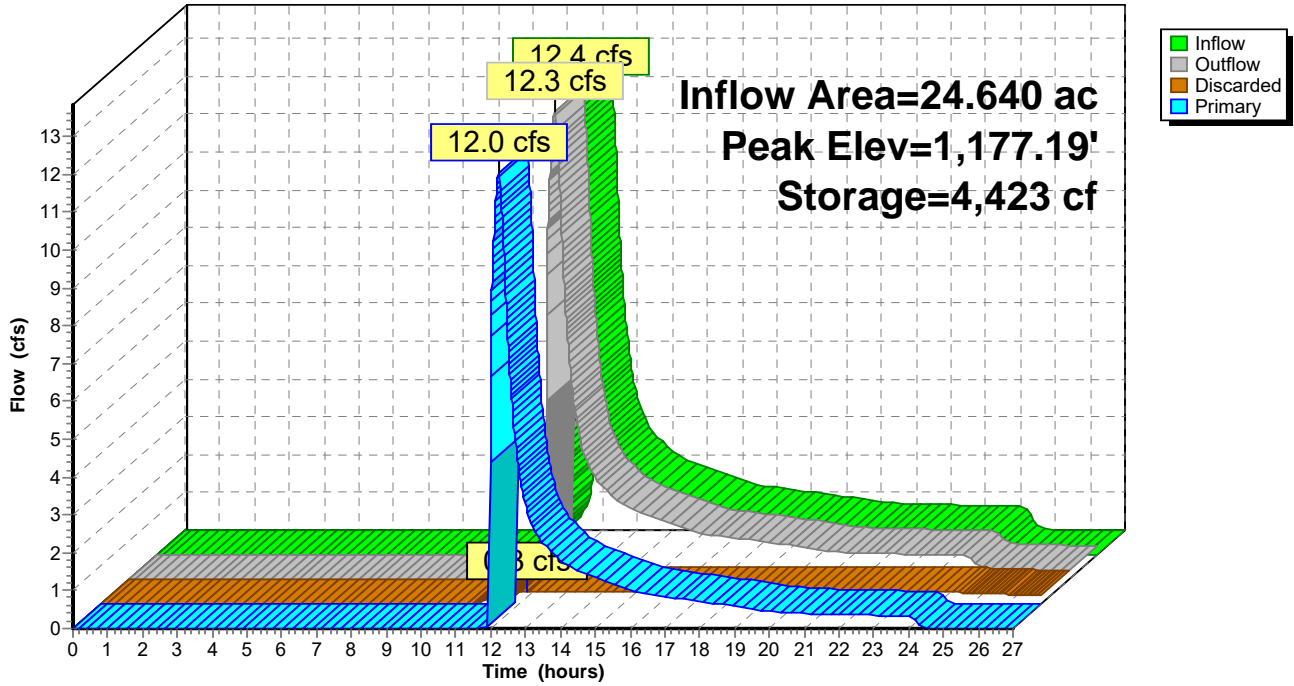
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,175.00'	5.000 in/hr Exfiltration over Surface area
#2	Primary	1,177.00'	60.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.3 cfs @ 12.22 hrs HW=1,177.19' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=12.0 cfs @ 12.22 hrs HW=1,177.19' TW=1,174.43' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 12.0 cfs @ 1.04 fps)

Pond FB9: FOREBAY

Hydrograph



Summary for Pond P1: WATER STORAGE FOR REUSE

Inflow Area = 0.490 ac, 100.00% Impervious, Inflow Depth = 3.08" for 10-yr event
 Inflow = 2.3 cfs @ 11.97 hrs, Volume= 0.126 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach OUT-C : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,136.04' @ 24.34 hrs Surf.Area= 5,763 sf Storage= 5,473 cf

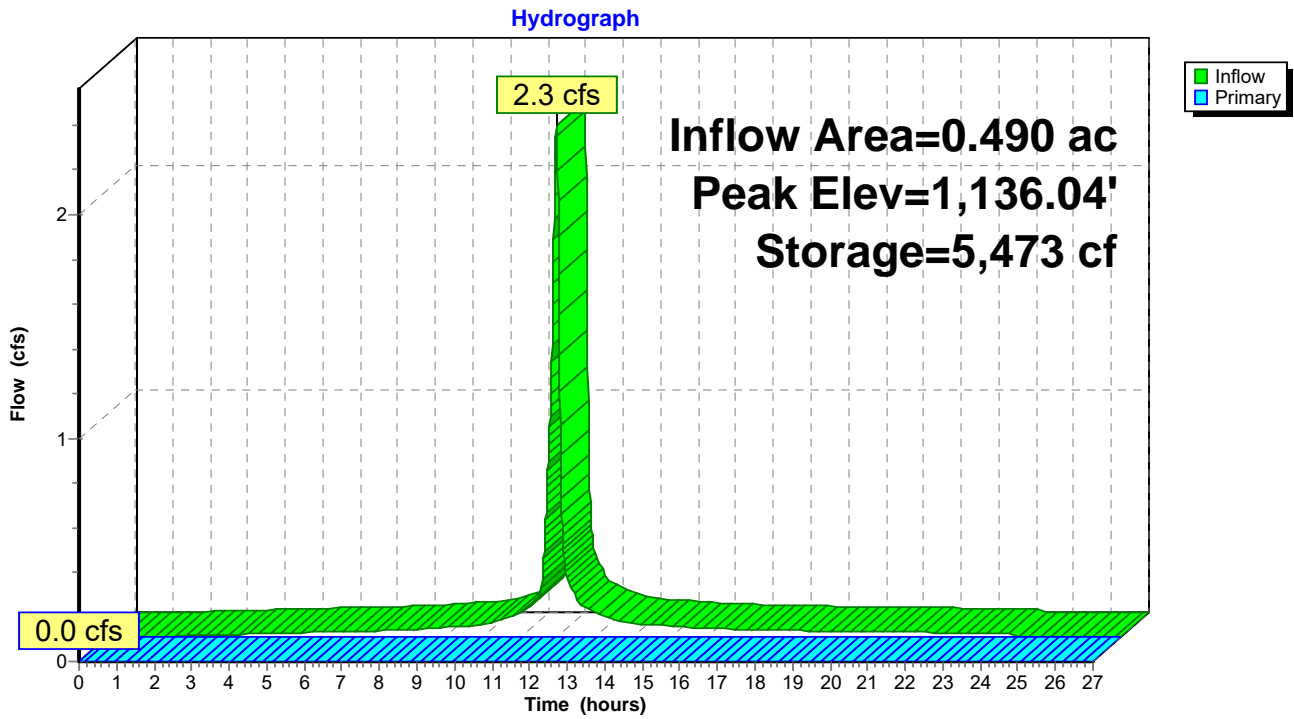
Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	1,135.00'	18,638 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,135.00	4,740	0	0
1,138.00	7,685	18,638	18,638

Device	Routing	Invert	Outlet Devices
#1	Primary	1,137.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,135.00' TW=0.00' (Dynamic Tailwater)
 ↑1=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P1: WATER STORAGE FOR REUSE



Summary for Pond P10: INFILTRATION BASIN

Inflow Area = 24.830 ac, 0.00% Impervious, Inflow Depth = 0.34" for 10-yr event
 Inflow = 5.1 cfs @ 12.53 hrs, Volume= 0.700 af
 Outflow = 0.9 cfs @ 14.56 hrs, Volume= 0.700 af, Atten= 83%, Lag= 122.0 min
 Discarded = 0.9 cfs @ 14.56 hrs, Volume= 0.700 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC11 : WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC11 : WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,208.82' @ 14.56 hrs Surf.Area= 7,570 sf Storage= 11,781 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 148.8 min (1,054.9 - 906.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,207.00'	31,150 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,207.00	5,390	0	0
1,211.00	10,185	31,150	31,150

Device	Routing	Invert	Outlet Devices
#1	Primary	1,206.50'	24.0" Round Culvert L= 56.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,206.50' / 1,206.00' S= 0.0089 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	1,209.20'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Secondary	1,210.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#4	Discarded	1,207.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.9 cfs @ 14.56 hrs HW=1,208.82' (Free Discharge)

↑**4=Exfiltration** (Exfiltration Controls 0.9 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,207.00' TW=1,206.00' (Dynamic Tailwater)

↑**1=Culvert** (Passes 0.0 cfs of 1.4 cfs potential flow)

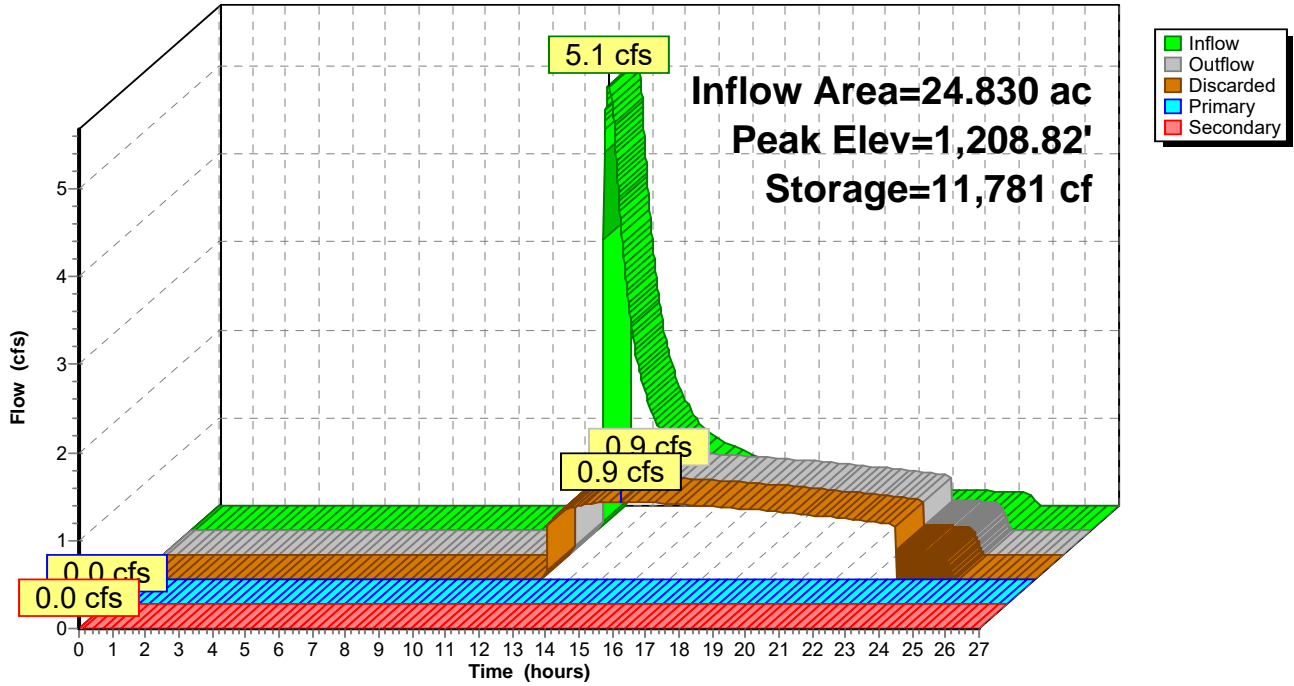
↑**2=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,207.00' TW=1,206.00' (Dynamic Tailwater)

↑**3=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond P10: INFILTRATION BASIN

Hydrograph



Summary for Pond P2: INFILTRATION BASIN

Inflow Area = 7.010 ac, 56.49% Impervious, Inflow Depth = 2.00" for 10-yr event
 Inflow = 24.3 cfs @ 11.97 hrs, Volume= 1.167 af
 Outflow = 1.2 cfs @ 13.10 hrs, Volume= 1.167 af, Atten= 95%, Lag= 67.5 min
 Discarded = 1.2 cfs @ 13.10 hrs, Volume= 1.167 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC21 : FLOW THROUGH WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC21 : FLOW THROUGH WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,108.83' @ 13.10 hrs Surf.Area= 10,192 sf Storage= 23,813 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 198.3 min (1,009.2 - 810.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,106.00'	48,913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,106.00	6,655	0	0
1,111.00	12,910	48,913	48,913

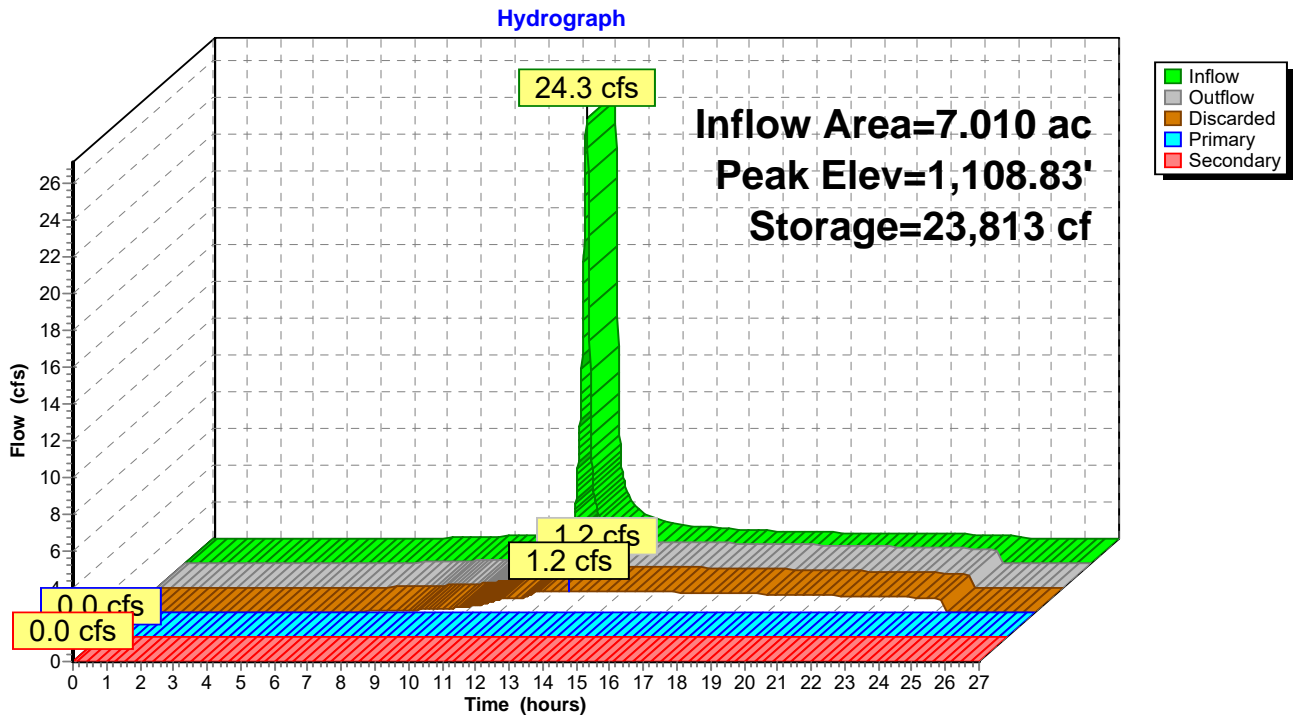
Device	Routing	Invert	Outlet Devices
#1	Primary	1,105.00'	24.0" Round Culvert L= 46.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,105.00' / 1,104.00' S= 0.0216 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	1,110.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#3	Device 1	1,109.40'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Discarded	1,106.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.2 cfs @ 13.10 hrs HW=1,108.83' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 1.2 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,106.00' TW=1,104.00' (Dynamic Tailwater)
 ↳1=Culvert (Passes 0.0 cfs of 5.3 cfs potential flow)
 ↳3=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,106.00' TW=1,104.00' (Dynamic Tailwater)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P2: INFILTRATION BASIN



Summary for Pond P3: INFILTRATION BASIN

Inflow Area = 16.840 ac, 2.61% Impervious, Inflow Depth = 0.54" for 10-yr event
 Inflow = 7.2 cfs @ 12.40 hrs, Volume= 0.762 af
 Outflow = 0.7 cfs @ 14.74 hrs, Volume= 0.724 af, Atten= 90%, Lag= 140.4 min
 Discarded = 0.7 cfs @ 14.74 hrs, Volume= 0.724 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC17 : FLOW THROUGH WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC17 : FLOW THROUGH WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,118.98' @ 14.74 hrs Surf.Area= 6,233 sf Storage= 17,483 cf

Plug-Flow detention time= 297.5 min calculated for 0.723 af (95% of inflow)
 Center-of-Mass det. time= 271.6 min (1,137.3 - 865.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,115.00'	40,520 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,115.00	2,552	0	0
1,122.00	9,025	40,520	40,520

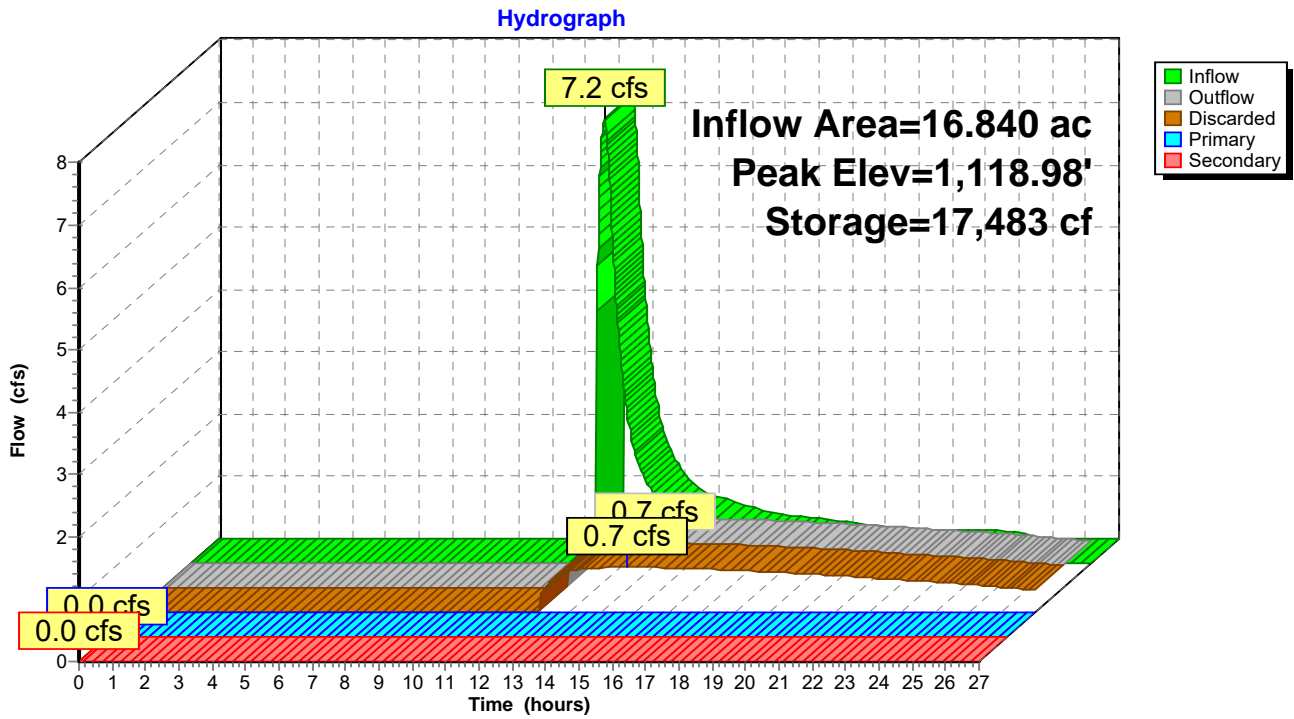
Device	Routing	Invert	Outlet Devices
#1	Secondary	1,121.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Primary	1,117.50'	24.0" Round Culvert L= 61.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,117.50' / 1,116.50' S= 0.0163 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#3	Device 2	1,120.35'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Discarded	1,115.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.7 cfs @ 14.74 hrs HW=1,118.98' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.7 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,115.00' TW=1,116.00' (Dynamic Tailwater)
 ↳2=Culvert (Controls 0.0 cfs)
 ↳3=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,115.00' TW=1,116.00' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P3: INFILTRATION BASIN



Summary for Pond P4: INFILTRATION BASIN

Inflow Area = 0.970 ac, 40.21% Impervious, Inflow Depth = 1.49" for 10-yr event
 Inflow = 2.6 cfs @ 11.98 hrs, Volume= 0.120 af
 Outflow = 0.8 cfs @ 12.09 hrs, Volume= 0.120 af, Atten= 68%, Lag= 7.1 min
 Discarded = 0.8 cfs @ 12.09 hrs, Volume= 0.120 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC15 : FLOW THROUGH WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC15 : FLOW THROUGH WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,139.13' @ 12.09 hrs Surf.Area= 7,226 sf Storage= 940 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 4.7 min (842.4 - 837.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,139.00'	26,553 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,139.00	7,070	0	0
1,142.00	10,632	26,553	26,553

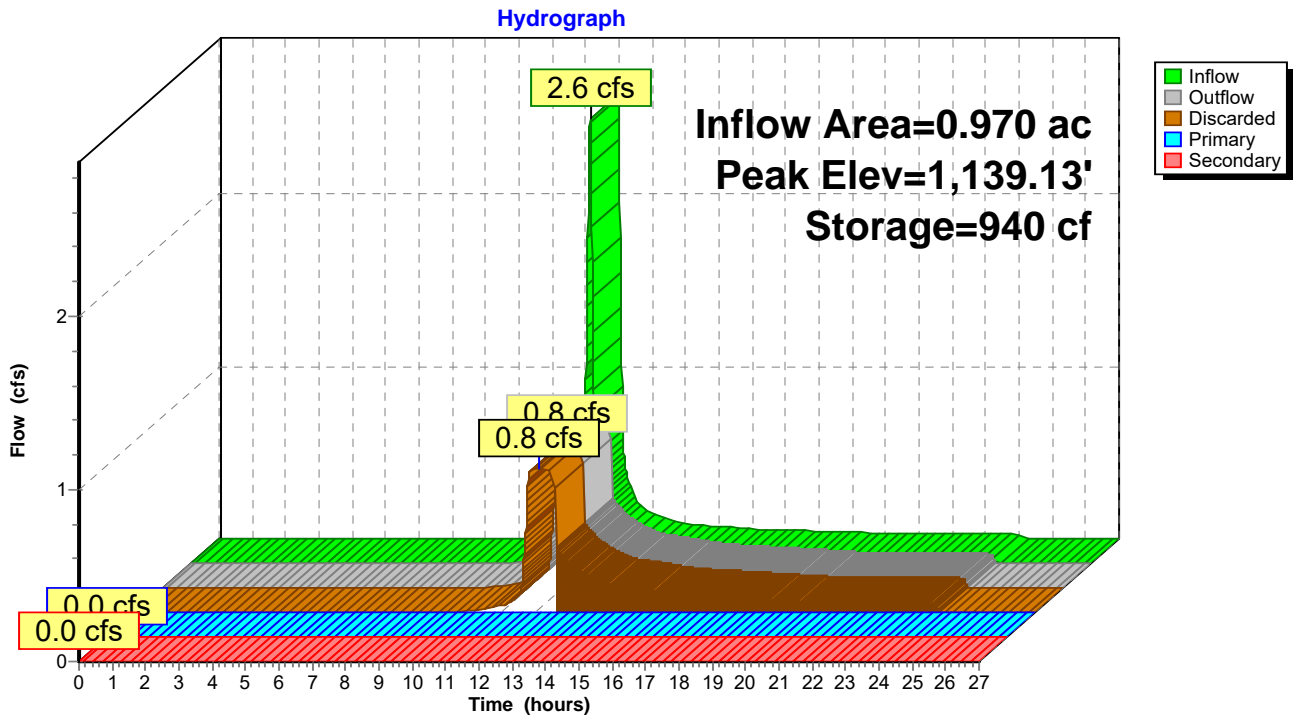
Device	Routing	Invert	Outlet Devices
#1	Primary	1,138.00'	12.0" Round Culvert L= 37.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,138.00' / 1,137.50' S= 0.0134 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	1,141.40'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Secondary	1,141.50'	10.0' long + 3.0 '/' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#4	Discarded	1,139.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.8 cfs @ 12.09 hrs HW=1,139.13' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.8 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,139.00' TW=1,137.00' (Dynamic Tailwater)
 ↳1=Culvert (Passes 0.0 cfs of 2.7 cfs potential flow)
 ↳2=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,139.00' TW=1,137.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P4: INFILTRATION BASIN



Summary for Pond P5: INFILTRATION BASIN

Inflow Area = 1.850 ac, 73.51% Impervious, Inflow Depth = 1.26" for 10-yr event
 Inflow = 7.0 cfs @ 11.98 hrs, Volume= 0.195 af
 Outflow = 1.4 cfs @ 12.15 hrs, Volume= 0.195 af, Atten= 80%, Lag= 10.4 min
 Discarded = 0.4 cfs @ 12.15 hrs, Volume= 0.174 af
 Primary = 1.0 cfs @ 12.15 hrs, Volume= 0.020 af
 Routed to Reach RC14 : WETLAND
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC14 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,132.32' @ 12.15 hrs Surf.Area= 3,137 sf Storage= 5,515 cf

Plug-Flow detention time= 156.3 min calculated for 0.195 af (100% of inflow)
 Center-of-Mass det. time= 156.3 min (890.3 - 734.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,129.75'	11,864 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,129.75	1,150	0	0
1,134.00	4,433	11,864	11,864

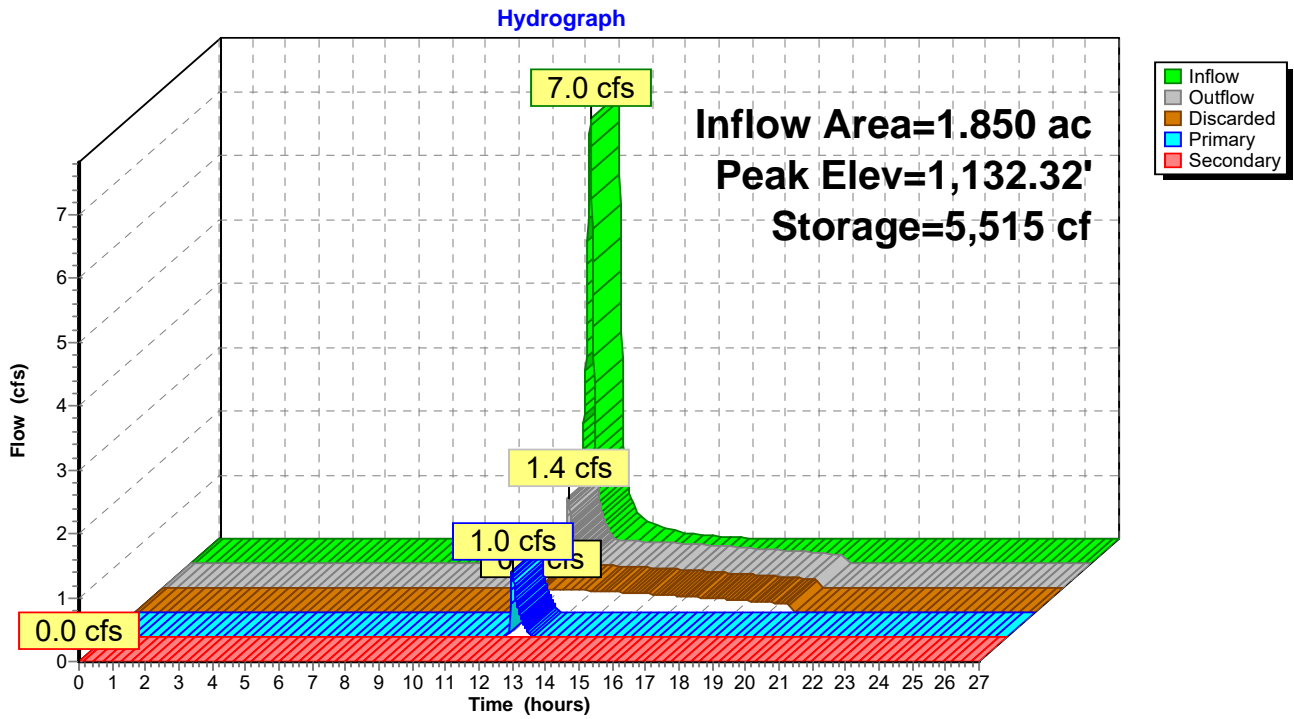
Device	Routing	Invert	Outlet Devices
#1	Primary	1,127.00'	12.0" Round Culvert L= 39.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,127.00' / 1,126.00' S= 0.0251 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	1,132.25'	48.0" x 48.0" Horiz. GRATE C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,129.75'	5.000 in/hr Exfiltration over Surface area
#4	Secondary	1,133.50'	10.0' long + 3.0 '/' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.4 cfs @ 12.15 hrs HW=1,132.32' (Free Discharge)
 ↑3=Exfiltration (Exfiltration Controls 0.4 cfs)

Primary OutFlow Max=1.0 cfs @ 12.15 hrs HW=1,132.32' TW=1,126.27' (Dynamic Tailwater)
 ↑1=Culvert (Passes 1.0 cfs of 8.3 cfs potential flow)
 ↑2=GRATE (Weir Controls 1.0 cfs @ 0.88 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,129.75' TW=1,126.00' (Dynamic Tailwater)
 ↑4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P5: INFILTRATION BASIN



Summary for Pond P6: RAIN GARDEN

Inflow Area = 2.010 ac, 31.34% Impervious, Inflow Depth = 1.35" for 10-yr event
 Inflow = 0.4 cfs @ 12.84 hrs, Volume= 0.227 af
 Outflow = 0.4 cfs @ 13.97 hrs, Volume= 0.220 af, Atten= 4%, Lag= 67.7 min
 Primary = 0.4 cfs @ 13.97 hrs, Volume= 0.220 af
 Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond RC7 : NEW DOUGLAS DRIVE CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,124.44' @ 13.97 hrs Surf.Area= 6,930 sf Storage= 1,820 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 102.9 min (1,056.9 - 954.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,124.00'	5,775 cf	Open Water (Prismatic) Listed below (Recalc)
#2	1,123.75'	111 cf	Mulch (Prismatic) Listed below (Recalc) 553 cf Overall x 20.0% Voids
#3	1,122.25'	663 cf	Media (Prismatic) Listed below (Recalc) 3,315 cf Overall x 20.0% Voids
		6,549 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,124.00	2,210	0	0
1,126.00	3,565	5,775	5,775

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,123.75	2,210	0	0
1,124.00	2,210	553	553

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,122.25	2,210	0	0
1,123.75	2,210	3,315	3,315

Device	Routing	Invert	Outlet Devices
#1	Primary	1,121.25'	12.0" Round Culvert L= 55.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,121.25' / 1,118.00' S= 0.0581 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	1,124.40'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,122.25'	0.800 in/hr Exfiltration over Surface area
#4	Secondary	1,125.50'	10.0' long + 3.0' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66

2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.4 cfs @ 13.97 hrs HW=1,124.44' TW=1,110.46' (Dynamic Tailwater)

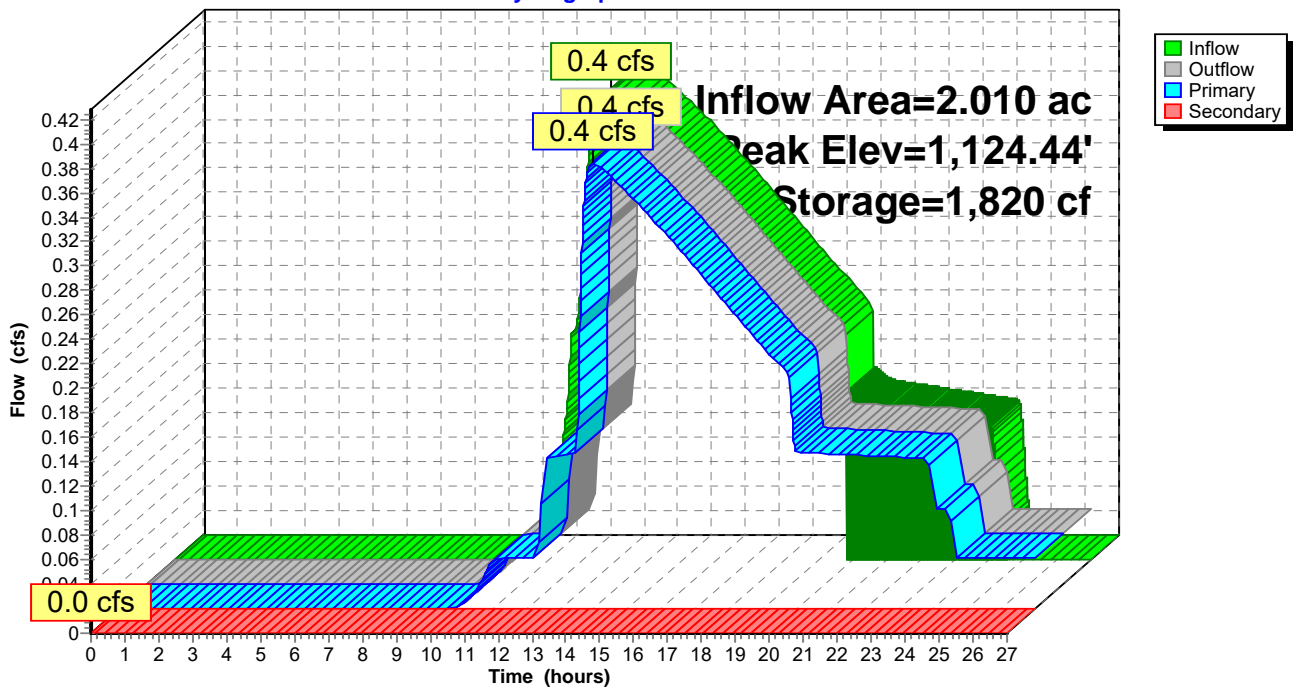
- 1=Culvert (Passes 0.4 cfs of 6.2 cfs potential flow)
- 2=Orifice/Grate (Weir Controls 0.2 cfs @ 0.68 fps)
- 3=Exfiltration (Exfiltration Controls 0.1 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,122.25' TW=1,110.25' (Dynamic Tailwater)

- 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P6: RAIN GARDEN

Hydrograph



Summary for Pond P7: INFILTRATION BASIN

Inflow Area = 0.780 ac, 0.00% Impervious, Inflow Depth = 9.20" for 10-yr event
 Inflow = 12.9 cfs @ 12.13 hrs, Volume= 0.598 af
 Outflow = 4.6 cfs @ 12.53 hrs, Volume= 0.598 af, Atten= 64%, Lag= 23.9 min
 Discarded = 1.4 cfs @ 12.53 hrs, Volume= 0.491 af
 Primary = 3.2 cfs @ 12.53 hrs, Volume= 0.107 af
 Routed to Reach RC12 : WETLAND
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC12 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,140.26' @ 12.53 hrs Surf.Area= 12,062 sf Storage= 13,657 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 80.9 min (838.8 - 757.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,139.00'	37,569 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,139.00	9,696	0	0
1,142.00	15,350	37,569	37,569

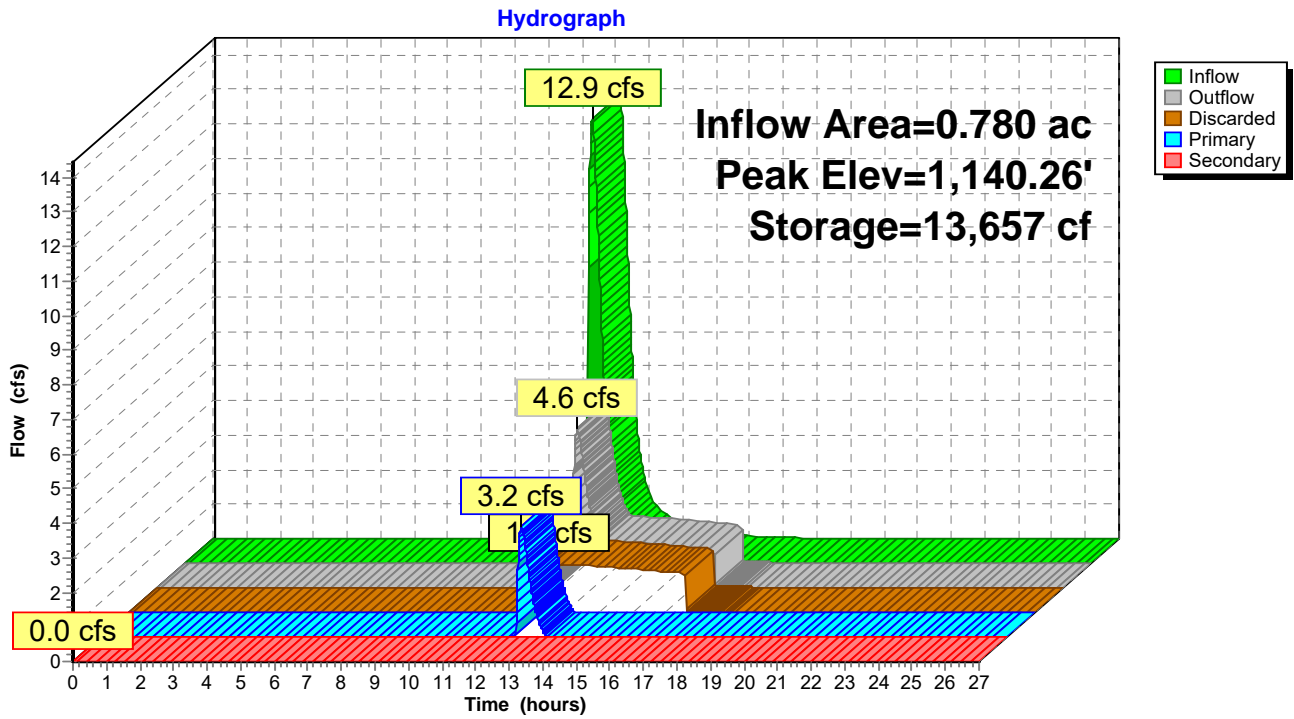
Device	Routing	Invert	Outlet Devices
#1	Primary	1,137.25'	24.0" Round Culvert L= 33.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,137.25' / 1,136.75' S= 0.0151 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	1,140.10'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Secondary	1,141.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#4	Discarded	1,139.00'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.4 cfs @ 12.53 hrs HW=1,140.26' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 1.4 cfs)

Primary OutFlow Max=3.2 cfs @ 12.53 hrs HW=1,140.26' TW=1,134.02' (Dynamic Tailwater)
 ↳1=Culvert (Passes 3.2 cfs of 21.4 cfs potential flow)
 ↳2=Orifice/Grate (Weir Controls 3.2 cfs @ 1.29 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,139.00' TW=1,133.81' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P7: INFILTRATION BASIN



Summary for Pond P8: INFILTRATION BASIN

Inflow Area = 13.920 ac, 2.01% Impervious, Inflow Depth = 0.53" for 10-yr event
 Inflow = 13.2 cfs @ 12.12 hrs, Volume= 0.618 af
 Outflow = 1.0 cfs @ 13.22 hrs, Volume= 0.618 af, Atten= 92%, Lag= 66.4 min
 Discarded = 1.0 cfs @ 13.22 hrs, Volume= 0.618 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC8 : WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC8 : WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,147.65' @ 13.22 hrs Surf.Area= 8,844 sf Storage= 19,372 cf

Plug-Flow detention time= 204.7 min calculated for 0.618 af (100% of inflow)
 Center-of-Mass det. time= 204.8 min (960.2 - 755.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,145.00'	43,350 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,145.00	5,775	0	0
1,150.00	11,565	43,350	43,350

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,145.00'	5.000 in/hr Exfiltration over Surface area
#2	Primary	1,145.00'	24.0" Round Culvert L= 36.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,145.00' / 1,144.50' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#3	Device 2	1,148.20'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,149.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=1.0 cfs @ 13.22 hrs HW=1,147.65' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 1.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,145.00' TW=1,120.00' (Dynamic Tailwater)

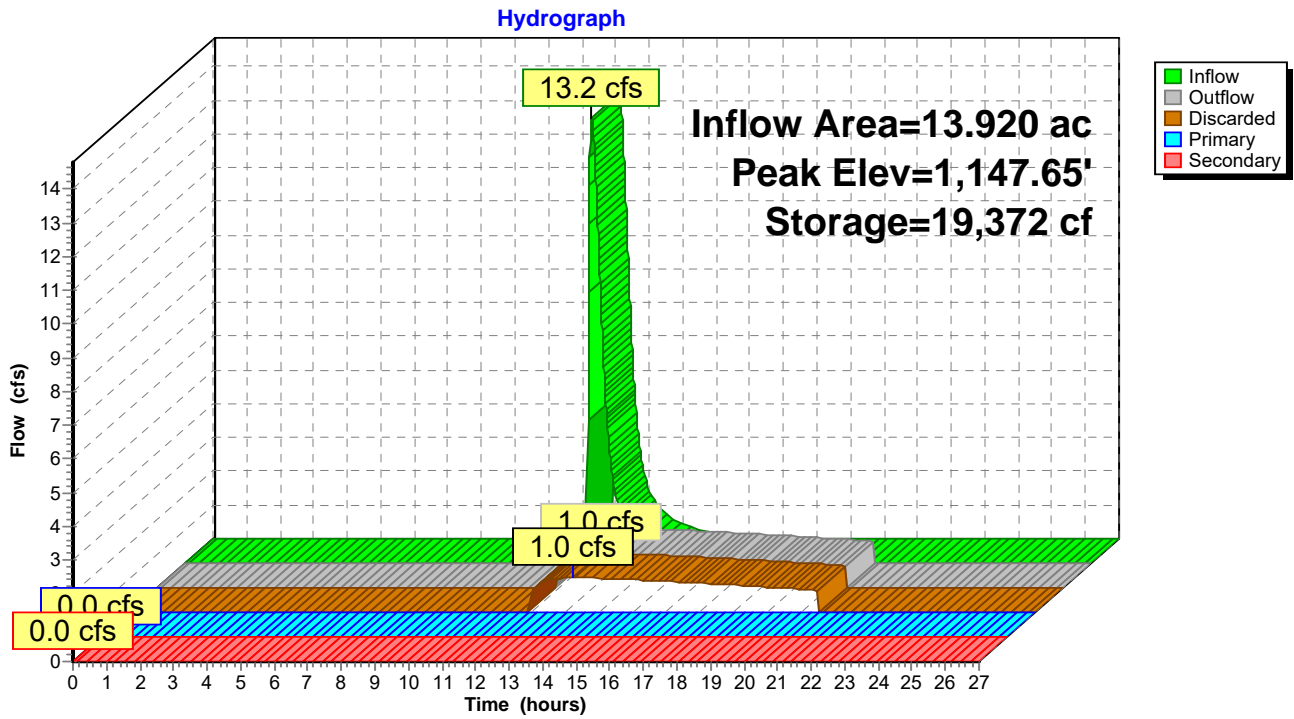
↑2=Culvert (Controls 0.0 cfs)

↑3=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,145.00' TW=1,120.00' (Dynamic Tailwater)

↑4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P8: INFILTRATION BASIN



Summary for Pond P9: INFILTRATION BASIN

Inflow Area = 24.640 ac, 0.00% Impervious, Inflow Depth = 0.69" for 10-yr event
 Inflow = 12.0 cfs @ 12.22 hrs, Volume= 1.423 af
 Outflow = 7.7 cfs @ 12.48 hrs, Volume= 1.423 af, Atten= 36%, Lag= 16.1 min
 Discarded = 0.9 cfs @ 12.48 hrs, Volume= 0.945 af
 Primary = 6.8 cfs @ 12.48 hrs, Volume= 0.477 af
 Routed to Reach RC10 : WETLAND
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RC10 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,175.36' @ 12.48 hrs Surf.Area= 7,818 sf Storage= 14,814 cf

Plug-Flow detention time= 134.0 min calculated for 1.422 af (100% of inflow)
 Center-of-Mass det. time= 134.0 min (1,016.3 - 882.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,173.00'	29,410 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,173.00	4,750	0	0
1,177.00	9,955	29,410	29,410

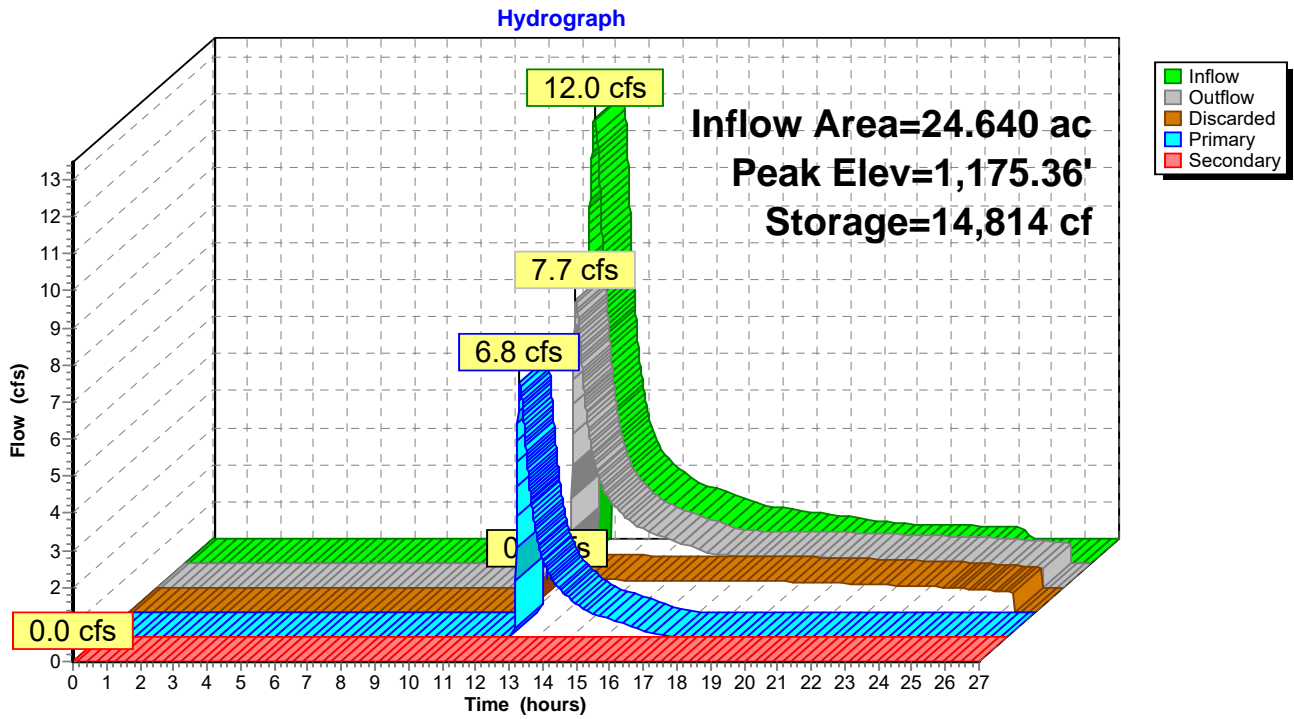
Device	Routing	Invert	Outlet Devices
#1	Discarded	1,173.00'	5.000 in/hr Exfiltration over Surface area
#2	Primary	1,172.00'	24.0" Round Culvert L= 88.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,172.00' / 1,155.50' S= 0.1873 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#3	Device 2	1,175.10'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,176.50'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.9 cfs @ 12.48 hrs HW=1,175.36' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.9 cfs)

Primary OutFlow Max=6.8 cfs @ 12.48 hrs HW=1,175.36' TW=1,154.22' (Dynamic Tailwater)
 ↑2=Culvert (Passes 6.8 cfs of 23.2 cfs potential flow)
 ↑3=Orifice/Grate (Weir Controls 6.8 cfs @ 1.66 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,173.00' TW=1,154.00' (Dynamic Tailwater)
 ↑4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond P9: INFILTRATION BASIN



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Summary for Pond PCB1: CATCH BASIN

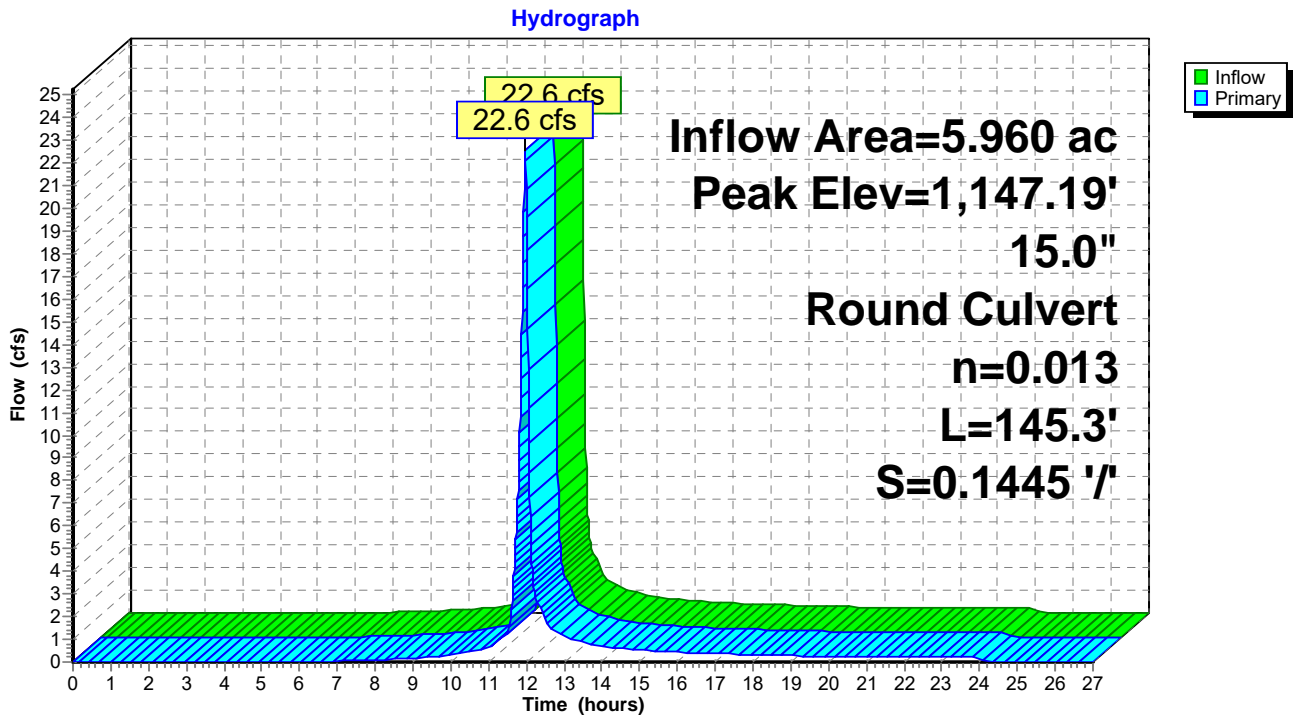
Inflow Area = 5.960 ac, 66.44% Impervious, Inflow Depth = 2.18" for 10-yr event
Inflow = 22.6 cfs @ 11.97 hrs, Volume= 1.084 af
Outflow = 22.6 cfs @ 11.97 hrs, Volume= 1.084 af, Atten= 0%, Lag= 0.0 min
Primary = 22.6 cfs @ 11.97 hrs, Volume= 1.084 af
Routed to Pond P2 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,147.19' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,132.00'	15.0" Round Culvert L= 145.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,132.00' / 1,111.00' S= 0.1445 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=22.5 cfs @ 11.97 hrs HW=1,147.17' TW=1,107.69' (Dynamic Tailwater)
←**1=Culvert** (Inlet Controls 22.5 cfs @ 18.36 fps)

Pond PCB1: CATCH BASIN



Summary for Pond PHW19: HEADWALL

Inflow Area = 12.500 ac, 0.00% Impervious, Inflow Depth = 1.74" for 10-yr event
 Inflow = 25.5 cfs @ 12.12 hrs, Volume= 1.809 af
 Outflow = 25.5 cfs @ 12.12 hrs, Volume= 1.809 af, Atten= 0%, Lag= 0.0 min
 Primary = 12.7 cfs @ 12.12 hrs, Volume= 0.904 af
 Routed to Pond FB8 : FOREBAY
 Secondary = 12.7 cfs @ 12.12 hrs, Volume= 0.904 af
 Routed to Pond FB7 : FOREBAY

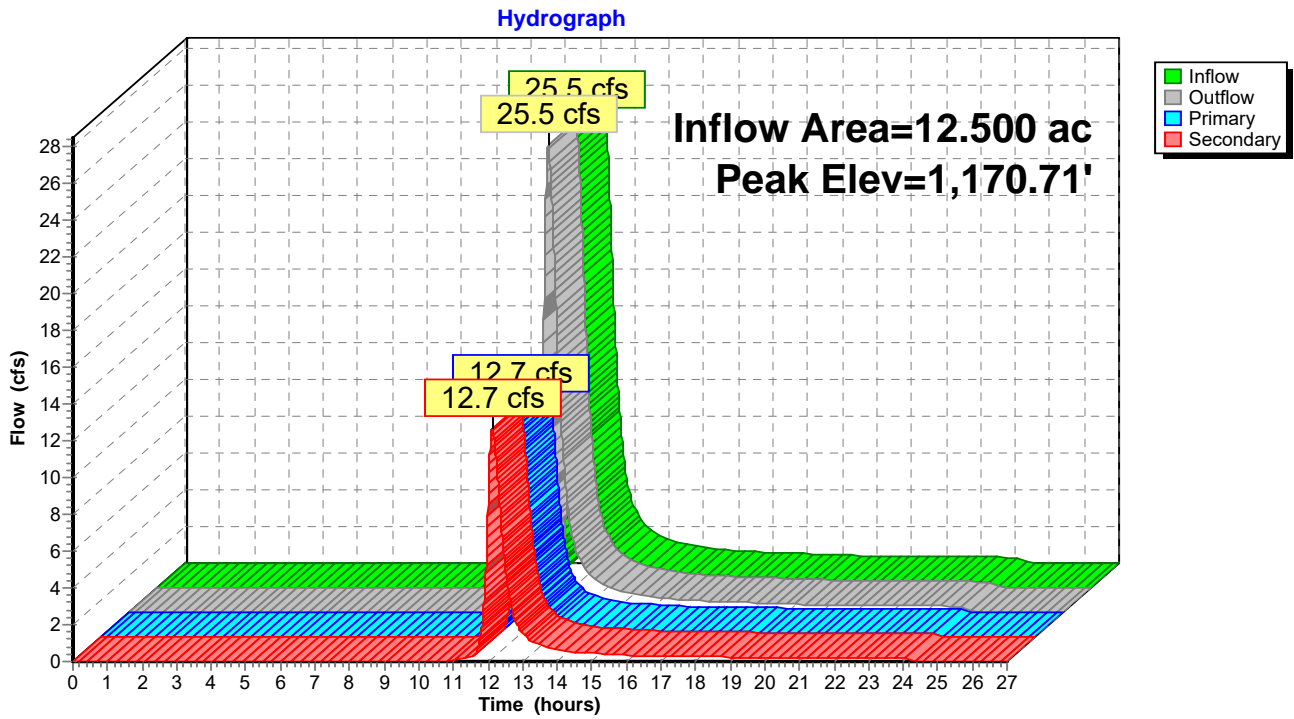
Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,170.71' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,169.00'	24.0" Round Culvert L= 141.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,169.00' / 1,152.00' S= 0.1201 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	1,169.00'	24.0" Round Culvert L= 630.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,169.00' / 1,142.00' S= 0.0429 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.7 cfs @ 12.12 hrs HW=1,170.71' TW=1,151.31' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 12.7 cfs @ 4.45 fps)

Secondary OutFlow Max=12.7 cfs @ 12.12 hrs HW=1,170.71' TW=1,142.18' (Dynamic Tailwater)
 ↑2=Culvert (Inlet Controls 12.7 cfs @ 4.45 fps)

Pond PHW19: HEADWALL



Summary for Pond PHW24: HEADWALL

Inflow Area = 23.350 ac, 0.00% Impervious, Inflow Depth = 1.17" for 10-yr event
 Inflow = 25.4 cfs @ 12.20 hrs, Volume= 2.275 af
 Outflow = 25.4 cfs @ 12.20 hrs, Volume= 2.275 af, Atten= 0%, Lag= 0.0 min
 Primary = 12.0 cfs @ 12.21 hrs, Volume= 1.747 af
 Routed to Pond FB9 : FOREBAY
 Secondary = 13.5 cfs @ 12.19 hrs, Volume= 0.528 af
 Routed to Reach 20R : TOE SWALE

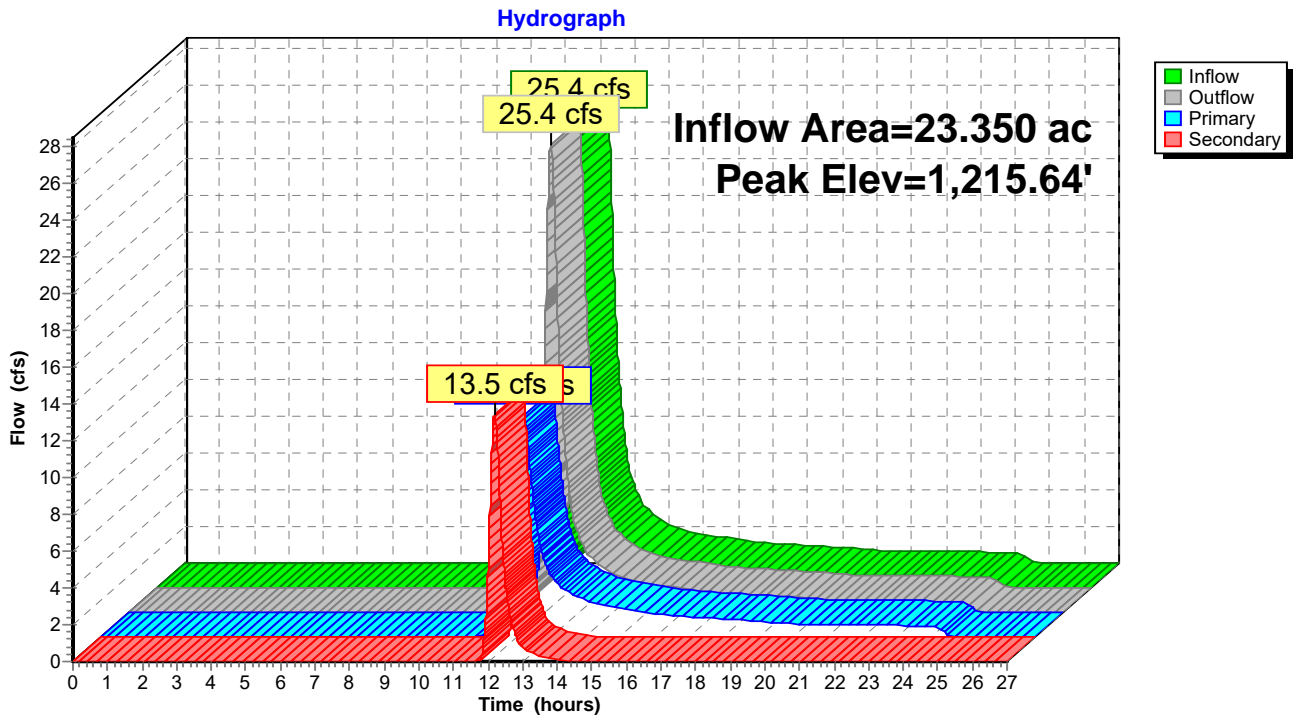
Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,215.64' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,214.00'	24.0" Round Culvert L= 134.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,214.00' / 1,177.00' S= 0.2761 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	1,214.50'	3.0' long + 2.5 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=12.0 cfs @ 12.21 hrs HW=1,215.64' TW=1,177.19' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 12.0 cfs @ 4.36 fps)

Secondary OutFlow Max=13.3 cfs @ 12.19 hrs HW=1,215.63' TW=1,215.26' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 13.3 cfs @ 2.01 fps)

Pond PHW24: HEADWALL



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Summary for Pond PHW3: HEADWALL

Inflow Area = 6.130 ac, 0.00% Impervious, Inflow Depth = 0.31" for 10-yr event
Inflow = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af
Outflow = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.52 hrs, Volume= 0.161 af
Routed to Reach RC18 : FLOW THROUGH WOODS

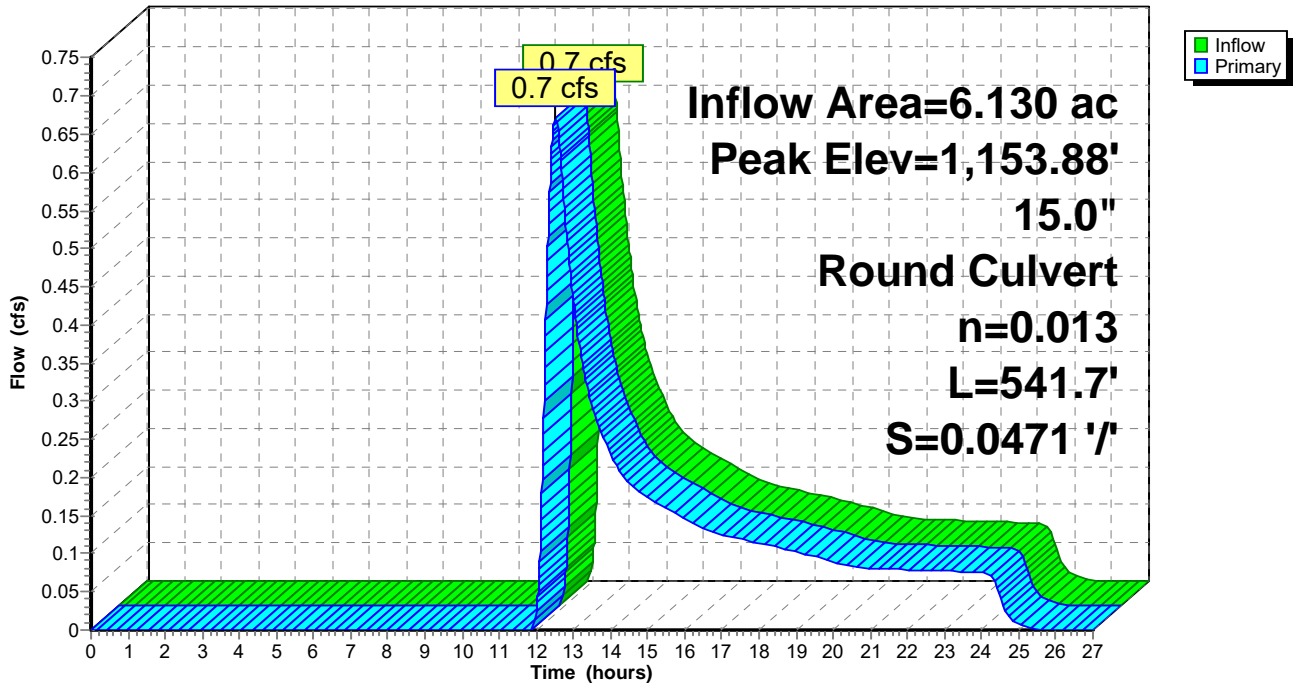
Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 1,153.88' @ 12.52 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,153.50'	15.0" Round Culvert L= 541.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,153.50' / 1,128.00' S= 0.0471 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=0.7 cfs @ 12.52 hrs HW=1,153.88' TW=1,128.11' (Dynamic Tailwater)
↑=Culvert (Inlet Controls 0.7 cfs @ 2.11 fps)

Pond PHW3: HEADWALL

Hydrograph



Summary for Pond PHW5: HEADWALL

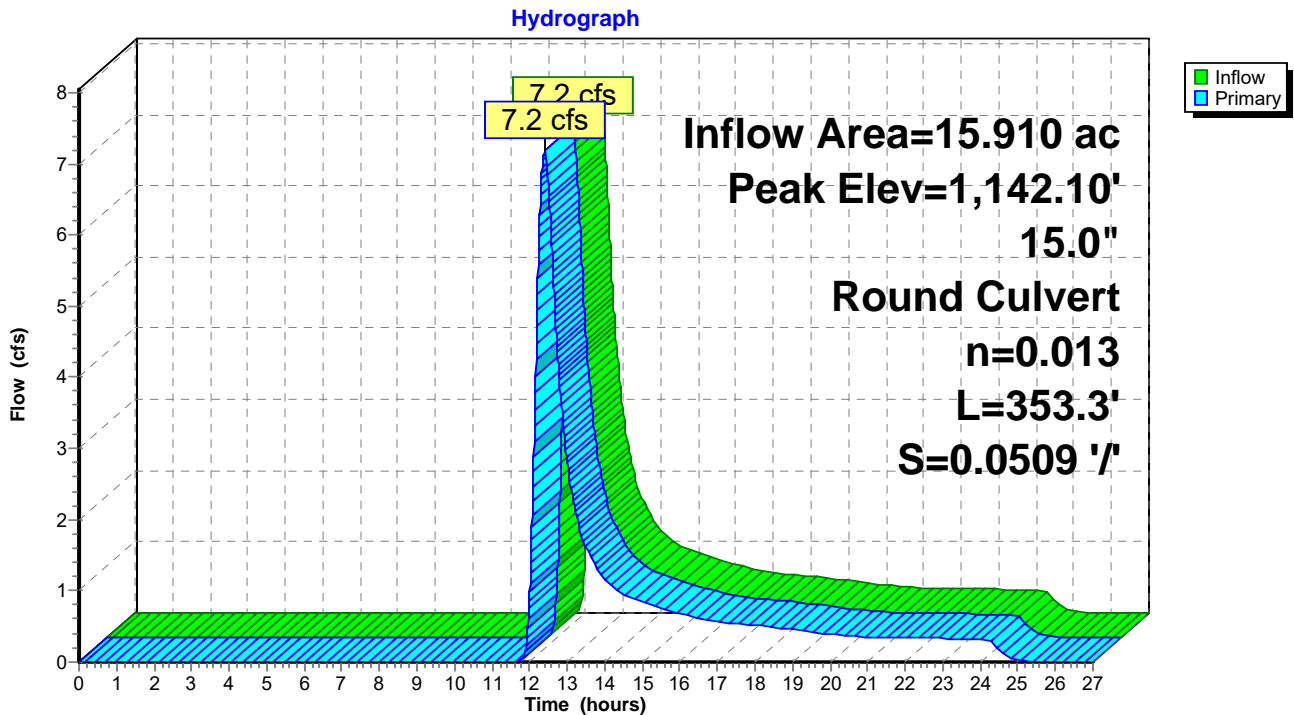
Inflow Area = 15.910 ac, 2.77% Impervious, Inflow Depth = 0.75" for 10-yr event
 Inflow = 7.2 cfs @ 12.42 hrs, Volume= 0.988 af
 Outflow = 7.2 cfs @ 12.42 hrs, Volume= 0.988 af, Atten= 0%, Lag= 0.0 min
 Primary = 7.2 cfs @ 12.42 hrs, Volume= 0.988 af
 Routed to Pond FB3 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,142.10' @ 12.42 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,140.00'	15.0" Round Culvert L= 353.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,140.00' / 1,122.00' S= 0.0509 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.2 cfs @ 12.42 hrs HW=1,142.10' TW=1,122.11' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 7.2 cfs @ 5.85 fps)

Pond PHW5: HEADWALL



Summary for Pond RC13: NEW CULVERT

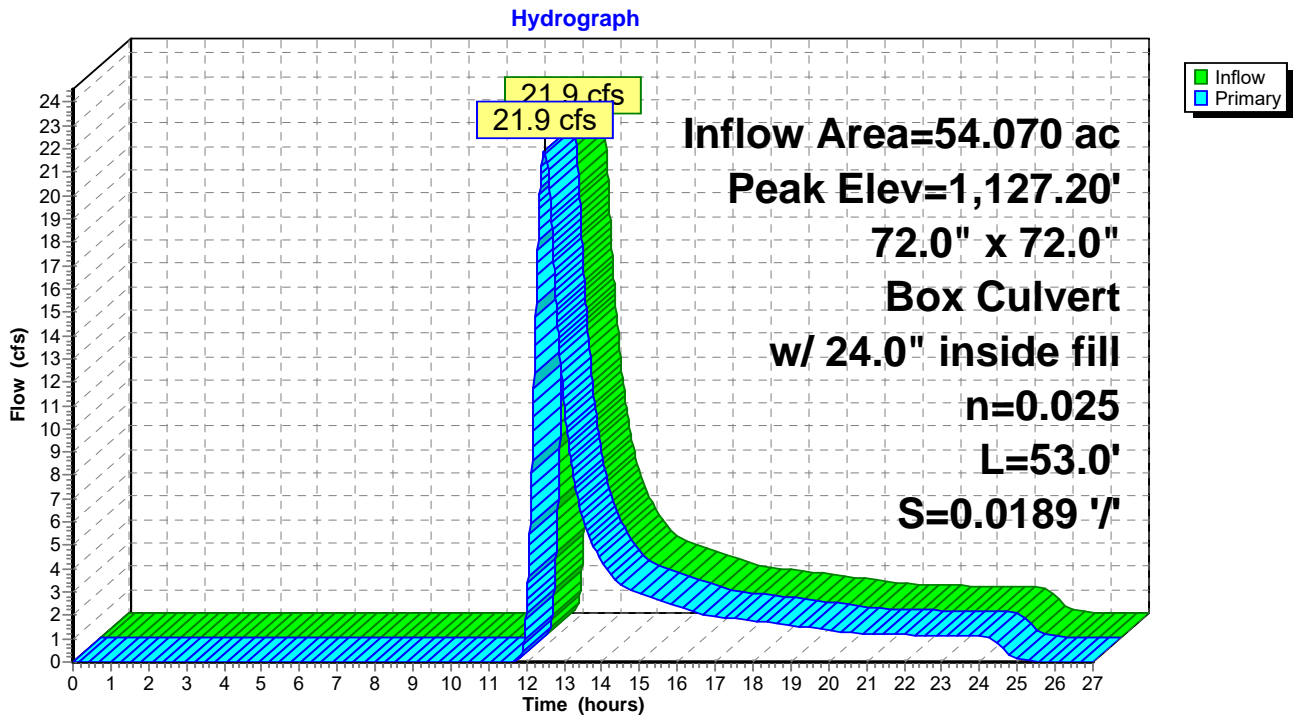
Inflow Area = 54.070 ac, 0.20% Impervious, Inflow Depth = 0.75" for 10-yr event
 Inflow = 21.9 cfs @ 12.48 hrs, Volume= 3.359 af
 Outflow = 21.9 cfs @ 12.48 hrs, Volume= 3.359 af, Atten= 0%, Lag= 0.0 min
 Primary = 21.9 cfs @ 12.48 hrs, Volume= 3.359 af
 Routed to Reach RC14 : WETLAND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,127.20' @ 12.49 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,126.00'	72.0" W x 72.0" H Box Culvert w/ 24.0" inside fill L= 53.0' Box, 30-75° wingwalls, square crown, Ke= 0.400 Inlet / Outlet Invert= 1,124.00' / 1,123.00' S= 0.0189 '/ Cc= 0.900 n= 0.025, Flow Area= 24.00 sf

Primary OutFlow Max=21.9 cfs @ 12.48 hrs HW=1,127.20' TW=1,126.43' (Dynamic Tailwater)
 ←1=Culvert (Outlet Controls 21.9 cfs @ 4.07 fps)

Pond RC13: NEW CULVERT



Summary for Pond RC7: NEW DOUGLAS DRIVE CULVERT

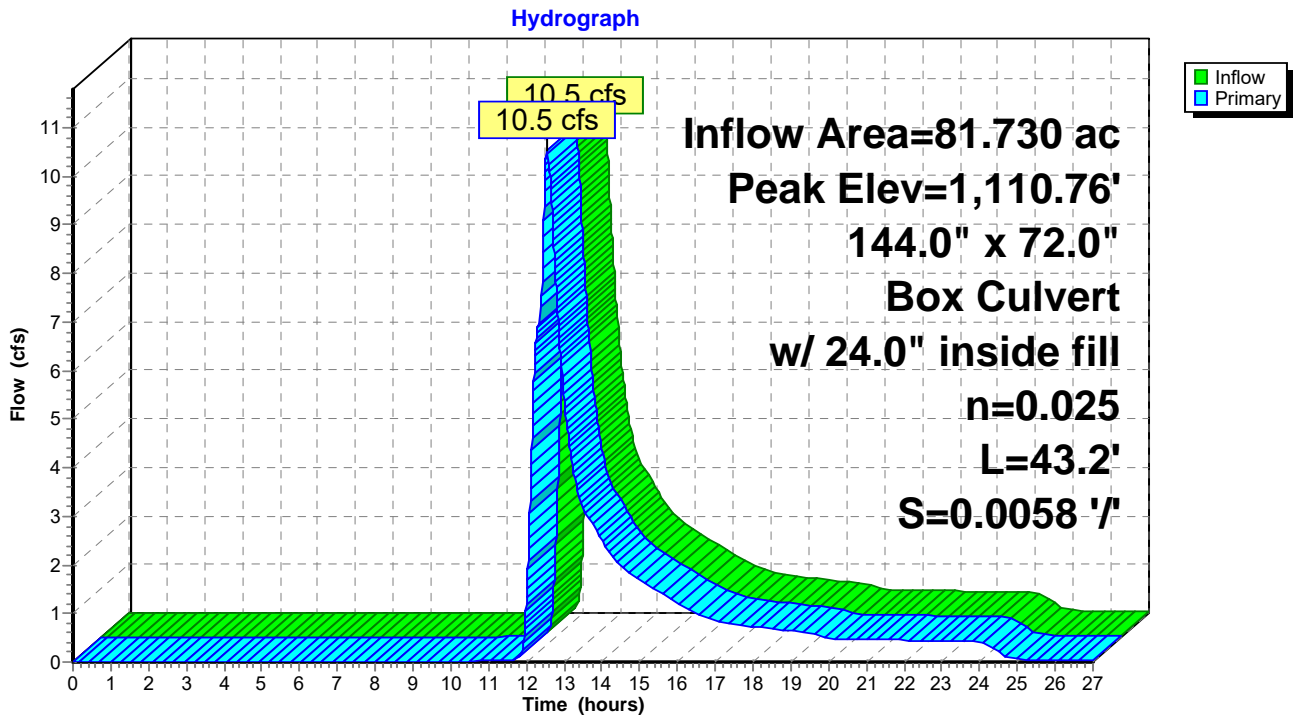
Inflow Area = 81.730 ac, 1.11% Impervious, Inflow Depth > 0.23" for 10-yr event
 Inflow = 10.5 cfs @ 12.55 hrs, Volume= 1.588 af
 Outflow = 10.5 cfs @ 12.55 hrs, Volume= 1.588 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.5 cfs @ 12.55 hrs, Volume= 1.588 af
 Routed to Reach RC6 : WETLAND STREAM

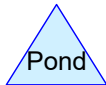
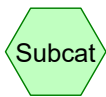
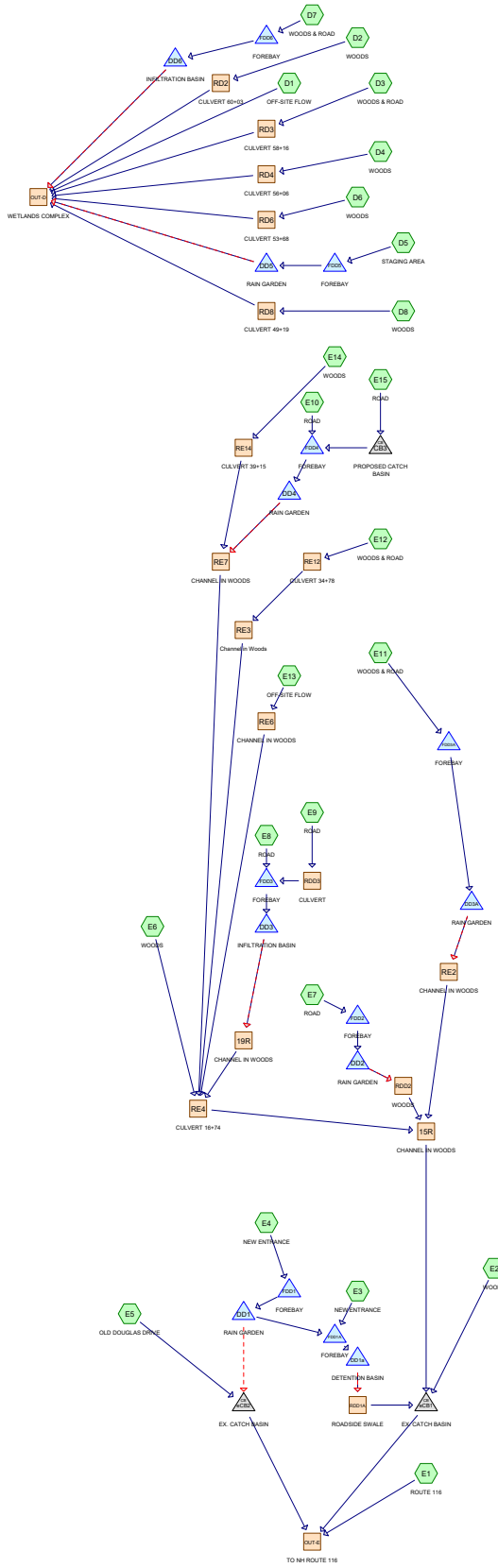
Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,110.76' @ 12.55 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,110.25'	144.0" W x 72.0" H Box Culvert w/ 24.0" inside fill L= 43.2' Box, 30-75° wingwalls, square crown, Ke= 0.400 Inlet / Outlet Invert= 1,108.25' / 1,108.00' S= 0.0058 '/ Cc= 0.900 n= 0.025 Earth, clean & winding, Flow Area= 48.00 sf

Primary OutFlow Max=10.5 cfs @ 12.55 hrs HW=1,110.76' TW=1,110.27' (Dynamic Tailwater)
 ←1=Culvert (Barrel Controls 10.5 cfs @ 2.31 fps)

Pond RC7: NEW DOUGLAS DRIVE CULVERT





Routing Diagram for 1101-POSTDEV_To OUTDE
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Project Notes

Defined 7 rainfall events from NH-Dalton IDF

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-yr	Type II 24-hr		Default	24.00	1	3.31	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.280	96	Gravel surface, HSG A (E14, E15)
0.790	96	Gravel surface, HSG C (D1, D2, D3, D5, D6, D7, E1, E10, E11, E12, E13, E14, E2, E3, E4, E6, E7, E8, E9)
1.200	30	Meadow, non-grazed, HSG A (D2, D7, E14, E6, E7)
2.130	58	Meadow, non-grazed, HSG B (D2, D5, D7, D8, E1, E14, E2, E5)
8.090	71	Meadow, non-grazed, HSG C (D1, D2, D3, D4, D5, D6, D7, D8, E1, E10, E11, E12, E13, E14, E15, E2, E3, E4, E5, E6, E7, E8, E9)
0.090	78	Meadow, non-grazed, HSG D (D3, D4, E11, E14)
0.050	98	Paved parking, HSG B (E5)
1.840	98	Paved parking, HSG C (D1, E10, E15, E2, E3, E5)
0.170	98	Unconnected pavement, HSG B (E1)
4.110	98	Unconnected pavement, HSG C (D2, D3, D5, D6, D7, E1, E11, E12, E13, E4, E6, E7, E8, E9)
0.090	98	Unconnected roofs, HSG A (E14)
10.620	30	Woods, Good, HSG A (D2, E11, E14, E2, E6)
23.180	55	Woods, Good, HSG B (D2, D3, D4, D5, D6, D7, D8, E14, E2, E5, E6)
3.550	70	Woods, Good, HSG C (E11, E13, E14, E2, E5, E6)
56.190	59	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
12.190	HSG A	D2, D7, E11, E14, E15, E2, E6, E7
25.530	HSG B	D2, D3, D4, D5, D6, D7, D8, E1, E14, E2, E5, E6
18.380	HSG C	D1, D2, D3, D4, D5, D6, D7, D8, E1, E10, E11, E12, E13, E14, E15, E2, E3, E4, E5, E6, E7, E8, E9
0.090	HSG D	D3, D4, E11, E14
0.000	Other	
56.190		TOTAL AREA

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Type II 24-hr 10-yr Rainfall=3.31"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment D1: OFF-SITE FLOW	Runoff Area=1.410 ac 47.52% Impervious Runoff Depth=2.01" Flow Length=155' Tc=16.1 min CN=87 Runoff=3.5 cfs 0.236 af
Subcatchment D2: WOODS	Runoff Area=3.280 ac 2.44% Impervious Runoff Depth=0.31" Flow Length=735' Tc=37.7 min CN=56 Runoff=0.4 cfs 0.086 af
Subcatchment D3: WOODS & ROAD	Runoff Area=4.950 ac 2.42% Impervious Runoff Depth=0.31" Flow Length=1,020' Tc=51.0 min CN=56 Runoff=0.5 cfs 0.130 af
Subcatchment D4: WOODS	Runoff Area=1.760 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=855' Tc=40.1 min CN=56 Runoff=0.2 cfs 0.046 af
Subcatchment D5: STAGING AREA	Runoff Area=2.390 ac 50.63% Impervious Runoff Depth=1.63" Flow Length=385' Tc=23.9 min CN=82 Runoff=3.9 cfs 0.324 af
Subcatchment D6: WOODS	Runoff Area=3.750 ac 2.40% Impervious Runoff Depth=0.35" Flow Length=845' Tc=41.5 min CN=57 Runoff=0.5 cfs 0.108 af
Subcatchment D7: WOODS & ROAD	Runoff Area=4.400 ac 7.27% Impervious Runoff Depth=0.42" Flow Length=409' Tc=12.4 min UI Adjusted CN=59 Runoff=1.7 cfs 0.152 af
Subcatchment D8: WOODS	Runoff Area=5.720 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=1,135' Slope=0.0650 '/' Tc=54.5 min CN=56 Runoff=0.5 cfs 0.150 af
Subcatchment E1: ROUTE 116	Runoff Area=1.320 ac 75.00% Impervious Runoff Depth=2.46" Tc=6.0 min CN=92 Runoff=5.5 cfs 0.270 af
Subcatchment E10: ROAD	Runoff Area=0.510 ac 62.75% Impervious Runoff Depth=2.36" Tc=6.0 min CN=91 Runoff=2.1 cfs 0.100 af
Subcatchment E11: WOODS & ROAD	Runoff Area=0.560 ac 46.43% Impervious Runoff Depth=1.77" Tc=6.0 min CN=84 Runoff=1.8 cfs 0.083 af
Subcatchment E12: WOODS & ROAD	Runoff Area=0.140 ac 78.57% Impervious Runoff Depth=2.86" Tc=6.0 min CN=96 Runoff=0.6 cfs 0.033 af
Subcatchment E13: OFF-SITE FLOW	Runoff Area=0.100 ac 20.00% Impervious Runoff Depth=1.23" Tc=6.0 min UI Adjusted CN=76 Runoff=0.2 cfs 0.010 af
Subcatchment E14: WOODS	Runoff Area=5.440 ac 1.65% Impervious Runoff Depth=0.15" Flow Length=540' Tc=16.5 min UI Adjusted CN=50 Runoff=0.2 cfs 0.069 af
Subcatchment E15: ROAD	Runoff Area=0.270 ac 81.48% Impervious Runoff Depth=2.97" Tc=6.0 min CN=97 Runoff=1.2 cfs 0.067 af
Subcatchment E2: WOODS	Runoff Area=11.100 ac 2.79% Impervious Runoff Depth=0.04" Flow Length=2,320' Tc=28.5 min CN=44 Runoff=0.1 cfs 0.040 af

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Type II 24-hr 10-yr Rainfall=3.31"

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Subcatchment E3: NEW ENTRANCE	Runoff Area=1.250 ac 22.40% Impervious Tc=6.0 min CN=77	Runoff Depth=1.29" Runoff=2.9 cfs 0.134 af
Subcatchment E4: NEW ENTRANCE	Runoff Area=1.380 ac 34.78% Impervious Tc=6.0 min CN=82	Runoff Depth=1.63" Runoff=4.0 cfs 0.187 af
Subcatchment E5: OLD DOUGLAS DRIVE	Runoff Area=1.800 ac 5.00% Impervious Flow Length=660' Tc=23.5 min CN=67	Runoff Depth=0.75" Runoff=1.1 cfs 0.112 af
Subcatchment E6: WOODS	Runoff Area=3.550 ac 1.69% Impervious Flow Length=930' Tc=47.8 min CN=46	Runoff Depth=0.07" Runoff=0.0 cfs 0.022 af
Subcatchment E7: ROAD	Runoff Area=0.580 ac 50.00% Impervious Tc=6.0 min CN=84	Runoff Depth=1.77" Runoff=1.8 cfs 0.086 af
Subcatchment E8: ROAD	Runoff Area=0.470 ac 48.94% Impervious Tc=6.0 min CN=87	Runoff Depth=2.01" Runoff=1.7 cfs 0.079 af
Subcatchment E9: ROAD	Runoff Area=0.060 ac 33.33% Impervious Tc=6.0 min CN=84	Runoff Depth=1.77" Runoff=0.2 cfs 0.009 af
Reach 15R: CHANNEL IN WOODS	n=0.035 L=855.0' S=0.0572 '/	Avg. Flow Depth=0.15' Max Vel=2.21 fps Capacity=405.6 cfs Inflow=2.1 cfs 0.415 af Outflow=1.5 cfs 0.413 af
Reach 19R: CHANNEL IN WOODS	n=0.035 L=920.0' S=0.0413 '/	Avg. Flow Depth=0.00' Max Vel=0.00 fps Capacity=87.4 cfs Inflow=0.0 cfs 0.000 af Outflow=0.0 cfs 0.000 af
Reach OUT-D: WETLANDS COMPLEX		Inflow=4.3 cfs 1.044 af Outflow=4.3 cfs 1.044 af
Reach OUT-E: TO NH ROUTE 116		Inflow=5.9 cfs 0.864 af Outflow=5.9 cfs 0.864 af
Reach RD2: CULVERT 60+03	18.0" Round Pipe n=0.013 L=56.6' S=0.0530 '/	Avg. Flow Depth=0.13' Max Vel=4.98 fps Capacity=24.2 cfs Inflow=0.4 cfs 0.086 af Outflow=0.4 cfs 0.086 af
Reach RD3: CULVERT 58+16	18.0" Round Pipe n=0.013 L=38.4' S=0.0260 '/	Avg. Flow Depth=0.17' Max Vel=4.18 fps Capacity=17.0 cfs Inflow=0.5 cfs 0.130 af Outflow=0.5 cfs 0.130 af
Reach RD4: CULVERT 56+06	18.0" Round Pipe n=0.013 L=50.8' S=0.0112 '/	Avg. Flow Depth=0.14' Max Vel=2.38 fps Capacity=11.1 cfs Inflow=0.2 cfs 0.046 af Outflow=0.2 cfs 0.046 af
Reach RD6: CULVERT 53+68	18.0" Round Pipe n=0.013 L=58.0' S=0.0241 '/	Avg. Flow Depth=0.17' Max Vel=4.09 fps Capacity=16.3 cfs Inflow=0.5 cfs 0.108 af Outflow=0.5 cfs 0.108 af
Reach RD8: CULVERT 49+19	18.0" Round Pipe n=0.013 L=61.0' S=0.0639 '/	Avg. Flow Depth=0.14' Max Vel=5.91 fps Capacity=26.6 cfs Inflow=0.5 cfs 0.150 af Outflow=0.5 cfs 0.150 af
Reach RDD1A: ROADSIDE SWALE	n=0.022 L=175.0' S=0.0143 '/	Avg. Flow Depth=0.15' Max Vel=1.39 fps Capacity=14.7 cfs Inflow=0.3 cfs 0.029 af Outflow=0.1 cfs 0.029 af
Reach RDD2: WOODS	n=0.035 L=75.0' S=0.1267 '/	Avg. Flow Depth=0.16' Max Vel=3.34 fps Capacity=75.6 cfs Inflow=1.4 cfs 0.070 af Outflow=1.4 cfs 0.070 af

Reach RDD3: CULVERT	Avg. Flow Depth=0.16'	Max Vel=2.43 fps	Inflow=0.2 cfs	0.009 af
12.0" Round Pipe n=0.013	L=48.6'	S=0.0103 '/'	Capacity=3.6 cfs	Outflow=0.2 cfs 0.009 af
Reach RE12: CULVERT 34+78	Avg. Flow Depth=0.29'	Max Vel=3.35 fps	Inflow=0.6 cfs	0.033 af
12.0" Round Pipe n=0.013	L=53.4'	S=0.0094 '/'	Capacity=3.4 cfs	Outflow=0.6 cfs 0.033 af
Reach RE14: CULVERT 39+15	Avg. Flow Depth=0.15'	Max Vel=1.76 fps	Inflow=0.2 cfs	0.069 af
18.0" Round Pipe n=0.013	L=54.7'	S=0.0055 '/'	Capacity=7.8 cfs	Outflow=0.2 cfs 0.069 af
Reach RE2: CHANNEL IN WOODS	Avg. Flow Depth=0.10'	Max Vel=1.34 fps	Inflow=1.4 cfs	0.074 af
n=0.035	L=1,520.0'	S=0.0372 '/'	Capacity=62.0 cfs	Outflow=0.4 cfs 0.073 af
Reach RE3: Channel in Woods	Avg. Flow Depth=0.07'	Max Vel=0.91 fps	Inflow=0.6 cfs	0.033 af
n=0.035	L=2,335.0'	S=0.0289 '/'	Capacity=73.1 cfs	Outflow=0.2 cfs 0.033 af
Reach RE4: CULVERT 16+74	Avg. Flow Depth=0.28'	Max Vel=3.63 fps	Inflow=0.8 cfs	0.272 af
18.0" Round Pipe n=0.013	L=50.0'	S=0.0108 '/'	Capacity=10.9 cfs	Outflow=0.8 cfs 0.272 af
Reach RE6: CHANNEL IN WOODS	Avg. Flow Depth=0.03'	Max Vel=0.60 fps	Inflow=0.2 cfs	0.010 af
n=0.035	L=1,985.0'	S=0.0320 '/'	Capacity=76.9 cfs	Outflow=0.0 cfs 0.010 af
Reach RE7: CHANNEL IN WOODS	Avg. Flow Depth=0.11'	Max Vel=1.16 fps	Inflow=2.6 cfs	0.212 af
n=0.035	L=2,760.0'	S=0.0228 '/'	Capacity=64.9 cfs	Outflow=0.6 cfs 0.207 af
Pond CB3: PROPOSED CATCH BASIN	Peak Elev=1,104.47'	Inflow=1.2 cfs	0.067 af	
15.0" Round Culvert n=0.013	L=128.1'	S=0.0195 '/'	Outflow=1.2 cfs	0.067 af
Pond DD1: RAIN GARDEN	Peak Elev=998.16'	Storage=2,592 cf	Inflow=4.5 cfs	0.172 af
Primary=1.9 cfs	0.166 af	Secondary=0.0 cfs	0.000 af	Outflow=1.9 cfs 0.166 af
Pond DD1a: DETENTION BASIN	Peak Elev=988.14'	Storage=9,490 cf	Inflow=4.4 cfs	0.289 af
Discarded=0.0 cfs	0.052 af	Primary=0.3 cfs	0.029 af	Outflow=0.3 cfs 0.082 af
Pond DD2: RAIN GARDEN	Peak Elev=1,048.29'	Storage=1,098 cf	Inflow=1.9 cfs	0.079 af
Primary=1.4 cfs	0.070 af	Secondary=0.0 cfs	0.000 af	Outflow=1.4 cfs 0.070 af
Pond DD3: INFILTRATION BASIN	Peak Elev=1,074.92'	Storage=497 cf	Inflow=3.3 cfs	0.016 af
Discarded=0.1 cfs	0.016 af	Primary=0.0 cfs	0.000 af	Secondary=0.0 cfs 0.000 af
Outflow=0.1 cfs	0.016 af			
Pond DD3A: RAIN GARDEN	Peak Elev=1,095.29'	Storage=996 cf	Inflow=1.9 cfs	0.076 af
Primary=1.4 cfs	0.074 af	Secondary=0.0 cfs	0.000 af	Outflow=1.4 cfs 0.074 af
Pond DD4: RAIN GARDEN	Peak Elev=1,100.57'	Storage=2,214 cf	Inflow=3.4 cfs	0.146 af
Primary=2.0 cfs	0.139 af	Secondary=0.5 cfs	0.004 af	Outflow=2.6 cfs 0.143 af
Pond DD5: RAIN GARDEN	Peak Elev=1,138.26'	Storage=4,014 cf	Inflow=3.9 cfs	0.324 af
Primary=1.8 cfs	0.287 af	Secondary=0.0 cfs	0.000 af	Outflow=1.8 cfs 0.287 af
Pond DD6: INFILTRATION BASIN	Peak Elev=1,144.75'	Storage=1,061 cf	Inflow=2.1 cfs	0.128 af
Discarded=0.2 cfs	0.129 af	Primary=0.0 cfs	0.000 af	Secondary=0.0 cfs 0.000 af
Outflow=0.2 cfs	0.129 af			

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Type II 24-hr 10-yr Rainfall=3.31"

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Pond eCB1: EX. CATCH BASIN

Peak Elev=983.01' Inflow=1.5 cfs 0.482 af
24.0" Round Culvert n=0.012 L=80.0' S=0.0400 '/ Outflow=1.5 cfs 0.482 af

Pond eCB2: EX. CATCH BASIN

Peak Elev=988.76' Inflow=1.1 cfs 0.112 af
24.0" Round Culvert n=0.012 L=70.0' S=0.0036 '/ Outflow=1.1 cfs 0.112 af

Pond FDD1: FOREBAY

Peak Elev=998.44' Storage=656 cf Inflow=4.0 cfs 0.187 af
Outflow=4.5 cfs 0.172 af

Pond FDD1A: FOREBAY

Peak Elev=988.13' Storage=438 cf Inflow=3.6 cfs 0.301 af
Discarded=0.0 cfs 0.001 af Primary=4.4 cfs 0.289 af Outflow=4.4 cfs 0.290 af

Pond FDD2: FOREBAY

Peak Elev=1,049.17' Storage=315 cf Inflow=1.8 cfs 0.086 af
Outflow=1.9 cfs 0.079 af

Pond FDD3: FOREBAY

Peak Elev=1,077.33' Storage=1,125 cf Inflow=1.8 cfs 0.088 af
Discarded=0.1 cfs 0.072 af Primary=3.3 cfs 0.016 af Outflow=3.5 cfs 0.088 af

Pond FDD3A: FOREBAY

Peak Elev=1,096.18' Storage=301 cf Inflow=1.8 cfs 0.083 af
Outflow=1.9 cfs 0.076 af

Pond FDD4: FOREBAY

Peak Elev=1,100.58' Storage=921 cf Inflow=3.3 cfs 0.167 af
Outflow=3.4 cfs 0.146 af

Pond FDD5: FOREBAY

Peak Elev=1,149.16' Storage=1,774 cf Inflow=3.9 cfs 0.324 af
Outflow=3.9 cfs 0.324 af

Pond FDD6: FOREBAY

Peak Elev=1,147.11' Storage=1,043 cf Inflow=1.7 cfs 0.152 af
Outflow=2.1 cfs 0.128 af

Total Runoff Area = 56.190 ac Runoff Volume = 2.535 af Average Runoff Depth = 0.54"
88.86% Pervious = 49.930 ac 11.14% Impervious = 6.260 ac

Summary for Subcatchment D1: OFF-SITE FLOW

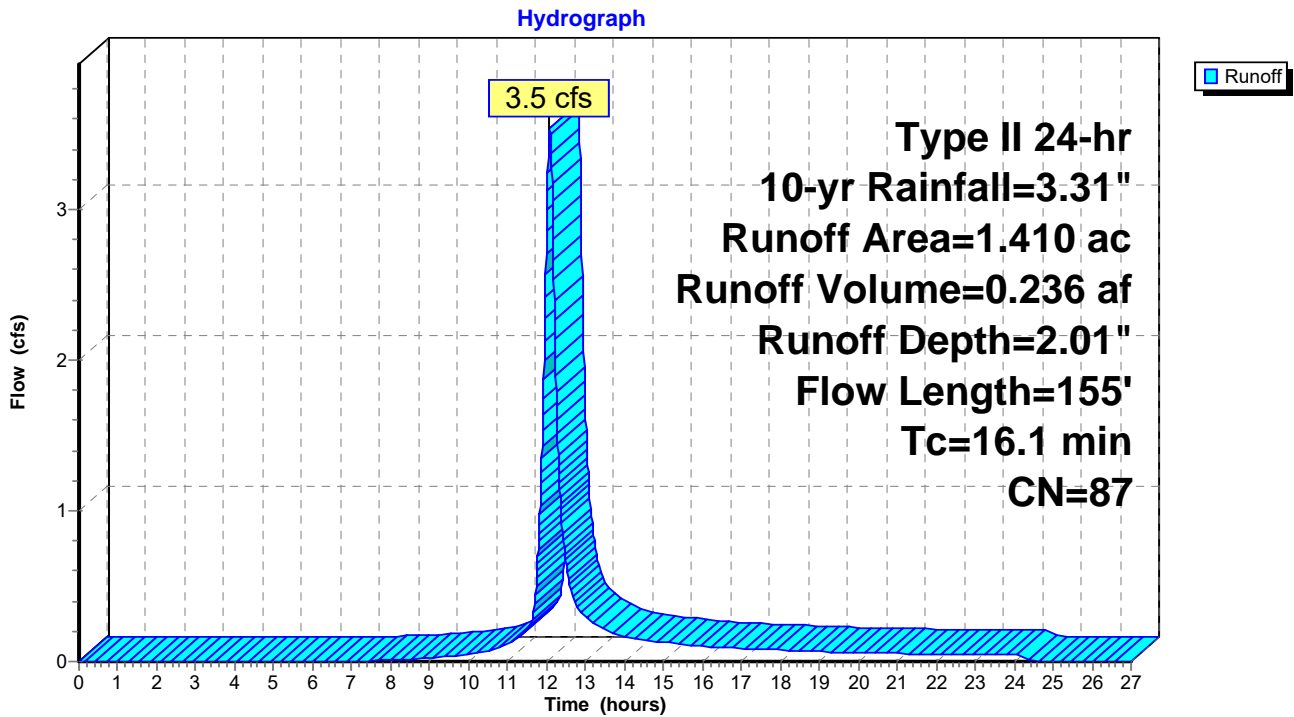
Runoff = 3.5 cfs @ 12.08 hrs, Volume= 0.236 af, Depth= 2.01"
 Routed to Reach OUT-D : WETLANDS COMPLEX

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.670	98	Paved parking, HSG C
0.180	96	Gravel surface, HSG C
0.560	71	Meadow, non-grazed, HSG C
1.410	87	Weighted Average
0.740	77	52.48% Pervious Area
0.670	98	47.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	30	0.1350	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
12.1	70	0.2460	0.10		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
0.9	40	0.0950	0.77		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
16.1	155	Total			

Subcatchment D1: OFF-SITE FLOW



Summary for Subcatchment D2: WOODS

Runoff = 0.4 cfs @ 12.49 hrs, Volume= 0.086 af, Depth= 0.31"
 Routed to Reach RD2 : CULVERT 60+03

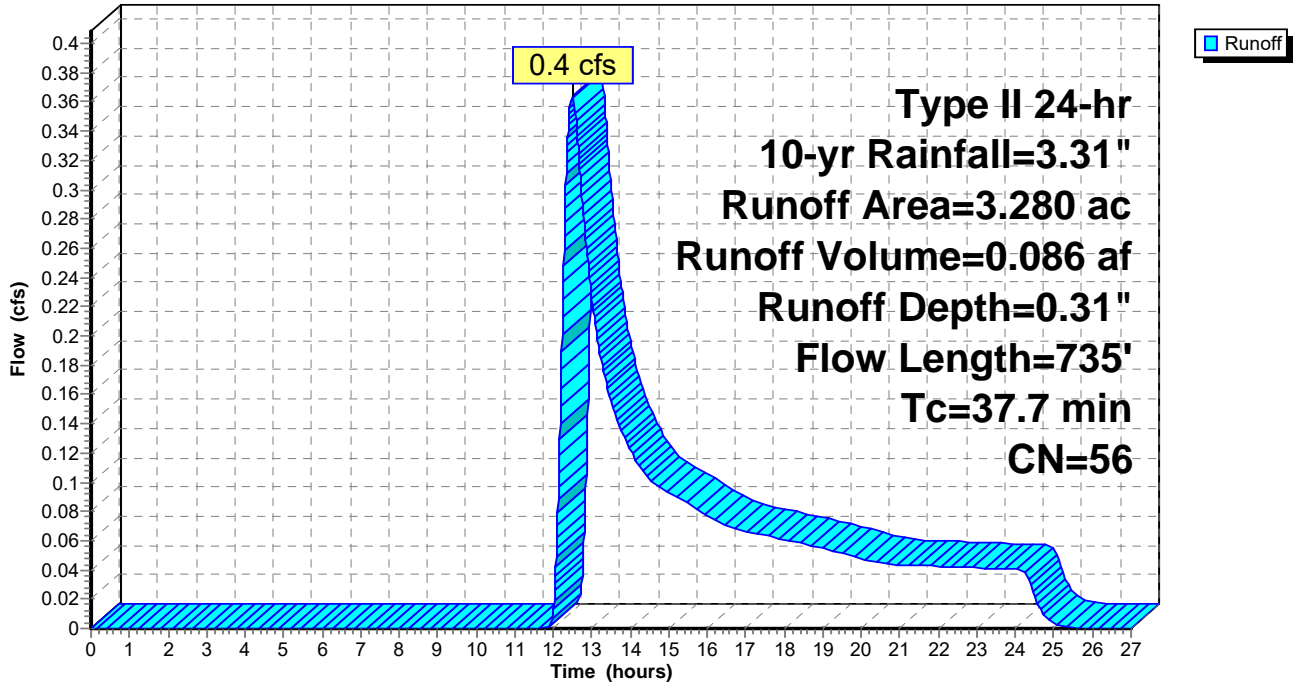
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.020	96	Gravel surface, HSG C
0.080	98	Unconnected pavement, HSG C
2.690	55	Woods, Good, HSG B
0.130	30	Woods, Good, HSG A
0.070	58	Meadow, non-grazed, HSG B
0.040	30	Meadow, non-grazed, HSG A
0.250	71	Meadow, non-grazed, HSG C
3.280	56	Weighted Average
3.200	55	97.56% Pervious Area
0.080	98	2.44% Impervious Area
0.080		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0900	0.07		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
13.6	635	0.0975	0.78		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
37.7	735	Total			

Subcatchment D2: WOODS

Hydrograph



Summary for Subcatchment D3: WOODS & ROAD

Runoff = 0.5 cfs @ 12.74 hrs, Volume= 0.130 af, Depth= 0.31"
 Routed to Reach RD3 : CULVERT 58+16

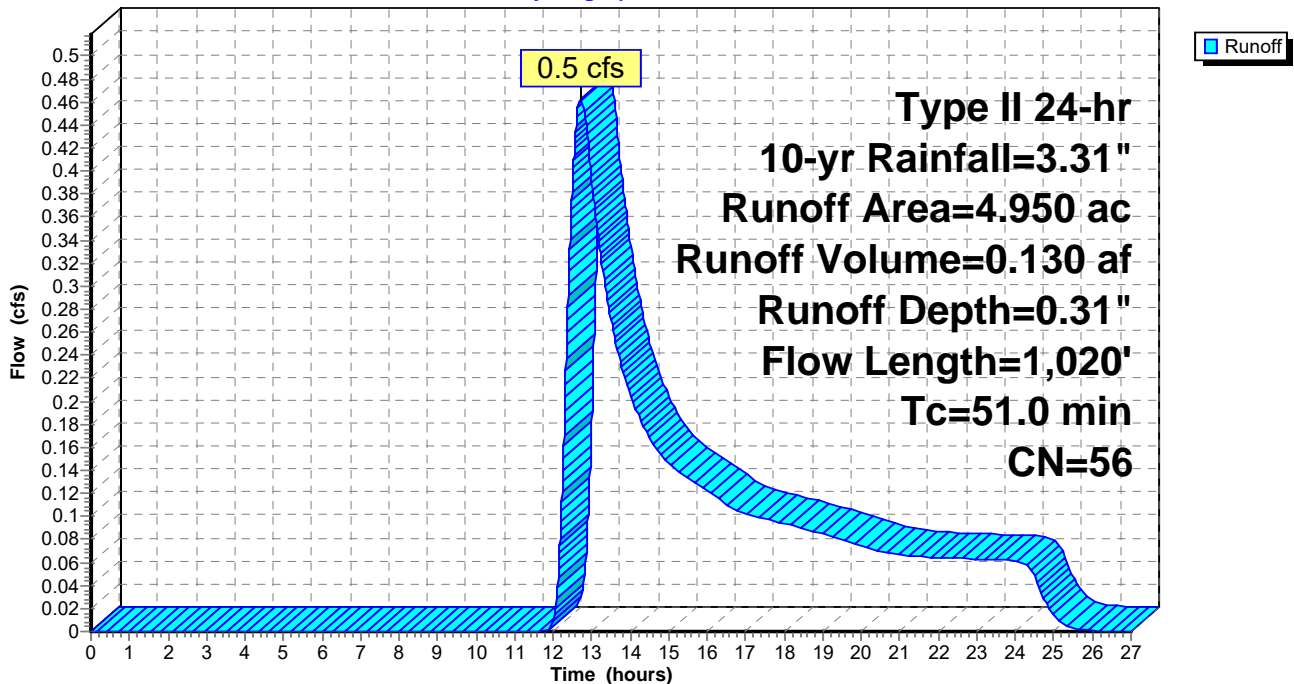
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.020	96	Gravel surface, HSG C
0.120	98	Unconnected pavement, HSG C
4.730	55	Woods, Good, HSG B
0.010	78	Meadow, non-grazed, HSG D
0.070	71	Meadow, non-grazed, HSG C
4.950	56	Weighted Average
4.830	55	97.58% Pervious Area
0.120	98	2.42% Impervious Area
0.120		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0650	0.06		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
23.6	920	0.0675	0.65		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
51.0	1,020	Total			

Subcatchment D3: WOODS & ROAD

Hydrograph



Summary for Subcatchment D4: WOODS

Runoff = 0.2 cfs @ 12.53 hrs, Volume= 0.046 af, Depth= 0.31"
 Routed to Reach RD4 : CULVERT 56+06

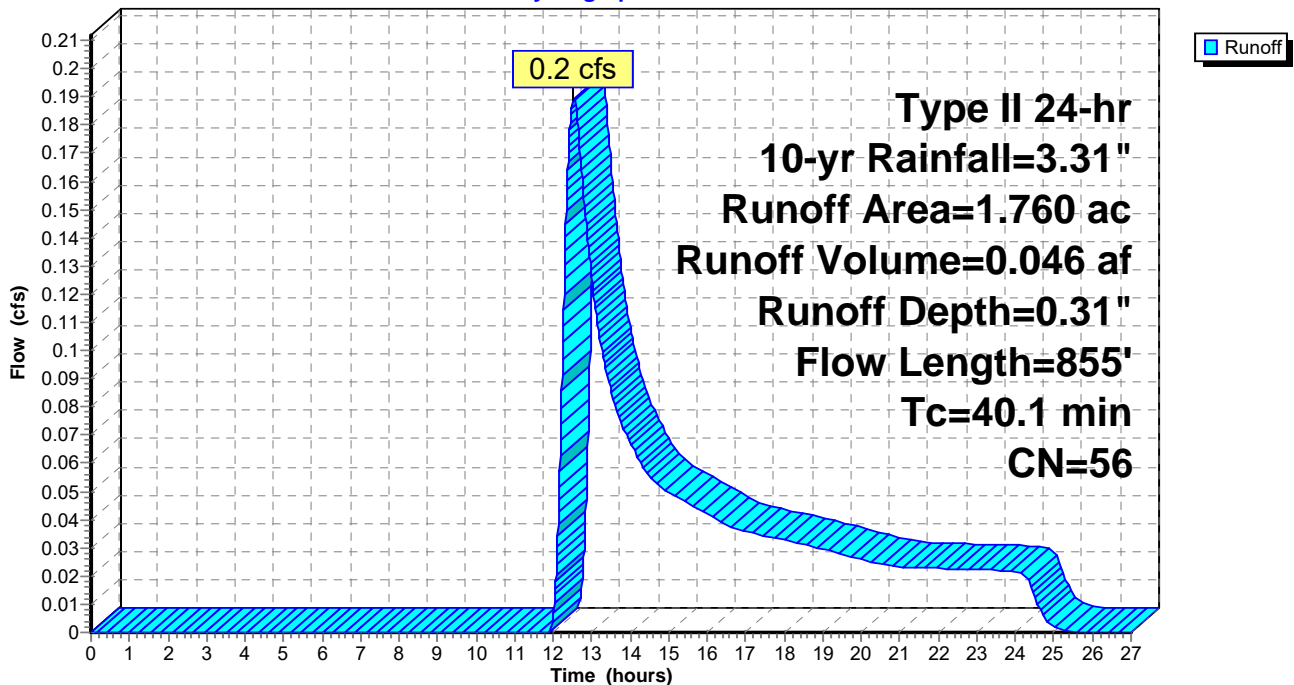
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.040	71	Meadow, non-grazed, HSG C
1.690	55	Woods, Good, HSG B
0.030	78	Meadow, non-grazed, HSG D
1.760	56	Weighted Average
1.760	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.1050	0.07		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
17.5	755	0.0825	0.72		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
40.1	855	Total			

Subcatchment D4: WOODS

Hydrograph



Summary for Subcatchment D5: STAGING AREA

Runoff = 3.9 cfs @ 12.18 hrs, Volume= 0.324 af, Depth= 1.63"
 Routed to Pond FDD5 : FOREBAY

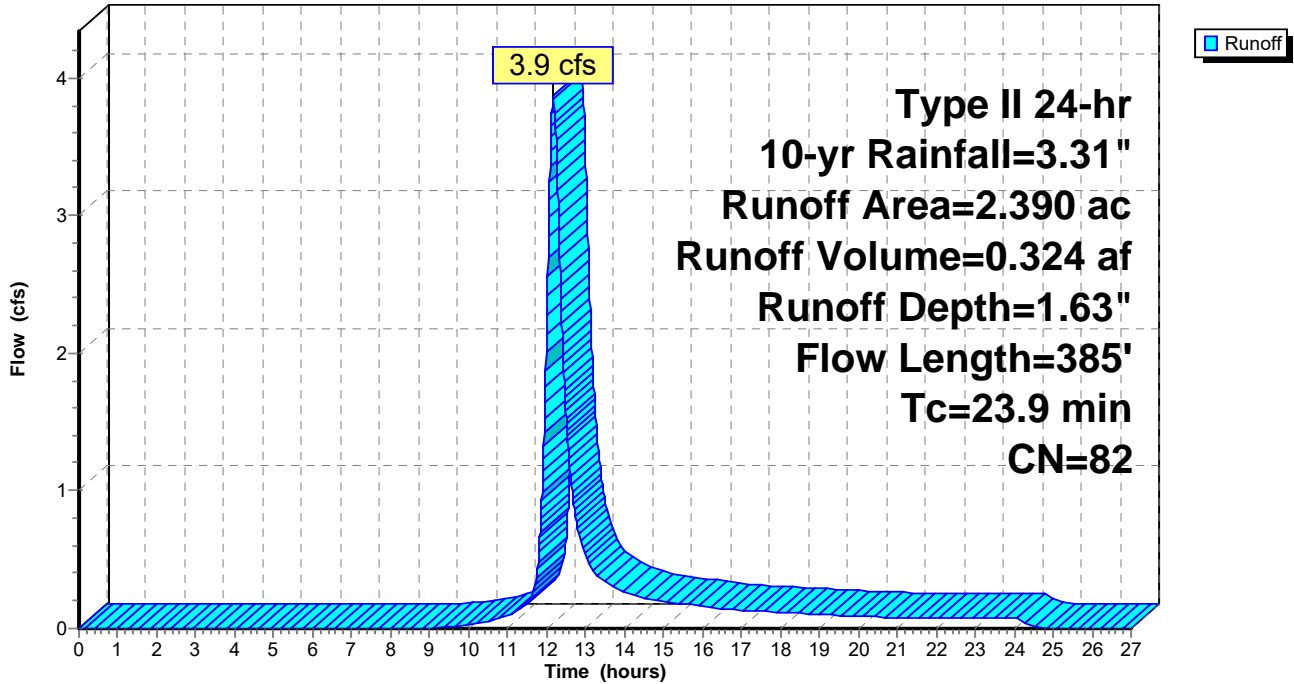
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.040	55	Woods, Good, HSG B
1.210	98	Unconnected pavement, HSG C
0.020	96	Gravel surface, HSG C
0.510	58	Meadow, non-grazed, HSG B
0.610	71	Meadow, non-grazed, HSG C
2.390	82	Weighted Average
1.180	65	49.37% Pervious Area
1.210	98	50.63% Impervious Area
1.210		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	100	0.1275	0.08		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
2.2	75	0.0500	0.56		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
0.2	40	0.1700	2.89		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.6	170	0.0500	4.54		Shallow Concentrated Flow, Paved Kv= 20.3 fps
23.9	385	Total			

Subcatchment D5: STAGING AREA

Hydrograph



Summary for Subcatchment D6: WOODS

Runoff = 0.5 cfs @ 12.54 hrs, Volume= 0.108 af, Depth= 0.35"
 Routed to Reach RD6 : CULVERT 53+68

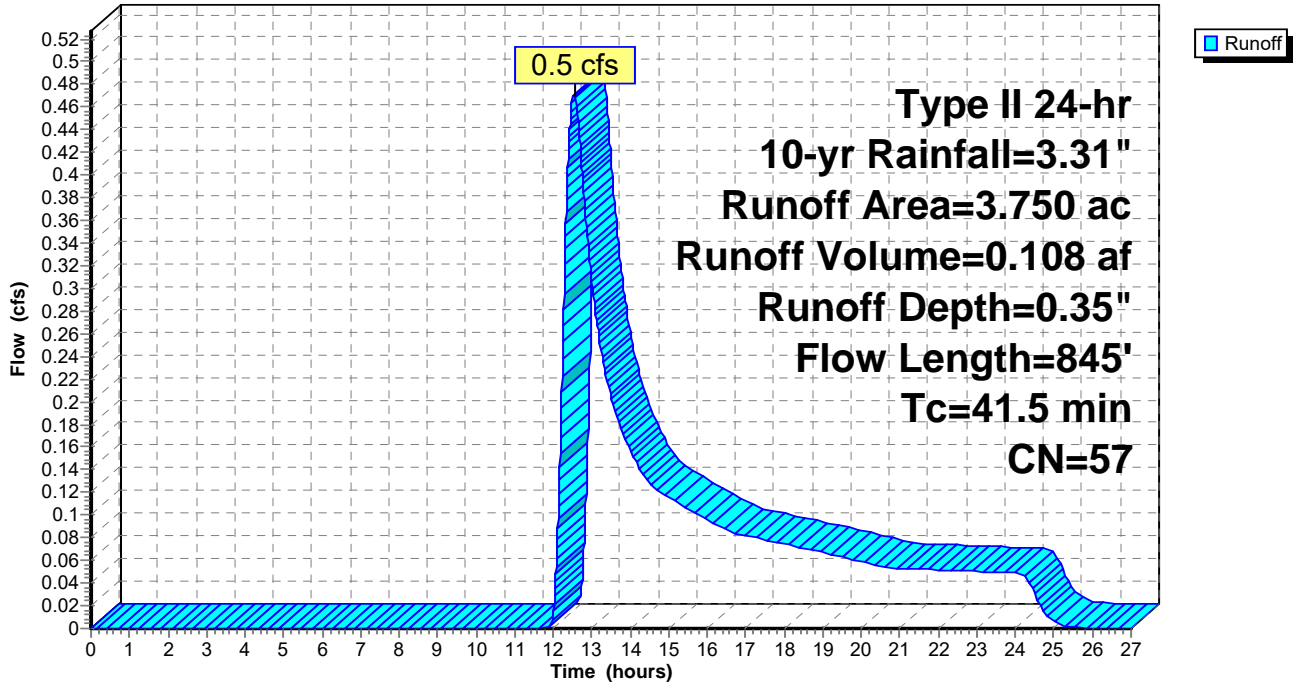
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
3.420	55	Woods, Good, HSG B
0.090	98	Unconnected pavement, HSG C
0.020	96	Gravel surface, HSG C
0.220	71	Meadow, non-grazed, HSG C
3.750	57	Weighted Average
3.660	56	97.60% Pervious Area
0.090	98	2.40% Impervious Area
0.090		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.1600	0.09		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
9.4	470	0.1100	0.83		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
13.0	275	0.0200	0.35		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
41.5	845	Total			

Subcatchment D6: WOODS

Hydrograph



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment D7: WOODS & ROAD

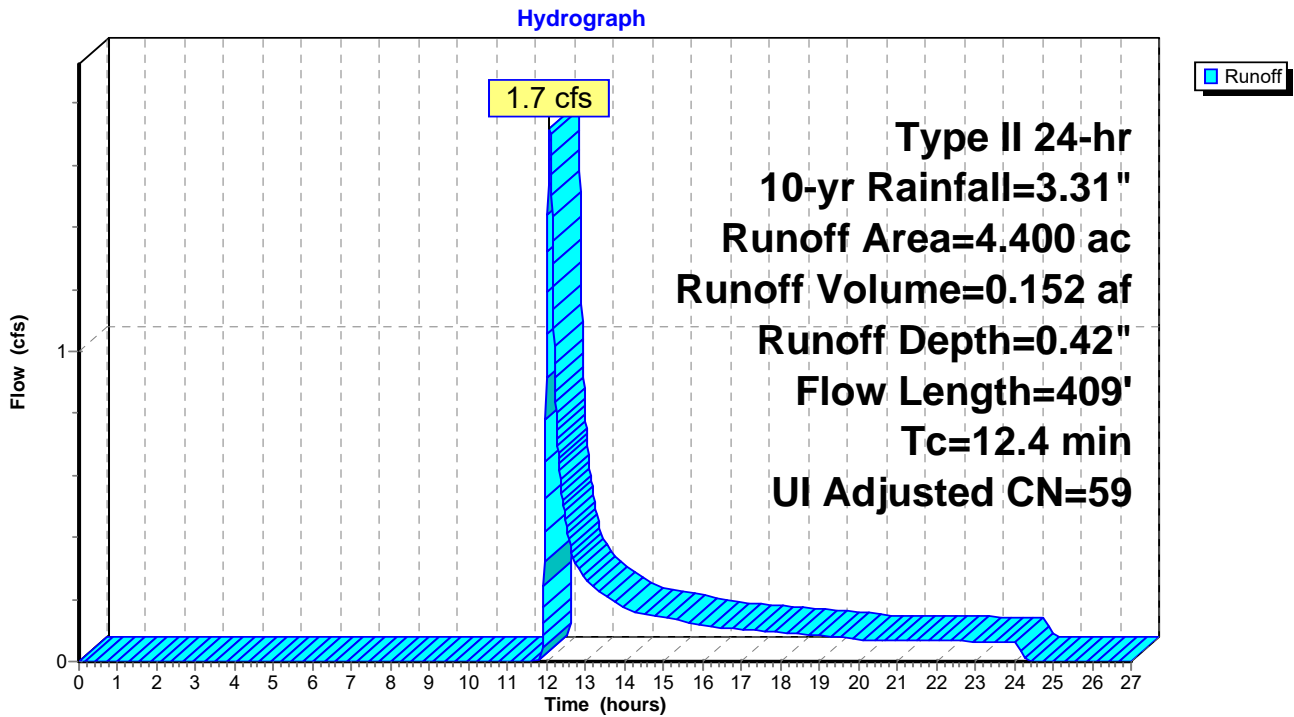
Runoff = 1.7 cfs @ 12.08 hrs, Volume= 0.152 af, Depth= 0.42"
 Routed to Pond FDD6 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Adj	Description
2.500	55		Woods, Good, HSG B
0.320	98		Unconnected pavement, HSG C
0.340	58		Meadow, non-grazed, HSG B
0.310	30		Meadow, non-grazed, HSG A
0.060	96		Gravel surface, HSG C
0.870	71		Meadow, non-grazed, HSG C
4.400	60	59	Weighted Average, UI Adjusted
4.080	57	57	92.73% Pervious Area
0.320	98	98	7.27% Impervious Area
0.320			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	20	0.1750	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
1.0	15	0.5000	0.25		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
7.7	65	0.0600	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
1.3	110	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.3	110	0.0100	6.52	78.26	Trap/Vee/Rect Channel Flow, Bot.W=0.00' D=2.00' Z= 3.0 '/' Top.W=12.00' n= 0.022 Earth, clean & straight
0.2	89	0.0225	6.80	5.34	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
12.4	409	Total			

Subcatchment D7: WOODS & ROAD



Summary for Subcatchment D8: WOODS

Runoff = 0.5 cfs @ 12.78 hrs, Volume= 0.150 af, Depth= 0.31"
 Routed to Reach RD8 : CULVERT 49+19

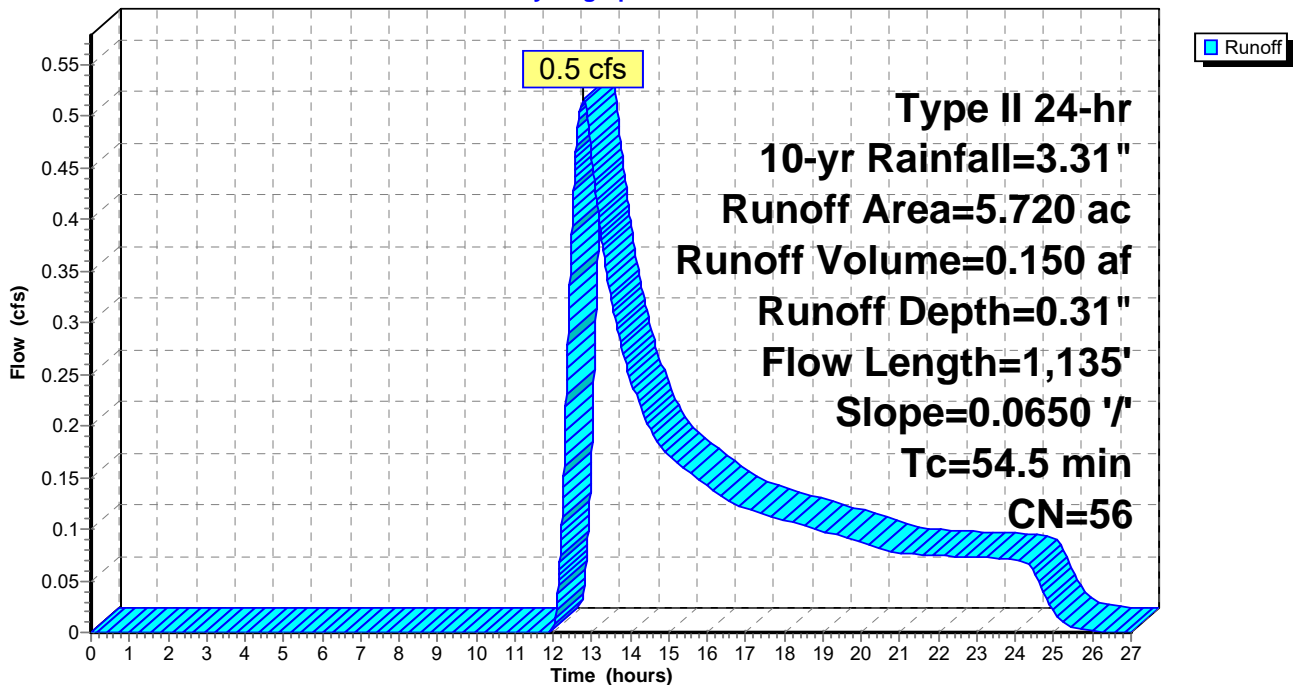
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
4.670	55	Woods, Good, HSG B
0.730	58	Meadow, non-grazed, HSG B
0.320	71	Meadow, non-grazed, HSG C
5.720	56	Weighted Average
5.720	56	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0650	0.06		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
27.1	1,035	0.0650	0.64		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
54.5	1,135	Total			

Subcatchment D8: WOODS

Hydrograph



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Type II 24-hr 10-yr Rainfall=3.31"

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Summary for Subcatchment E1: ROUTE 116

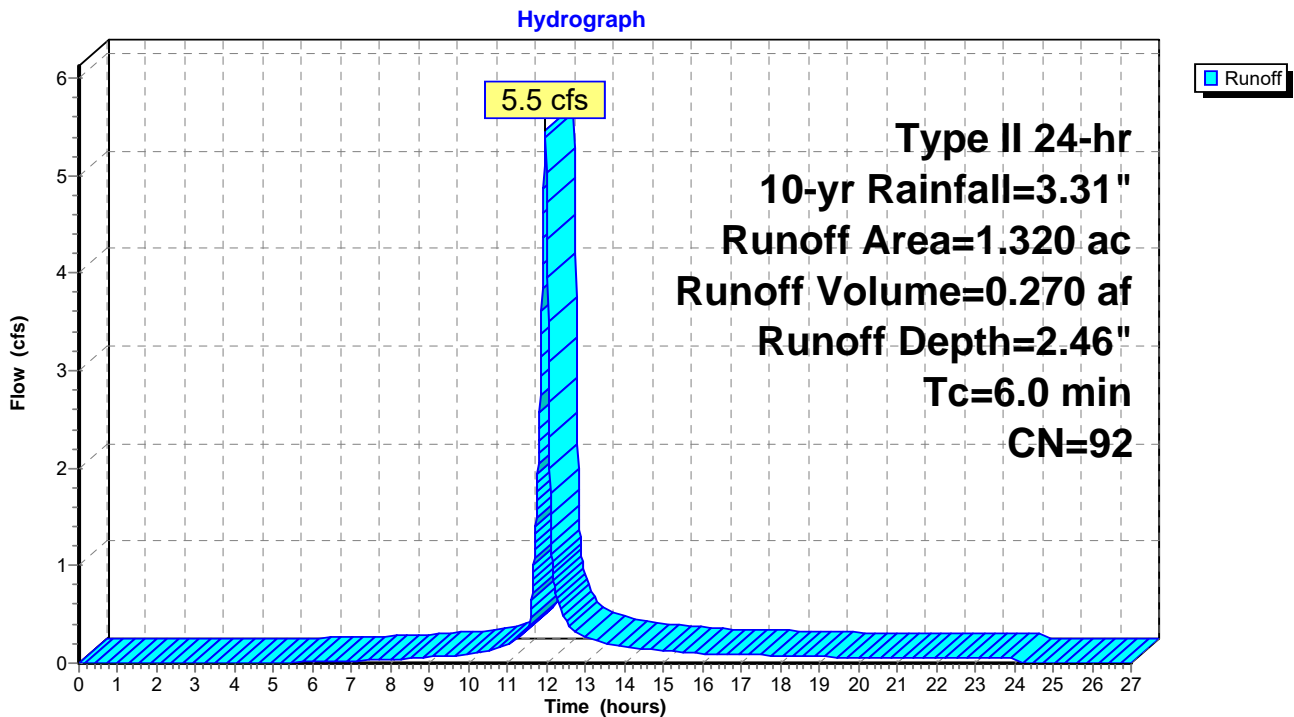
Runoff = 5.5 cfs @ 11.97 hrs, Volume= 0.270 af, Depth= 2.46"
 Routed to Reach OUT-E : TO NH ROUTE 116

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.820	98	Unconnected pavement, HSG C
0.250	71	Meadow, non-grazed, HSG C
0.170	98	Unconnected pavement, HSG B
0.050	96	Gravel surface, HSG C
0.030	58	Meadow, non-grazed, HSG B
1.320	92	Weighted Average
0.330	74	25.00% Pervious Area
0.990	98	75.00% Impervious Area
0.990		100.00% Unconnected

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

Subcatchment E1: ROUTE 116



Summary for Subcatchment E10: ROAD

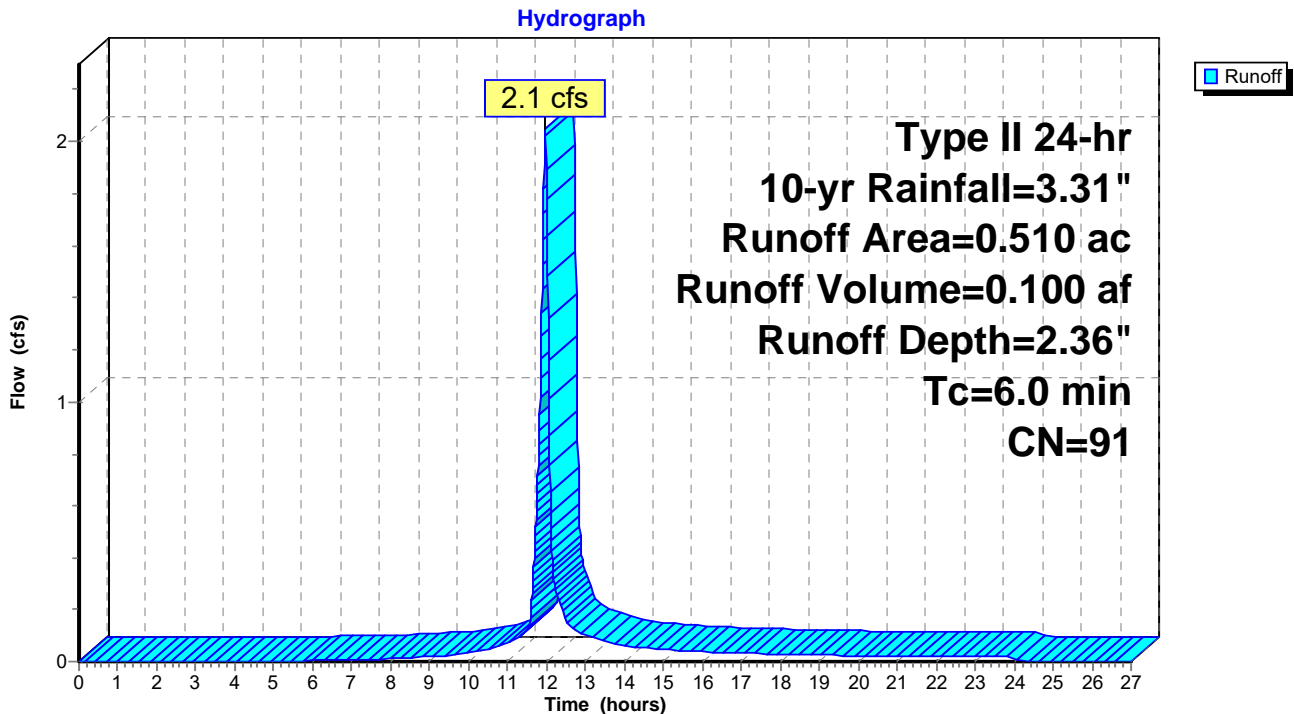
Runoff = 2.1 cfs @ 11.97 hrs, Volume= 0.100 af, Depth= 2.36"
 Routed to Pond FDD4 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.130	71	Meadow, non-grazed, HSG C
0.320	98	Paved parking, HSG C
0.060	96	Gravel surface, HSG C
0.510	91	Weighted Average
0.190	79	37.25% Pervious Area
0.320	98	62.75% Impervious Area

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

Subcatchment E10: ROAD



Summary for Subcatchment E11: WOODS & ROAD

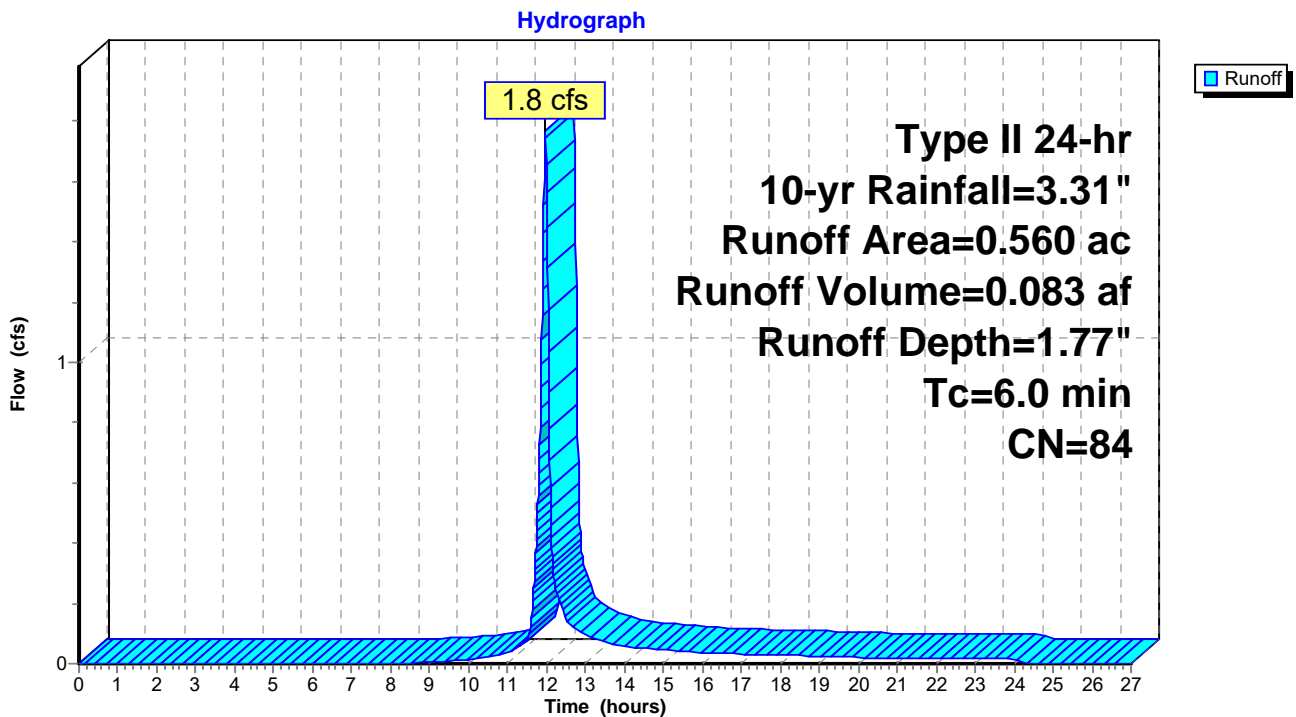
Runoff = 1.8 cfs @ 11.97 hrs, Volume= 0.083 af, Depth= 1.77"
 Routed to Pond FDD3A : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.200	71	Meadow, non-grazed, HSG C
0.050	96	Gravel surface, HSG C
0.260	98	Unconnected pavement, HSG C
0.030	30	Woods, Good, HSG A
0.010	70	Woods, Good, HSG C
0.010	78	Meadow, non-grazed, HSG D
0.560	84	Weighted Average
0.300	71	53.57% Pervious Area
0.260	98	46.43% Impervious Area
0.260		100.00% Unconnected

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

Subcatchment E11: WOODS & ROAD



Summary for Subcatchment E12: WOODS & ROAD

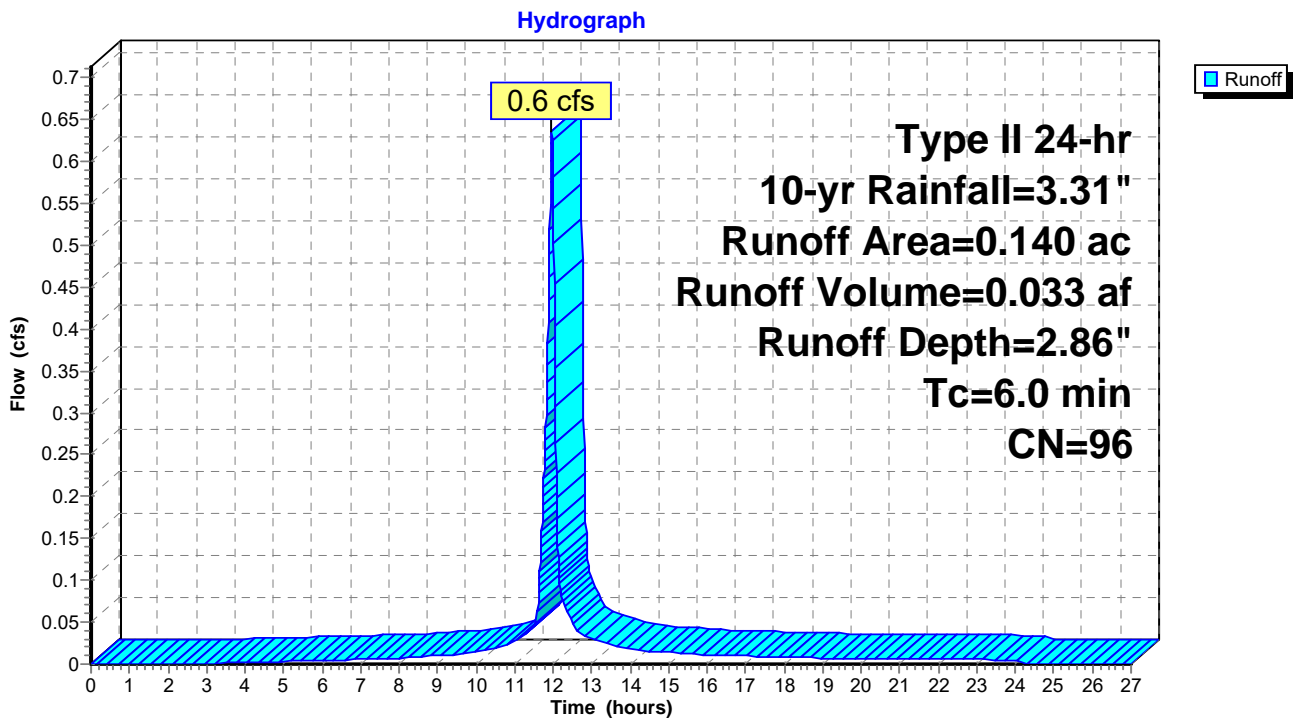
Runoff = 0.6 cfs @ 11.97 hrs, Volume= 0.033 af, Depth= 2.86"
 Routed to Reach RE12 : CULVERT 34+78

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.020	96	Gravel surface, HSG C
0.010	71	Meadow, non-grazed, HSG C
0.110	98	Unconnected pavement, HSG C
0.140	96	Weighted Average
0.030	88	21.43% Pervious Area
0.110	98	78.57% Impervious Area
0.110		100.00% Unconnected

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

Subcatchment E12: WOODS & ROAD



Summary for Subcatchment E13: OFF-SITE FLOW

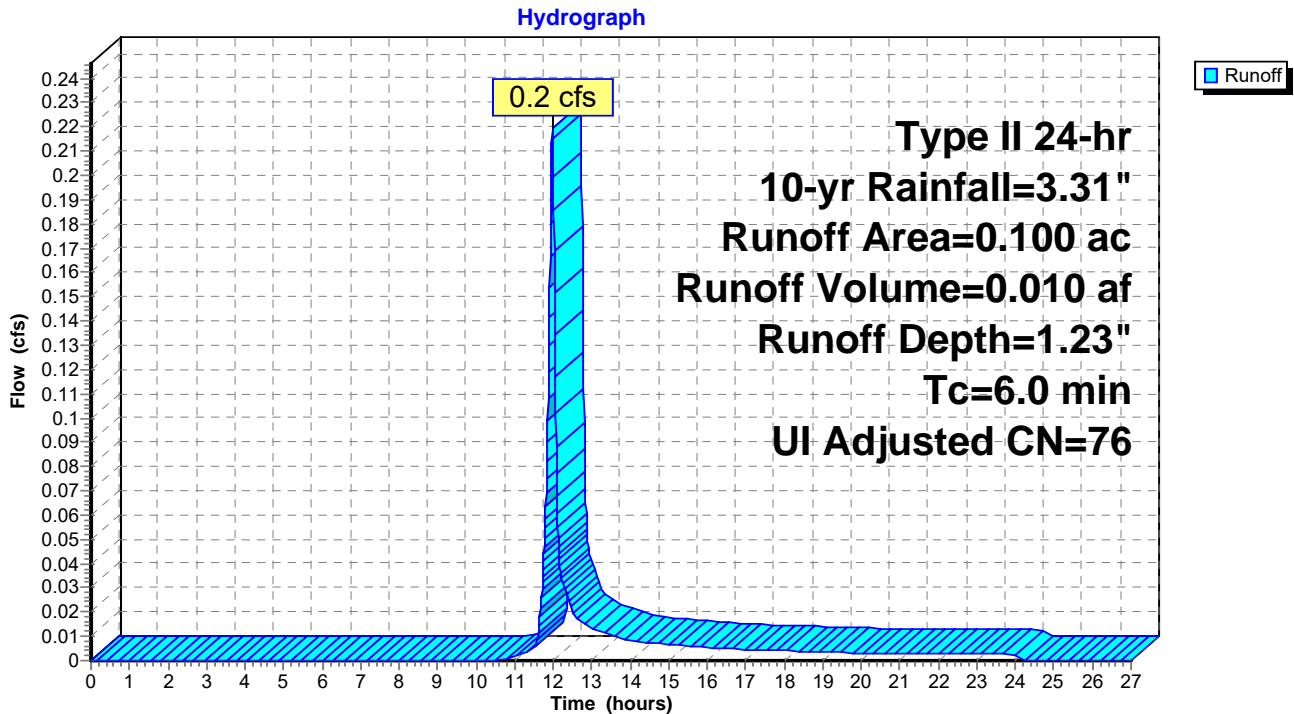
Runoff = 0.2 cfs @ 11.98 hrs, Volume= 0.010 af, Depth= 1.23"
 Routed to Reach RE6 : CHANNEL IN WOODS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Adj	Description
0.020	98		Unconnected pavement, HSG C
0.040	70		Woods, Good, HSG C
0.010	96		Gravel surface, HSG C
0.030	71		Meadow, non-grazed, HSG C
0.100	79	76	Weighted Average, UI Adjusted
0.080	74	74	80.00% Pervious Area
0.020	98	98	20.00% Impervious Area
0.020			100.00% Unconnected

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

Subcatchment E13: OFF-SITE FLOW



Summary for Subcatchment E14: WOODS

Runoff = 0.2 cfs @ 12.45 hrs, Volume= 0.069 af, Depth= 0.15"
 Routed to Reach RE14 : CULVERT 39+15

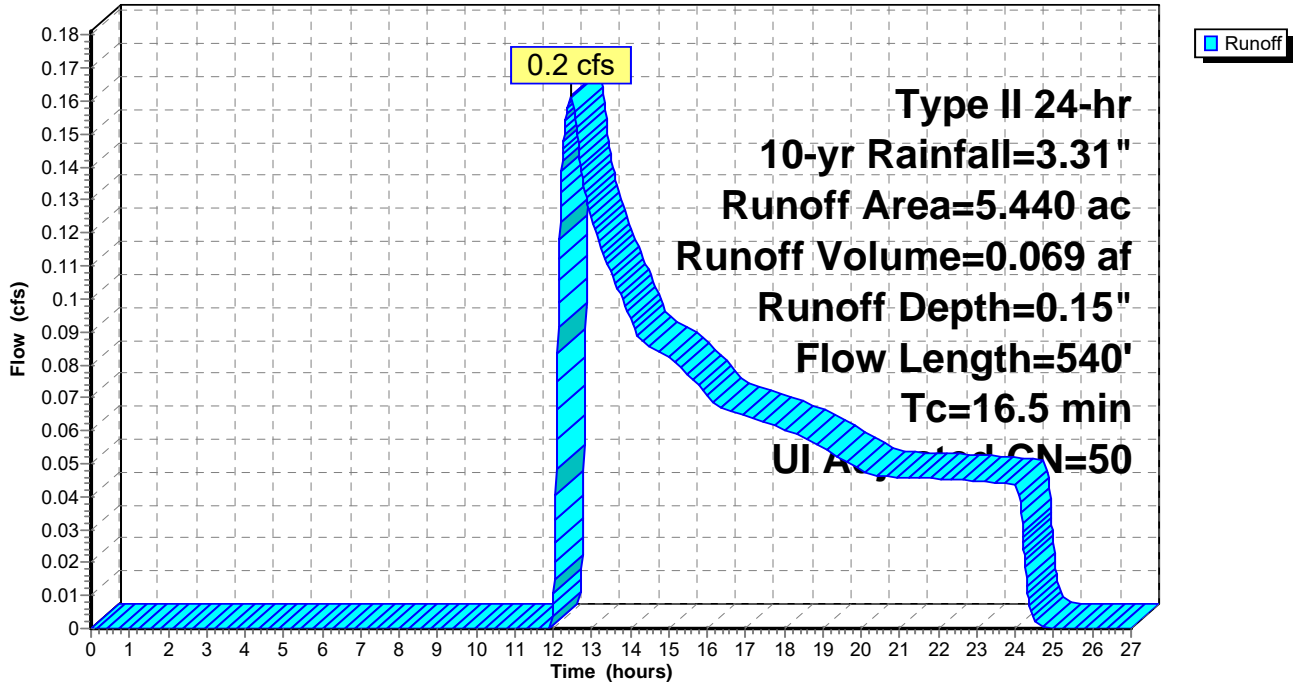
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Adj	Description
0.240	96		Gravel surface, HSG A
0.010	96		Gravel surface, HSG C
0.090	98		Unconnected roofs, HSG A
1.930	30		Woods, Good, HSG A
0.790	30		Meadow, non-grazed, HSG A
0.290	55		Woods, Good, HSG B
0.070	58		Meadow, non-grazed, HSG B
0.540	71		Meadow, non-grazed, HSG C
1.440	70		Woods, Good, HSG C
0.040	78		Meadow, non-grazed, HSG D
5.440	51	50	Weighted Average, UI Adjusted
5.350	50	50	98.35% Pervious Area
0.090	98	98	1.65% Impervious Area
0.090			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	45	0.0500	1.44		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.32"
4.0	55	0.2200	0.23		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
12.0	440	0.0600	0.61		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
16.5	540	Total			

Subcatchment E14: WOODS

Hydrograph



Summary for Subcatchment E15: ROAD

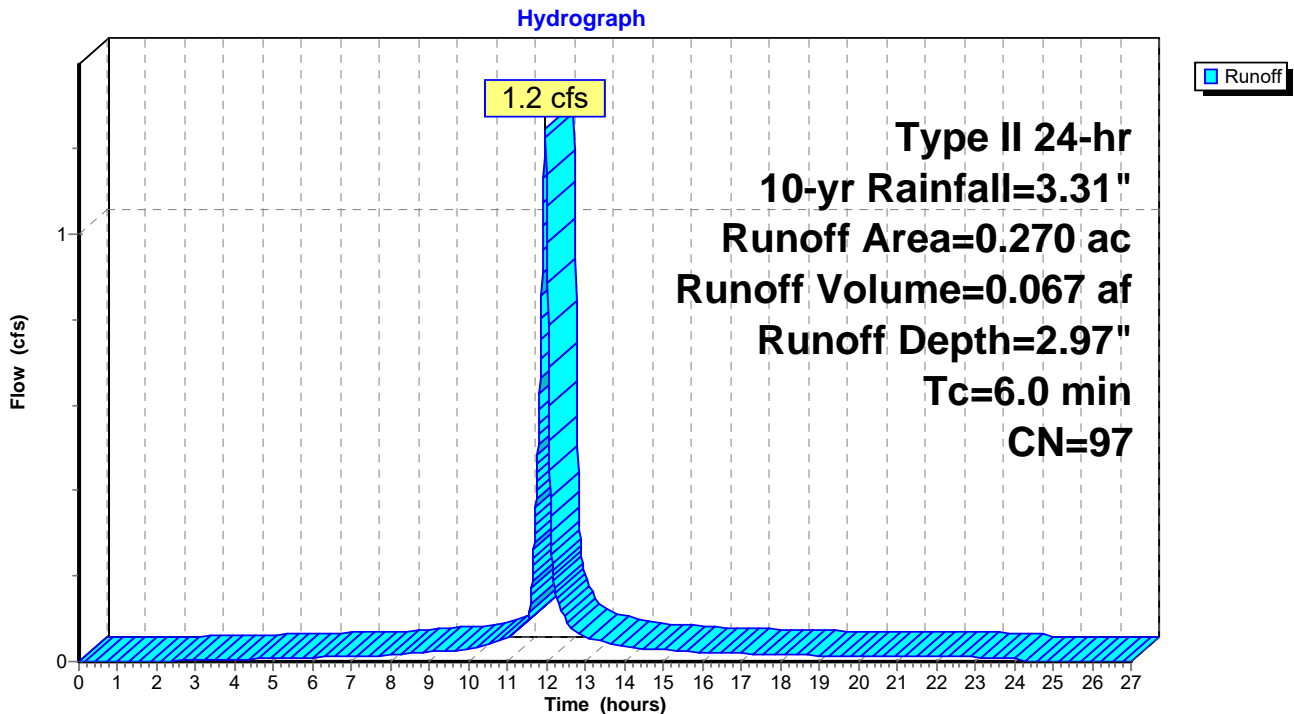
Runoff = 1.2 cfs @ 11.97 hrs, Volume= 0.067 af, Depth= 2.97"
 Routed to Pond CB3 : PROPOSED CATCH BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.010	71	Meadow, non-grazed, HSG C
0.220	98	Paved parking, HSG C
0.040	96	Gravel surface, HSG A
0.270	97	Weighted Average
0.050	91	18.52% Pervious Area
0.220	98	81.48% Impervious Area

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

Subcatchment E15: ROAD



Summary for Subcatchment E2: WOODS

Runoff = 0.1 cfs @ 17.89 hrs, Volume= 0.040 af, Depth= 0.04"
 Routed to Pond eCB1 : EX. CATCH BASIN

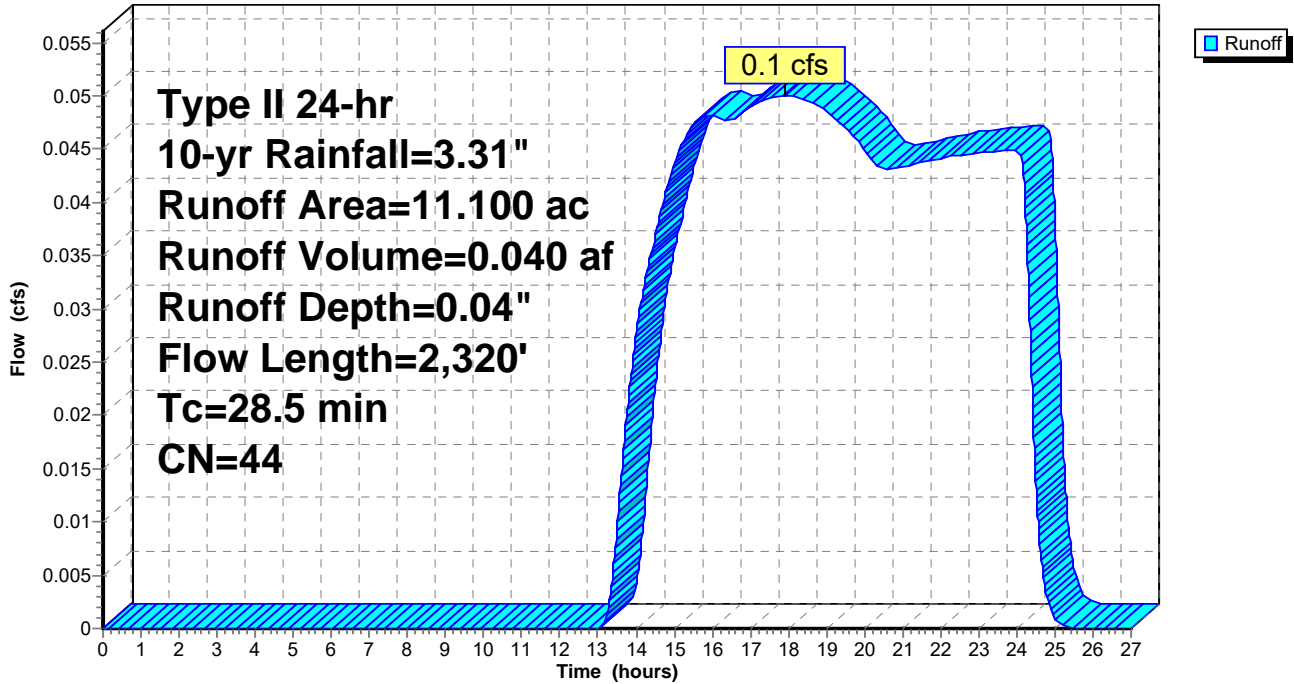
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
6.870	30	Woods, Good, HSG A
0.030	96	Gravel surface, HSG C
0.310	98	Paved parking, HSG C
1.490	55	Woods, Good, HSG B
0.010	58	Meadow, non-grazed, HSG B
0.600	71	Meadow, non-grazed, HSG C
1.790	70	Woods, Good, HSG C
11.100	44	Weighted Average
10.790	43	97.21% Pervious Area
0.310	98	2.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	30	0.3300	0.09		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
20.0	70	0.0700	0.06		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
3.0	2,220	0.0575	12.20	406.56	Parabolic Channel, W=25.00' D=2.00' Area=33.3 sf Perim=25.4' n= 0.035
28.5	2,320	Total			

Subcatchment E2: WOODS

Hydrograph



Summary for Subcatchment E3: NEW ENTRANCE

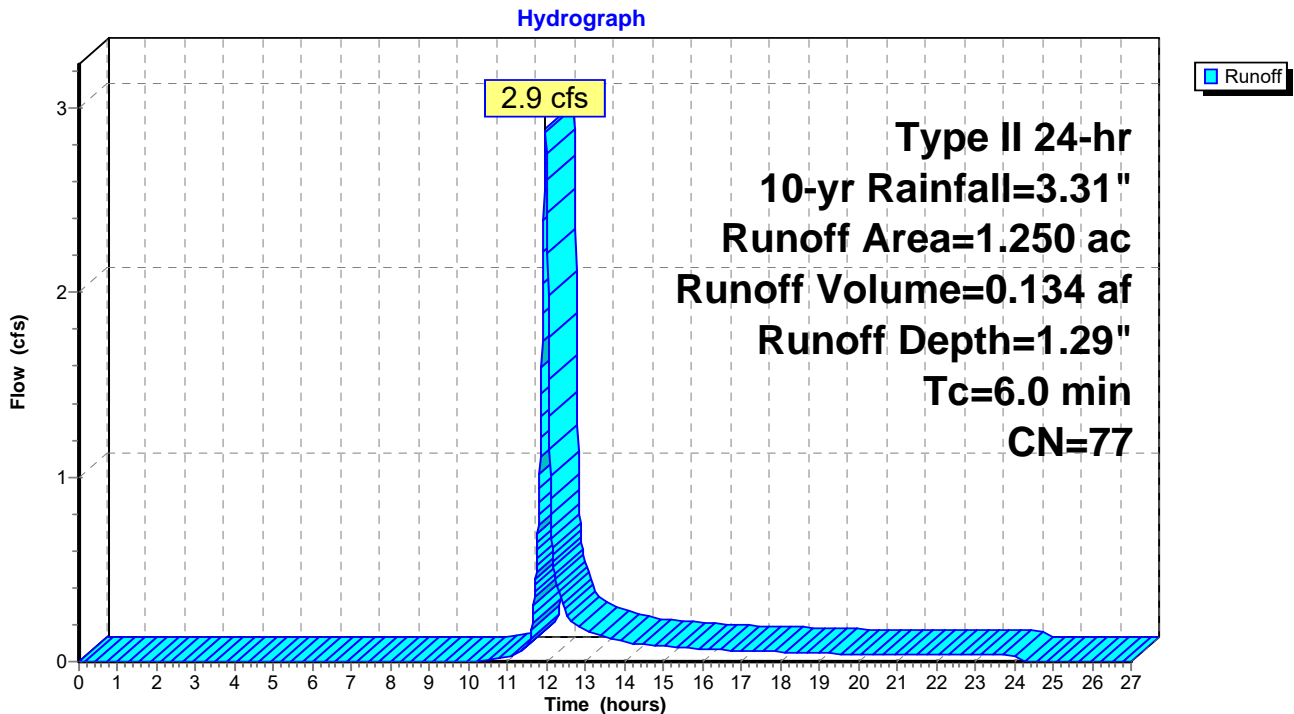
Runoff = 2.9 cfs @ 11.98 hrs, Volume= 0.134 af, Depth= 1.29"
 Routed to Pond FDD1A : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.280	98	Paved parking, HSG C
0.950	71	Meadow, non-grazed, HSG C
0.020	96	Gravel surface, HSG C
1.250	77	Weighted Average
0.970	72	77.60% Pervious Area
0.280	98	22.40% Impervious Area

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

Subcatchment E3: NEW ENTRANCE



Summary for Subcatchment E4: NEW ENTRANCE

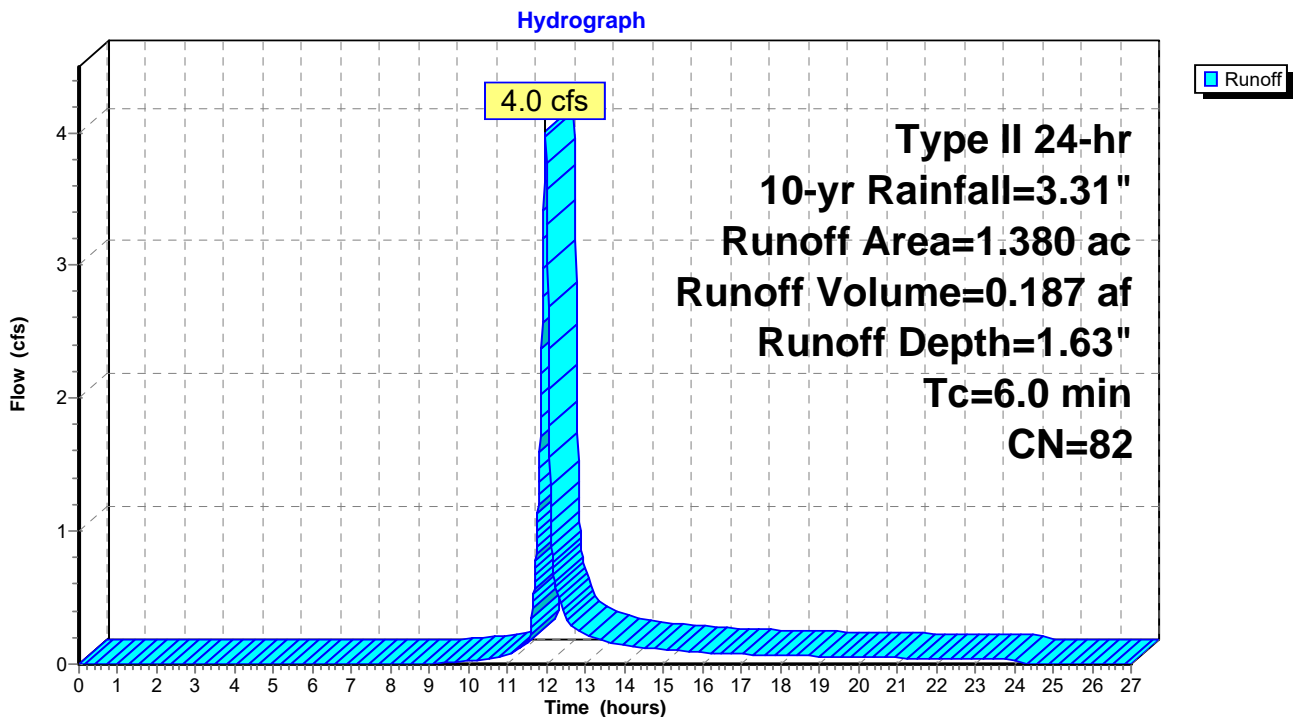
Runoff = 4.0 cfs @ 11.97 hrs, Volume= 0.187 af, Depth= 1.63"
 Routed to Pond FDD1 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.480	98	Unconnected pavement, HSG C
0.080	96	Gravel surface, HSG C
0.820	71	Meadow, non-grazed, HSG C
1.380	82	Weighted Average
0.900	73	65.22% Pervious Area
0.480	98	34.78% Impervious Area
0.480		100.00% Unconnected

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

Subcatchment E4: NEW ENTRANCE



1101-POSTDEV_To OUTDE

Prepared by CMA Engineers

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Type II 24-hr 10-yr Rainfall=3.31"

Printed 5/19/2023

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Summary for Subcatchment E5: OLD DOUGLAS DRIVE

Runoff = 1.1 cfs @ 12.20 hrs, Volume= 0.112 af, Depth= 0.75"

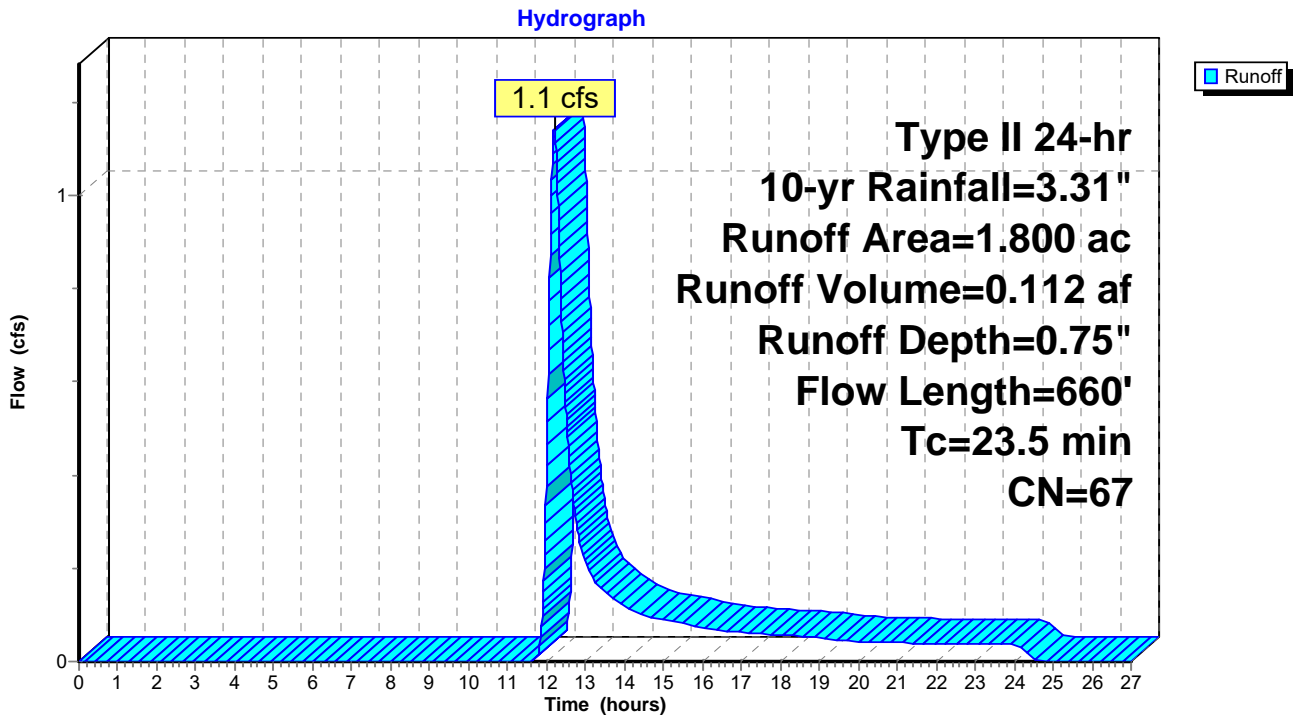
Routed to Pond eCB2 : EX. CATCH BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.370	58	Meadow, non-grazed, HSG B
0.270	55	Woods, Good, HSG B
0.070	70	Woods, Good, HSG C
1.000	71	Meadow, non-grazed, HSG C
0.050	98	Paved parking, HSG B
0.040	98	Paved parking, HSG C
1.800	67	Weighted Average
1.710	66	95.00% Pervious Area
0.090	98	5.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0500	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.32"
1.2	150	0.0925	2.13		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
10.7	410	0.0650	0.64		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
23.5	660	Total			

Subcatchment E5: OLD DOUGLAS DRIVE



Summary for Subcatchment E6: WOODS

Runoff = 0.0 cfs @ 15.45 hrs, Volume= 0.022 af, Depth= 0.07"
 Routed to Reach RE4 : CULVERT 16+74

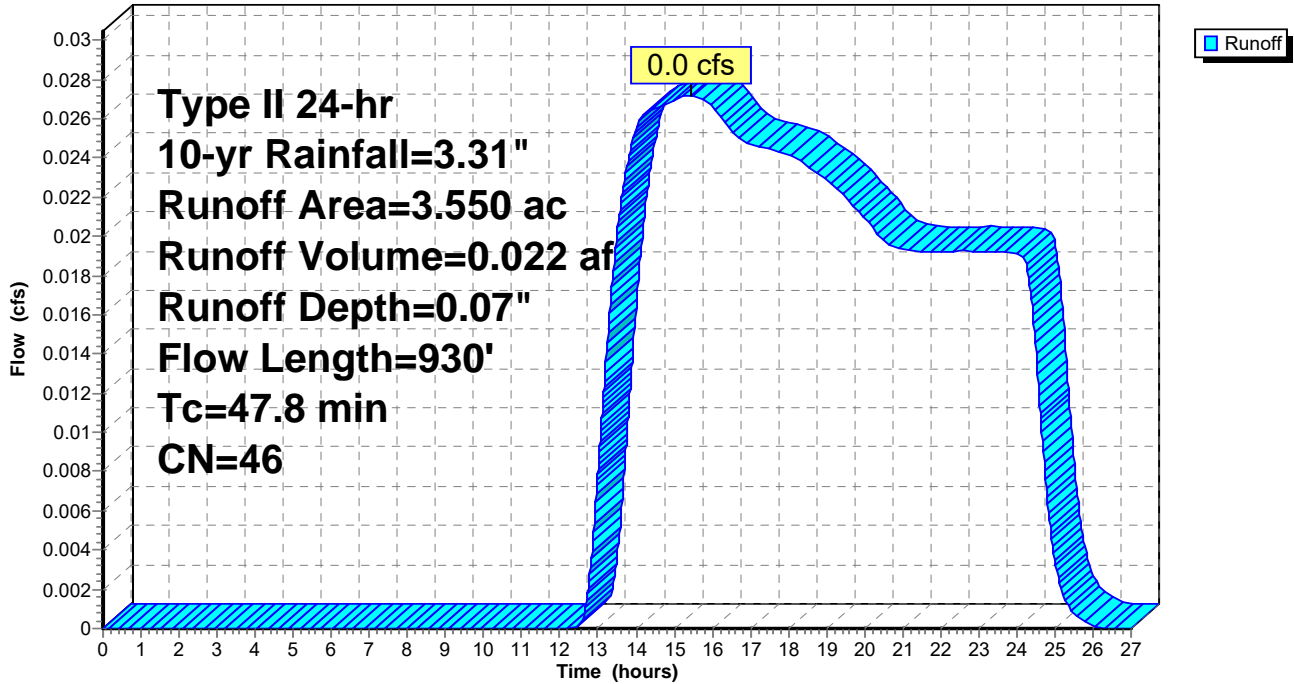
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
1.390	55	Woods, Good, HSG B
0.020	96	Gravel surface, HSG C
0.060	98	Unconnected pavement, HSG C
1.660	30	Woods, Good, HSG A
0.010	30	Meadow, non-grazed, HSG A
0.200	70	Woods, Good, HSG C
0.210	71	Meadow, non-grazed, HSG C
3.550	46	Weighted Average
3.490	45	98.31% Pervious Area
0.060	98	1.69% Impervious Area
0.060		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.8	100	0.0525	0.06		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 2.32"
17.0	525	0.0425	0.52		Shallow Concentrated Flow, Forest w/Heavy Litter Kv= 2.5 fps
1.0	305	0.0250	5.10	68.01	Parabolic Channel, wetland W=20.00' D=1.00' Area=13.3 sf Perim=20.1' n= 0.035 Earth, dense weeds
47.8	930	Total			

Subcatchment E6: WOODS

Hydrograph



Summary for Subcatchment E7: ROAD

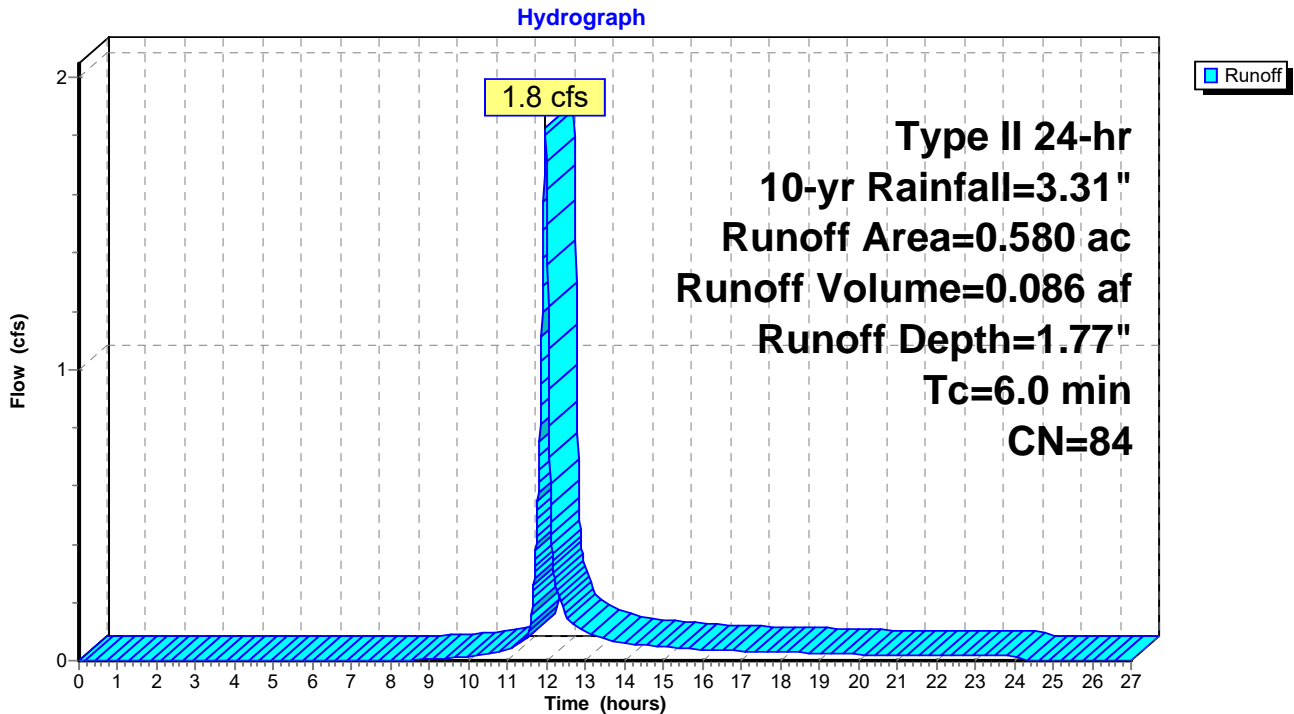
Runoff = 1.8 cfs @ 11.97 hrs, Volume= 0.086 af, Depth= 1.77"
 Routed to Pond FDD2 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.050	30	Meadow, non-grazed, HSG A
0.060	96	Gravel surface, HSG C
0.290	98	Unconnected pavement, HSG C
0.180	71	Meadow, non-grazed, HSG C
0.580	84	Weighted Average
0.290	69	50.00% Pervious Area
0.290	98	50.00% Impervious Area
0.290		100.00% Unconnected

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

Subcatchment E7: ROAD



Summary for Subcatchment E8: ROAD

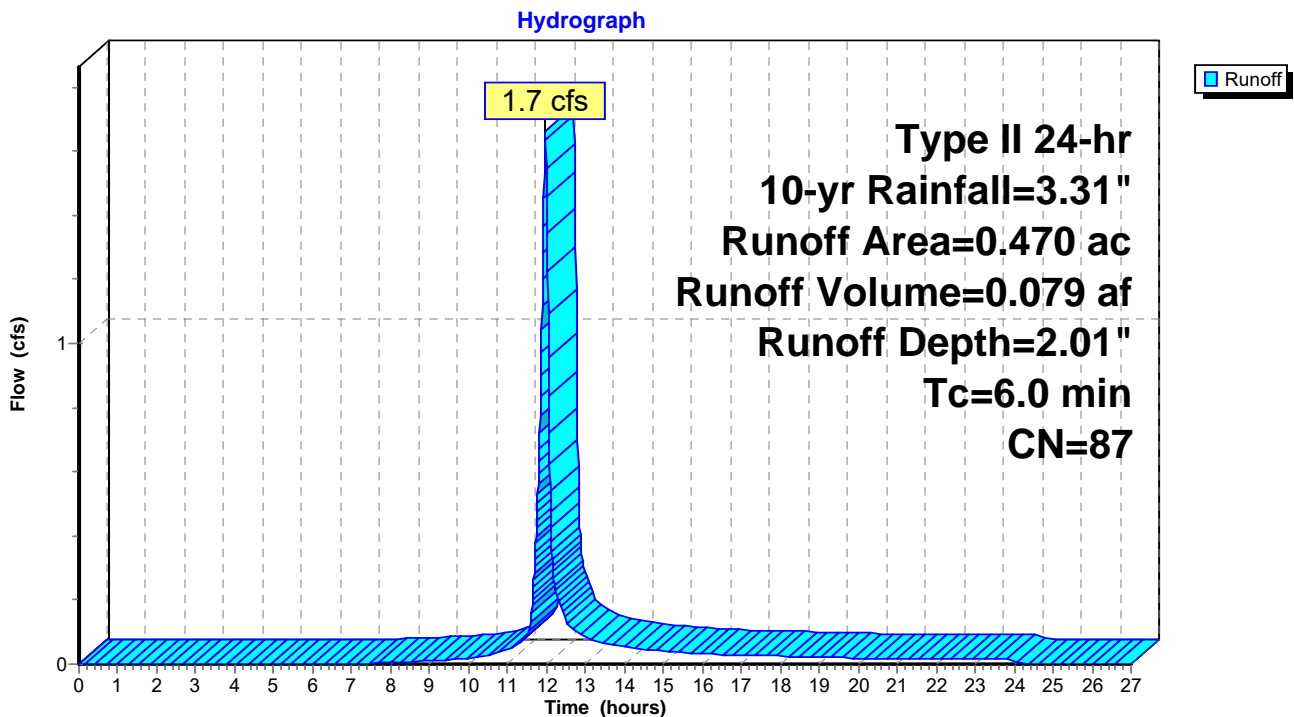
Runoff = 1.7 cfs @ 11.97 hrs, Volume= 0.079 af, Depth= 2.01"
 Routed to Pond FDD3 : FOREBAY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.190	71	Meadow, non-grazed, HSG C
0.050	96	Gravel surface, HSG C
0.230	98	Unconnected pavement, HSG C
0.470	87	Weighted Average
0.240	76	51.06% Pervious Area
0.230	98	48.94% Impervious Area
0.230		100.00% Unconnected

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

Subcatchment E8: ROAD



Summary for Subcatchment E9: ROAD

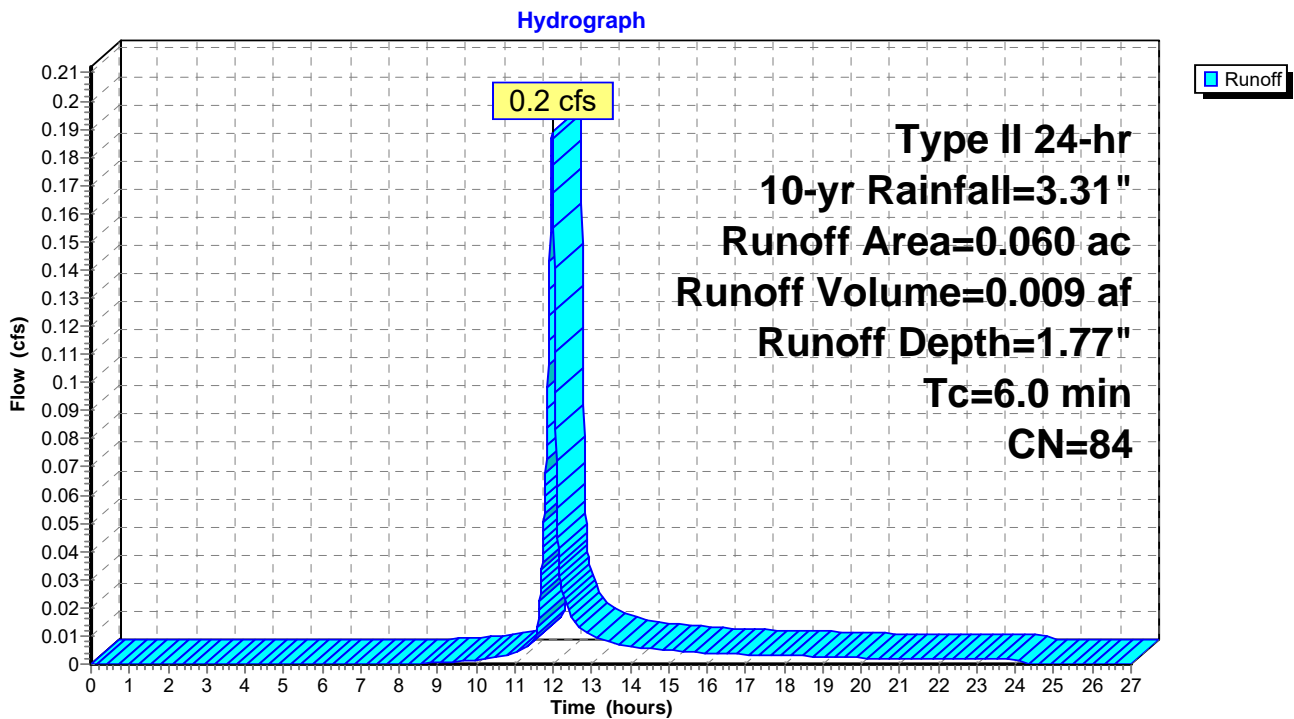
Runoff = 0.2 cfs @ 11.97 hrs, Volume= 0.009 af, Depth= 1.77"
 Routed to Reach RDD3 : CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10-yr Rainfall=3.31"

Area (ac)	CN	Description
0.030	71	Meadow, non-grazed, HSG C
0.010	96	Gravel surface, HSG C
0.020	98	Unconnected pavement, HSG C
0.060	84	Weighted Average
0.040	77	66.67% Pervious Area
0.020	98	33.33% Impervious Area
0.020		100.00% Unconnected

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

Subcatchment E9: ROAD



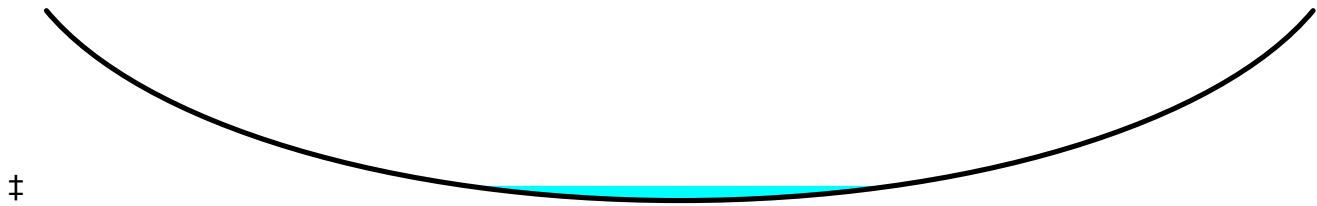
Summary for Reach 15R: CHANNEL IN WOODS

Inflow Area = 11.680 ac, 13.87% Impervious, Inflow Depth > 0.43" for 10-yr event
 Inflow = 2.1 cfs @ 12.05 hrs, Volume= 0.415 af
 Outflow = 1.5 cfs @ 12.20 hrs, Volume= 0.413 af, Atten= 25%, Lag= 9.0 min
 Routed to Pond eCB1 : EX. CATCH BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.21 fps, Min. Travel Time= 6.4 min
 Avg. Velocity = 1.04 fps, Avg. Travel Time= 13.7 min

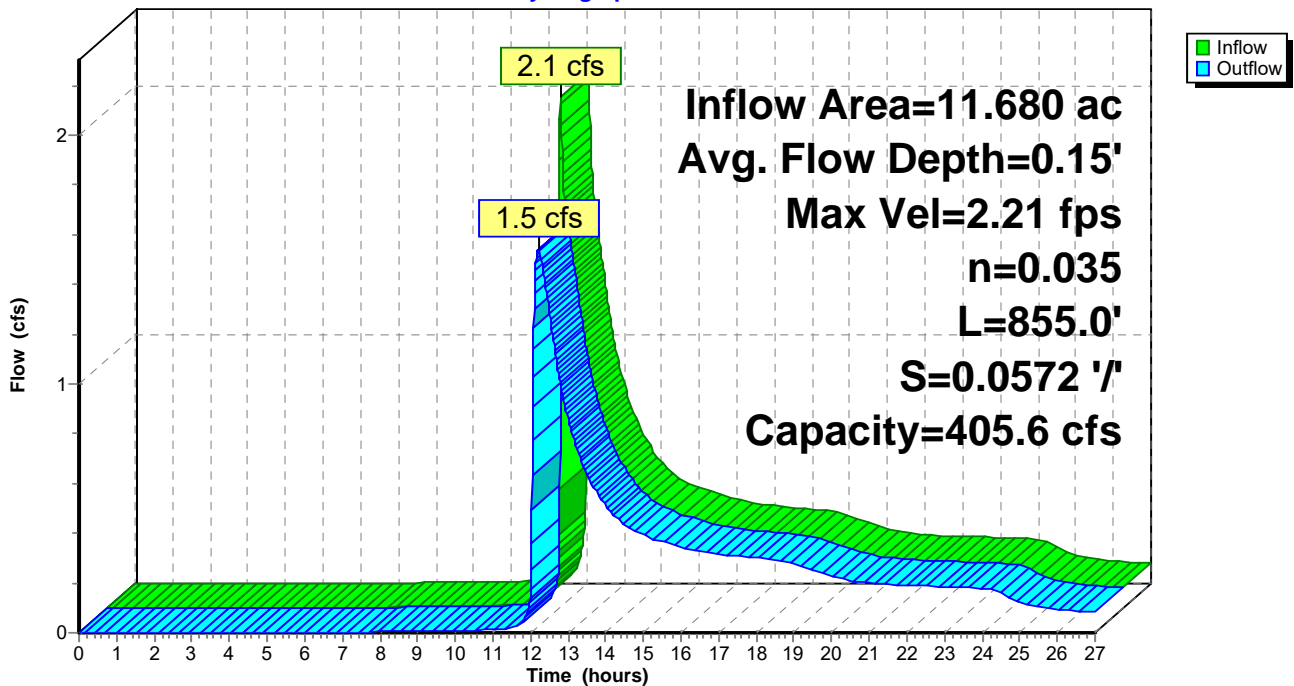
Peak Storage= 596 cf @ 12.20 hrs
 Average Depth at Peak Storage= 0.15' , Surface Width= 6.89'
 Bank-Full Depth= 2.00' Flow Area= 33.3 sf, Capacity= 405.6 cfs

25.00' x 2.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 855.0' Slope= 0.0572 '/'
 Inlet Invert= 1,034.43', Outlet Invert= 985.50'



Reach 15R: CHANNEL IN WOODS

Hydrograph



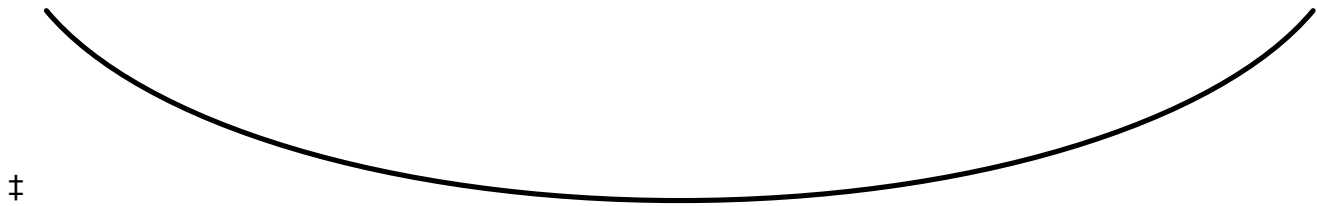
Summary for Reach 19R: CHANNEL IN WOODS

Inflow Area = 0.530 ac, 47.17% Impervious, Inflow Depth = 0.00" for 10-yr event
 Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach RE4 : CULVERT 16+74

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 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

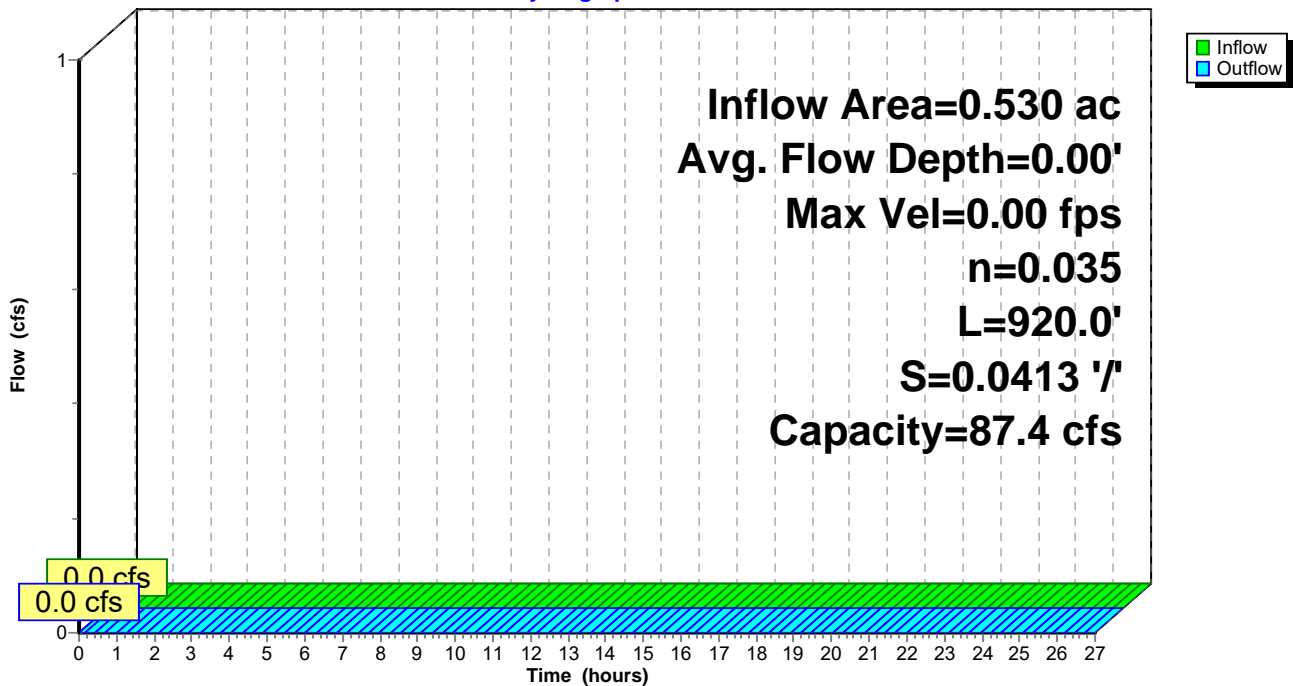
Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 87.4 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 920.0' Slope= 0.0413 '/'
 Inlet Invert= 1,073.00', Outlet Invert= 1,034.97'



Reach 19R: CHANNEL IN WOODS

Hydrograph

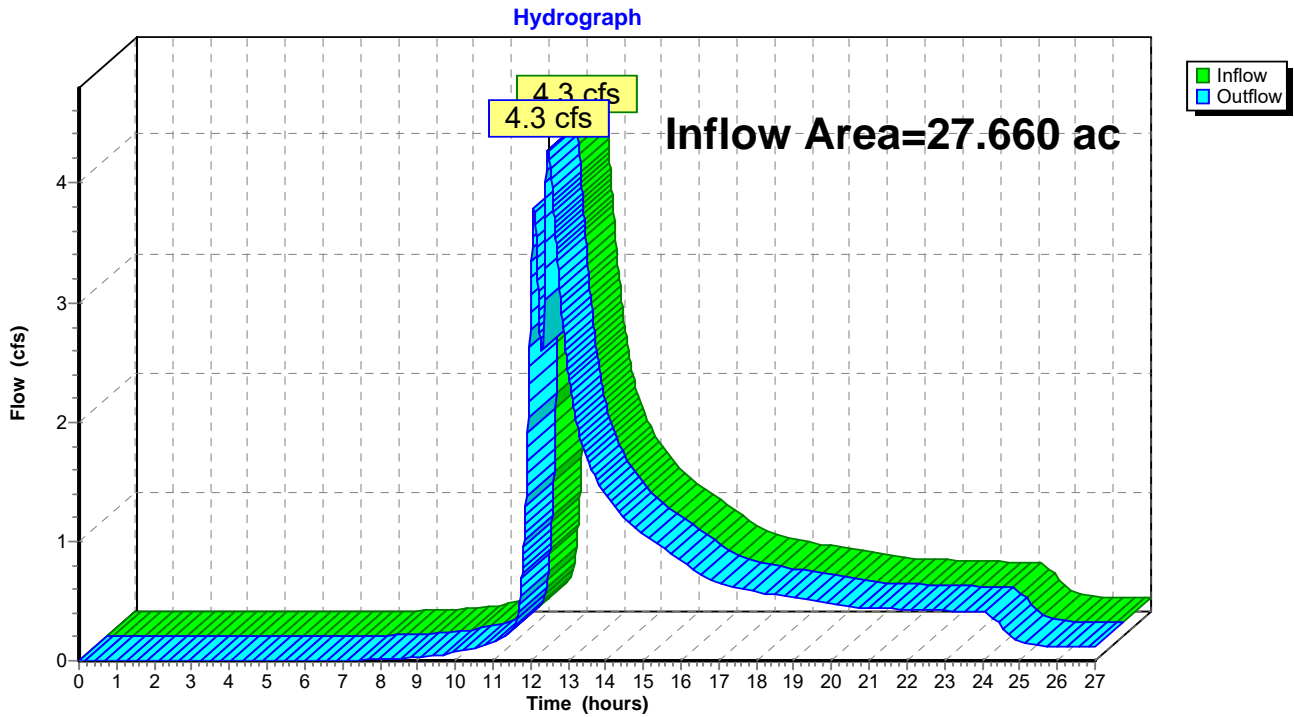


Summary for Reach OUT-D: WETLANDS COMPLEX

Inflow Area = 27.660 ac, 9.00% Impervious, Inflow Depth > 0.45" for 10-yr event
Inflow = 4.3 cfs @ 12.47 hrs, Volume= 1.044 af
Outflow = 4.3 cfs @ 12.47 hrs, Volume= 1.044 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs

Reach OUT-D: WETLANDS COMPLEX

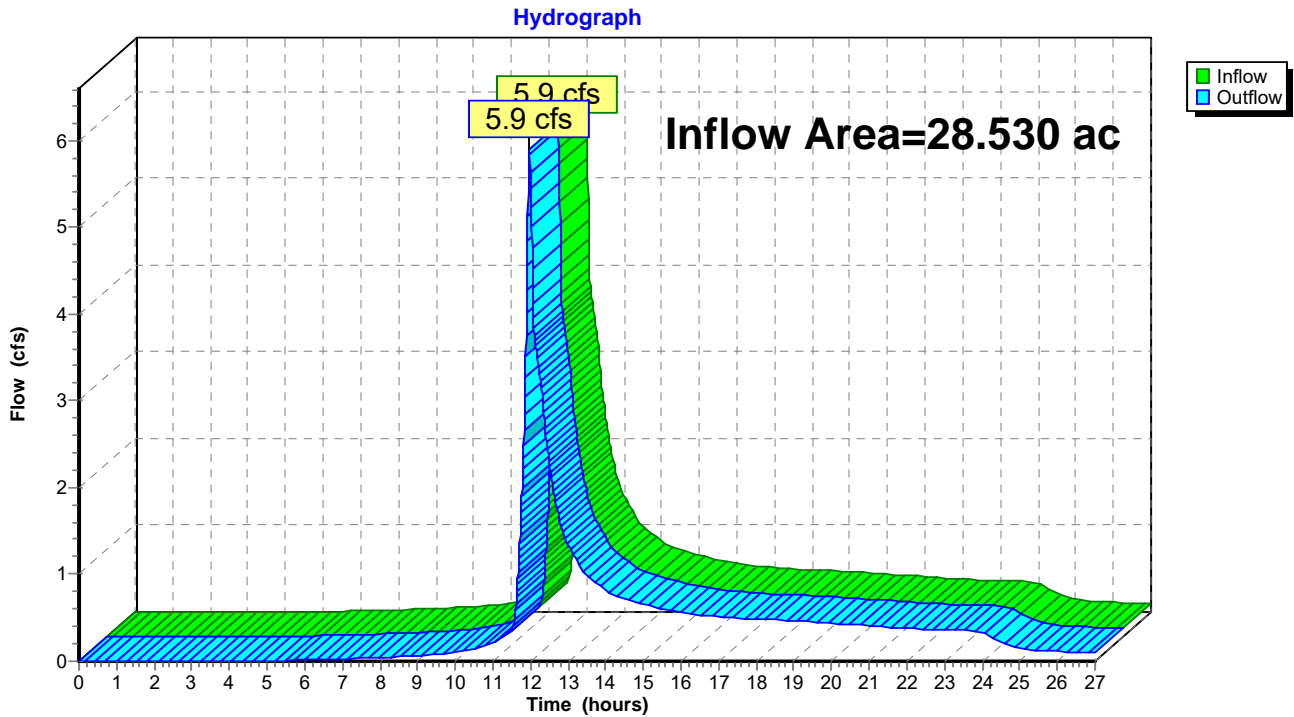


Summary for Reach OUT-E: TO NH ROUTE 116

Inflow Area = 28.530 ac, 13.21% Impervious, Inflow Depth > 0.36" for 10-yr event
Inflow = 5.9 cfs @ 11.97 hrs, Volume= 0.864 af
Outflow = 5.9 cfs @ 11.97 hrs, Volume= 0.864 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 116 D2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs

Reach OUT-E: TO NH ROUTE 116



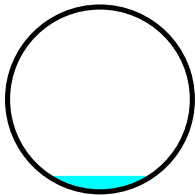
Summary for Reach RD2: CULVERT 60+03

Inflow Area = 3.280 ac, 2.44% Impervious, Inflow Depth = 0.31" for 10-yr event
 Inflow = 0.4 cfs @ 12.49 hrs, Volume= 0.086 af
 Outflow = 0.4 cfs @ 12.49 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.1 min
 Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 4.98 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 2.88 fps, Avg. Travel Time= 0.3 min

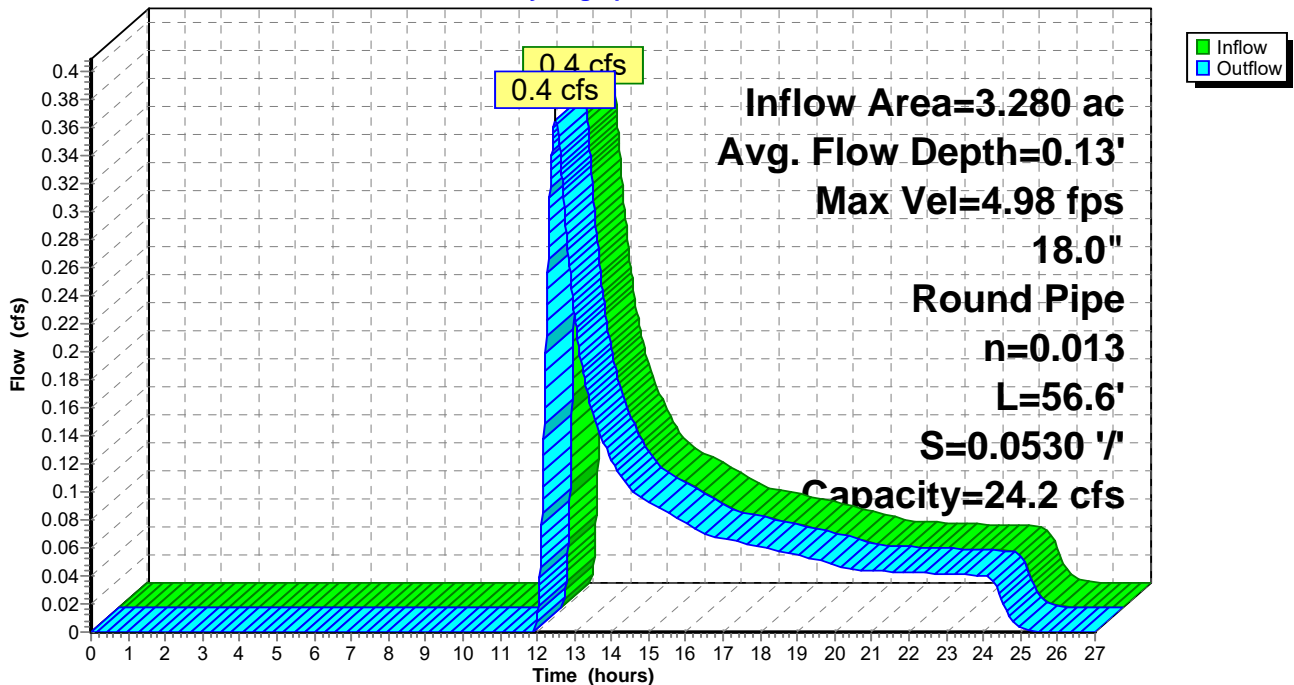
Peak Storage= 4 cf @ 12.49 hrs
 Average Depth at Peak Storage= 0.13' , Surface Width= 0.84'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 24.2 cfs

18.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 56.6' Slope= 0.0530 '/'
 Inlet Invert= 1,145.00', Outlet Invert= 1,142.00'



Reach RD2: CULVERT 60+03

Hydrograph



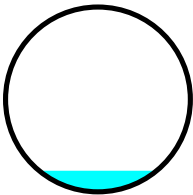
Summary for Reach RD3: CULVERT 58+16

Inflow Area = 4.950 ac, 2.42% Impervious, Inflow Depth = 0.31" for 10-yr event
Inflow = 0.5 cfs @ 12.74 hrs, Volume= 0.130 af
Outflow = 0.5 cfs @ 12.75 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.1 min
Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.18 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.47 fps, Avg. Travel Time= 0.3 min

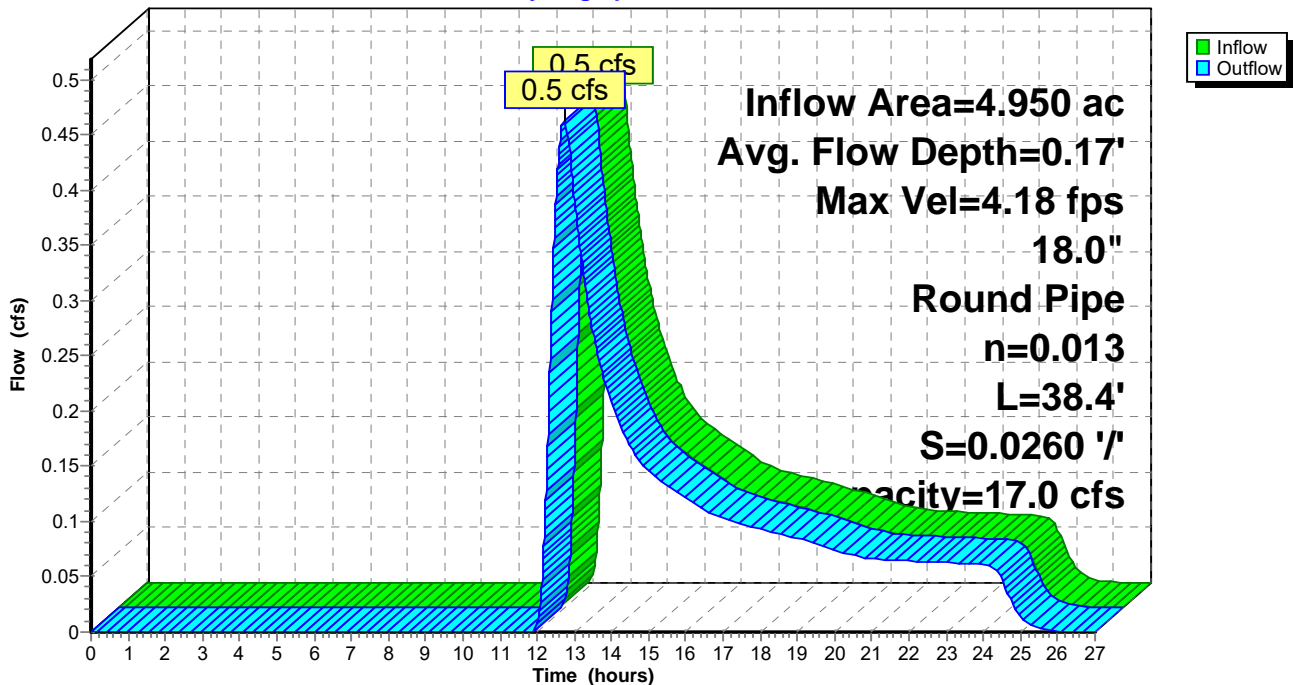
Peak Storage= 4 cf @ 12.75 hrs
Average Depth at Peak Storage= 0.17' , Surface Width= 0.95'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.0 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.4' Slope= 0.0260 '/'
Inlet Invert= 1,148.00', Outlet Invert= 1,147.00'



Reach RD3: CULVERT 58+16

Hydrograph



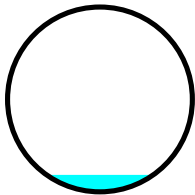
Summary for Reach RD4: CULVERT 56+06

Inflow Area = 1.760 ac, 0.00% Impervious, Inflow Depth = 0.31" for 10-yr event
 Inflow = 0.2 cfs @ 12.53 hrs, Volume= 0.046 af
 Outflow = 0.2 cfs @ 12.53 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.2 min
 Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.38 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 1.38 fps, Avg. Travel Time= 0.6 min

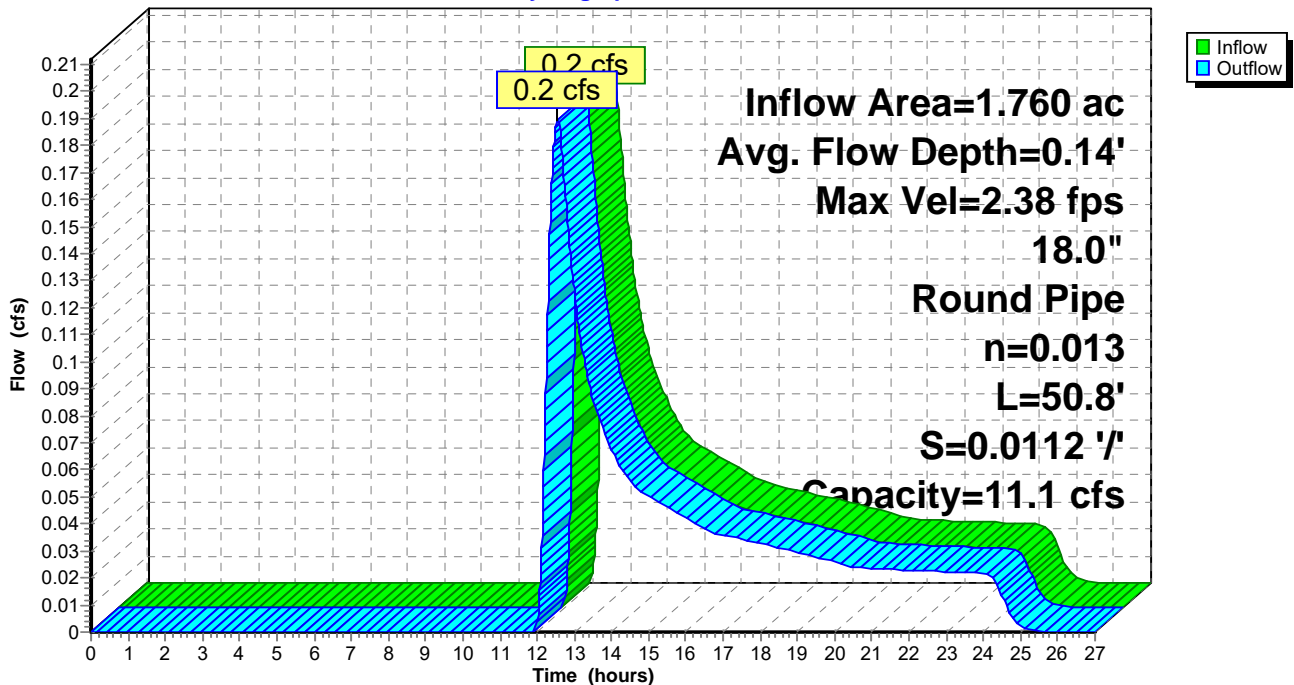
Peak Storage= 4 cf @ 12.53 hrs
 Average Depth at Peak Storage= 0.14' , Surface Width= 0.86'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 11.1 cfs

18.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 50.8' Slope= 0.0112 '/'
 Inlet Invert= 1,148.57', Outlet Invert= 1,148.00'



Reach RD4: CULVERT 56+06

Hydrograph



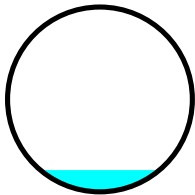
Summary for Reach RD6: CULVERT 53+68

Inflow Area = 3.750 ac, 2.40% Impervious, Inflow Depth = 0.35" for 10-yr event
Inflow = 0.5 cfs @ 12.54 hrs, Volume= 0.108 af
Outflow = 0.5 cfs @ 12.54 hrs, Volume= 0.108 af, Atten= 0%, Lag= 0.2 min
Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.09 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.30 fps, Avg. Travel Time= 0.4 min

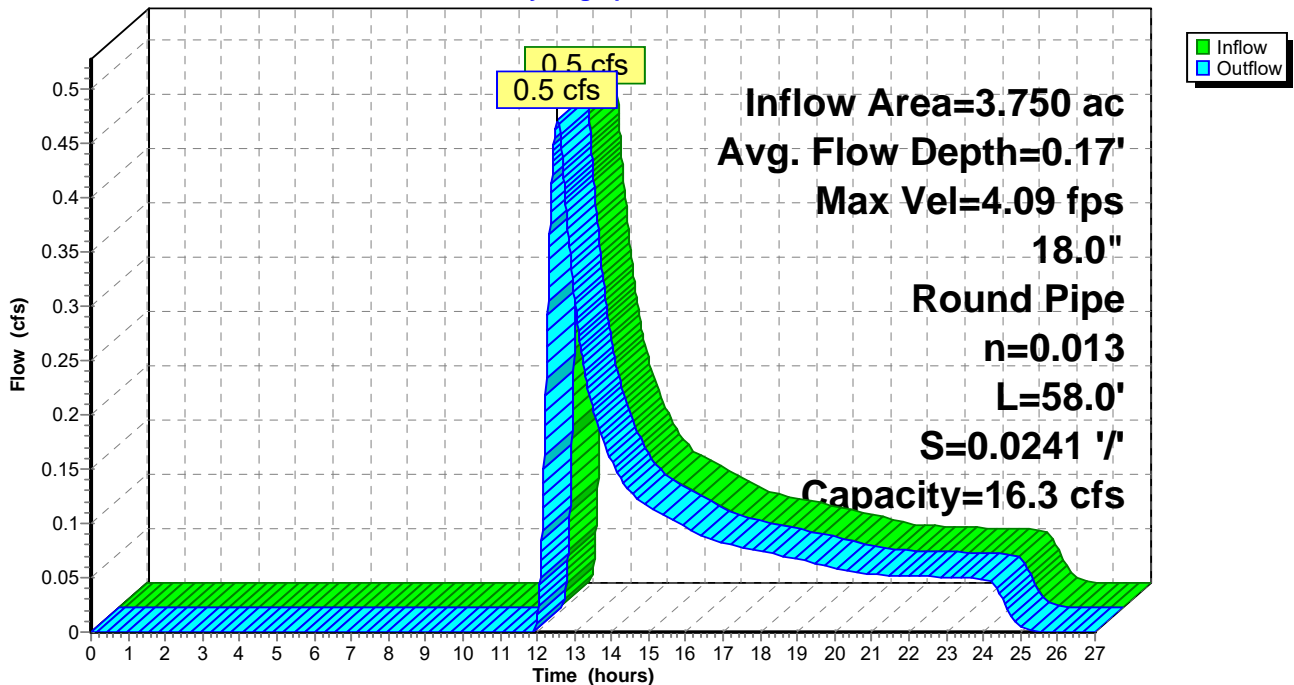
Peak Storage= 7 cf @ 12.54 hrs
Average Depth at Peak Storage= 0.17' , Surface Width= 0.96'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 16.3 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 58.0' Slope= 0.0241 '/
Inlet Invert= 1,149.00', Outlet Invert= 1,147.60'



Reach RD6: CULVERT 53+68

Hydrograph



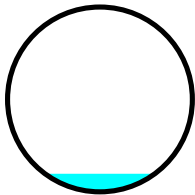
Summary for Reach RD8: CULVERT 49+19

Inflow Area = 5.720 ac, 0.00% Impervious, Inflow Depth = 0.31" for 10-yr event
 Inflow = 0.5 cfs @ 12.78 hrs, Volume= 0.150 af
 Outflow = 0.5 cfs @ 12.78 hrs, Volume= 0.150 af, Atten= 0%, Lag= 0.1 min
 Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 5.91 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 3.52 fps, Avg. Travel Time= 0.3 min

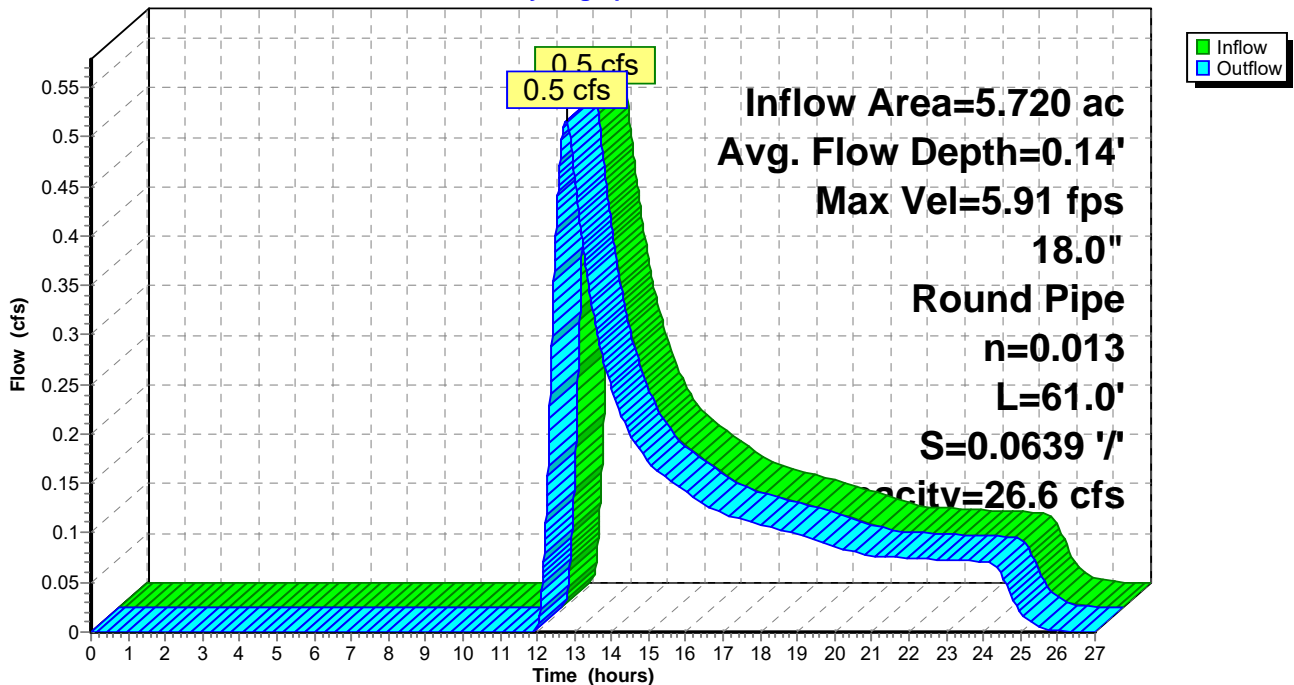
Peak Storage= 5 cf @ 12.78 hrs
 Average Depth at Peak Storage= 0.14' , Surface Width= 0.89'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 26.6 cfs

18.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 61.0' Slope= 0.0639 '/'
 Inlet Invert= 1,150.76', Outlet Invert= 1,146.86'



Reach RD8: CULVERT 49+19

Hydrograph



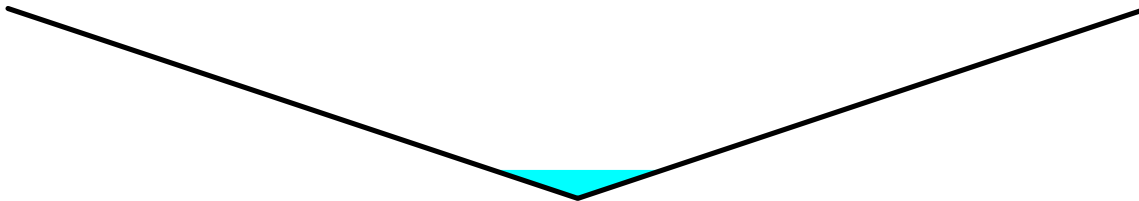
Summary for Reach RDD1A: ROADSIDE SWALE

Inflow Area = 2.630 ac, 28.90% Impervious, Inflow Depth > 0.13" for 10-yr event
 Inflow = 0.3 cfs @ 20.18 hrs, Volume= 0.029 af
 Outflow = 0.1 cfs @ 21.04 hrs, Volume= 0.029 af, Atten= 64%, Lag= 51.5 min
 Routed to Pond eCB1 : EX. CATCH BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.39 fps, Min. Travel Time= 2.1 min
 Avg. Velocity = 1.06 fps, Avg. Travel Time= 2.8 min

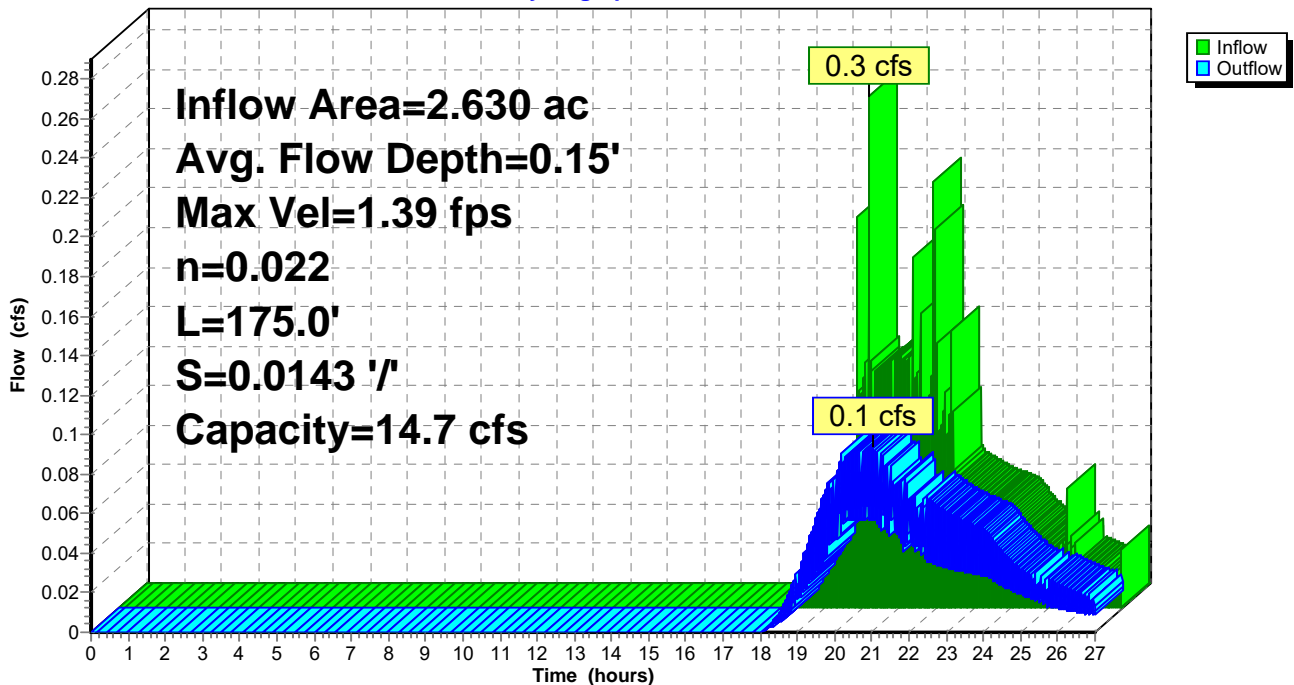
Peak Storage= 12 cf @ 21.04 hrs
 Average Depth at Peak Storage= 0.15' , Surface Width= 0.90'
 Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 14.7 cfs

0.00' x 1.00' deep channel, n= 0.022
 Side Slope Z-value= 3.0 '/' Top Width= 6.00'
 Length= 175.0' Slope= 0.0143 '/'
 Inlet Invert= 988.00', Outlet Invert= 985.50'



Reach RDD1A: ROADSIDE SWALE

Hydrograph



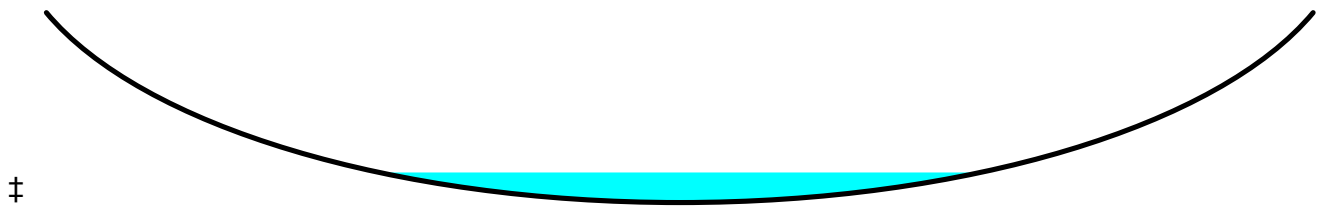
Summary for Reach RDD2: WOODS

Inflow Area = 0.580 ac, 50.00% Impervious, Inflow Depth > 1.45" for 10-yr event
 Inflow = 1.4 cfs @ 12.03 hrs, Volume= 0.070 af
 Outflow = 1.4 cfs @ 12.03 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.3 min
 Routed to Reach 15R : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 3.34 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 1.16 fps, Avg. Travel Time= 1.1 min

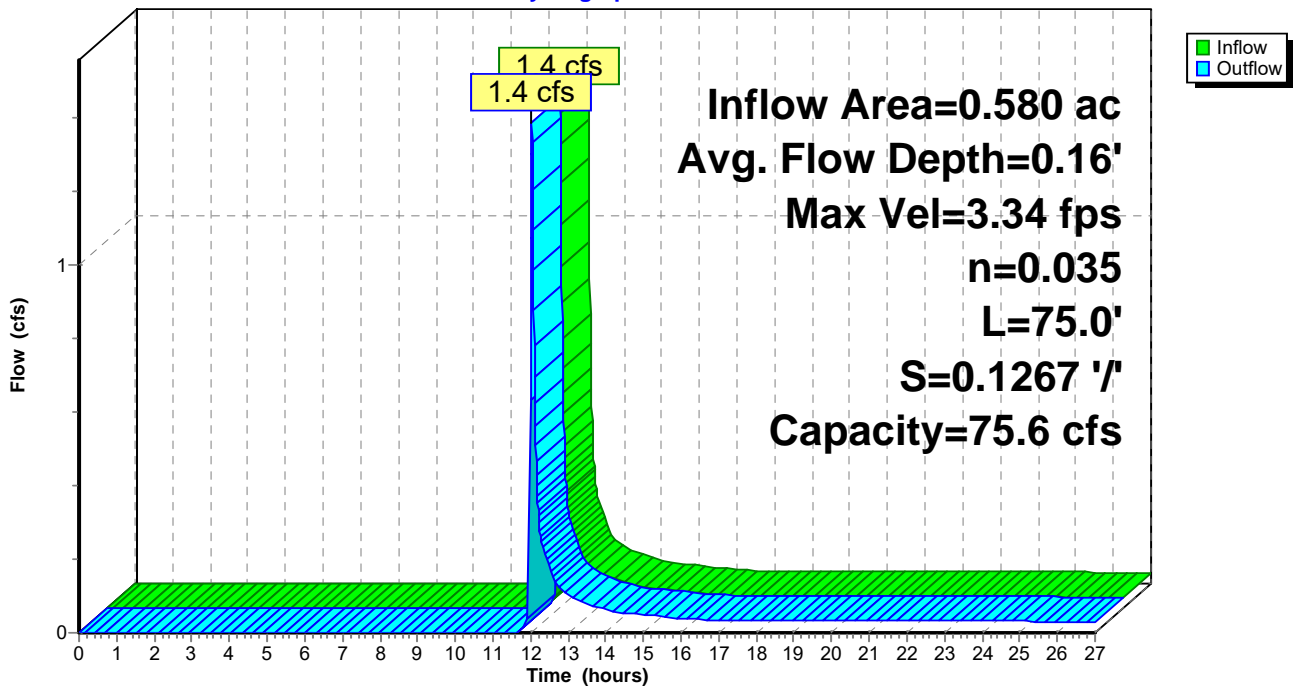
Peak Storage= 31 cf @ 12.03 hrs
 Average Depth at Peak Storage= 0.16' , Surface Width= 3.96'
 Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 75.6 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.035
 Length= 75.0' Slope= 0.1267 '/'
 Inlet Invert= 1,043.50', Outlet Invert= 1,034.00'



Reach RDD2: WOODS

Hydrograph



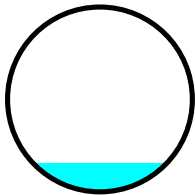
Summary for Reach RDD3: CULVERT

Inflow Area = 0.060 ac, 33.33% Impervious, Inflow Depth = 1.77" for 10-yr event
 Inflow = 0.2 cfs @ 11.97 hrs, Volume= 0.009 af
 Outflow = 0.2 cfs @ 11.98 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.2 min
 Routed to Pond FDD3 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.43 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 0.74 fps, Avg. Travel Time= 1.1 min

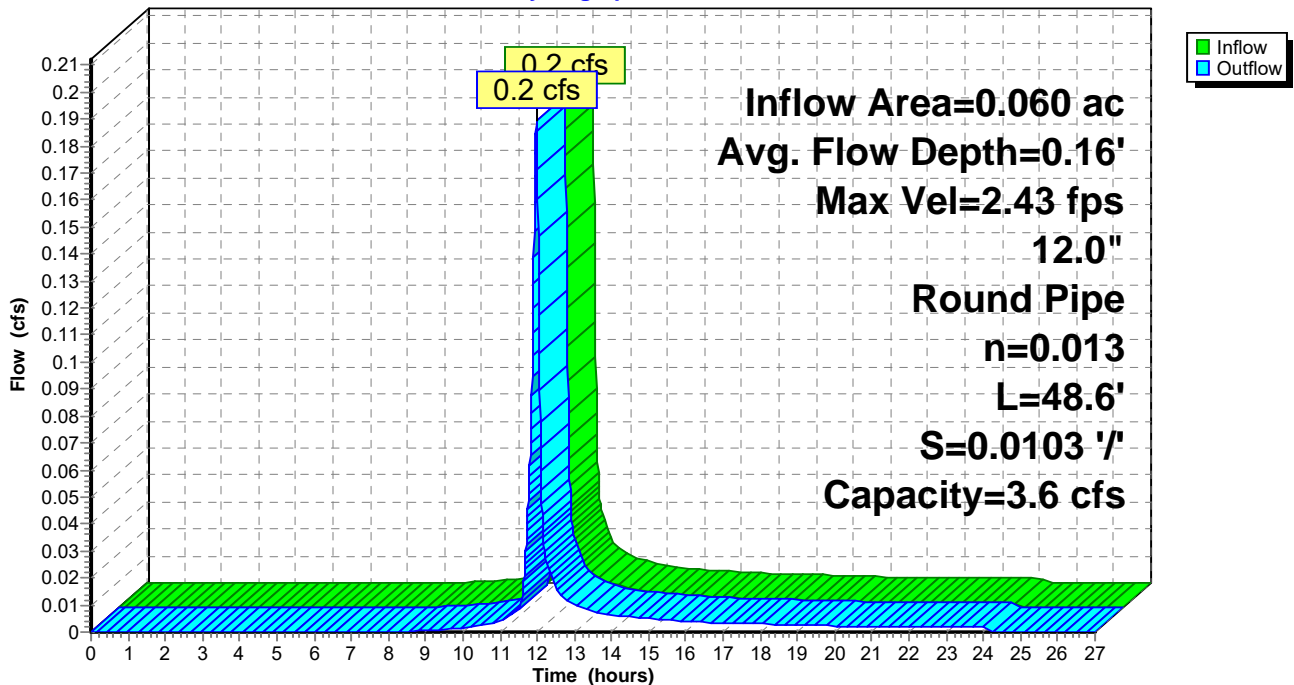
Peak Storage= 4 cf @ 11.98 hrs
 Average Depth at Peak Storage= 0.16' , Surface Width= 0.72'
 Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.6 cfs

12.0" Round Pipe
 n= 0.013
 Length= 48.6' Slope= 0.0103 '/'
 Inlet Invert= 1,078.00', Outlet Invert= 1,077.50'



Reach RDD3: CULVERT

Hydrograph



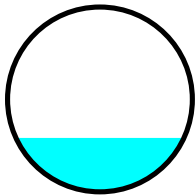
Summary for Reach RE12: CULVERT 34+78

Inflow Area = 0.140 ac, 78.57% Impervious, Inflow Depth = 2.86" for 10-yr event
Inflow = 0.6 cfs @ 11.97 hrs, Volume= 0.033 af
Outflow = 0.6 cfs @ 11.97 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.2 min
Routed to Reach RE3 : Channel in Woods

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.35 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 0.9 min

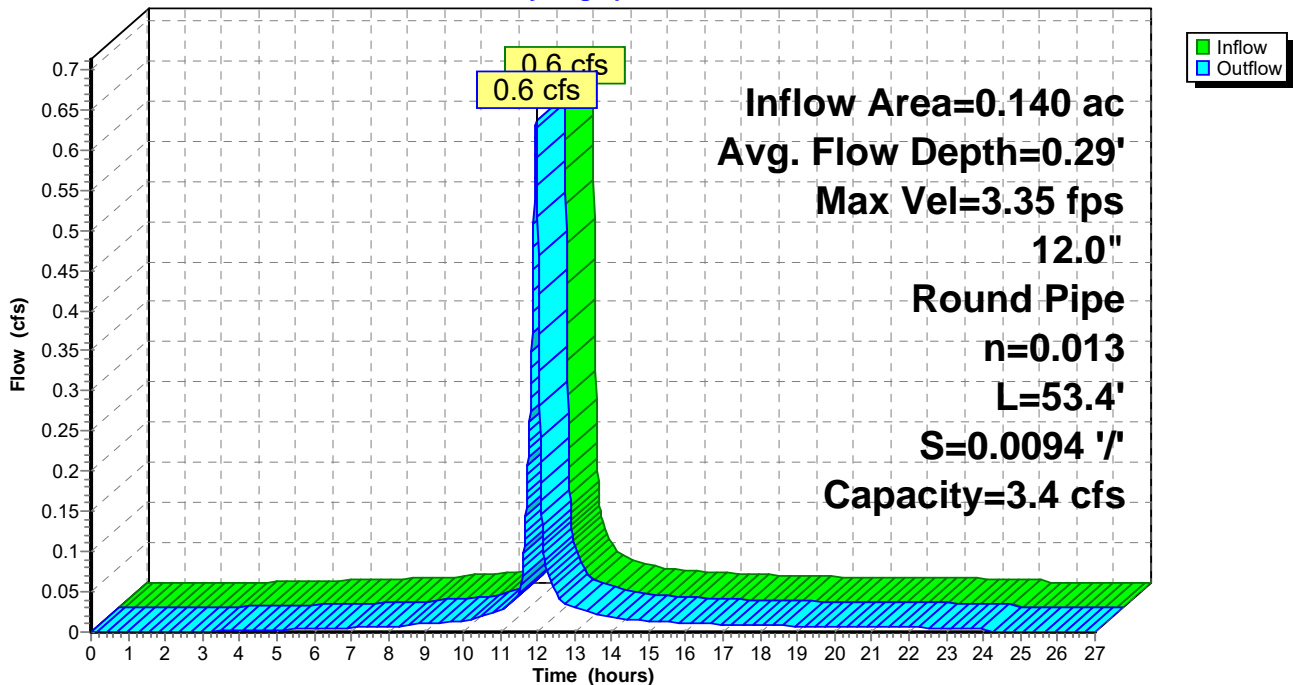
Peak Storage= 10 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.29' , Surface Width= 0.91'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.4 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 53.4' Slope= 0.0094 '/'
Inlet Invert= 1,103.00', Outlet Invert= 1,102.50'



Reach RE12: CULVERT 34+78

Hydrograph



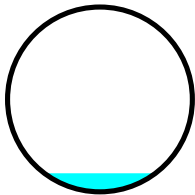
Summary for Reach RE14: CULVERT 39+15

Inflow Area = 5.440 ac, 1.65% Impervious, Inflow Depth = 0.15" for 10-yr event
 Inflow = 0.2 cfs @ 12.45 hrs, Volume= 0.069 af
 Outflow = 0.2 cfs @ 12.46 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.5 min
 Routed to Reach RE7 : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.76 fps, Min. Travel Time= 0.5 min
 Avg. Velocity = 1.29 fps, Avg. Travel Time= 0.7 min

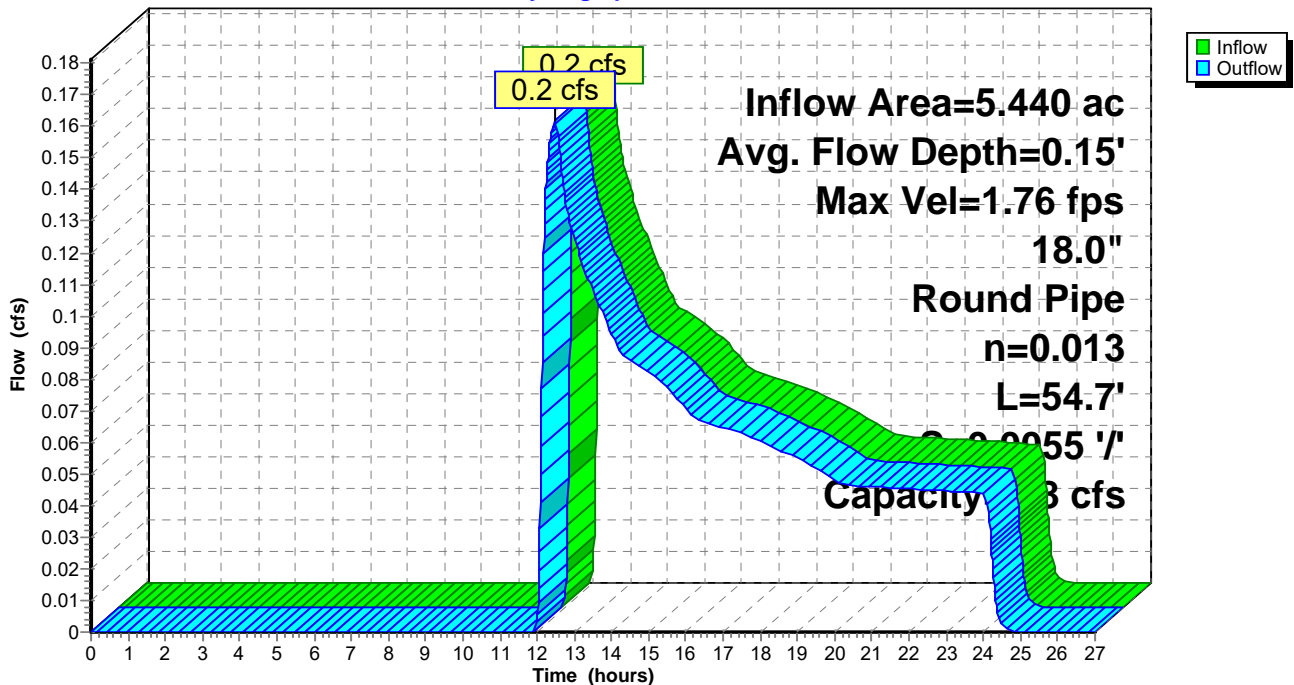
Peak Storage= 5 cf @ 12.46 hrs
 Average Depth at Peak Storage= 0.15' , Surface Width= 0.90'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.8 cfs

18.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 54.7' Slope= 0.0055 '/'
 Inlet Invert= 1,100.00', Outlet Invert= 1,099.70'



Reach RE14: CULVERT 39+15

Hydrograph



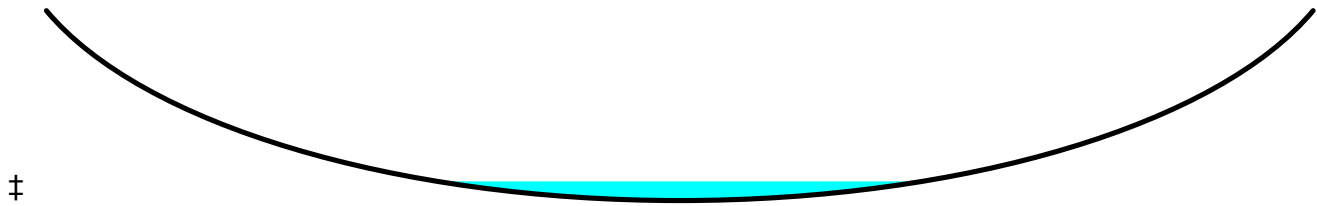
Summary for Reach RE2: CHANNEL IN WOODS

Inflow Area = 0.560 ac, 46.43% Impervious, Inflow Depth > 1.58" for 10-yr event
 Inflow = 1.4 cfs @ 12.02 hrs, Volume= 0.074 af
 Outflow = 0.4 cfs @ 12.16 hrs, Volume= 0.073 af, Atten= 70%, Lag= 8.1 min
 Routed to Reach 15R : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.34 fps, Min. Travel Time= 18.9 min
 Avg. Velocity = 0.69 fps, Avg. Travel Time= 36.9 min

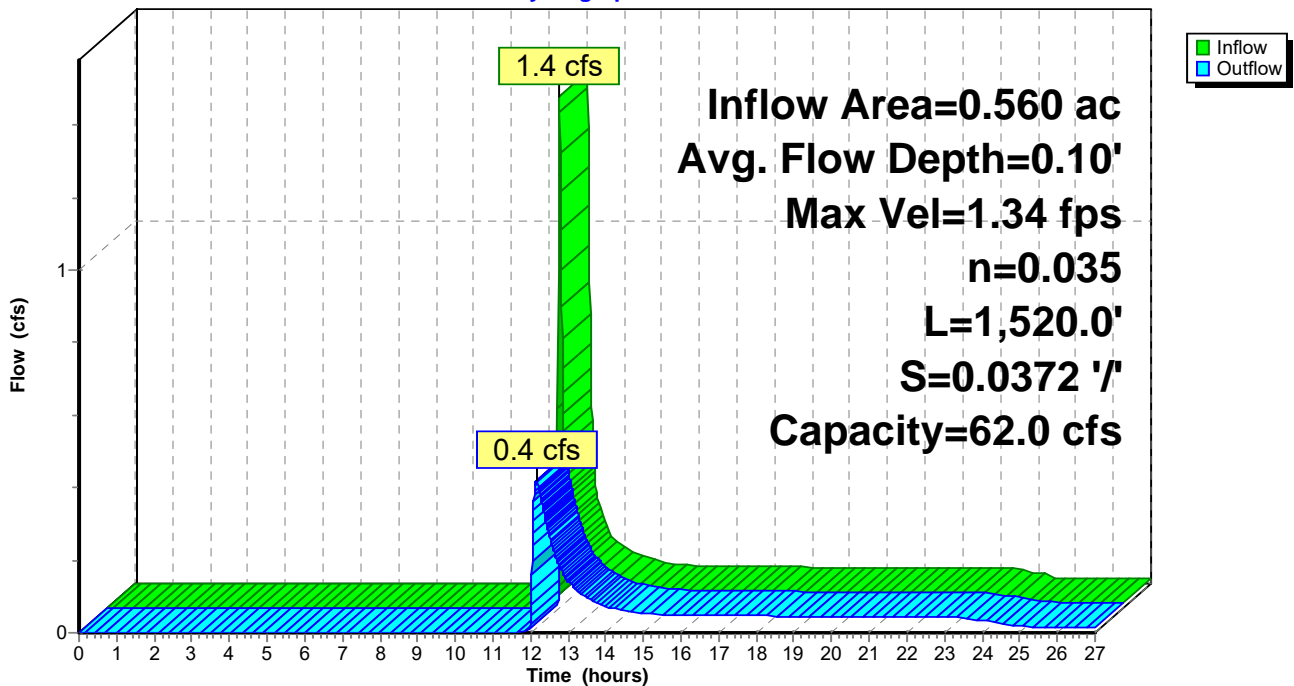
Peak Storage= 474 cf @ 12.16 hrs
 Average Depth at Peak Storage= 0.10' , Surface Width= 4.72'
 Bank-Full Depth= 1.00' Flow Area= 10.0 sf, Capacity= 62.0 cfs

15.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 1,520.0' Slope= 0.0372 '/'
 Inlet Invert= 1,091.00', Outlet Invert= 1,034.43'



Reach RE2: CHANNEL IN WOODS

Hydrograph



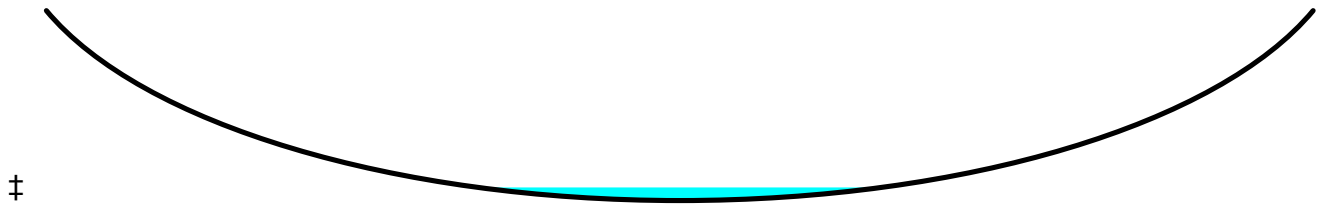
Summary for Reach RE3: Channel in Woods

Inflow Area = 0.140 ac, 78.57% Impervious, Inflow Depth = 2.86" for 10-yr event
 Inflow = 0.6 cfs @ 11.97 hrs, Volume= 0.033 af
 Outflow = 0.2 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 67%, Lag= 7.2 min
 Routed to Reach RE4 : CULVERT 16+74

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 0.91 fps, Min. Travel Time= 42.6 min
 Avg. Velocity = 0.37 fps, Avg. Travel Time= 106.3 min

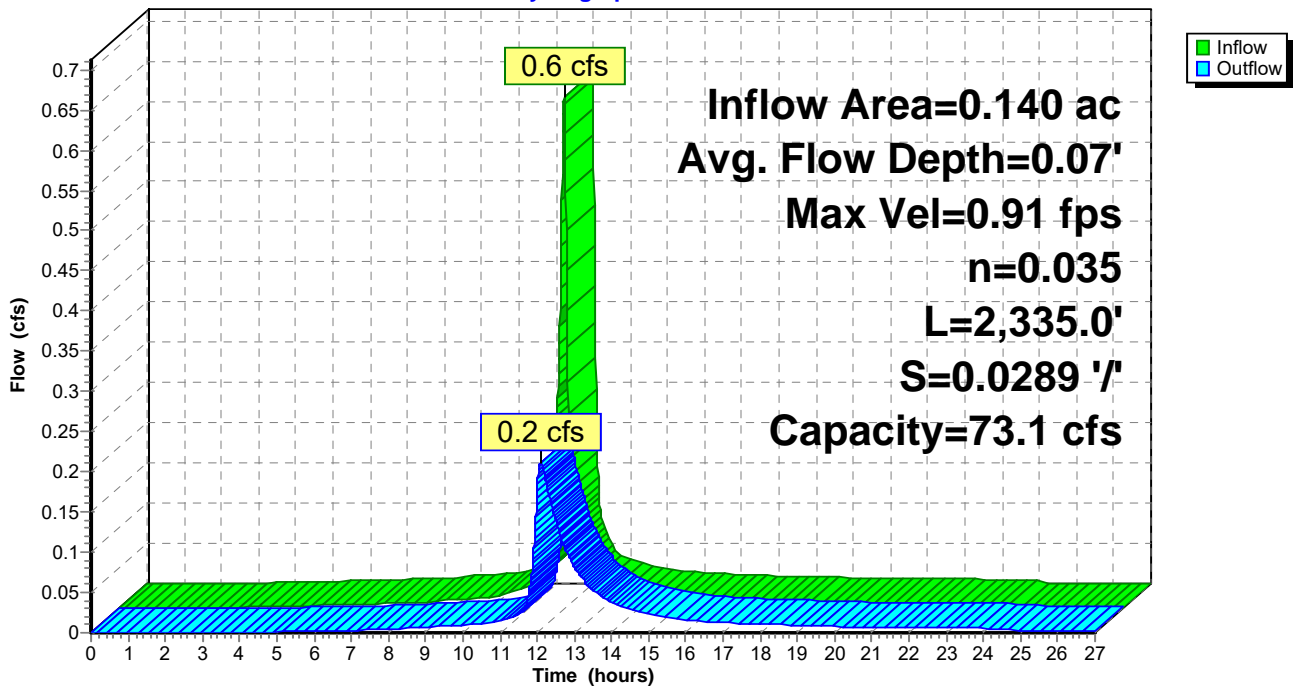
Peak Storage= 542 cf @ 12.09 hrs
 Average Depth at Peak Storage= 0.07' , Surface Width= 5.18'
 Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 73.1 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 2,335.0' Slope= 0.0289 '/'
 Inlet Invert= 1,102.50', Outlet Invert= 1,034.97'



Reach RE3: Channel in Woods

Hydrograph



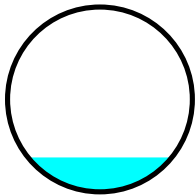
Summary for Reach RE4: CULVERT 16+74

Inflow Area = 10.540 ac, 10.15% Impervious, Inflow Depth > 0.31" for 10-yr event
 Inflow = 0.8 cfs @ 12.27 hrs, Volume= 0.272 af
 Outflow = 0.8 cfs @ 12.28 hrs, Volume= 0.272 af, Atten= 0%, Lag= 0.2 min
 Routed to Reach 15R : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 3.63 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 1.74 fps, Avg. Travel Time= 0.5 min

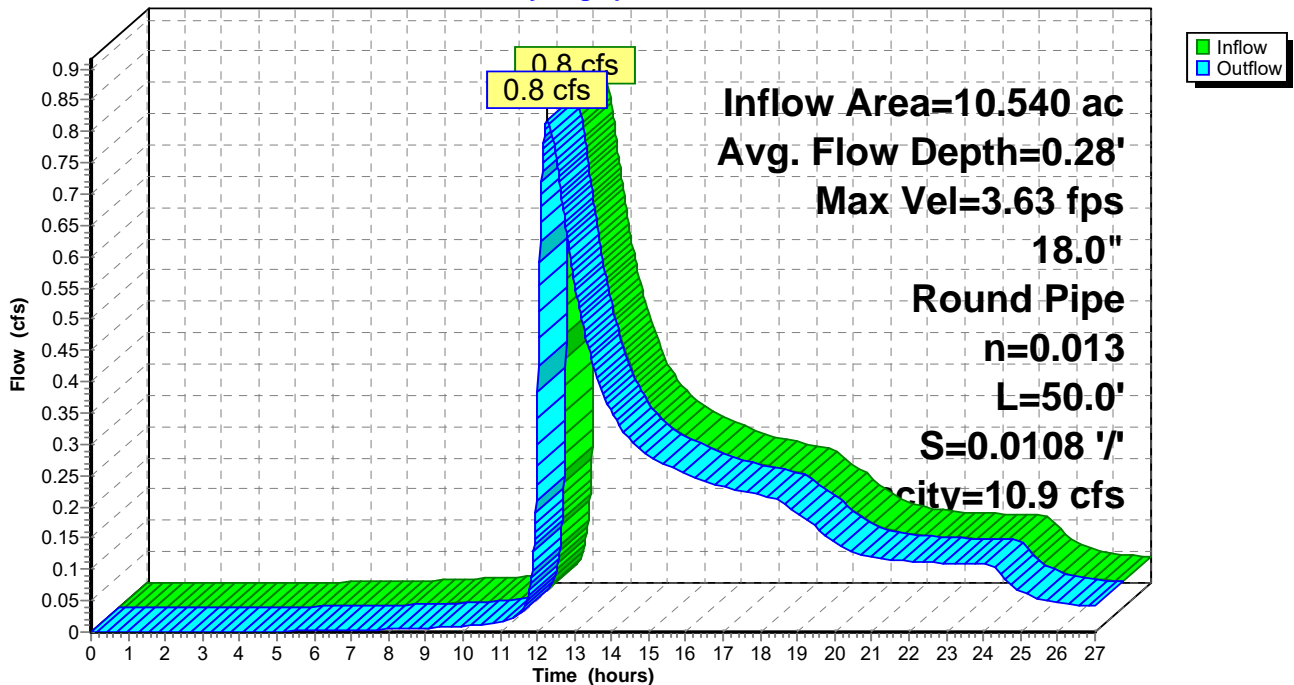
Peak Storage= 11 cf @ 12.28 hrs
 Average Depth at Peak Storage= 0.28' , Surface Width= 1.17'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.9 cfs

18.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 50.0' Slope= 0.0108 '/
 Inlet Invert= 1,034.97', Outlet Invert= 1,034.43'



Reach RE4: CULVERT 16+74

Hydrograph



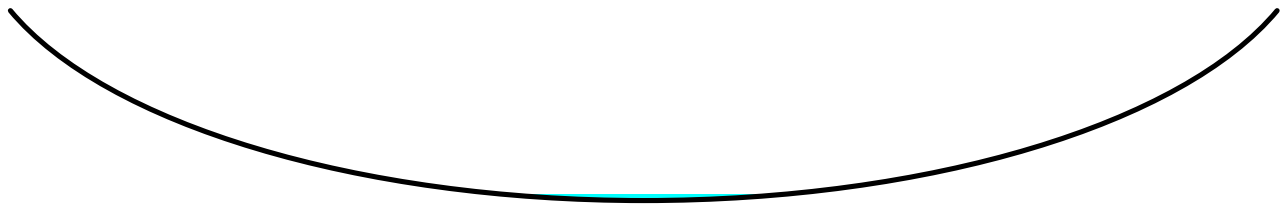
Summary for Reach RE6: CHANNEL IN WOODS

Inflow Area = 0.100 ac, 20.00% Impervious, Inflow Depth = 1.23" for 10-yr event
 Inflow = 0.2 cfs @ 11.98 hrs, Volume= 0.010 af
 Outflow = 0.0 cfs @ 12.14 hrs, Volume= 0.010 af, Atten= 78%, Lag= 9.7 min
 Routed to Reach RE4 : CULVERT 16+74

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 0.60 fps, Min. Travel Time= 55.0 min
 Avg. Velocity = 0.33 fps, Avg. Travel Time= 101.5 min

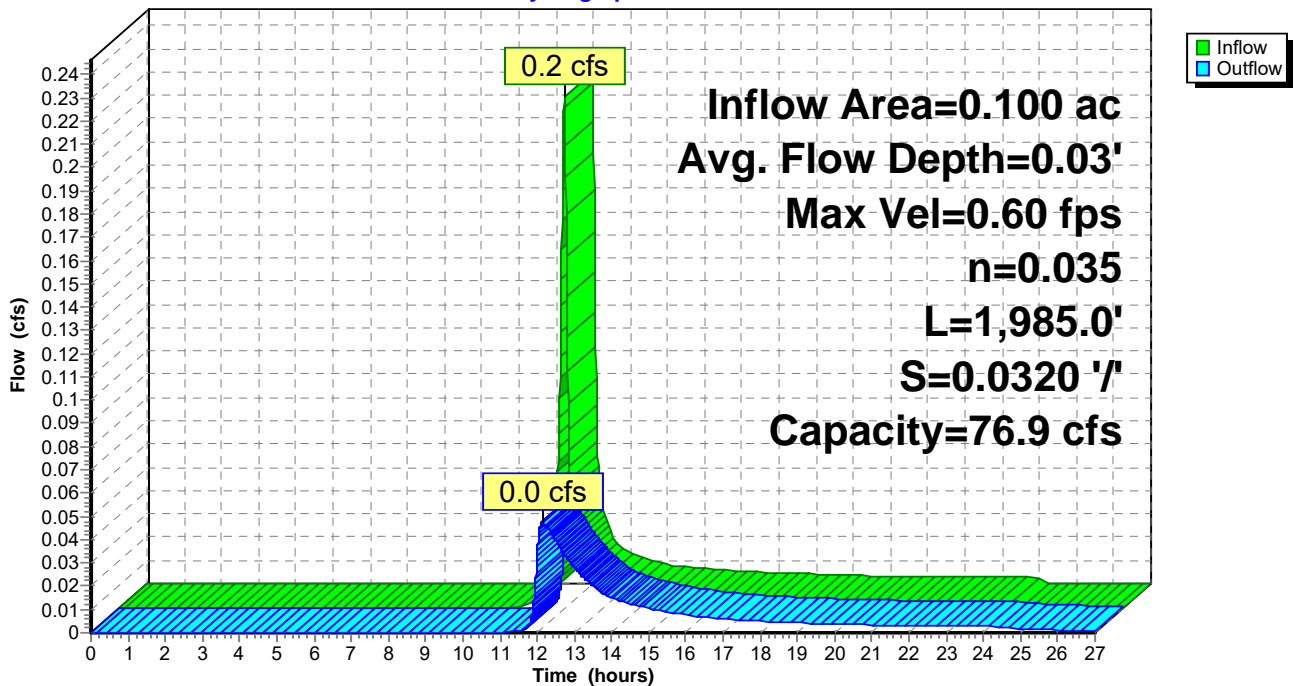
Peak Storage= 157 cf @ 12.14 hrs
 Average Depth at Peak Storage= 0.03' , Surface Width= 3.61'
 Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 76.9 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 1,985.0' Slope= 0.0320 '/'
 Inlet Invert= 1,098.50', Outlet Invert= 1,034.97'



Reach RE6: CHANNEL IN WOODS

Hydrograph



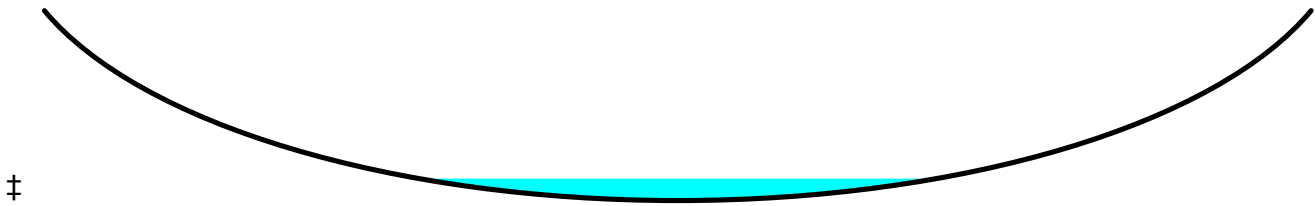
Summary for Reach RE7: CHANNEL IN WOODS

Inflow Area = 6.220 ac, 10.13% Impervious, Inflow Depth > 0.41" for 10-yr event
 Inflow = 2.6 cfs @ 12.02 hrs, Volume= 0.212 af
 Outflow = 0.6 cfs @ 12.35 hrs, Volume= 0.207 af, Atten= 77%, Lag= 19.6 min
 Routed to Reach RE4 : CULVERT 16+74

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.16 fps, Min. Travel Time= 39.8 min
 Avg. Velocity = 0.72 fps, Avg. Travel Time= 64.0 min

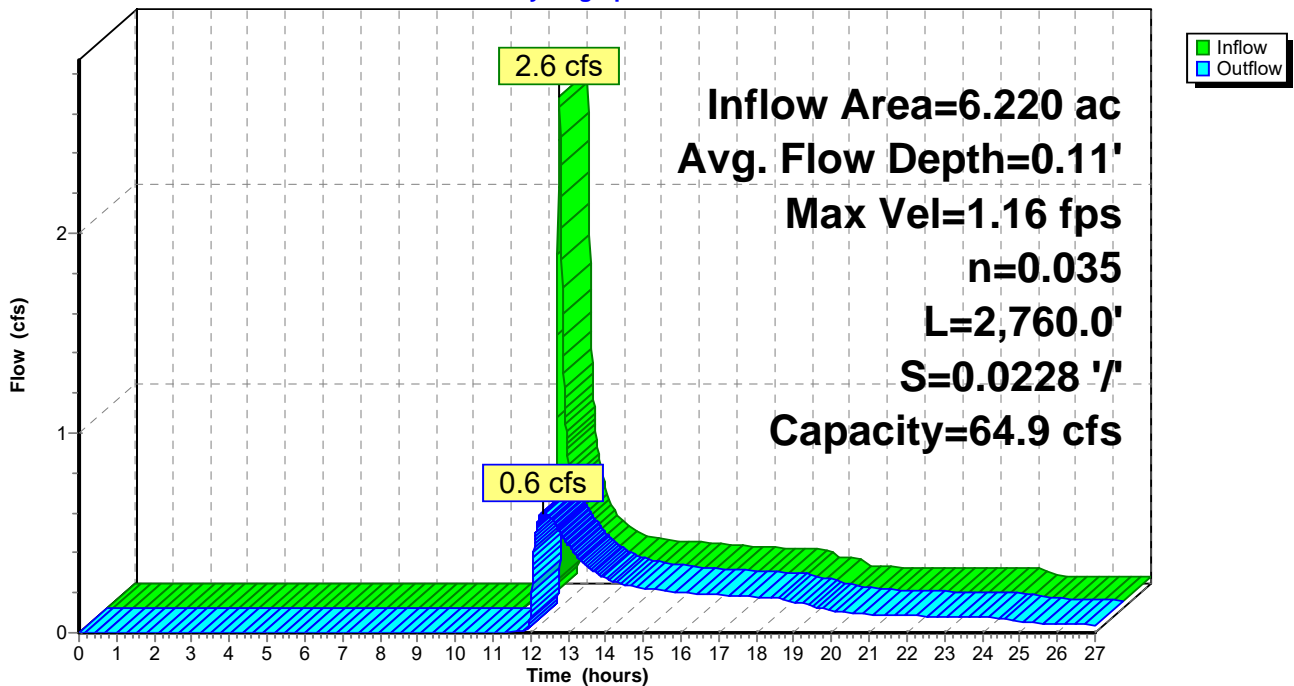
Peak Storage= 1,433 cf @ 12.35 hrs
 Average Depth at Peak Storage= 0.11' , Surface Width= 6.78'
 Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 64.9 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
 Length= 2,760.0' Slope= 0.0228 '/'
 Inlet Invert= 1,097.85', Outlet Invert= 1,034.97'



Reach RE7: CHANNEL IN WOODS

Hydrograph



Summary for Pond CB3: PROPOSED CATCH BASIN

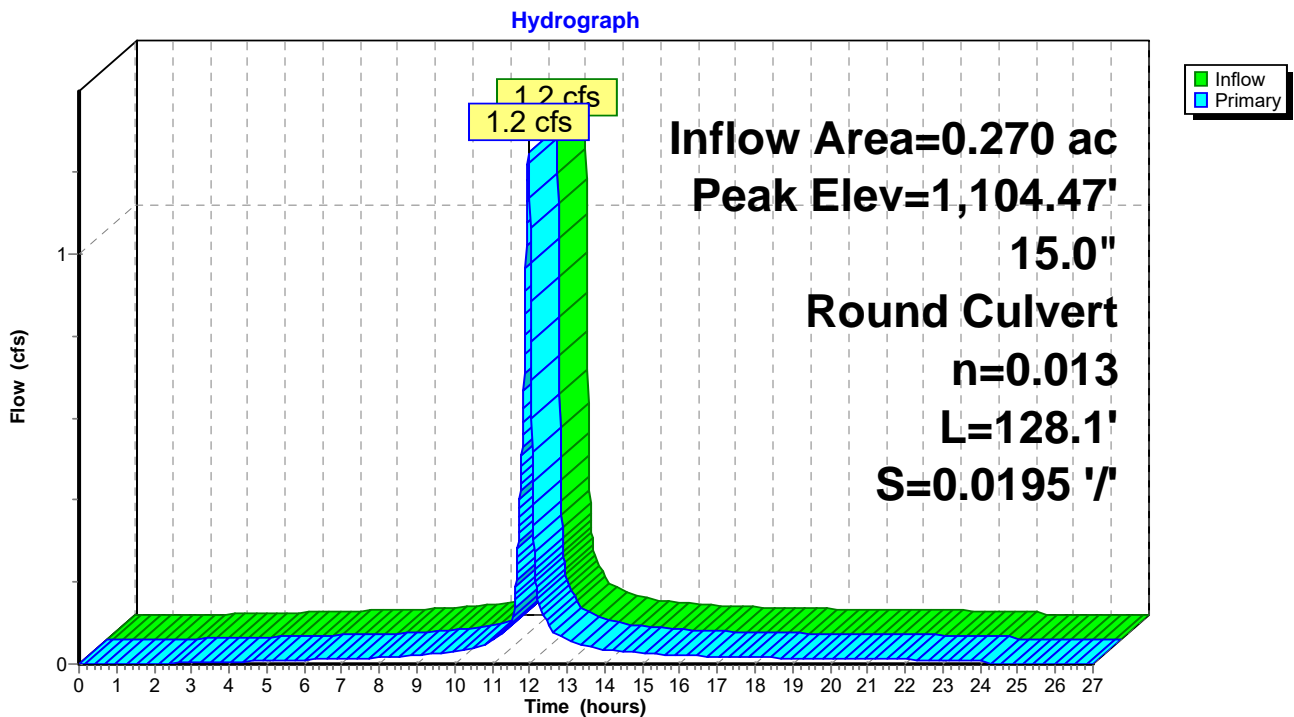
Inflow Area = 0.270 ac, 81.48% Impervious, Inflow Depth = 2.97" for 10-yr event
 Inflow = 1.2 cfs @ 11.97 hrs, Volume= 0.067 af
 Outflow = 1.2 cfs @ 11.97 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.2 cfs @ 11.97 hrs, Volume= 0.067 af
 Routed to Pond FDD4 : FOREBAY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,104.47' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,104.00'	15.0" Round Culvert L= 128.1' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1,104.00' / 1,101.50' S= 0.0195 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.2 cfs @ 11.97 hrs HW=1,104.47' TW=1,100.52' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 1.2 cfs @ 2.93 fps)

Pond CB3: PROPOSED CATCH BASIN



Summary for Pond DD1: RAIN GARDEN

Inflow Area = 1.380 ac, 34.78% Impervious, Inflow Depth = 1.50" for 10-yr event
 Inflow = 4.5 cfs @ 11.98 hrs, Volume= 0.172 af
 Outflow = 1.9 cfs @ 12.07 hrs, Volume= 0.166 af, Atten= 59%, Lag= 5.3 min
 Primary = 1.9 cfs @ 12.07 hrs, Volume= 0.166 af
 Routed to Pond FDD1A : FOREBAY
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond eCB2 : EX. CATCH BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 998.16' @ 12.07 hrs Surf.Area= 7,781 sf Storage= 2,592 cf

Plug-Flow detention time= 149.2 min calculated for 0.166 af (97% of inflow)
 Center-of-Mass det. time= 130.8 min (976.5 - 845.7)

Volume	Invert	Avail.Storage	Storage Description
#1	997.50'	4,859 cf	OPEN WATER (Prismatic) Listed below (Recalc)
#2	997.25'	119 cf	MULCH (Prismatic) Listed below (Recalc) 593 cf Overall x 20.0% Voids
#3	995.75'	712 cf	MEDIA (Prismatic) Listed below (Recalc) 3,560 cf Overall x 20.0% Voids
		5,689 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.50	2,373	0	0
998.00	2,774	1,287	1,287
999.00	4,370	3,572	4,859

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.25	2,373	0	0
997.50	2,373	593	593

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.75	2,373	0	0
997.25	2,373	3,560	3,560

Device	Routing	Invert	Outlet Devices
#1	Primary	994.25'	12.0" Round Culvert L= 104.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 994.25' / 992.00' S= 0.0216 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Device 1	995.75'	0.800 in/hr Exfiltration over Surface area
#3	Secondary	998.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

1101-POSTDEV_To OUTDE

Prepared by CMA Engineers

HydroCAD® 10.20-2g s/n 10642 © 2022 HydroCAD Software Solutions LLC

Type II 24-hr 10-yr Rainfall=3.31"

Printed 5/19/2023

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#4 Device 1 998.00' **24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600
Limited to weir flow at low heads

Primary OutFlow Max=1.9 cfs @ 12.07 hrs HW=998.16' TW=987.10' (Dynamic Tailwater)

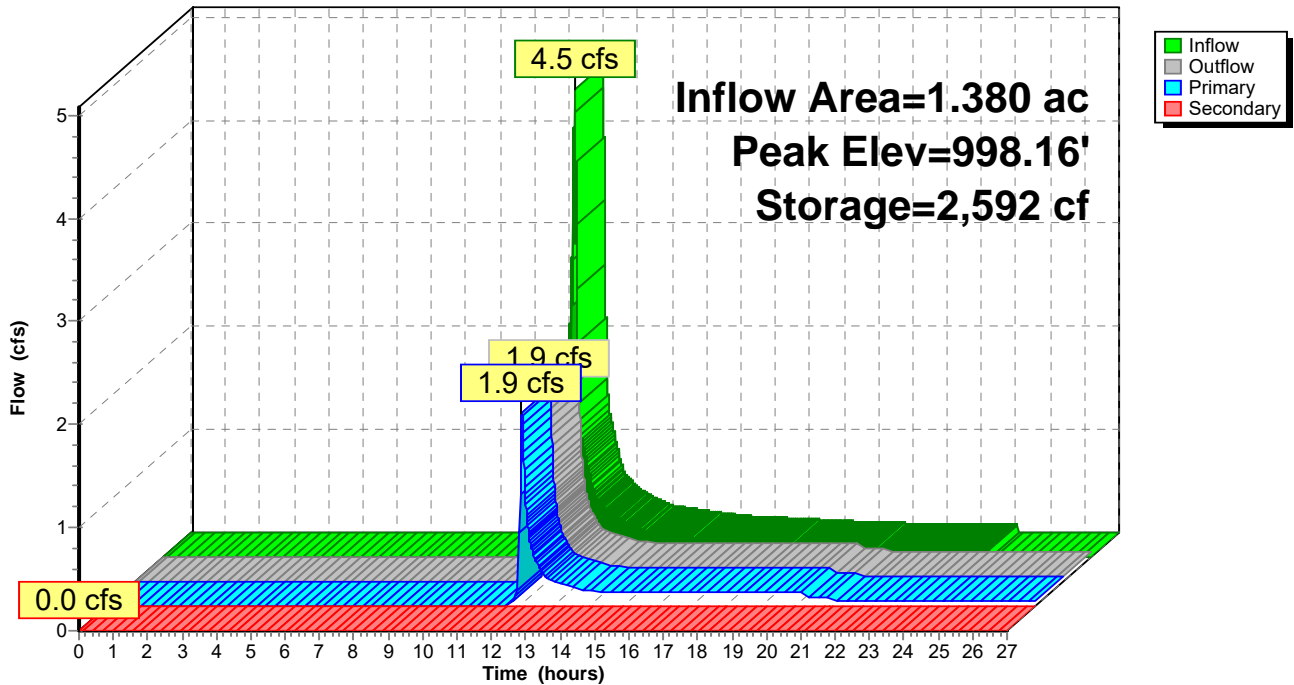
- 1=Culvert (Passes 1.9 cfs of 6.6 cfs potential flow)
- 2=Exfiltration (Exfiltration Controls 0.1 cfs)
- 4=Orifice/Grate (Weir Controls 1.7 cfs @ 1.32 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=995.75' TW=988.25' (Dynamic Tailwater)

- 3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond DD1: RAIN GARDEN

Hydrograph



Summary for Pond DD1a: DETENTION BASIN

Inflow Area = 2.630 ac, 28.90% Impervious, Inflow Depth > 1.32" for 10-yr event
 Inflow = 4.4 cfs @ 12.04 hrs, Volume= 0.289 af
 Outflow = 0.3 cfs @ 20.18 hrs, Volume= 0.082 af, Atten= 93%, Lag= 488.4 min
 Discarded = 0.0 cfs @ 21.08 hrs, Volume= 0.052 af
 Primary = 0.3 cfs @ 20.18 hrs, Volume= 0.029 af
 Routed to Reach RDD1A : ROADSIDE SWALE

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 988.14' @ 21.08 hrs Surf.Area= 6,755 sf Storage= 9,490 cf

Plug-Flow detention time= 524.8 min calculated for 0.082 af (28% of inflow)
 Center-of-Mass det. time= 320.6 min (1,246.2 - 925.7)

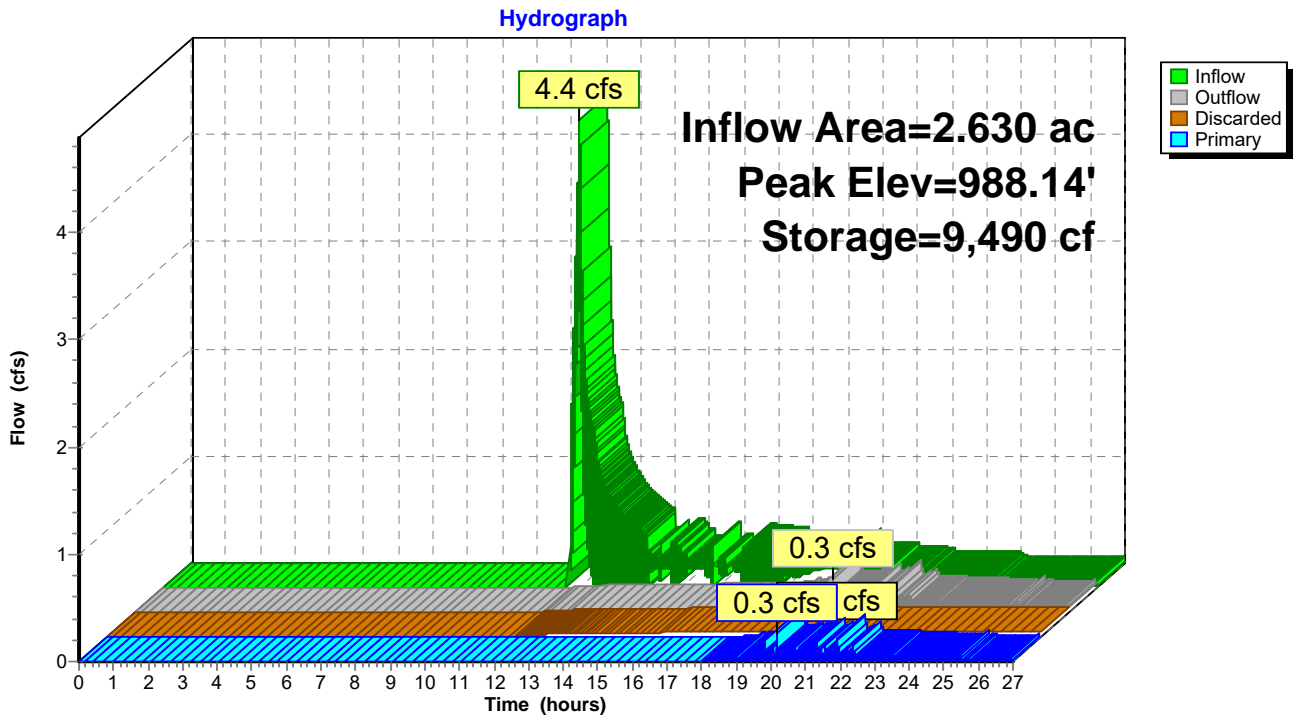
Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	16,020 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	1,398	0	0
986.00	1,991	1,695	1,695
987.00	2,646	2,319	4,013
988.00	6,500	4,573	8,586
989.00	8,368	7,434	16,020

Device	Routing	Invert	Outlet Devices
#1	Primary	988.00'	4.0' long + 3.0 ' SideZ x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Discarded	985.00'	0.300 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.0 cfs @ 21.08 hrs HW=988.14' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 20.18 hrs HW=988.13' TW=988.14' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond DD1a: DETENTION BASIN



Summary for Pond DD2: RAIN GARDEN

Inflow Area = 0.580 ac, 50.00% Impervious, Inflow Depth = 1.63" for 10-yr event
 Inflow = 1.9 cfs @ 11.98 hrs, Volume= 0.079 af
 Outflow = 1.4 cfs @ 12.03 hrs, Volume= 0.070 af, Atten= 25%, Lag= 3.0 min
 Primary = 1.4 cfs @ 12.03 hrs, Volume= 0.070 af
 Routed to Reach RDD2 : WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RDD2 : WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,048.29' @ 12.03 hrs Surf.Area= 1,934 sf Storage= 1,098 cf

Plug-Flow detention time= 207.1 min calculated for 0.070 af (89% of inflow)
 Center-of-Mass det. time= 153.5 min (994.1 - 840.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,047.00'	1,743 cf	Open Water (Prismatic) Listed below (Recalc)
#2	1,046.75'	24 cf	MULCH (Prismatic) Listed below (Recalc) 119 cf Overall x 20.0% Voids
#3	1,045.25'	143 cf	MEDIA (Prismatic) Listed below (Recalc) 713 cf Overall x 20.0% Voids
		1,909 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,047.00	475	0	0
1,048.00	857	666	666
1,049.00	1,296	1,077	1,743

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,046.75	475	0	0
1,047.00	475	119	119

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,045.25	475	0	0
1,046.75	475	713	713

Device	Routing	Invert	Outlet Devices
#1	Primary	1,044.00'	12.0" Round Culvert L= 26.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,044.00' / 1,043.50' S= 0.0192 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	1,045.25'	0.800 in/hr Exfiltration over Surface area
#3	Secondary	1,048.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

1101-POSTDEV_To OUTDE

Prepared by CMA Engineers

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Type II 24-hr 10-yr Rainfall=3.31"

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#4 Device 1 1,048.15' 24.0" x 24.0" Horiz. Orifice/Grate C= 0.600
Limited to weir flow at low heads

Primary OutFlow Max=1.4 cfs @ 12.03 hrs HW=1,048.29' TW=1,043.66' (Dynamic Tailwater)

1=Culvert (Passes 1.4 cfs of 7.4 cfs potential flow)

2=Exfiltration (Exfiltration Controls 0.0 cfs)

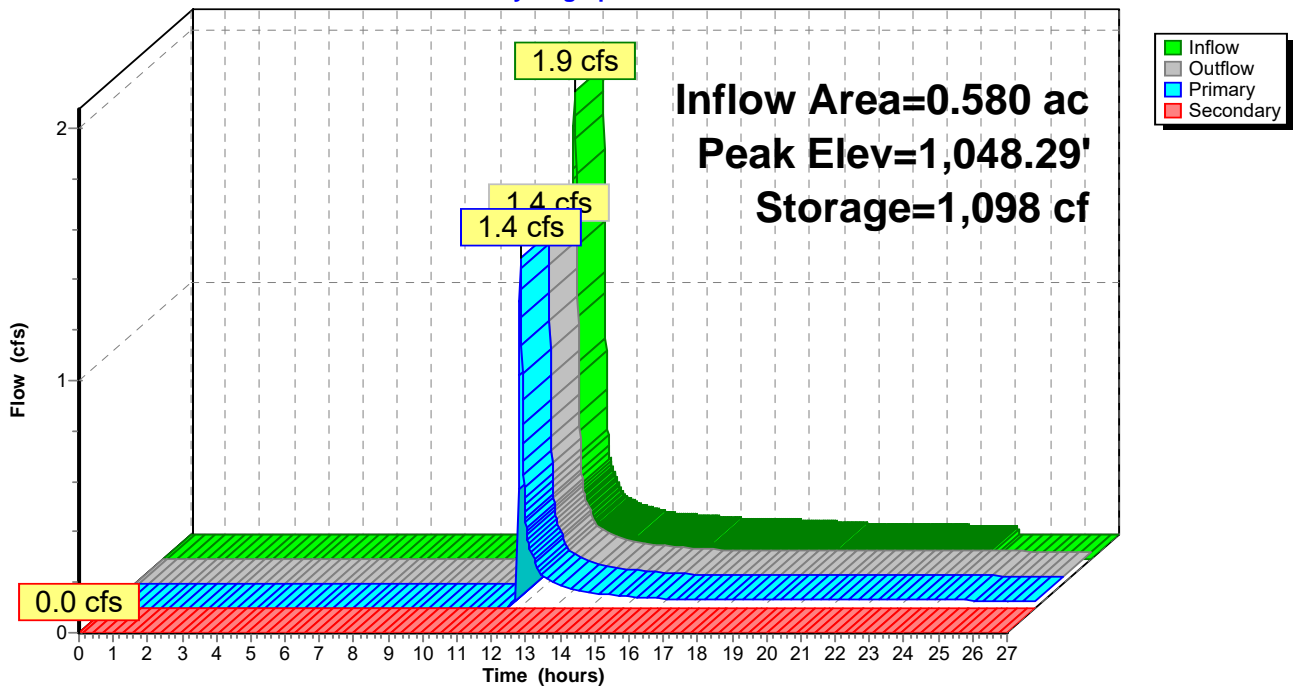
4=Orifice/Grate (Weir Controls 1.4 cfs @ 1.22 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,045.25' TW=1,043.50' (Dynamic Tailwater)

3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond DD2: RAIN GARDEN

Hydrograph



Summary for Pond DD3: INFILTRATION BASIN

Inflow Area = 0.530 ac, 47.17% Impervious, Inflow Depth = 0.35" for 10-yr event
 Inflow = 3.3 cfs @ 11.99 hrs, Volume= 0.016 af
 Outflow = 0.1 cfs @ 12.32 hrs, Volume= 0.016 af, Atten= 97%, Lag= 19.8 min
 Discarded = 0.1 cfs @ 12.32 hrs, Volume= 0.016 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 19R : CHANNEL IN WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 19R : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,074.92' @ 12.32 hrs Surf.Area= 905 sf Storage= 497 cf

Plug-Flow detention time= 52.2 min calculated for 0.016 af (100% of inflow)
 Center-of-Mass det. time= 52.2 min (778.0 - 725.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,074.25'	3,932 cf	Open Water (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,074.25	575	0	0
1,077.25	2,046	3,932	3,932

Device	Routing	Invert	Outlet Devices
#1	Primary	1,074.00'	12.0" Round Culvert L= 91.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,074.00' / 1,073.00' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	1,076.65'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,074.25'	5.000 in/hr Exfiltration over Surface area
#4	Secondary	1,076.75'	10.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.1 cfs @ 12.32 hrs HW=1,074.92' (Free Discharge)

↑**3=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,074.25' TW=1,073.00' (Dynamic Tailwater)

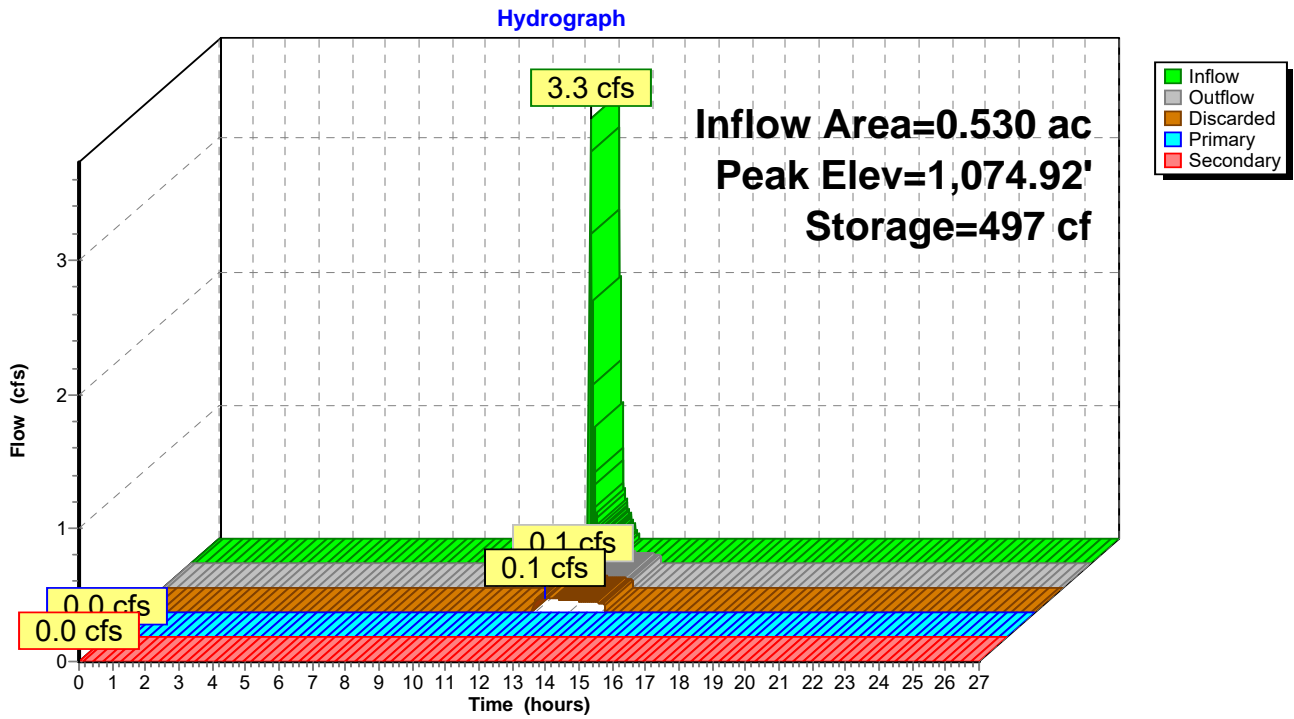
↑**1=Culvert** (Passes 0.0 cfs of 0.3 cfs potential flow)

↑**2=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,074.25' TW=1,073.00' (Dynamic Tailwater)

↑**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond DD3: INFILTRATION BASIN



Summary for Pond DD3A: RAIN GARDEN

Inflow Area = 0.560 ac, 46.43% Impervious, Inflow Depth = 1.63" for 10-yr event
 Inflow = 1.9 cfs @ 11.97 hrs, Volume= 0.076 af
 Outflow = 1.4 cfs @ 12.02 hrs, Volume= 0.074 af, Atten= 26%, Lag= 3.2 min
 Primary = 1.4 cfs @ 12.02 hrs, Volume= 0.074 af
 Routed to Reach RE2 : CHANNEL IN WOODS
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach RE2 : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,095.29' @ 12.02 hrs Surf.Area= 2,616 sf Storage= 996 cf

Plug-Flow detention time= 151.6 min calculated for 0.074 af (97% of inflow)
 Center-of-Mass det. time= 136.2 min (976.6 - 840.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,094.50'	1,689 cf	open water (Prismatic) Listed below (Recalc)
#2	1,094.25'	37 cf	MULCH (Prismatic) Listed below (Recalc) 184 cf Overall x 20.0% Voids
#3	1,092.75'	221 cf	MEDIA (Prismatic) Listed below (Recalc) 1,104 cf Overall x 20.0% Voids
		1,947 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,094.50	736	0	0
1,095.00	985	430	430
1,096.00	1,533	1,259	1,689

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,094.25	736	0	0
1,094.50	736	184	184

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,092.75	736	0	0
1,094.25	736	1,104	1,104

Device	Routing	Invert	Outlet Devices
#1	Primary	1,091.40'	12.0" Round Culvert L= 28.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,091.40' / 1,091.00' S= 0.0139 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	1,095.15'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Secondary	1,095.50'	10.0' long + 3.0 ' SideZ x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

#4 Device 1 1,092.75' 2.85 3.07 3.20 3.32
0.800 in/hr Exfiltration over Surface area

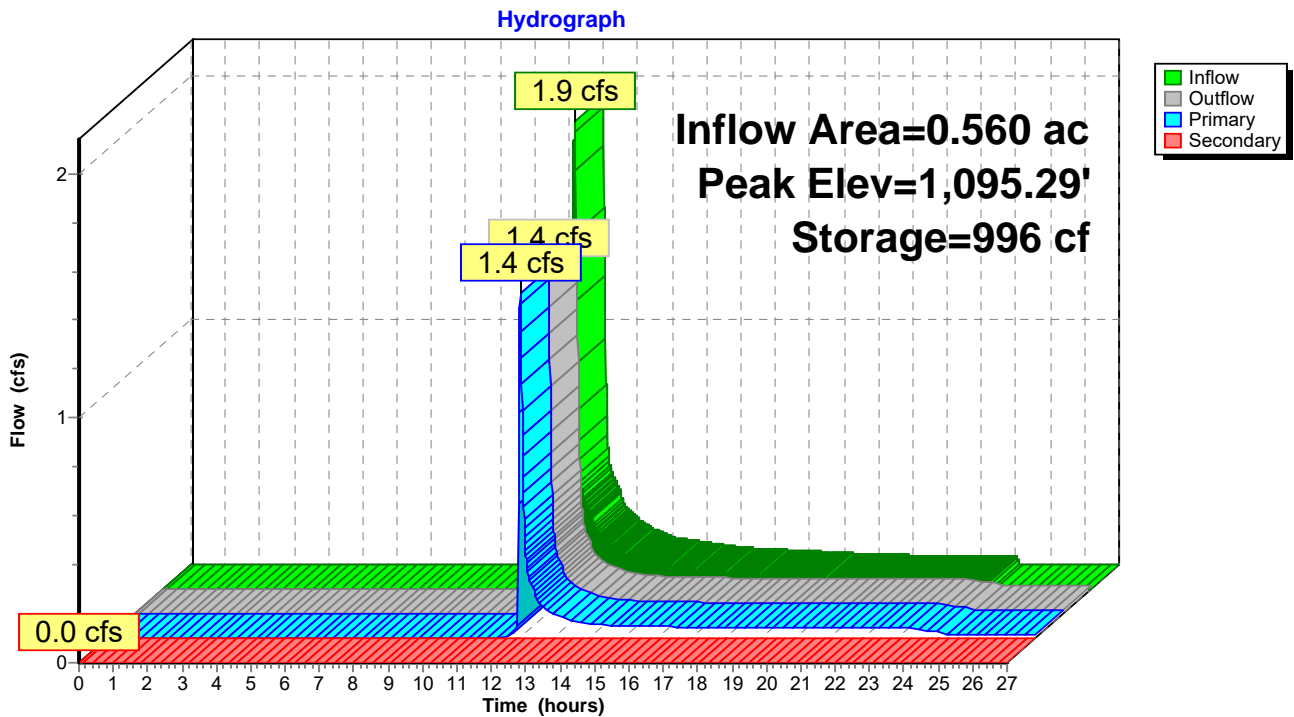
Primary OutFlow Max=1.4 cfs @ 12.02 hrs HW=1,095.29' TW=1,091.06' (Dynamic Tailwater)

- 1=Culvert (Passes 1.4 cfs of 7.0 cfs potential flow)
- 2=Orifice/Grate (Weir Controls 1.4 cfs @ 1.22 fps)
- 4=Exfiltration (Exfiltration Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,092.75' TW=1,091.00' (Dynamic Tailwater)

- 3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond DD3A: RAIN GARDEN



Summary for Pond DD4: RAIN GARDEN

Inflow Area = 0.780 ac, 69.23% Impervious, Inflow Depth = 2.25" for 10-yr event
 Inflow = 3.4 cfs @ 11.97 hrs, Volume= 0.146 af
 Outflow = 2.6 cfs @ 12.02 hrs, Volume= 0.143 af, Atten= 25%, Lag= 3.2 min
 Primary = 2.0 cfs @ 12.02 hrs, Volume= 0.139 af
 Routed to Reach RE7 : CHANNEL IN WOODS
 Secondary = 0.5 cfs @ 12.02 hrs, Volume= 0.004 af
 Routed to Reach RE7 : CHANNEL IN WOODS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,100.57' @ 12.02 hrs Surf.Area= 7,281 sf Storage= 2,214 cf

Plug-Flow detention time= 125.5 min calculated for 0.143 af (98% of inflow)
 Center-of-Mass det. time= 114.9 min (933.0 - 818.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,100.00'	3,183 cf	OPEN WATER (Prismatic) Listed below (Recalc)
#2	1,098.25'	587 cf	MEDIA (Prismatic) Listed below (Recalc) 2,937 cf Overall x 20.0% Voids
#3	1,099.75'	98 cf	MULCH (Prismatic) Listed below (Recalc) 490 cf Overall x 20.0% Voids
		3,868 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,100.00	1,958	0	0
1,101.00	4,407	3,183	3,183

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,098.25	1,958	0	0
1,099.75	1,958	2,937	2,937

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,099.75	1,958	0	0
1,100.00	1,958	490	490

Device	Routing	Invert	Outlet Devices
#1	Primary	1,097.00'	12.0" Round Culvert L= 37.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,097.00' / 1,096.75' S= 0.0066 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf
#2	Device 1	1,098.25'	0.800 in/hr Exfiltration over Surface area
#3	Secondary	1,100.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#4	Device 1	1,100.40'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600

Limited to weir flow at low heads

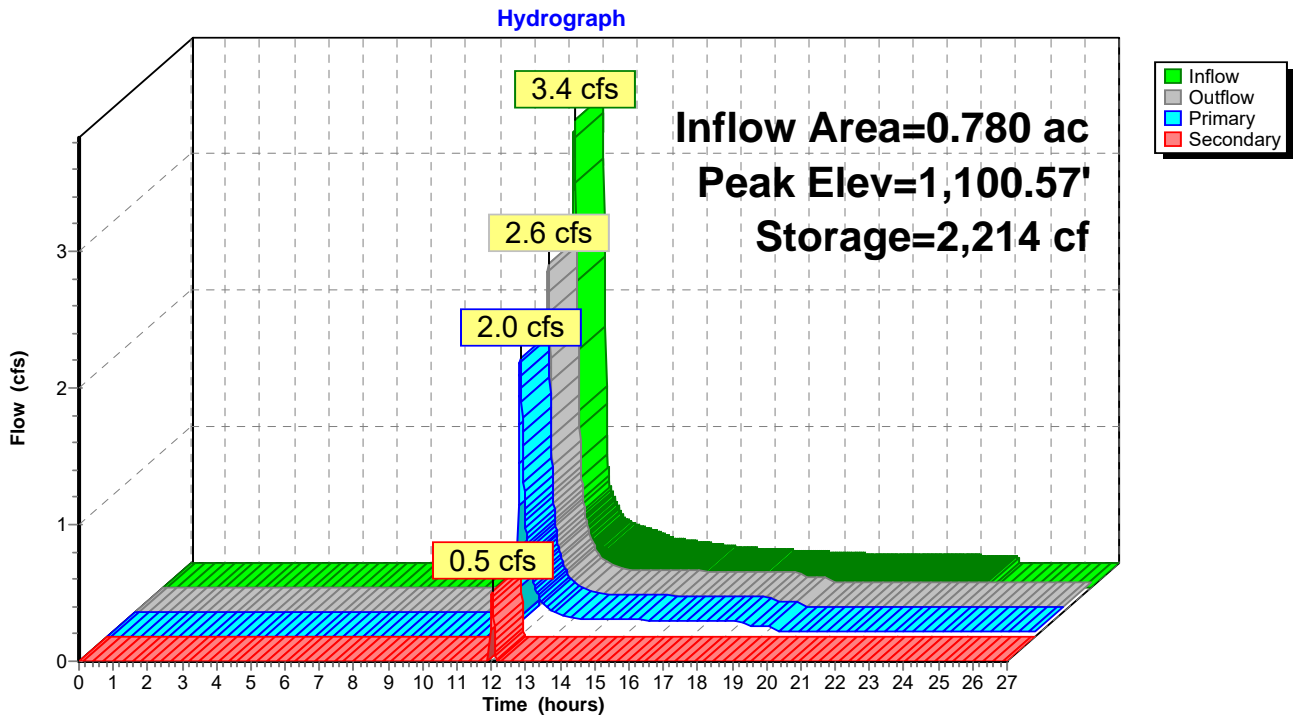
Primary OutFlow Max=2.0 cfs @ 12.02 hrs HW=1,100.57' TW=1,097.92' (Dynamic Tailwater)

- 1=Culvert (Passes 2.0 cfs of 6.2 cfs potential flow)
- 2=Exfiltration (Exfiltration Controls 0.1 cfs)
- 4=Orifice/Grate (Weir Controls 1.9 cfs @ 1.36 fps)

Secondary OutFlow Max=0.5 cfs @ 12.02 hrs HW=1,100.57' TW=1,097.92' (Dynamic Tailwater)

- 3=Broad-Crested Rectangular Weir (Weir Controls 0.5 cfs @ 0.69 fps)

Pond DD4: RAIN GARDEN



Summary for Pond DD5: RAIN GARDEN

Inflow Area = 2.390 ac, 50.63% Impervious, Inflow Depth = 1.63" for 10-yr event
 Inflow = 3.9 cfs @ 12.19 hrs, Volume= 0.324 af
 Outflow = 1.8 cfs @ 12.46 hrs, Volume= 0.287 af, Atten= 53%, Lag= 16.3 min
 Primary = 1.8 cfs @ 12.46 hrs, Volume= 0.287 af
 Routed to Reach OUT-D : WETLANDS COMPLEX
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,138.26' @ 12.46 hrs Surf.Area= 6,941 sf Storage= 4,014 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 130.9 min (1,001.0 - 870.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,137.00'	5,652 cf	OPEN WATER (Prismatic) Listed below (Recalc)
#2	1,136.25'	292 cf	MULCH (Prismatic) Listed below (Recalc) 1,459 cf Overall x 20.0% Voids
#3	1,134.75'	584 cf	MEDIA (Prismatic) Listed below (Recalc) 2,918 cf Overall x 20.0% Voids
		6,527 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,137.00	1,945	0	0
1,138.00	2,804	2,375	2,375
1,139.00	3,750	3,277	5,652

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,136.25	1,945	0	0
1,137.00	1,945	1,459	1,459

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,134.75	1,945	0	0
1,136.25	1,945	2,918	2,918

Device	Routing	Invert	Outlet Devices
#1	Primary	1,133.20'	12.0" Round Culvert L= 61.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,133.20' / 1,132.90' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	1,138.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#3	Device 1	1,134.75'	0.800 in/hr Exfiltration over Surface area

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#4 Device 1 1,138.10' **24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600
Limited to weir flow at low heads

Primary OutFlow Max=1.8 cfs @ 12.46 hrs HW=1,138.26' TW=0.00' (Dynamic Tailwater)

1=Culvert (Passes 1.8 cfs of 7.1 cfs potential flow)

3=Exfiltration (Exfiltration Controls 0.1 cfs)

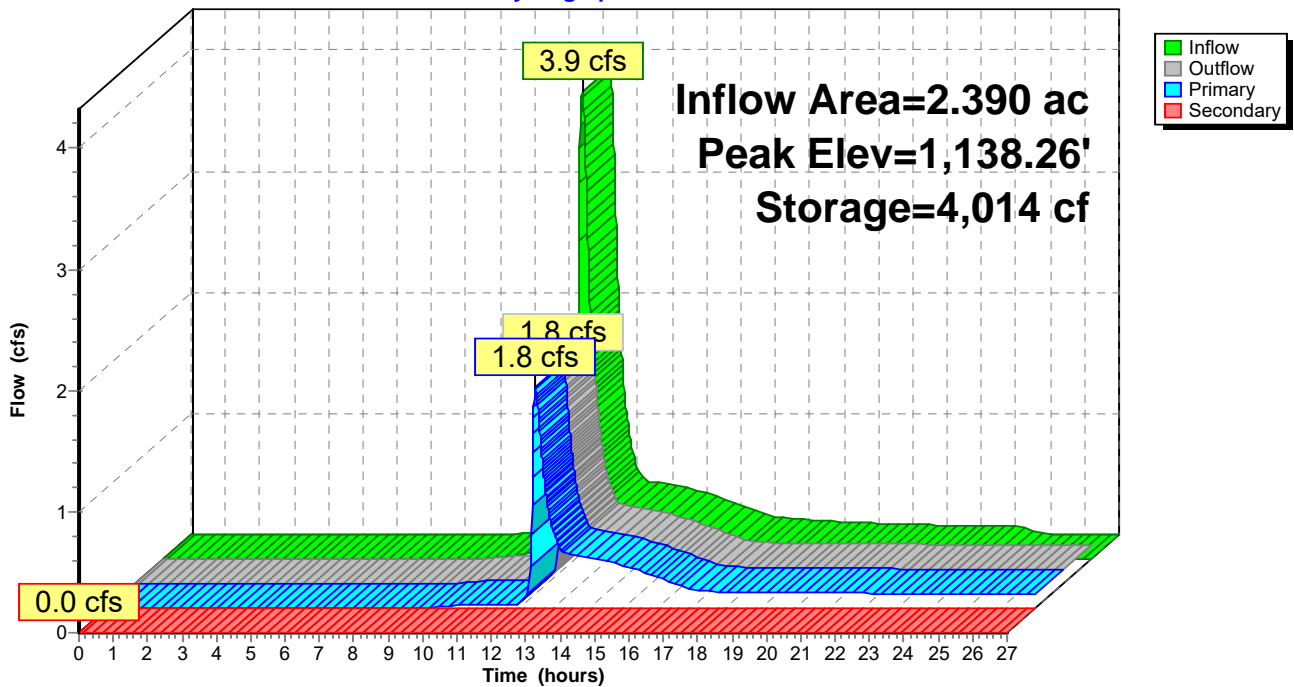
4=Orifice/Grate (Weir Controls 1.7 cfs @ 1.31 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,134.75' TW=0.00' (Dynamic Tailwater)

2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond DD5: RAIN GARDEN

Hydrograph



Summary for Pond DD6: INFILTRATION BASIN

Inflow Area = 4.400 ac, 7.27% Impervious, Inflow Depth = 0.35" for 10-yr event
 Inflow = 2.1 cfs @ 12.17 hrs, Volume= 0.128 af
 Outflow = 0.2 cfs @ 13.86 hrs, Volume= 0.129 af, Atten= 91%, Lag= 101.6 min
 Discarded = 0.2 cfs @ 13.86 hrs, Volume= 0.129 af
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach OUT-D : WETLANDS COMPLEX
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach OUT-D : WETLANDS COMPLEX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,144.75' @ 13.86 hrs Surf.Area= 1,582 sf Storage= 1,061 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 52.4 min (1,016.5 - 964.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,144.00'	9,582 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,144.00	1,241	0	0
1,145.00	1,695	1,468	1,468
1,146.00	2,205	1,950	3,418
1,147.00	2,771	2,488	5,906
1,148.00	4,580	3,676	9,582

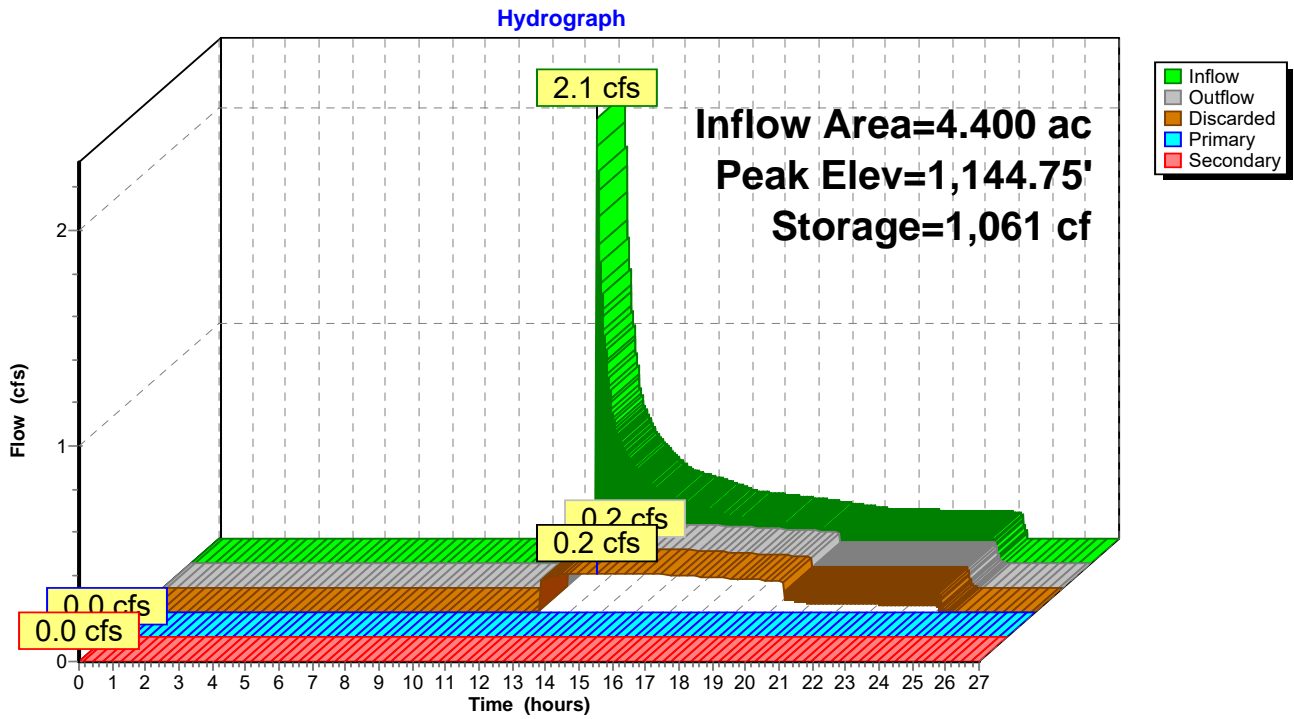
Device	Routing	Invert	Outlet Devices
#1	Primary	1,144.00'	12.0" Round Culvert L= 44.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,144.00' / 1,143.50' S= 0.0113 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Discarded	1,144.00'	5.000 in/hr Exfiltration over Surface area
#3	Device 1	1,147.40'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,147.50'	10.0' long + 3.0 '/ SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.2 cfs @ 13.86 hrs HW=1,144.75' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,144.00' TW=0.00' (Dynamic Tailwater)
 ↳ **1=Culvert** (Controls 0.0 cfs)
 ↳ **3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=1,144.00' TW=0.00' (Dynamic Tailwater)
 ↳ **4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond DD6: INFILTRATION BASIN



Summary for Pond eCB1: EX. CATCH BASIN

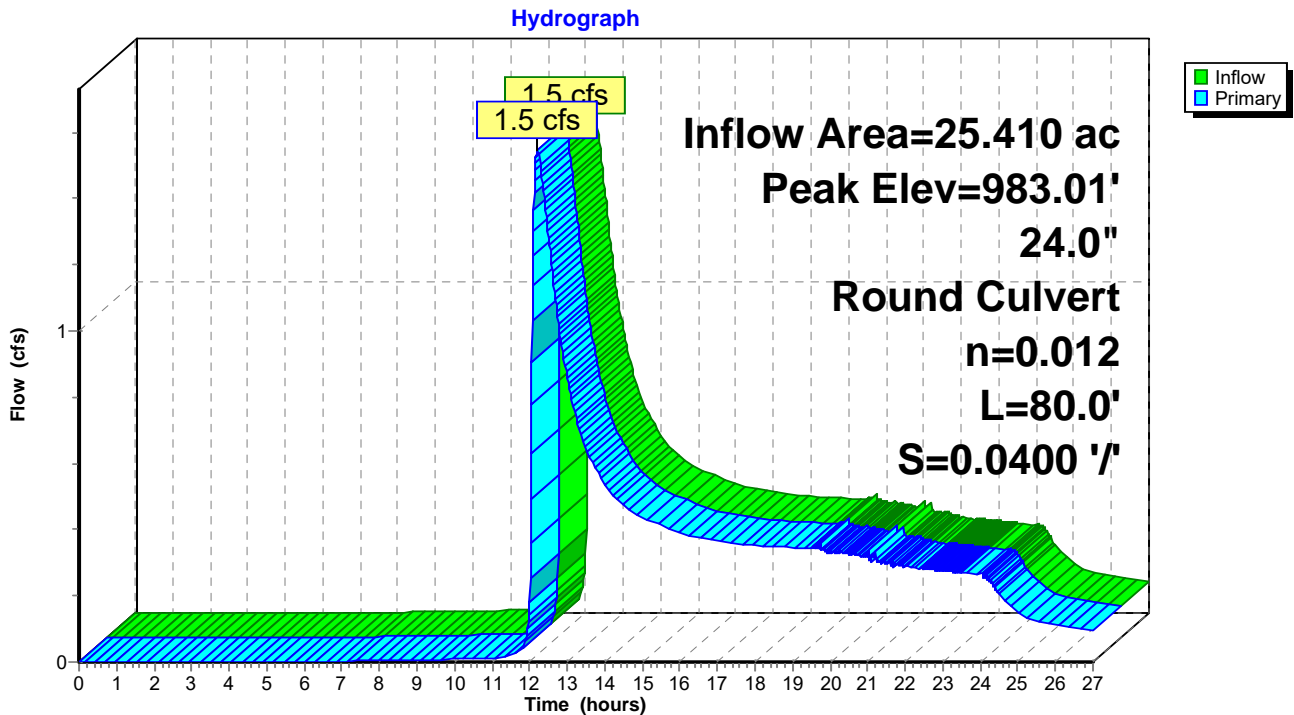
Inflow Area = 25.410 ac, 10.59% Impervious, Inflow Depth > 0.23" for 10-yr event
 Inflow = 1.5 cfs @ 12.20 hrs, Volume= 0.482 af
 Outflow = 1.5 cfs @ 12.20 hrs, Volume= 0.482 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.5 cfs @ 12.20 hrs, Volume= 0.482 af
 Routed to Reach OUT-E : TO NH ROUTE 116

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 983.01' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	982.50'	24.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 982.50' / 979.30' S= 0.0400 '/ Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=1.5 cfs @ 12.20 hrs HW=983.01' TW=0.00' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 1.5 cfs @ 2.43 fps)

Pond eCB1: EX. CATCH BASIN



Summary for Pond eCB2: EX. CATCH BASIN

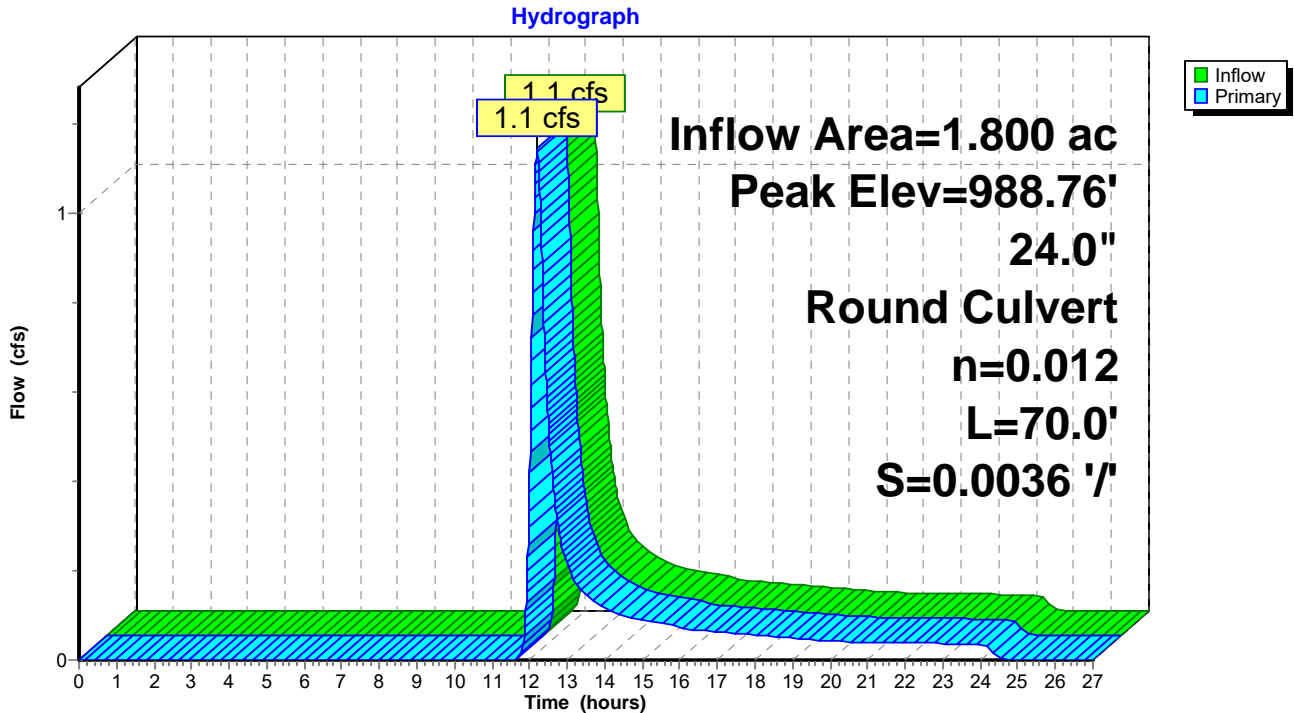
Inflow Area = 1.800 ac, 5.00% Impervious, Inflow Depth = 0.75" for 10-yr event
Inflow = 1.1 cfs @ 12.20 hrs, Volume= 0.112 af
Outflow = 1.1 cfs @ 12.20 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.20 hrs, Volume= 0.112 af
Routed to Reach OUT-E : TO NH ROUTE 116

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
Peak Elev= 988.76' @ 12.20 hrs

Table with 4 columns: Device, Routing, Invert, Outlet Devices. Row 1: #1, Primary, 988.25', 24.0" Round Culvert. Includes details: L= 70.0' RCP, groove end projecting, Ke= 0.200, Inlet / Outlet Invert= 988.25' / 988.00', S= 0.0036 '/', Cc= 0.900, n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf.

Primary OutFlow Max=1.1 cfs @ 12.20 hrs HW=988.76' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.1 cfs @ 2.73 fps)

Pond eCB2: EX. CATCH BASIN



Summary for Pond FDD1: FOREBAY

Inflow Area = 1.380 ac, 34.78% Impervious, Inflow Depth = 1.63" for 10-yr event
 Inflow = 4.0 cfs @ 11.97 hrs, Volume= 0.187 af
 Outflow = 4.5 cfs @ 11.98 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.3 min
 Primary = 4.5 cfs @ 11.98 hrs, Volume= 0.172 af
 Routed to Pond DD1 : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 998.44' @ 11.98 hrs Surf.Area= 494 sf Storage= 656 cf

Plug-Flow detention time= 57.0 min calculated for 0.172 af (92% of inflow)
 Center-of-Mass det. time= 14.3 min (845.7 - 831.4)

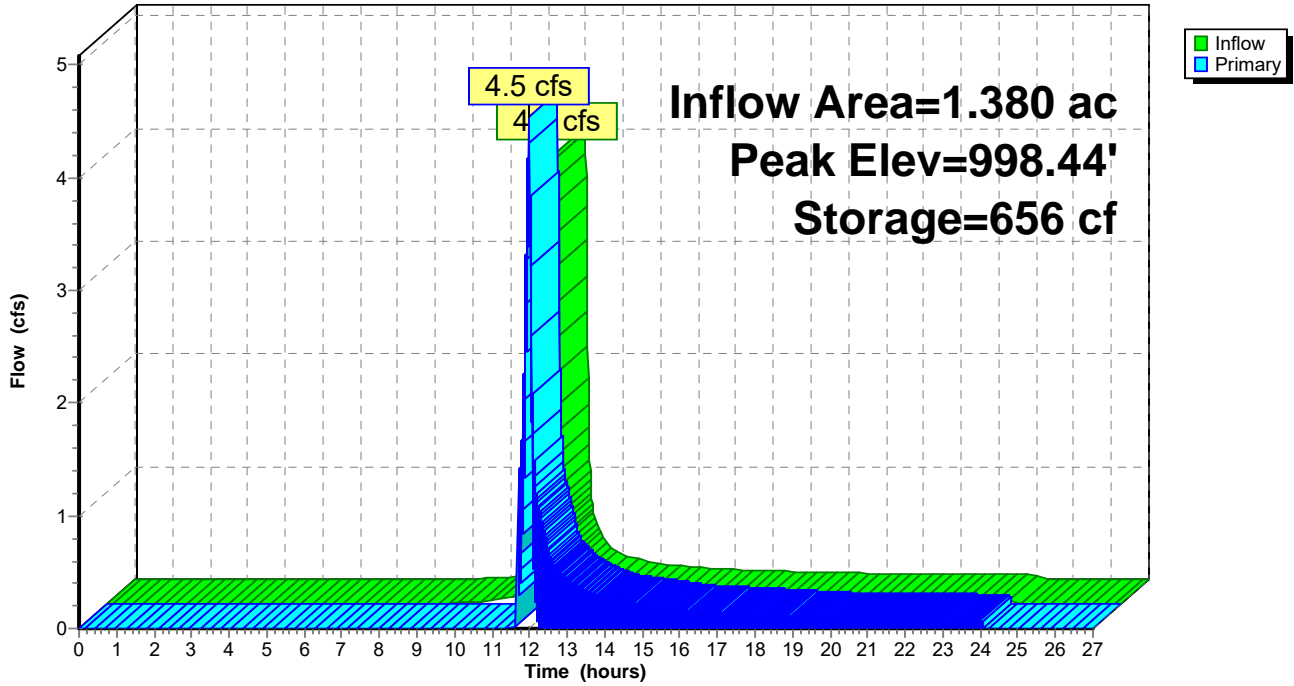
Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	656 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	176	0	0
997.00	321	249	249
998.00	494	408	656

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	6.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.5 cfs @ 11.98 hrs HW=998.44' TW=997.94' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 4.5 cfs @ 1.72 fps)

Pond FDD1: FOREBAY

Hydrograph



Summary for Pond FDD1A: FOREBAY

Inflow Area = 2.630 ac, 28.90% Impervious, Inflow Depth > 1.37" for 10-yr event
 Inflow = 3.6 cfs @ 12.04 hrs, Volume= 0.301 af
 Outflow = 4.4 cfs @ 12.04 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.3 min
 Discarded = 0.0 cfs @ 11.68 hrs, Volume= 0.001 af
 Primary = 4.4 cfs @ 12.04 hrs, Volume= 0.289 af
 Routed to Pond DD1a : DETENTION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 988.13' @ 20.26 hrs Surf.Area= 104 sf Storage= 438 cf

Plug-Flow detention time= 31.2 min calculated for 0.290 af (96% of inflow)
 Center-of-Mass det. time= 7.6 min (926.3 - 918.7)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	438 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	129	0	0
986.00	321	225	225
987.00	104	213	438

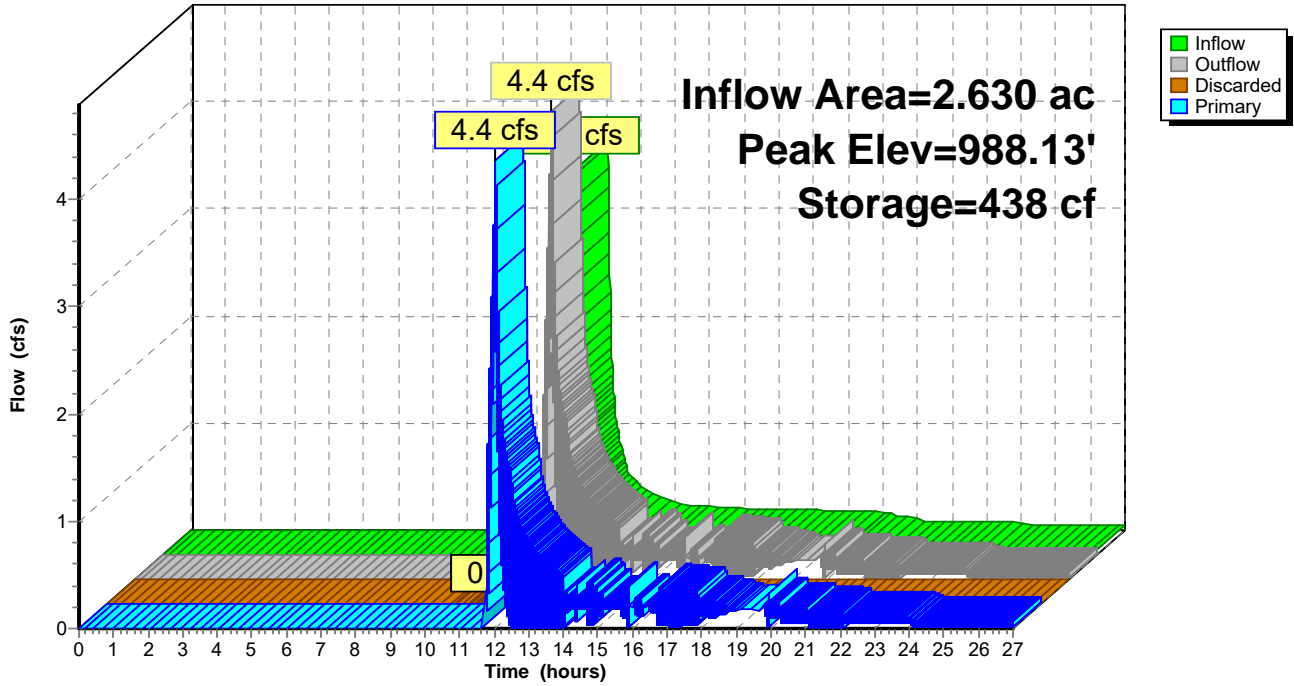
Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	40.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	985.00'	0.300 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.0 cfs @ 11.68 hrs HW=985.99' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=4.3 cfs @ 12.04 hrs HW=987.13' TW=986.13' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 4.3 cfs @ 0.85 fps)

Pond FDD1A: FOREBAY

Hydrograph



Summary for Pond FDD2: FOREBAY

Inflow Area = 0.580 ac, 50.00% Impervious, Inflow Depth = 1.77" for 10-yr event
 Inflow = 1.8 cfs @ 11.97 hrs, Volume= 0.086 af
 Outflow = 1.9 cfs @ 11.98 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.9 cfs @ 11.98 hrs, Volume= 0.079 af
 Routed to Pond DD2 : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,049.17' @ 11.98 hrs Surf.Area= 338 sf Storage= 315 cf

Plug-Flow detention time= 60.1 min calculated for 0.079 af (92% of inflow)
 Center-of-Mass det. time= 15.7 min (840.5 - 824.9)

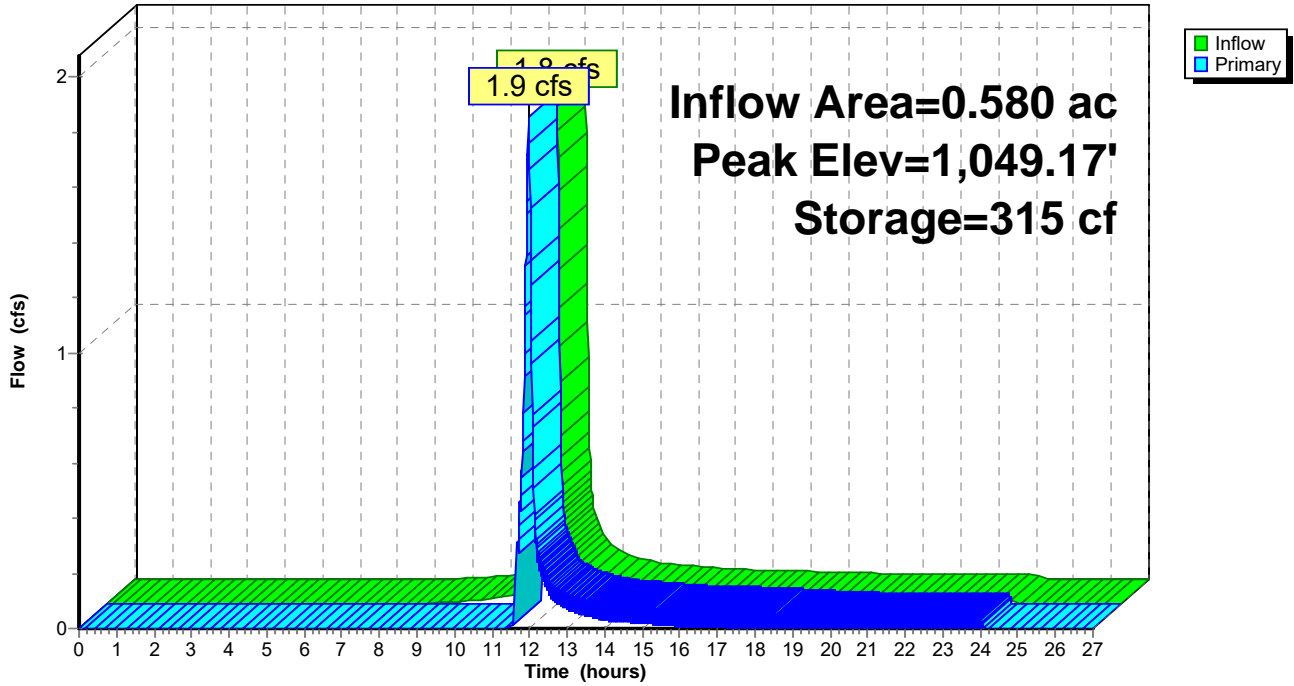
Volume	Invert	Avail.Storage	Storage Description
#1	1,047.00'	315 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,047.00	23	0	0
1,048.00	134	79	79
1,049.00	338	236	315

Device	Routing	Invert	Outlet Devices
#1	Primary	1,049.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.8 cfs @ 11.98 hrs HW=1,049.17' TW=1,048.15' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 1.8 cfs @ 1.06 fps)

Pond FDD2: FOREBAY

Hydrograph



Summary for Pond FDD3: FOREBAY

Inflow Area = 0.530 ac, 47.17% Impervious, Inflow Depth = 1.99" for 10-yr event
 Inflow = 1.8 cfs @ 11.97 hrs, Volume= 0.088 af
 Outflow = 3.5 cfs @ 11.99 hrs, Volume= 0.088 af, Atten= 0%, Lag= 1.1 min
 Discarded = 0.1 cfs @ 11.99 hrs, Volume= 0.072 af
 Primary = 3.3 cfs @ 11.99 hrs, Volume= 0.016 af
 Routed to Pond DD3 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,077.33' @ 11.99 hrs Surf.Area= 986 sf Storage= 1,125 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 87.7 min (903.2 - 815.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,075.25'	1,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,075.25	139	0	0
1,077.25	986	1,125	1,125

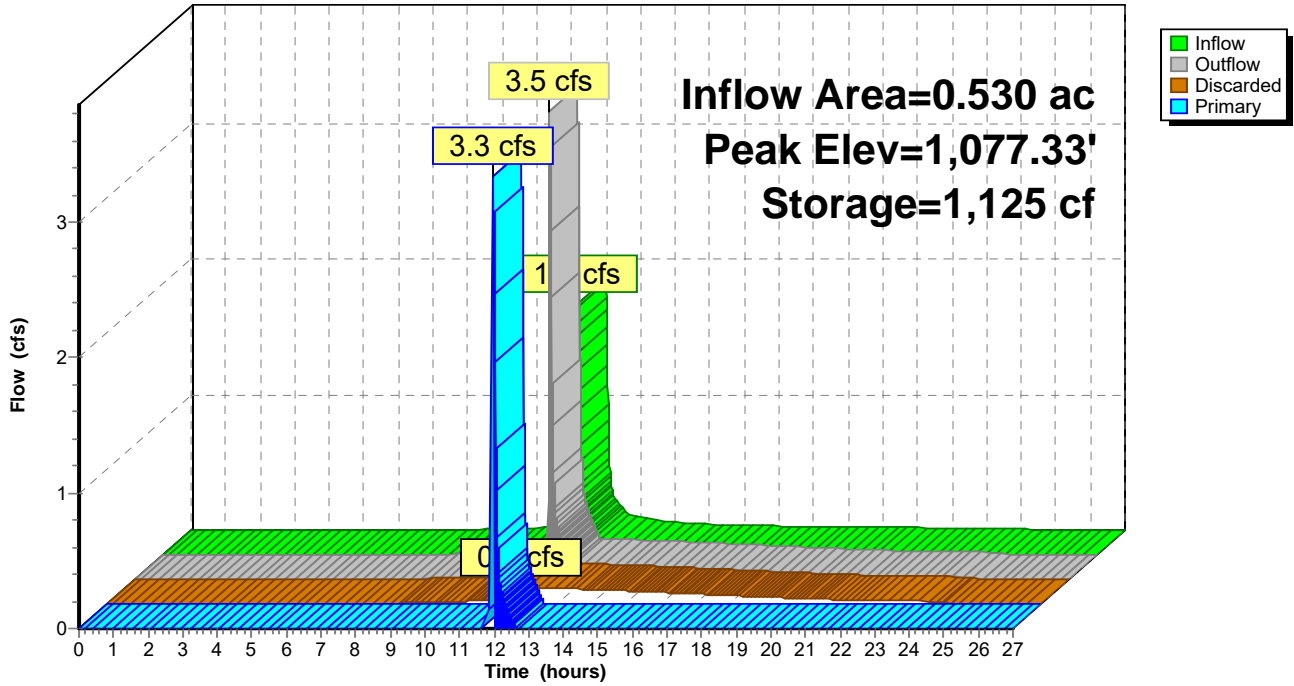
Device	Routing	Invert	Outlet Devices
#1	Primary	1,077.25'	65.0' long + 3.0 ' SideZ x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	1,075.25'	5.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.1 cfs @ 11.99 hrs HW=1,077.33' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=3.3 cfs @ 11.99 hrs HW=1,077.33' TW=1,074.35' (Dynamic Tailwater)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 3.3 cfs @ 0.66 fps)

Pond FDD3: FOREBAY

Hydrograph



Summary for Pond FDD3A: FOREBAY

Inflow Area = 0.560 ac, 46.43% Impervious, Inflow Depth = 1.77" for 10-yr event
 Inflow = 1.8 cfs @ 11.97 hrs, Volume= 0.083 af
 Outflow = 1.9 cfs @ 11.97 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.9 cfs @ 11.97 hrs, Volume= 0.076 af
 Routed to Pond DD3A : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,096.18' @ 11.97 hrs Surf.Area= 303 sf Storage= 301 cf

Plug-Flow detention time= 59.6 min calculated for 0.076 af (92% of inflow)
 Center-of-Mass det. time= 15.5 min (840.4 - 824.9)

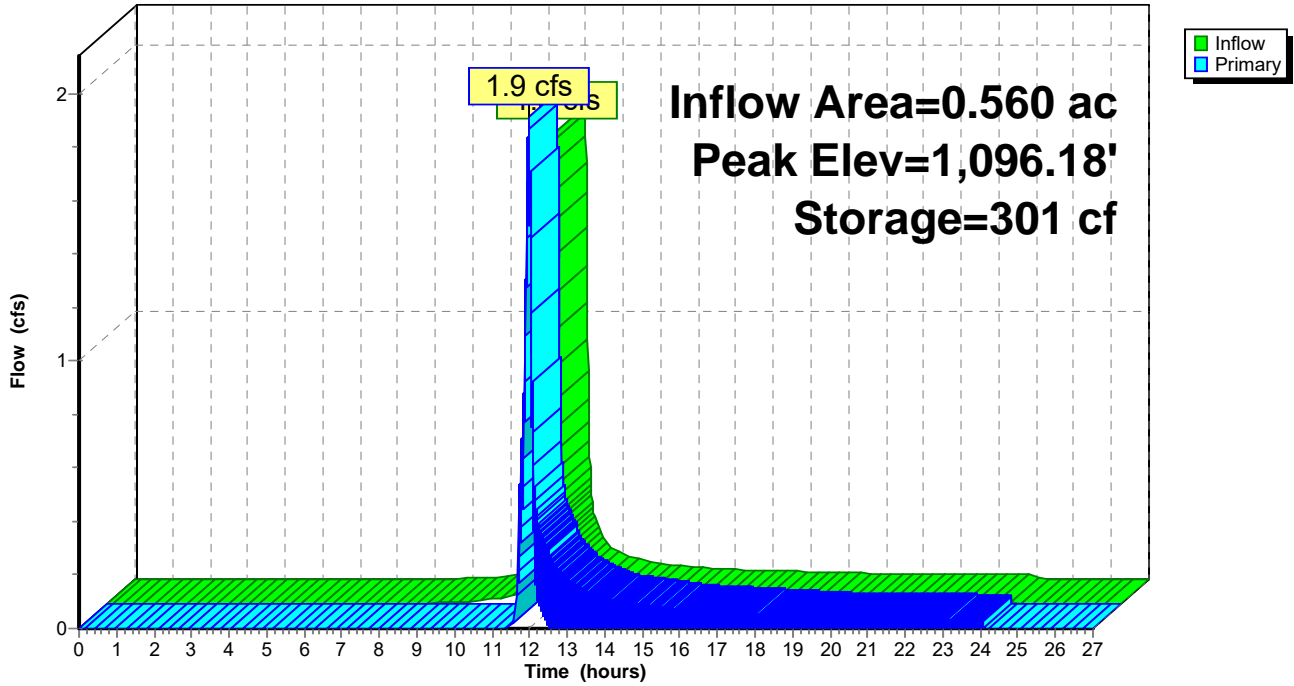
Volume	Invert	Avail.Storage	Storage Description
#1	1,094.00'	301 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,094.00	26	0	0
1,095.00	136	81	81
1,096.00	303	220	301

Device	Routing	Invert	Outlet Devices
#1	Primary	1,096.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.9 cfs @ 11.97 hrs HW=1,096.18' TW=1,095.18' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 1.9 cfs @ 1.07 fps)

Pond FDD3A: FOREBAY

Hydrograph



Summary for Pond FDD4: FOREBAY

Inflow Area = 0.780 ac, 69.23% Impervious, Inflow Depth = 2.57" for 10-yr event
 Inflow = 3.3 cfs @ 11.97 hrs, Volume= 0.167 af
 Outflow = 3.4 cfs @ 11.97 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.1 min
 Primary = 3.4 cfs @ 11.97 hrs, Volume= 0.146 af
 Routed to Pond DD4 : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,100.58' @ 12.03 hrs Surf.Area= 1,114 sf Storage= 921 cf

Plug-Flow detention time= 95.4 min calculated for 0.146 af (87% of inflow)
 Center-of-Mass det. time= 34.6 min (818.1 - 783.5)

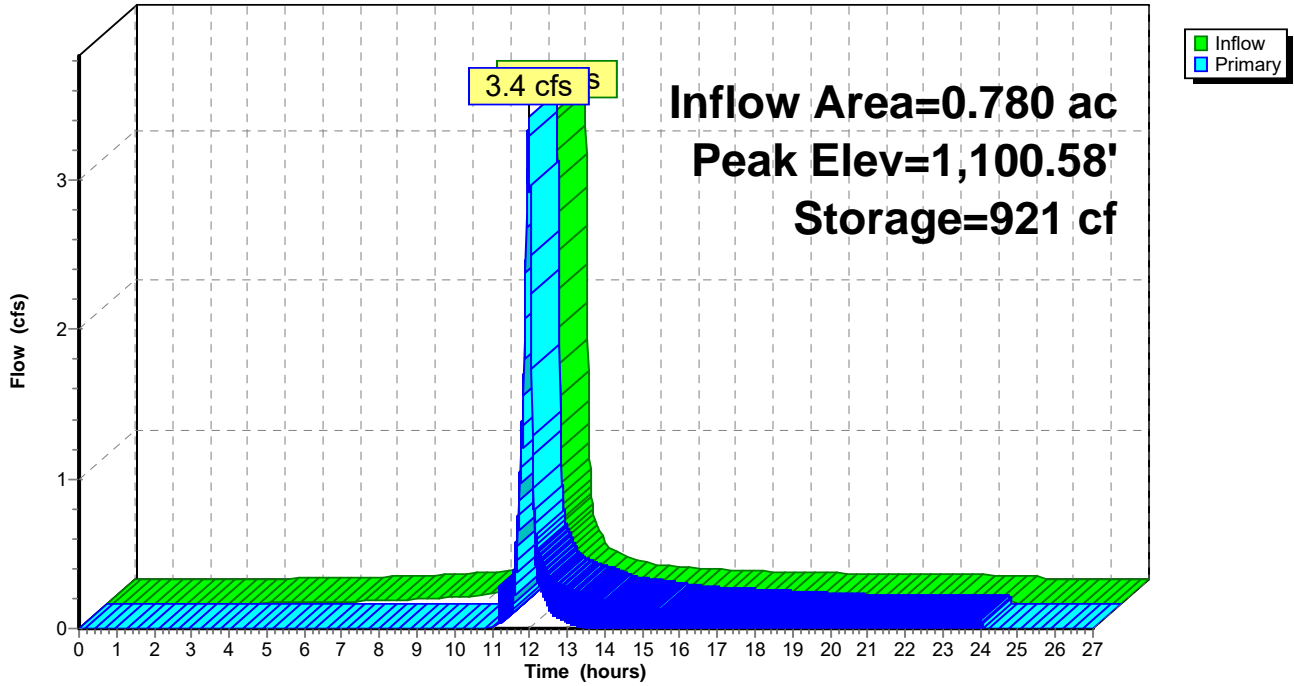
Volume	Invert	Avail.Storage	Storage Description
#1	1,098.00'	921 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,098.00	14	0	0
1,099.00	357	186	186
1,100.00	1,114	736	921

Device	Routing	Invert	Outlet Devices
#1	Primary	1,100.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.0 cfs @ 11.97 hrs HW=1,100.52' TW=1,100.52' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond FDD4: FOREBAY

Hydrograph



Summary for Pond FDD5: FOREBAY

Inflow Area = 2.390 ac, 50.63% Impervious, Inflow Depth = 1.63" for 10-yr event
 Inflow = 3.9 cfs @ 12.18 hrs, Volume= 0.324 af
 Outflow = 3.9 cfs @ 12.19 hrs, Volume= 0.324 af, Atten= 0%, Lag= 0.8 min
 Primary = 3.9 cfs @ 12.19 hrs, Volume= 0.324 af
 Routed to Pond DD5 : RAIN GARDEN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,149.16' @ 12.19 hrs Surf.Area= 1,613 sf Storage= 1,774 cf

Plug-Flow detention time= 22.1 min calculated for 0.324 af (100% of inflow)
 Center-of-Mass det. time= 22.1 min (870.1 - 848.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,147.00'	3,424 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,147.00	155	0	0
1,148.00	709	432	432
1,149.00	1,476	1,093	1,525
1,150.00	2,322	1,899	3,424

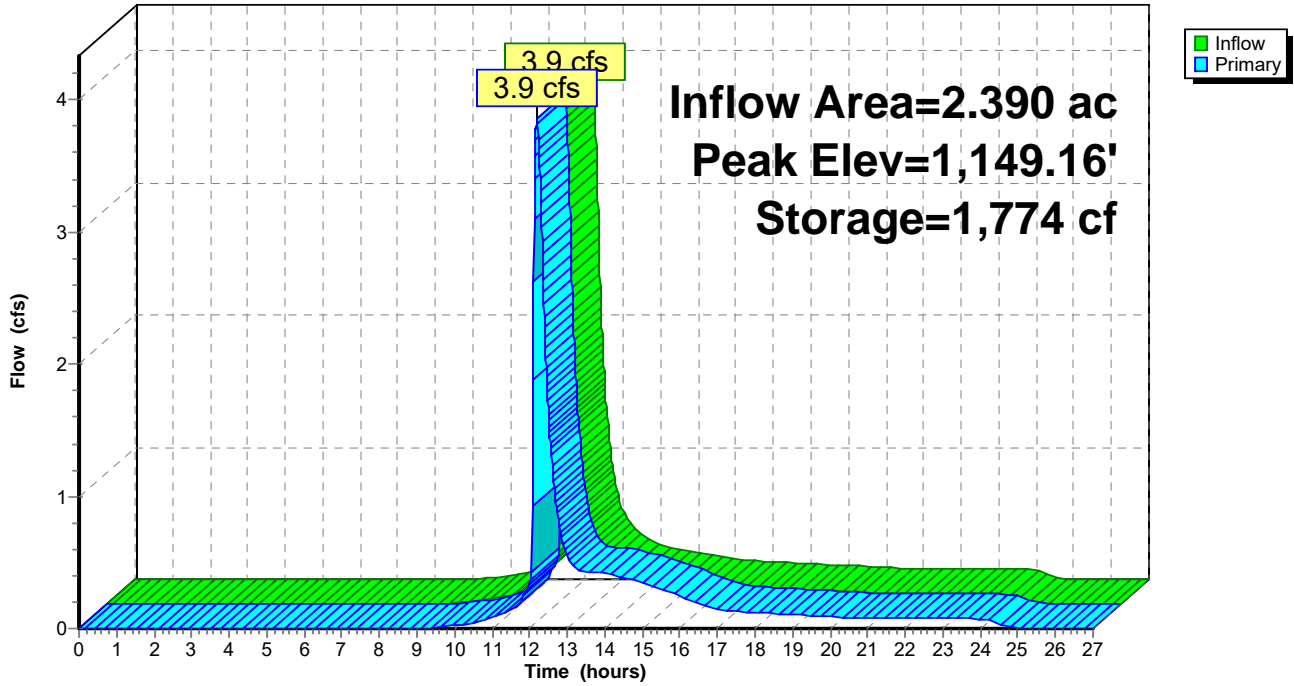
Device	Routing	Invert	Outlet Devices
#1	Primary	1,147.00'	12.0" Round Culvert L= 82.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,147.00' / 1,142.00' S= 0.0605 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	1,149.00'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,147.00'	3.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.9 cfs @ 12.19 hrs HW=1,149.16' TW=1,137.43' (Dynamic Tailwater)

- 1=Culvert (Passes 3.9 cfs of 4.9 cfs potential flow)
- 2=Orifice/Grate (Weir Controls 3.4 cfs @ 1.31 fps)
- 3=Orifice/Grate (Orifice Controls 0.5 cfs @ 6.84 fps)

Pond FDD5: FOREBAY

Hydrograph



Summary for Pond FDD6: FOREBAY

Inflow Area = 4.400 ac, 7.27% Impervious, Inflow Depth = 0.42" for 10-yr event
 Inflow = 1.7 cfs @ 12.08 hrs, Volume= 0.152 af
 Outflow = 2.1 cfs @ 12.17 hrs, Volume= 0.128 af, Atten= 0%, Lag= 5.4 min
 Primary = 2.1 cfs @ 12.17 hrs, Volume= 0.128 af
 Routed to Pond DD6 : INFILTRATION BASIN

Routing by Dyn-Stor-Ind method, Time Span= 0.00-27.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,147.11' @ 12.17 hrs Surf.Area= 795 sf Storage= 1,043 cf

Plug-Flow detention time= 110.7 min calculated for 0.128 af (84% of inflow)
 Center-of-Mass det. time= 37.8 min (964.1 - 926.3)

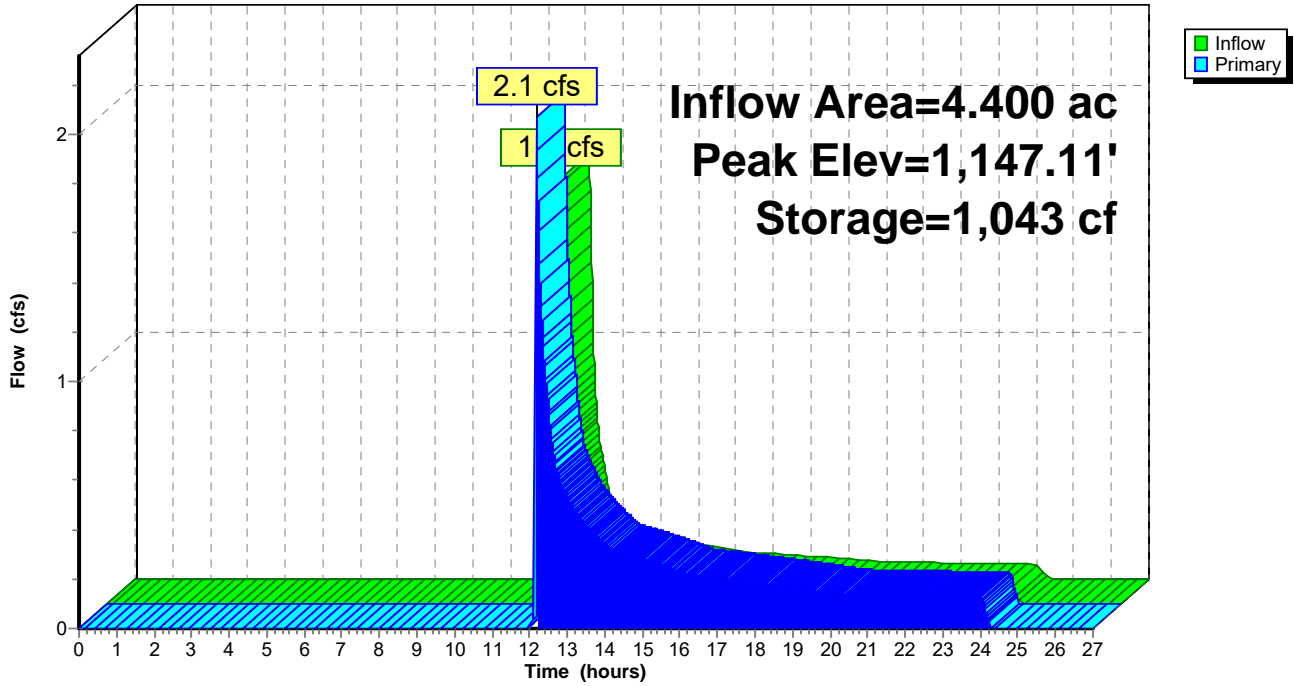
Volume	Invert	Avail.Storage	Storage Description
#1	1,145.00'	1,043 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,145.00	276	0	0
1,146.00	507	392	392
1,147.00	795	651	1,043

Device	Routing	Invert	Outlet Devices
#1	Primary	1,147.00'	22.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=2.0 cfs @ 12.17 hrs HW=1,147.11' TW=1,144.03' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 2.0 cfs @ 0.82 fps)

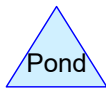
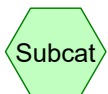
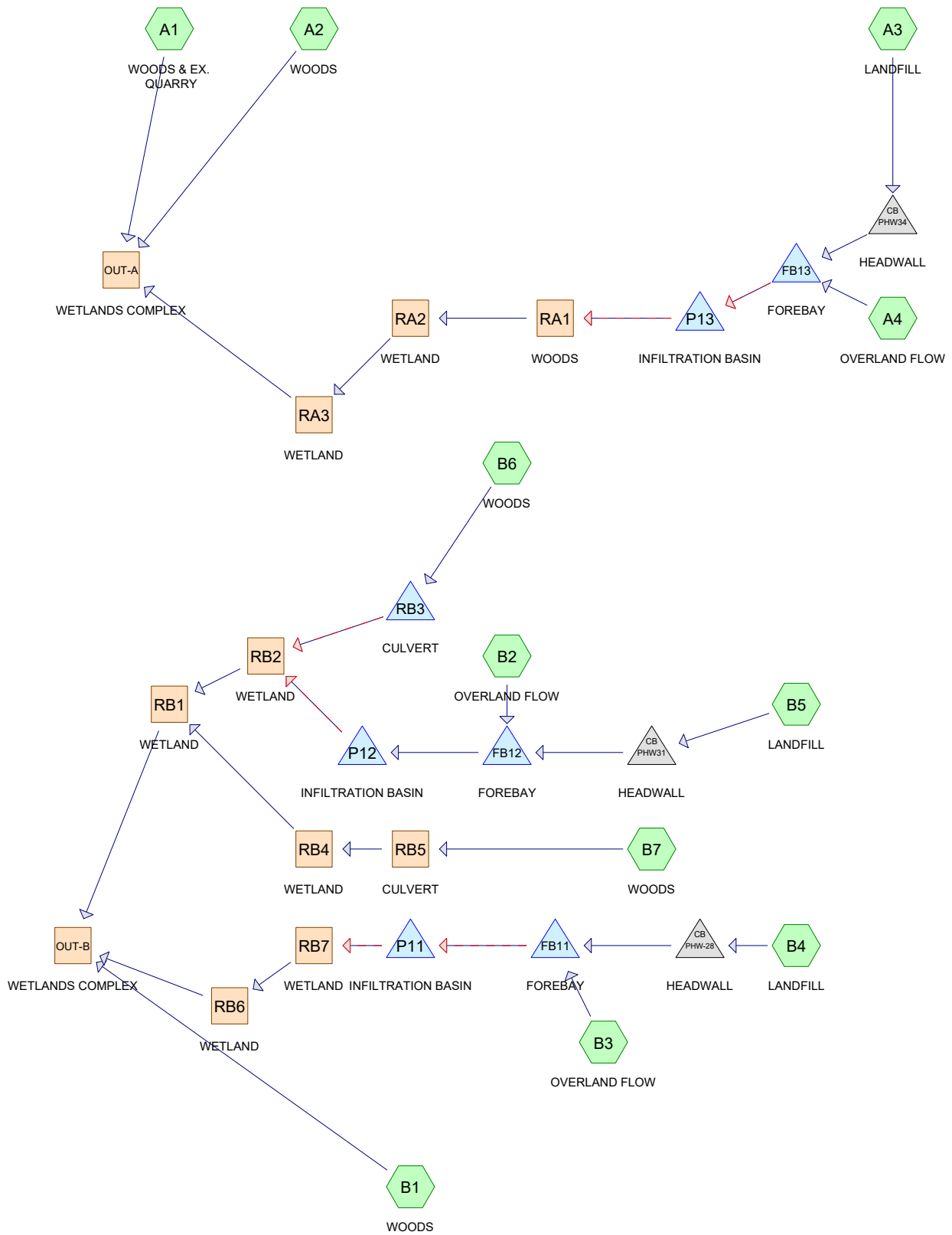
Pond FDD6: FOREBAY

Hydrograph



Appendix J.2.iv

2, 10, 25, and 50-Year, 24-Hour Storm Calculation Summaries



Routing Diagram for 1101-POSTDEV To OUTAB
 Prepared by CMA Engineers, Printed 5/3/2023
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1101-POSTDEV_To OUTAB

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Project Notes

Rainfall events imported from "1101 Pre-development.hcp"

1101-POSTDEV_To OUTAB

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	2.32	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.31	2
3	25-yr	Type II 24-hr		Default	24.00	1	4.06	2
4	50-yr	Type II 24-hr		Default	24.00	1	4.73	2

1101-POSTDEV_To OUTAB

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
12.560	86	Fallow, bare soil, HSG B (A1)
0.050	96	Gravel surface, HSG A (A2)
2.060	96	Gravel surface, HSG B (A1, A2, A3, B1, B4, B7)
3.150	96	Gravel surface, HSG C (A1, A2, A3, A4, B1, B4, B5, B6, B7)
39.570	74	Landfill, Grass (A3, B4, B5)
3.010	30	Meadow, non-grazed, HSG A (A2, B1)
4.240	58	Meadow, non-grazed, HSG B (A1, A2, A3, B1, B7)
16.430	71	Meadow, non-grazed, HSG C (A1, A2, A3, A4, B1, B2, B3, B4, B5, B6, B7)
0.980	78	Meadow, non-grazed, HSG D (B1)
0.020	98	Paved parking, HSG B (B7)
0.190	98	Paved parking, HSG C (B1, B7)
0.060	98	Unconnected roofs, HSG B (A1)
20.950	30	Woods, Good, HSG A (A2, B1)
81.070	55	Woods, Good, HSG B (A1, A2, B1, B7)
71.700	70	Woods, Good, HSG C (A1, A2, A4, B1, B6, B7)
2.230	77	Woods, Good, HSG D (A1, A2, B1)
258.270	63	TOTAL AREA

1101-POSTDEV_To OUTAB

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
24.010	HSG A	A2, B1
100.010	HSG B	A1, A2, A3, B1, B4, B7
91.470	HSG C	A1, A2, A3, A4, B1, B2, B3, B4, B5, B6, B7
3.210	HSG D	A1, A2, B1
39.570	Other	A3, B4, B5
258.270		TOTAL AREA

1101-POSTDEV_To OUTAB

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Type II 24-hr 2-yr Rainfall=2.32"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: WOODS & EX. QUARRY Runoff Area=89.280 ac 0.07% Impervious Runoff Depth>0.19"
Flow Length=5,225' Tc=85.7 min CN=63 Runoff=3.3 cfs 1.390 af

Subcatchment A2: WOODS Runoff Area=69.390 ac 0.00% Impervious Runoff Depth>0.21"
Flow Length=4,155' Tc=72.5 min CN=64 Runoff=3.4 cfs 1.211 af

Subcatchment A3: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=0.55"
Flow Length=1,605' Tc=15.8 min CN=75 Runoff=10.2 cfs 0.756 af

Subcatchment A4: OVERLAND FLOW Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=0.44"
Tc=6.0 min CN=72 Runoff=0.9 cfs 0.048 af

Subcatchment B1: WOODS Runoff Area=46.220 ac 0.06% Impervious Runoff Depth=0.01"
Flow Length=3,520' Tc=51.0 min CN=50 Runoff=0.1 cfs 0.038 af

Subcatchment B2: OVERLAND FLOW Runoff Area=1.690 ac 0.00% Impervious Runoff Depth=0.40"
Tc=6.0 min CN=71 Runoff=1.1 cfs 0.057 af

Subcatchment B3: OVERLAND FLOW Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=0.40"
Tc=6.0 min CN=71 Runoff=0.4 cfs 0.020 af

Subcatchment B4: LANDFILL Runoff Area=10.420 ac 0.00% Impervious Runoff Depth=0.55"
Flow Length=1,245' Tc=14.5 min CN=75 Runoff=6.7 cfs 0.476 af

Subcatchment B5: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=0.55"
Flow Length=1,320' Tc=14.9 min CN=75 Runoff=10.5 cfs 0.756 af

Subcatchment B6: WOODS Runoff Area=3.390 ac 0.00% Impervious Runoff Depth=0.44"
Flow Length=220' Tc=21.8 min CN=72 Runoff=1.2 cfs 0.124 af

Subcatchment B7: WOODS Runoff Area=2.890 ac 6.23% Impervious Runoff Depth=0.47"
Flow Length=390' Tc=21.2 min CN=73 Runoff=1.2 cfs 0.114 af

Reach OUT-A: WETLANDS COMPLEX Inflow=6.5 cfs 2.601 af
Outflow=6.5 cfs 2.601 af

Reach OUT-B: WETLANDS COMPLEX Inflow=1.0 cfs 0.274 af
Outflow=1.0 cfs 0.274 af

Reach RA1: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=495.0' S=0.0848 '/ Capacity=137.5 cfs Outflow=0.0 cfs 0.000 af

Reach RA2: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=735.0' S=0.0272 '/ Capacity=1,130.4 cfs Outflow=0.0 cfs 0.000 af

Reach RA3: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=625.0' S=0.0160 '/ Capacity=163.9 cfs Outflow=0.0 cfs 0.000 af

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Type II 24-hr 2-yr Rainfall=2.32"

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Reach RB1: WETLAND	Avg. Flow Depth=0.09' Max Vel=0.74 fps Inflow=1.5 cfs 0.237 af n=0.035 L=1,120.0' S=0.0129 '/' Capacity=184.3 cfs Outflow=1.0 cfs 0.236 af
Reach RB2: WETLAND	Avg. Flow Depth=0.08' Max Vel=1.30 fps Inflow=1.2 cfs 0.124 af n=0.035 L=1,055.0' S=0.0474 '/' Capacity=211.4 cfs Outflow=0.9 cfs 0.124 af
Reach RB4: WETLAND	Avg. Flow Depth=0.08' Max Vel=1.17 fps Inflow=1.2 cfs 0.114 af n=0.035 L=1,600.0' S=0.0358 '/' Capacity=142.7 cfs Outflow=0.7 cfs 0.114 af
Reach RB5: CULVERT	Avg. Flow Depth=0.26' Max Vel=5.86 fps Inflow=1.2 cfs 0.114 af 18.0" Round Pipe n=0.013 L=24.6' S=0.0305 '/' Capacity=18.3 cfs Outflow=1.2 cfs 0.114 af
Reach RB6: WETLAND	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=475.0' S=0.0168 '/' Capacity=210.2 cfs Outflow=0.0 cfs 0.000 af
Reach RB7: WETLAND	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=1,050.0' S=0.0533 '/' Capacity=391.6 cfs Outflow=0.0 cfs 0.000 af
Pond FB11: FOREBAY	Peak Elev=1,144.15' Storage=3,381 cf Inflow=6.9 cfs 0.496 af Discarded=0.2 cfs 0.276 af Primary=6.4 cfs 0.211 af Outflow=6.6 cfs 0.487 af
Pond FB12: FOREBAY	Peak Elev=1,138.82' Storage=13,512 cf Inflow=11.0 cfs 0.812 af Discarded=1.0 cfs 0.813 af Primary=0.0 cfs 0.000 af Outflow=1.0 cfs 0.813 af
Pond FB13: FOREBAY	Peak Elev=1,167.13' Storage=9,127 cf Inflow=10.5 cfs 0.804 af Discarded=0.6 cfs 0.623 af Primary=4.8 cfs 0.181 af Outflow=5.4 cfs 0.804 af
Pond P11: INFILTRATION BASIN	Peak Elev=1,141.67' Storage=4,061 cf Inflow=6.4 cfs 0.211 af Discarded=0.7 cfs 0.211 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.7 cfs 0.211 af
Pond P12: INFILTRATION BASIN	Peak Elev=1,134.00' Storage=0 cf Inflow=0.0 cfs 0.000 af Discarded=0.0 cfs 0.000 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.0 cfs 0.000 af
Pond P13: INFILTRATION BASIN	Peak Elev=1,163.04' Storage=832 cf Inflow=4.8 cfs 0.181 af Discarded=2.7 cfs 0.181 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=2.7 cfs 0.181 af
Pond PHW-28: HEADWALL	Peak Elev=1,176.14' Inflow=6.7 cfs 0.476 af 24.0" Round Culvert n=0.013 L=835.1' S=0.0371 '/' Outflow=6.7 cfs 0.476 af
Pond PHW31: HEADWALL	Peak Elev=1,182.50' Inflow=10.5 cfs 0.756 af 24.0" Round Culvert n=0.013 L=715.0' S=0.0587 '/' Outflow=10.5 cfs 0.756 af
Pond PHW34: HEADWALL	Peak Elev=1,197.47' Inflow=10.2 cfs 0.756 af 24.0" Round Culvert n=0.013 L=367.2' S=0.0790 '/' Outflow=10.2 cfs 0.756 af
Pond RB3: CULVERT	Peak Elev=1,133.78' Storage=0 cf Inflow=1.2 cfs 0.124 af Primary=1.2 cfs 0.124 af Secondary=0.0 cfs 0.000 af Outflow=1.2 cfs 0.124 af

Total Runoff Area = 258.270 ac Runoff Volume = 4.989 af Average Runoff Depth = 0.23"
99.90% Pervious = 258.000 ac 0.10% Impervious = 0.270 ac

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Type II 24-hr 10-yr Rainfall=3.31"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: WOODS & EX. QUARRY Runoff Area=89.280 ac 0.07% Impervious Runoff Depth>0.57"
Flow Length=5,225' Tc=85.7 min CN=63 Runoff=15.2 cfs 4.235 af

Subcatchment A2: WOODS Runoff Area=69.390 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=4,155' Tc=72.5 min CN=64 Runoff=14.6 cfs 3.535 af

Subcatchment A3: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=1.17"
Flow Length=1,605' Tc=15.8 min CN=75 Runoff=23.7 cfs 1.611 af

Subcatchment A4: OVERLAND FLOW Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=1.00"
Tc=6.0 min CN=72 Runoff=2.3 cfs 0.110 af

Subcatchment B1: WOODS Runoff Area=46.220 ac 0.06% Impervious Runoff Depth=0.15"
Flow Length=3,520' Tc=51.0 min CN=50 Runoff=1.1 cfs 0.584 af

Subcatchment B2: OVERLAND FLOW Runoff Area=1.690 ac 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=71 Runoff=2.8 cfs 0.133 af

Subcatchment B3: OVERLAND FLOW Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=71 Runoff=1.0 cfs 0.046 af

Subcatchment B4: LANDFILL Runoff Area=10.420 ac 0.00% Impervious Runoff Depth=1.17"
Flow Length=1,245' Tc=14.5 min CN=75 Runoff=15.7 cfs 1.015 af

Subcatchment B5: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=1.17"
Flow Length=1,320' Tc=14.9 min CN=75 Runoff=24.5 cfs 1.611 af

Subcatchment B6: WOODS Runoff Area=3.390 ac 0.00% Impervious Runoff Depth=1.00"
Flow Length=220' Tc=21.8 min CN=72 Runoff=3.3 cfs 0.282 af

Subcatchment B7: WOODS Runoff Area=2.890 ac 6.23% Impervious Runoff Depth=1.05"
Flow Length=390' Tc=21.2 min CN=73 Runoff=3.1 cfs 0.254 af

Reach OUT-A: WETLANDS COMPLEX Inflow=29.4 cfs 7.769 af
Outflow=29.4 cfs 7.769 af

Reach OUT-B: WETLANDS COMPLEX Inflow=4.0 cfs 1.140 af
Outflow=4.0 cfs 1.140 af

Reach RA1: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=495.0' S=0.0848 '/' Capacity=137.5 cfs Outflow=0.0 cfs 0.000 af

Reach RA2: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=735.0' S=0.0272 '/' Capacity=1,130.4 cfs Outflow=0.0 cfs 0.000 af

Reach RA3: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=625.0' S=0.0160 '/' Capacity=163.9 cfs Outflow=0.0 cfs 0.000 af

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Type II 24-hr 10-yr Rainfall=3.31"

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Reach RB1: WETLAND	Avg. Flow Depth=0.16' Max Vel=1.08 fps Inflow=4.8 cfs 0.535 af n=0.035 L=1,120.0' S=0.0129 '/ Capacity=184.3 cfs Outflow=3.4 cfs 0.533 af
Reach RB2: WETLAND	Avg. Flow Depth=0.13' Max Vel=1.85 fps Inflow=3.3 cfs 0.282 af n=0.035 L=1,055.0' S=0.0474 '/ Capacity=211.4 cfs Outflow=2.7 cfs 0.282 af
Reach RB4: WETLAND	Avg. Flow Depth=0.14' Max Vel=1.67 fps Inflow=3.1 cfs 0.254 af n=0.035 L=1,600.0' S=0.0358 '/ Capacity=142.7 cfs Outflow=2.1 cfs 0.253 af
Reach RB5: CULVERT	Avg. Flow Depth=0.42' Max Vel=7.71 fps Inflow=3.1 cfs 0.254 af 18.0" Round Pipe n=0.013 L=24.6' S=0.0305 '/ Capacity=18.3 cfs Outflow=3.1 cfs 0.254 af
Reach RB6: WETLAND	Avg. Flow Depth=0.05' Max Vel=0.57 fps Inflow=0.4 cfs 0.022 af n=0.035 L=475.0' S=0.0168 '/ Capacity=210.2 cfs Outflow=0.3 cfs 0.022 af
Reach RB7: WETLAND	Avg. Flow Depth=0.08' Max Vel=1.40 fps Inflow=0.5 cfs 0.022 af n=0.035 L=1,050.0' S=0.0533 '/ Capacity=391.6 cfs Outflow=0.4 cfs 0.022 af
Pond FB11: FOREBAY	Peak Elev=1,144.27' Storage=3,640 cf Inflow=16.1 cfs 1.062 af Discarded=0.3 cfs 0.300 af Primary=15.8 cfs 0.738 af Outflow=16.1 cfs 1.037 af
Pond FB12: FOREBAY	Peak Elev=1,139.22' Storage=16,929 cf Inflow=25.8 cfs 1.744 af Discarded=1.0 cfs 1.135 af Primary=21.4 cfs 0.610 af Outflow=22.4 cfs 1.745 af
Pond FB13: FOREBAY	Peak Elev=1,167.35' Storage=10,331 cf Inflow=24.6 cfs 1.721 af Discarded=0.6 cfs 0.745 af Primary=23.8 cfs 0.931 af Outflow=24.4 cfs 1.676 af
Pond P11: INFILTRATION BASIN	Peak Elev=1,143.44' Storage=17,225 cf Inflow=15.8 cfs 0.738 af Discarded=1.0 cfs 0.716 af Primary=0.5 cfs 0.022 af Secondary=0.0 cfs 0.000 af Outflow=1.5 cfs 0.738 af
Pond P12: INFILTRATION BASIN	Peak Elev=1,134.14' Storage=7,813 cf Inflow=21.4 cfs 0.610 af Discarded=6.4 cfs 0.610 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=6.4 cfs 0.610 af
Pond P13: INFILTRATION BASIN	Peak Elev=1,163.80' Storage=19,520 cf Inflow=23.8 cfs 0.931 af Discarded=2.9 cfs 0.931 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=2.9 cfs 0.931 af
Pond PHW-28: HEADWALL	Peak Elev=1,177.07' Inflow=15.7 cfs 1.015 af 24.0" Round Culvert n=0.013 L=835.1' S=0.0371 '/ Outflow=15.7 cfs 1.015 af
Pond PHW31: HEADWALL	Peak Elev=1,184.62' Inflow=24.5 cfs 1.611 af 24.0" Round Culvert n=0.013 L=715.0' S=0.0587 '/ Outflow=24.5 cfs 1.611 af
Pond PHW34: HEADWALL	Peak Elev=1,199.46' Inflow=23.7 cfs 1.611 af 24.0" Round Culvert n=0.013 L=367.2' S=0.0790 '/ Outflow=23.7 cfs 1.611 af
Pond RB3: CULVERT	Peak Elev=1,134.20' Storage=1 cf Inflow=3.3 cfs 0.282 af Primary=3.3 cfs 0.282 af Secondary=0.0 cfs 0.000 af Outflow=3.3 cfs 0.282 af

Total Runoff Area = 258.270 ac Runoff Volume = 13.417 af Average Runoff Depth = 0.62"
99.90% Pervious = 258.000 ac 0.10% Impervious = 0.270 ac

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Type II 24-hr 25-yr Rainfall=4.06"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: WOODS & EX. QUARRY Runoff Area=89.280 ac 0.07% Impervious Runoff Depth>0.95"
 Flow Length=5,225' Tc=85.7 min CN=63 Runoff=28.8 cfs 7.070 af

Subcatchment A2: WOODS Runoff Area=69.390 ac 0.00% Impervious Runoff Depth>1.01"
 Flow Length=4,155' Tc=72.5 min CN=64 Runoff=27.1 cfs 5.819 af

Subcatchment A3: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=1.71"
 Flow Length=1,605' Tc=15.8 min CN=75 Runoff=35.4 cfs 2.359 af

Subcatchment A4: OVERLAND FLOW Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=1.50"
 Tc=6.0 min CN=72 Runoff=3.5 cfs 0.165 af

Subcatchment B1: WOODS Runoff Area=46.220 ac 0.06% Impervious Runoff Depth=0.35"
 Flow Length=3,520' Tc=51.0 min CN=50 Runoff=4.5 cfs 1.355 af

Subcatchment B2: OVERLAND FLOW Runoff Area=1.690 ac 0.00% Impervious Runoff Depth=1.44"
 Tc=6.0 min CN=71 Runoff=4.3 cfs 0.202 af

Subcatchment B3: OVERLAND FLOW Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=1.44"
 Tc=6.0 min CN=71 Runoff=1.5 cfs 0.071 af

Subcatchment B4: LANDFILL Runoff Area=10.420 ac 0.00% Impervious Runoff Depth=1.71"
 Flow Length=1,245' Tc=14.5 min CN=75 Runoff=23.4 cfs 1.486 af

Subcatchment B5: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=1.71"
 Flow Length=1,320' Tc=14.9 min CN=75 Runoff=36.6 cfs 2.359 af

Subcatchment B6: WOODS Runoff Area=3.390 ac 0.00% Impervious Runoff Depth=1.50"
 Flow Length=220' Tc=21.8 min CN=72 Runoff=5.2 cfs 0.424 af

Subcatchment B7: WOODS Runoff Area=2.890 ac 6.23% Impervious Runoff Depth=1.57"
 Flow Length=390' Tc=21.2 min CN=73 Runoff=4.8 cfs 0.378 af

Reach OUT-A: WETLANDS COMPLEX Inflow=55.0 cfs 12.889 af
 Outflow=55.0 cfs 12.889 af

Reach OUT-B: WETLANDS COMPLEX Inflow=16.3 cfs 2.511 af
 Outflow=16.3 cfs 2.511 af

Reach RA1: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.100 L=495.0' S=0.0848 '/ Capacity=137.5 cfs Outflow=0.0 cfs 0.000 af

Reach RA2: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.035 L=735.0' S=0.0272 '/ Capacity=1,130.4 cfs Outflow=0.0 cfs 0.000 af

Reach RA3: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.035 L=625.0' S=0.0160 '/ Capacity=163.9 cfs Outflow=0.0 cfs 0.000 af

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Type II 24-hr 25-yr Rainfall=4.06"

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Reach RB1: WETLAND	Avg. Flow Depth=0.21' Max Vel=1.29 fps Inflow=7.9 cfs 0.802 af n=0.035 L=1,120.0' S=0.0129 '/ Capacity=184.3 cfs Outflow=6.0 cfs 0.800 af
Reach RB2: WETLAND	Avg. Flow Depth=0.17' Max Vel=2.15 fps Inflow=5.2 cfs 0.424 af n=0.035 L=1,055.0' S=0.0474 '/ Capacity=211.4 cfs Outflow=4.5 cfs 0.424 af
Reach RB4: WETLAND	Avg. Flow Depth=0.18' Max Vel=1.95 fps Inflow=4.8 cfs 0.378 af n=0.035 L=1,600.0' S=0.0358 '/ Capacity=142.7 cfs Outflow=3.5 cfs 0.378 af
Reach RB5: CULVERT	Avg. Flow Depth=0.52' Max Vel=8.71 fps Inflow=4.8 cfs 0.378 af 18.0" Round Pipe n=0.013 L=24.6' S=0.0305 '/ Capacity=18.3 cfs Outflow=4.8 cfs 0.378 af
Reach RB6: WETLAND	Avg. Flow Depth=0.21' Max Vel=1.50 fps Inflow=8.9 cfs 0.356 af n=0.035 L=475.0' S=0.0168 '/ Capacity=210.2 cfs Outflow=7.4 cfs 0.356 af
Reach RB7: WETLAND	Avg. Flow Depth=0.35' Max Vel=3.69 fps Inflow=11.5 cfs 0.356 af n=0.035 L=1,050.0' S=0.0533 '/ Capacity=391.6 cfs Outflow=8.9 cfs 0.356 af
Pond FB11: FOREBAY	Peak Elev=1,144.35' Storage=3,811 cf Inflow=24.1 cfs 1.557 af Discarded=0.3 cfs 0.311 af Primary=23.8 cfs 1.222 af Outflow=24.0 cfs 1.532 af
Pond FB12: FOREBAY	Peak Elev=1,139.31' Storage=17,747 cf Inflow=38.6 cfs 2.562 af Discarded=1.0 cfs 1.267 af Primary=37.2 cfs 1.262 af Outflow=38.2 cfs 2.529 af
Pond FB13: FOREBAY	Peak Elev=1,167.45' Storage=10,884 cf Inflow=36.8 cfs 2.525 af Discarded=0.6 cfs 0.783 af Primary=36.0 cfs 1.669 af Outflow=36.7 cfs 2.452 af
Pond P11: INFILTRATION BASIN	Peak Elev=1,143.71' Storage=19,518 cf Inflow=23.8 cfs 1.222 af Discarded=1.0 cfs 0.866 af Primary=9.1 cfs 0.313 af Secondary=2.4 cfs 0.042 af Outflow=12.5 cfs 1.222 af
Pond P12: INFILTRATION BASIN	Peak Elev=1,134.43' Storage=24,220 cf Inflow=37.2 cfs 1.262 af Discarded=6.5 cfs 1.262 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=6.5 cfs 1.262 af
Pond P13: INFILTRATION BASIN	Peak Elev=1,164.56' Storage=39,238 cf Inflow=36.0 cfs 1.669 af Discarded=3.1 cfs 1.669 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=3.1 cfs 1.669 af
Pond PHW-28: HEADWALL	Peak Elev=1,178.38' Inflow=23.4 cfs 1.486 af 24.0" Round Culvert n=0.013 L=835.1' S=0.0371 '/ Outflow=23.4 cfs 1.486 af
Pond PHW31: HEADWALL	Peak Elev=1,187.84' Inflow=36.6 cfs 2.359 af 24.0" Round Culvert n=0.013 L=715.0' S=0.0587 '/ Outflow=36.6 cfs 2.359 af
Pond PHW34: HEADWALL	Peak Elev=1,202.49' Inflow=35.4 cfs 2.359 af 24.0" Round Culvert n=0.013 L=367.2' S=0.0790 '/ Outflow=35.4 cfs 2.359 af
Pond RB3: CULVERT	Peak Elev=1,134.65' Storage=1 cf Inflow=5.2 cfs 0.424 af Primary=5.2 cfs 0.424 af Secondary=0.0 cfs 0.000 af Outflow=5.2 cfs 0.424 af

Total Runoff Area = 258.270 ac Runoff Volume = 21.690 af Average Runoff Depth = 1.01"
99.90% Pervious = 258.000 ac 0.10% Impervious = 0.270 ac

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Type II 24-hr 50-yr Rainfall=4.73"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: WOODS & EX. QUARRY Runoff Area=89.280 ac 0.07% Impervious Runoff Depth>1.34"
 Flow Length=5,225' Tc=85.7 min CN=63 Runoff=43.3 cfs 9.972 af

Subcatchment A2: WOODS Runoff Area=69.390 ac 0.00% Impervious Runoff Depth>1.41"
 Flow Length=4,155' Tc=72.5 min CN=64 Runoff=40.4 cfs 8.141 af

Subcatchment A3: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=2.23"
 Flow Length=1,605' Tc=15.8 min CN=75 Runoff=46.5 cfs 3.077 af

Subcatchment A4: OVERLAND FLOW Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=1.99"
 Tc=6.0 min CN=72 Runoff=4.7 cfs 0.219 af

Subcatchment B1: WOODS Runoff Area=46.220 ac 0.06% Impervious Runoff Depth=0.59"
 Flow Length=3,520' Tc=51.0 min CN=50 Runoff=9.7 cfs 2.255 af

Subcatchment B2: OVERLAND FLOW Runoff Area=1.690 ac 0.00% Impervious Runoff Depth=1.91"
 Tc=6.0 min CN=71 Runoff=5.8 cfs 0.270 af

Subcatchment B3: OVERLAND FLOW Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=1.91"
 Tc=6.0 min CN=71 Runoff=2.0 cfs 0.094 af

Subcatchment B4: LANDFILL Runoff Area=10.420 ac 0.00% Impervious Runoff Depth=2.23"
 Flow Length=1,245' Tc=14.5 min CN=75 Runoff=30.6 cfs 1.938 af

Subcatchment B5: LANDFILL Runoff Area=16.540 ac 0.00% Impervious Runoff Depth=2.23"
 Flow Length=1,320' Tc=14.9 min CN=75 Runoff=48.0 cfs 3.077 af

Subcatchment B6: WOODS Runoff Area=3.390 ac 0.00% Impervious Runoff Depth=1.99"
 Flow Length=220' Tc=21.8 min CN=72 Runoff=7.0 cfs 0.563 af

Subcatchment B7: WOODS Runoff Area=2.890 ac 6.23% Impervious Runoff Depth=2.07"
 Flow Length=390' Tc=21.2 min CN=73 Runoff=6.4 cfs 0.499 af

Reach OUT-A: WETLANDS COMPLEX Inflow=82.2 cfs 18.114 af
 Outflow=82.2 cfs 18.114 af

Reach OUT-B: WETLANDS COMPLEX Inflow=29.3 cfs 4.016 af
 Outflow=29.3 cfs 4.016 af

Reach RA1: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.100 L=495.0' S=0.0848 '/ Capacity=137.5 cfs Outflow=0.0 cfs 0.000 af

Reach RA2: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.035 L=735.0' S=0.0272 '/ Capacity=1,130.4 cfs Outflow=0.0 cfs 0.000 af

Reach RA3: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.035 L=625.0' S=0.0160 '/ Capacity=163.9 cfs Outflow=0.0 cfs 0.000 af

1101-POSTDEV_To OUTAB

Type II 24-hr 50-yr Rainfall=4.73"

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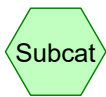
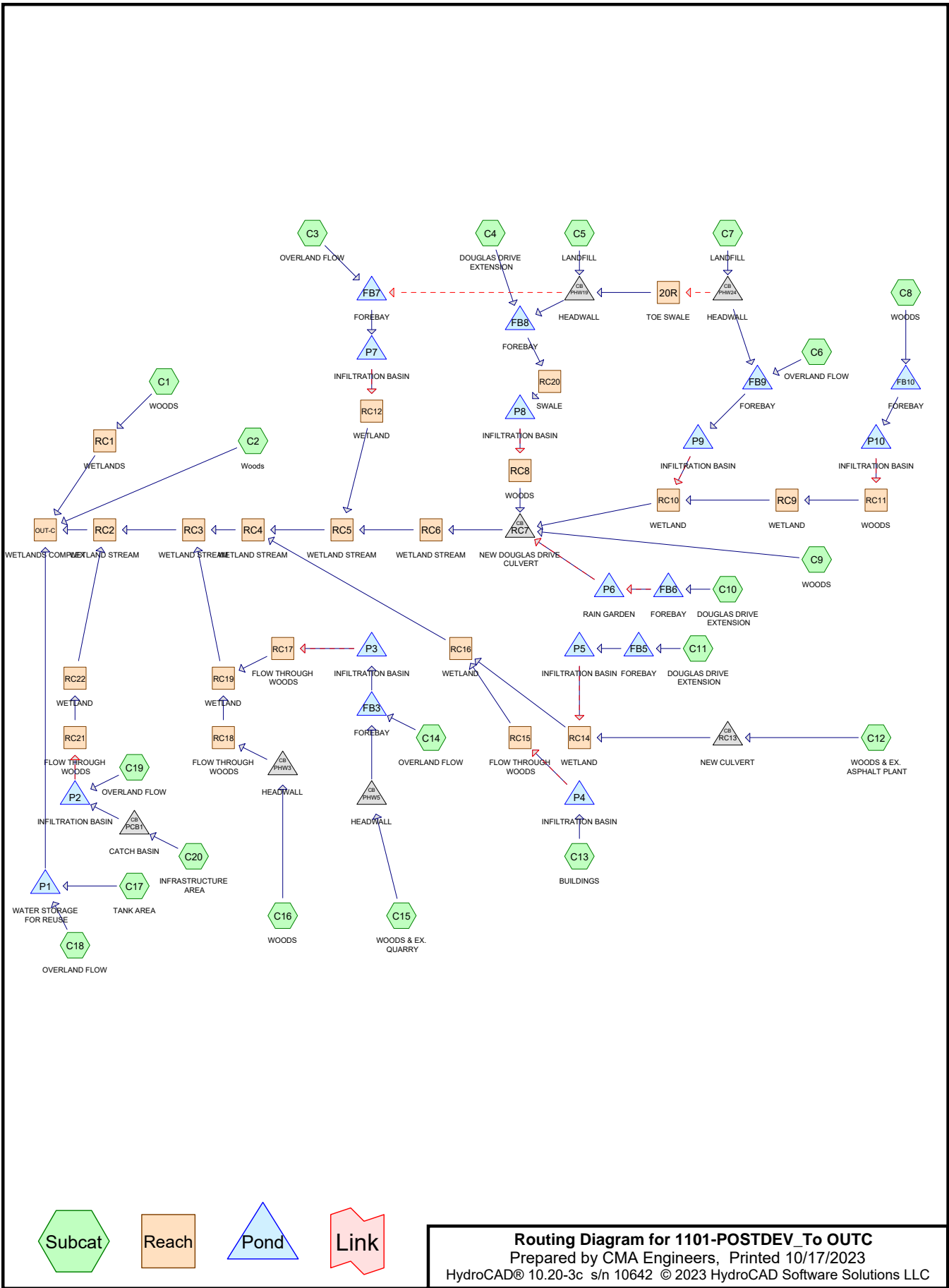
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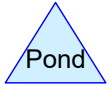
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Reach RB1: WETLAND	Avg. Flow Depth=0.24' Max Vel=1.44 fps Inflow=11.1 cfs 1.061 af n=0.035 L=1,120.0' S=0.0129 '/ Capacity=184.3 cfs Outflow=8.7 cfs 1.058 af
Reach RB2: WETLAND	Avg. Flow Depth=0.20' Max Vel=2.39 fps Inflow=6.9 cfs 0.563 af n=0.035 L=1,055.0' S=0.0474 '/ Capacity=211.4 cfs Outflow=6.2 cfs 0.563 af
Reach RB4: WETLAND	Avg. Flow Depth=0.21' Max Vel=2.17 fps Inflow=6.4 cfs 0.499 af n=0.035 L=1,600.0' S=0.0358 '/ Capacity=142.7 cfs Outflow=4.9 cfs 0.498 af
Reach RB5: CULVERT	Avg. Flow Depth=0.61' Max Vel=9.43 fps Inflow=6.4 cfs 0.499 af 18.0" Round Pipe n=0.013 L=24.6' S=0.0305 '/ Capacity=18.3 cfs Outflow=6.4 cfs 0.499 af
Reach RB6: WETLAND	Avg. Flow Depth=0.32' Max Vel=1.95 fps Inflow=20.2 cfs 0.703 af n=0.035 L=475.0' S=0.0168 '/ Capacity=210.2 cfs Outflow=17.2 cfs 0.703 af
Reach RB7: WETLAND	Avg. Flow Depth=0.51' Max Vel=4.74 fps Inflow=24.4 cfs 0.703 af n=0.035 L=1,050.0' S=0.0533 '/ Capacity=391.6 cfs Outflow=20.2 cfs 0.703 af
Pond FB11: FOREBAY	Peak Elev=1,144.41' Storage=3,954 cf Inflow=31.6 cfs 2.032 af Discarded=0.3 cfs 0.322 af Primary=31.3 cfs 1.686 af Outflow=31.6 cfs 2.007 af
Pond FB12: FOREBAY	Peak Elev=1,139.37' Storage=18,287 cf Inflow=50.7 cfs 3.346 af Discarded=1.0 cfs 1.324 af Primary=49.4 cfs 1.937 af Outflow=50.5 cfs 3.261 af
Pond FB13: FOREBAY	Peak Elev=1,167.53' Storage=11,155 cf Inflow=48.4 cfs 3.296 af Discarded=0.6 cfs 0.808 af Primary=47.8 cfs 2.413 af Outflow=48.4 cfs 3.222 af
Pond P11: INFILTRATION BASIN	Peak Elev=1,143.89' Storage=21,067 cf Inflow=31.3 cfs 1.686 af Discarded=1.0 cfs 0.983 af Primary=17.8 cfs 0.583 af Secondary=6.7 cfs 0.120 af Outflow=25.5 cfs 1.686 af
Pond P12: INFILTRATION BASIN	Peak Elev=1,134.75' Storage=42,062 cf Inflow=49.4 cfs 1.937 af Discarded=6.6 cfs 1.937 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=6.6 cfs 1.937 af
Pond P13: INFILTRATION BASIN	Peak Elev=1,165.30' Storage=59,584 cf Inflow=47.8 cfs 2.413 af Discarded=3.3 cfs 2.414 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=3.3 cfs 2.414 af
Pond PHW-28: HEADWALL	Peak Elev=1,180.10' Inflow=30.6 cfs 1.938 af 24.0" Round Culvert n=0.013 L=835.1' S=0.0371 '/ Outflow=30.6 cfs 1.938 af
Pond PHW31: HEADWALL	Peak Elev=1,192.07' Inflow=48.0 cfs 3.077 af 24.0" Round Culvert n=0.013 L=715.0' S=0.0587 '/ Outflow=48.0 cfs 3.077 af
Pond PHW34: HEADWALL	Peak Elev=1,206.46' Inflow=46.5 cfs 3.077 af 24.0" Round Culvert n=0.013 L=367.2' S=0.0790 '/ Outflow=46.5 cfs 3.077 af
Pond RB3: CULVERT	Peak Elev=1,135.25' Storage=48 cf Inflow=7.0 cfs 0.563 af Primary=6.9 cfs 0.563 af Secondary=0.0 cfs 0.000 af Outflow=6.9 cfs 0.563 af

Total Runoff Area = 258.270 ac Runoff Volume = 30.105 af Average Runoff Depth = 1.40"
99.90% Pervious = 258.000 ac 0.10% Impervious = 0.270 ac



Reach



Routing Diagram for 1101-POSTDEV_To OUTC
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Project Notes

Rainfall events imported from "1101 Pre-development.hcp"

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	2.32	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.31	2
3	25-yr	Type II 24-hr		Default	24.00	1	4.06	2
4	50-yr	Type II 24-hr		Default	24.00	1	4.73	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.400	77	Fallow, bare soil, HSG A (C15)
9.740	86	Fallow, bare soil, HSG B (C12, C15)
0.640	96	Gravel surface, HSG A (C11, C12, C15)
2.170	96	Gravel surface, HSG B (C10, C11, C12, C15, C2, C7)
3.150	96	Gravel surface, HSG C (C10, C11, C14, C15, C16, C2, C20, C4, C5, C7)
0.080	96	Gravel surface, HSG D (C10, C5)
30.460	74	Landfill, Grass (C5, C7)
1.970	30	Meadow, non-grazed, HSG A (C1, C11, C12, C13, C15, C2, C3)
8.770	58	Meadow, non-grazed, HSG B (C11, C12, C15, C16, C2, C7, C8, C9)
25.570	71	Meadow, non-grazed, HSG C (C1, C10, C11, C13, C14, C15, C16, C19, C2, C20, C3, C4, C5, C6, C7, C8, C9)
2.520	78	Meadow, non-grazed, HSG D (C1, C10, C2, C4, C5, C9)
0.600	98	Paved parking, HSG A (C11, C13, C15)
0.270	98	Paved parking, HSG B (C10, C11, C15, C2)
5.930	98	Paved parking, HSG C (C10, C11, C13, C15, C17, C2, C20, C4)
0.020	98	Paved parking, HSG D (C10)
0.010	98	Roofs, HSG A (C11)
0.610	98	Roofs, HSG C (C11, C13, C20)
0.020	98	Unconnected roofs, HSG A (C12)
0.090	98	Unconnected roofs, HSG B (C12)
0.270	98	Water Surface, HSG C (C18)
10.550	30	Woods, Good, HSG A (C1, C12, C2)
53.240	55	Woods, Good, HSG B (C10, C12, C15, C16, C2, C8, C9)
102.380	70	Woods, Good, HSG C (C1, C12, C2, C3, C8, C9)
10.280	77	Woods, Good, HSG D (C1, C12, C2, C9)
270.740	68	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
15.190	HSG A	C1, C11, C12, C13, C15, C2, C3
74.280	HSG B	C10, C11, C12, C15, C16, C2, C7, C8, C9
137.910	HSG C	C1, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C2, C20, C3, C4, C5, C6, C7, C8, C9
12.900	HSG D	C1, C10, C12, C2, C4, C5, C9
30.460	Other	C5, C7
270.740		TOTAL AREA

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Type II 24-hr 2-yr Rainfall=2.32"

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: WOODS	Runoff Area=39.170 ac 0.00% Impervious Runoff Depth=0.21" Flow Length=2,195' Tc=40.4 min CN=64 Runoff=2.7 cfs 0.683 af
Subcatchment C10: DOUGLAS DRIVE	Runoff Area=2.010 ac 31.34% Impervious Runoff Depth=0.67" Flow Length=210' Tc=17.3 min CN=78 Runoff=1.5 cfs 0.113 af
Subcatchment C11: DOUGLAS DRIVE	Runoff Area=1.850 ac 73.51% Impervious Runoff Depth=1.37" Tc=6.0 min CN=90 Runoff=4.5 cfs 0.211 af
Subcatchment C12: WOODS & EX.	Runoff Area=54.070 ac 0.20% Impervious Runoff Depth=0.28" Flow Length=3,290' Tc=43.9 min CN=67 Runoff=6.0 cfs 1.283 af
Subcatchment C13: BUILDINGS	Runoff Area=0.970 ac 40.21% Impervious Runoff Depth=0.77" Tc=6.0 min CN=80 Runoff=1.3 cfs 0.062 af
Subcatchment C14: OVERLAND FLOW	Runoff Area=0.930 ac 0.00% Impervious Runoff Depth=0.44" Tc=6.0 min CN=72 Runoff=0.7 cfs 0.034 af
Subcatchment C15: WOODS & EX. QUARRY	Runoff Area=15.910 ac 2.77% Impervious Runoff Depth=0.28" Flow Length=1,520' Tc=37.9 min CN=67 Runoff=1.9 cfs 0.377 af
Subcatchment C16: WOODS	Runoff Area=6.130 ac 0.00% Impervious Runoff Depth=0.07" Flow Length=950' Tc=39.0 min CN=56 Runoff=0.0 cfs 0.033 af
Subcatchment C17: TANK AREA	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth=2.09" Tc=6.0 min CN=98 Runoff=0.7 cfs 0.038 af
Subcatchment C18: OVERLAND FLOW	Runoff Area=0.270 ac 100.00% Impervious Runoff Depth=2.09" Tc=6.0 min CN=98 Runoff=0.9 cfs 0.047 af
Subcatchment C19: OVERLAND FLOW	Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.40" Tc=6.0 min CN=71 Runoff=0.7 cfs 0.035 af
Subcatchment C2: Woods	Runoff Area=61.700 ac 0.26% Impervious Runoff Depth=0.28" Flow Length=3,605' Tc=29.2 min CN=67 Runoff=9.0 cfs 1.464 af
Subcatchment C20: INFRASTRUCTURE	Runoff Area=5.960 ac 66.44% Impervious Runoff Depth=1.30" Tc=6.0 min CN=89 Runoff=13.7 cfs 0.645 af
Subcatchment C3: OVERLAND FLOW	Runoff Area=0.780 ac 0.00% Impervious Runoff Depth=0.26" Flow Length=100' Slope=0.1300 '/' Tc=20.8 min CN=66 Runoff=0.1 cfs 0.017 af
Subcatchment C4: DOUGLAS DRIVE	Runoff Area=1.420 ac 19.72% Impervious Runoff Depth=0.67" Tc=6.0 min CN=78 Runoff=1.7 cfs 0.080 af
Subcatchment C5: LANDFILL	Runoff Area=12.500 ac 0.00% Impervious Runoff Depth=0.59" Flow Length=1,530' Tc=14.9 min CN=76 Runoff=8.7 cfs 0.613 af

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Type II 24-hr 2-yr Rainfall=2.32"

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Subcatchment C6: OVERLAND FLOW	Runoff Area=1.290 ac 0.00% Impervious Runoff Depth=0.40" Tc=6.0 min CN=71 Runoff=0.8 cfs 0.043 af
Subcatchment C7: LANDFILL	Runoff Area=23.350 ac 0.00% Impervious Runoff Depth=0.55" Flow Length=2,945' Tc=25.0 min CN=75 Runoff=10.7 cfs 1.067 af
Subcatchment C8: WOODS	Runoff Area=24.830 ac 0.00% Impervious Runoff Depth=0.15" Flow Length=3,485' Tc=44.5 min CN=61 Runoff=0.8 cfs 0.302 af
Subcatchment C9: WOODS	Runoff Area=16.330 ac 0.00% Impervious Runoff Depth=0.23" Flow Length=1,960' Tc=32.0 min CN=65 Runoff=1.6 cfs 0.317 af
Reach 20R: TOE SWALE	Avg. Flow Depth=0.41' Max Vel=2.06 fps Inflow=4.3 cfs 0.136 af n=0.069 L=1,065.0' S=0.0423 '/ Capacity=78.3 cfs Outflow=3.4 cfs 0.136 af
Reach OUT-C: WETLANDS COMPLEX	Inflow=13.5 cfs 3.882 af Outflow=13.5 cfs 3.882 af
Reach RC1: WETLANDS	Avg. Flow Depth=0.18' Max Vel=1.02 fps Inflow=2.7 cfs 0.683 af n=0.035 L=525.0' S=0.0099 '/ Capacity=107.5 cfs Outflow=2.5 cfs 0.683 af
Reach RC10: WETLAND	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=1,010.0' S=0.0433 '/ Capacity=496.7 cfs Outflow=0.0 cfs 0.000 af
Reach RC11: WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=255.0' S=0.0784 '/ Capacity=31.5 cfs Outflow=0.0 cfs 0.000 af
Reach RC12: WETLAND	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=310.0' S=0.0905 '/ Capacity=405.6 cfs Outflow=0.0 cfs 0.000 af
Reach RC14: WETLAND	Avg. Flow Depth=0.24' Max Vel=2.77 fps Inflow=6.0 cfs 1.283 af n=0.035 L=440.0' S=0.0500 '/ Capacity=610.7 cfs Outflow=6.0 cfs 1.283 af
Reach RC15: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=165.0' S=0.2000 '/ Capacity=33.2 cfs Outflow=0.0 cfs 0.000 af
Reach RC16: WETLAND	Avg. Flow Depth=0.23' Max Vel=1.99 fps Inflow=6.0 cfs 1.283 af n=0.035 L=319.0' S=0.0265 '/ Capacity=140.5 cfs Outflow=6.0 cfs 1.283 af
Reach RC17: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=158.1' S=0.1265 '/ Capacity=80.5 cfs Outflow=0.0 cfs 0.000 af
Reach RC18: FLOW THROUGH WOODS	Avg. Flow Depth=0.03' Max Vel=0.47 fps Inflow=0.0 cfs 0.033 af n=0.100 L=195.0' S=0.1641 '/ Capacity=76.3 cfs Outflow=0.0 cfs 0.033 af
Reach RC19: WETLAND	Avg. Flow Depth=0.03' Max Vel=0.63 fps Inflow=0.0 cfs 0.033 af n=0.035 L=545.0' S=0.0454 '/ Capacity=114.7 cfs Outflow=0.0 cfs 0.033 af
Reach RC2: WETLAND STREAM	Avg. Flow Depth=0.18' Max Vel=1.87 fps Inflow=6.7 cfs 1.737 af n=0.035 L=445.0' S=0.0332 '/ Capacity=1,248.5 cfs Outflow=6.7 cfs 1.735 af
Reach RC20: SWALE	Avg. Flow Depth=0.07' Max Vel=1.39 fps Inflow=3.2 cfs 0.115 af n=0.022 L=64.0' S=0.0156 '/ Capacity=994.2 cfs Outflow=3.2 cfs 0.115 af

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Reach RC21: FLOW THROUGH WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.100 L=140.0' S=0.1000 '/' Capacity=47.6 cfs Outflow=0.0 cfs 0.000 af

Reach RC22: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.035 L=1,155.0' S=0.0515 '/' Capacity=306.0 cfs Outflow=0.0 cfs 0.000 af

Reach RC3: WETLAND STREAM Avg. Flow Depth=0.18' Max Vel=1.92 fps Inflow=7.3 cfs 1.740 af
 n=0.035 L=1,160.0' S=0.0351 '/' Capacity=1,284.7 cfs Outflow=6.7 cfs 1.737 af

Reach RC4: WETLAND STREAM Avg. Flow Depth=0.32' Max Vel=2.97 fps Inflow=7.4 cfs 1.707 af
 n=0.035 L=645.0' S=0.0376 '/' Capacity=1,660.9 cfs Outflow=7.3 cfs 1.707 af

Reach RC5: WETLAND STREAM Avg. Flow Depth=0.08' Max Vel=1.37 fps Inflow=1.5 cfs 0.425 af
 n=0.035 L=205.0' S=0.0498 '/' Capacity=1,529.4 cfs Outflow=1.5 cfs 0.425 af

Reach RC6: WETLAND STREAM Avg. Flow Depth=0.11' Max Vel=0.87 fps Inflow=1.6 cfs 0.426 af
 n=0.035 L=315.0' S=0.0135 '/' Capacity=795.1 cfs Outflow=1.5 cfs 0.425 af

Reach RC8: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.100 L=210.0' S=0.0464 '/' Capacity=97.7 cfs Outflow=0.0 cfs 0.000 af

Reach RC9: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
 n=0.035 L=955.0' S=0.0335 '/' Capacity=436.9 cfs Outflow=0.0 cfs 0.000 af

Pond FB10: FOREBAY Peak Elev=1,212.01' Storage=2,786 cf Inflow=0.8 cfs 0.302 af
 Discarded=0.2 cfs 0.259 af Primary=0.2 cfs 0.029 af Outflow=0.5 cfs 0.288 af

Pond FB3: FOREBAY Peak Elev=1,122.04' Storage=2,914 cf Inflow=2.0 cfs 0.411 af
 Discarded=0.2 cfs 0.262 af Primary=1.6 cfs 0.133 af Outflow=1.8 cfs 0.395 af

Pond FB5: FOREBAY Peak Elev=1,133.30' Storage=1,303 cf Inflow=4.5 cfs 0.211 af
 Discarded=0.1 cfs 0.119 af Primary=4.2 cfs 0.092 af Outflow=4.4 cfs 0.211 af

Pond FB6: FOREBAY Peak Elev=1,124.75' Storage=1,496 cf Inflow=1.5 cfs 0.113 af
 Primary=0.0 cfs 0.000 af Secondary=0.3 cfs 0.113 af Outflow=0.3 cfs 0.113 af

Pond FB7: FOREBAY Peak Elev=1,142.08' Storage=3,957 cf Inflow=4.8 cfs 0.391 af
 Discarded=0.3 cfs 0.268 af Primary=3.7 cfs 0.123 af Outflow=4.0 cfs 0.391 af

Pond FB8: FOREBAY Peak Elev=1,151.13' Storage=5,608 cf Inflow=5.3 cfs 0.454 af
 Discarded=0.4 cfs 0.340 af Primary=3.2 cfs 0.115 af Outflow=3.6 cfs 0.454 af

Pond FB9: FOREBAY Peak Elev=1,177.12' Storage=4,237 cf Inflow=6.6 cfs 0.974 af
 Discarded=0.3 cfs 0.375 af Primary=6.2 cfs 0.566 af Outflow=6.6 cfs 0.941 af

Pond P1: WATER STORAGE FOR REUSE Peak Elev=1,135.73' Storage=3,721 cf Inflow=1.6 cfs 0.085 af
 Outflow=0.0 cfs 0.000 af

Pond P10: INFILTRATION BASIN Peak Elev=1,207.00' Storage=0 cf Inflow=0.2 cfs 0.029 af
 Discarded=0.2 cfs 0.029 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.2 cfs 0.029 af

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Pond P2: INFILTRATION BASIN Peak Elev=1,107.59' Storage=12,160 cf Inflow=14.4 cfs 0.680 af
Discarded=1.0 cfs 0.680 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.0 cfs 0.680 af

Pond P3: INFILTRATION BASIN Peak Elev=1,115.68' Storage=1,950 cf Inflow=1.6 cfs 0.133 af
Discarded=0.4 cfs 0.133 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.4 cfs 0.133 af

Pond P4: INFILTRATION BASIN Peak Elev=1,139.02' Storage=166 cf Inflow=1.3 cfs 0.062 af
Discarded=0.8 cfs 0.062 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.8 cfs 0.062 af

Pond P5: INFILTRATION BASIN Peak Elev=1,131.39' Storage=2,927 cf Inflow=4.2 cfs 0.092 af
Discarded=0.3 cfs 0.092 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.3 cfs 0.092 af

Pond P6: RAIN GARDEN Peak Elev=1,124.42' Storage=1,763 cf Inflow=0.3 cfs 0.113 af
Primary=0.2 cfs 0.109 af Secondary=0.0 cfs 0.000 af Outflow=0.2 cfs 0.109 af

Pond P7: INFILTRATION BASIN Peak Elev=1,139.20' Storage=2,005 cf Inflow=3.7 cfs 0.123 af
Discarded=1.2 cfs 0.123 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.2 cfs 0.123 af

Pond P8: INFILTRATION BASIN Peak Elev=1,145.42' Storage=2,511 cf Inflow=3.2 cfs 0.115 af
Discarded=0.7 cfs 0.115 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.7 cfs 0.115 af

Pond P9: INFILTRATION BASIN Peak Elev=1,174.79' Storage=10,617 cf Inflow=6.2 cfs 0.566 af
Discarded=0.8 cfs 0.566 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.8 cfs 0.566 af

Pond PCB1: CATCH BASIN Peak Elev=1,138.01' Inflow=13.7 cfs 0.645 af
15.0" Round Culvert n=0.013 L=145.3' S=0.1445 '/' Outflow=13.7 cfs 0.645 af

Pond PHW19: HEADWALL Peak Elev=1,169.93' Inflow=9.5 cfs 0.749 af
Primary=4.7 cfs 0.374 af Secondary=4.7 cfs 0.374 af Outflow=9.5 cfs 0.749 af

Pond PHW24: HEADWALL Peak Elev=1,215.11' Inflow=10.7 cfs 1.067 af
Primary=6.4 cfs 0.931 af Secondary=4.3 cfs 0.136 af Outflow=10.7 cfs 1.067 af

Pond PHW3: HEADWALL Peak Elev=1,153.60' Inflow=0.0 cfs 0.033 af
15.0" Round Culvert n=0.013 L=541.7' S=0.0471 '/' Outflow=0.0 cfs 0.033 af

Pond PHW5: HEADWALL Peak Elev=1,140.69' Inflow=1.9 cfs 0.377 af
15.0" Round Culvert n=0.013 L=353.3' S=0.0509 '/' Outflow=1.9 cfs 0.377 af

Pond RC13: NEW CULVERT Peak Elev=1,126.60' Inflow=6.0 cfs 1.283 af
72.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=53.0' S=0.0189 '/' Outflow=6.0 cfs 1.283 af

Pond RC7: NEW DOUGLAS DRIVE CULVERT Peak Elev=1,110.41' Inflow=1.6 cfs 0.426 af
144.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=43.2' S=0.0058 '/' Outflow=1.6 cfs 0.426 af

Total Runoff Area = 270.740 ac Runoff Volume = 7.465 af Average Runoff Depth = 0.33"
97.11% Pervious = 262.920 ac 2.89% Impervious = 7.820 ac

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: WOODS	Runoff Area=39.170 ac 0.00% Impervious Runoff Depth=0.61" Flow Length=2,195' Tc=40.4 min CN=64 Runoff=12.7 cfs 1.995 af
Subcatchment C10: DOUGLAS DRIVE	Runoff Area=2.010 ac 31.34% Impervious Runoff Depth=1.35" Flow Length=210' Tc=17.3 min CN=78 Runoff=3.2 cfs 0.227 af
Subcatchment C11: DOUGLAS DRIVE	Runoff Area=1.850 ac 73.51% Impervious Runoff Depth=2.27" Tc=6.0 min CN=90 Runoff=7.2 cfs 0.350 af
Subcatchment C12: WOODS & EX.	Runoff Area=54.070 ac 0.20% Impervious Runoff Depth=0.75" Flow Length=3,290' Tc=43.9 min CN=67 Runoff=21.9 cfs 3.359 af
Subcatchment C13: BUILDINGS	Runoff Area=0.970 ac 40.21% Impervious Runoff Depth=1.49" Tc=6.0 min CN=80 Runoff=2.6 cfs 0.120 af
Subcatchment C14: OVERLAND FLOW	Runoff Area=0.930 ac 0.00% Impervious Runoff Depth=1.00" Tc=6.0 min CN=72 Runoff=1.6 cfs 0.077 af
Subcatchment C15: WOODS & EX. QUARRY	Runoff Area=15.910 ac 2.77% Impervious Runoff Depth=0.75" Flow Length=1,520' Tc=37.9 min CN=67 Runoff=7.2 cfs 0.988 af
Subcatchment C16: WOODS	Runoff Area=6.130 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=950' Tc=39.0 min CN=56 Runoff=0.7 cfs 0.161 af
Subcatchment C17: TANK AREA	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth=3.08" Tc=6.0 min CN=98 Runoff=1.0 cfs 0.056 af
Subcatchment C18: OVERLAND FLOW	Runoff Area=0.270 ac 100.00% Impervious Runoff Depth=3.08" Tc=6.0 min CN=98 Runoff=1.3 cfs 0.069 af
Subcatchment C19: OVERLAND FLOW	Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.94" Tc=6.0 min CN=71 Runoff=1.7 cfs 0.083 af
Subcatchment C2: Woods	Runoff Area=61.700 ac 0.26% Impervious Runoff Depth=0.75" Flow Length=3,605' Tc=29.2 min CN=67 Runoff=33.6 cfs 3.833 af
Subcatchment C20: INFRASTRUCTURE	Runoff Area=5.960 ac 66.44% Impervious Runoff Depth=2.18" Tc=6.0 min CN=89 Runoff=22.6 cfs 1.084 af
Subcatchment C3: OVERLAND FLOW	Runoff Area=0.780 ac 0.00% Impervious Runoff Depth=0.70" Flow Length=100' Slope=0.1300 '/' Tc=20.8 min CN=66 Runoff=0.5 cfs 0.045 af
Subcatchment C4: DOUGLAS DRIVE	Runoff Area=1.420 ac 19.72% Impervious Runoff Depth=1.35" Tc=6.0 min CN=78 Runoff=3.4 cfs 0.160 af
Subcatchment C5: LANDFILL	Runoff Area=12.500 ac 0.00% Impervious Runoff Depth=1.23" Flow Length=1,530' Tc=14.9 min CN=76 Runoff=19.6 cfs 1.280 af

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Subcatchment C6: OVERLAND FLOW	Runoff Area=1.290 ac 0.00% Impervious Runoff Depth=0.94" Tc=6.0 min CN=71 Runoff=2.1 cfs 0.102 af
Subcatchment C7: LANDFILL	Runoff Area=23.350 ac 0.00% Impervious Runoff Depth=1.17" Flow Length=2,945' Tc=25.0 min CN=75 Runoff=25.4 cfs 2.275 af
Subcatchment C8: WOODS	Runoff Area=24.830 ac 0.00% Impervious Runoff Depth=0.49" Flow Length=3,485' Tc=44.5 min CN=61 Runoff=5.3 cfs 1.013 af
Subcatchment C9: WOODS	Runoff Area=16.330 ac 0.00% Impervious Runoff Depth=0.65" Flow Length=1,960' Tc=32.0 min CN=65 Runoff=6.9 cfs 0.891 af
Reach 20R: TOE SWALE	Avg. Flow Depth=0.81' Max Vel=2.98 fps Inflow=13.5 cfs 0.528 af n=0.069 L=1,065.0' S=0.0423 '/' Capacity=78.3 cfs Outflow=12.1 cfs 0.528 af
Reach OUT-C: WETLANDS COMPLEX	Inflow=60.8 cfs 11.057 af Outflow=60.8 cfs 11.057 af
Reach RC1: WETLANDS	Avg. Flow Depth=0.37' Max Vel=1.66 fps Inflow=12.7 cfs 1.995 af n=0.035 L=525.0' S=0.0099 '/' Capacity=107.5 cfs Outflow=12.3 cfs 1.995 af
Reach RC10: WETLAND	Avg. Flow Depth=0.26' Max Vel=2.72 fps Inflow=6.8 cfs 0.477 af n=0.035 L=1,010.0' S=0.0433 '/' Capacity=496.7 cfs Outflow=5.8 cfs 0.477 af
Reach RC11: WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=255.0' S=0.0784 '/' Capacity=31.5 cfs Outflow=0.0 cfs 0.000 af
Reach RC12: WETLAND	Avg. Flow Depth=0.21' Max Vel=3.46 fps Inflow=3.2 cfs 0.107 af n=0.035 L=310.0' S=0.0905 '/' Capacity=405.6 cfs Outflow=3.2 cfs 0.107 af
Reach RC14: WETLAND	Avg. Flow Depth=0.43' Max Vel=4.14 fps Inflow=22.2 cfs 3.380 af n=0.035 L=440.0' S=0.0500 '/' Capacity=610.7 cfs Outflow=22.1 cfs 3.380 af
Reach RC15: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=165.0' S=0.2000 '/' Capacity=33.2 cfs Outflow=0.0 cfs 0.000 af
Reach RC16: WETLAND	Avg. Flow Depth=0.43' Max Vel=2.98 fps Inflow=22.1 cfs 3.380 af n=0.035 L=319.0' S=0.0265 '/' Capacity=140.5 cfs Outflow=22.1 cfs 3.380 af
Reach RC17: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=158.1' S=0.1265 '/' Capacity=80.5 cfs Outflow=0.0 cfs 0.000 af
Reach RC18: FLOW THROUGH WOODS	Avg. Flow Depth=0.11' Max Vel=1.07 fps Inflow=0.7 cfs 0.161 af n=0.100 L=195.0' S=0.1641 '/' Capacity=76.3 cfs Outflow=0.7 cfs 0.161 af
Reach RC19: WETLAND	Avg. Flow Depth=0.09' Max Vel=1.40 fps Inflow=0.7 cfs 0.161 af n=0.035 L=545.0' S=0.0454 '/' Capacity=114.7 cfs Outflow=0.6 cfs 0.161 af
Reach RC2: WETLAND STREAM	Avg. Flow Depth=0.38' Max Vel=3.09 fps Inflow=34.1 cfs 5.230 af n=0.035 L=445.0' S=0.0332 '/' Capacity=1,248.5 cfs Outflow=33.9 cfs 5.229 af
Reach RC20: SWALE	Avg. Flow Depth=0.15' Max Vel=2.41 fps Inflow=13.2 cfs 0.618 af n=0.022 L=64.0' S=0.0156 '/' Capacity=994.2 cfs Outflow=13.2 cfs 0.618 af

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Reach RC21: FLOW THROUGH WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=140.0' S=0.1000 '/' Capacity=47.6 cfs Outflow=0.0 cfs 0.000 af

Reach RC22: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=1,155.0' S=0.0515 '/' Capacity=306.0 cfs Outflow=0.0 cfs 0.000 af

Reach RC3: WETLAND STREAM Avg. Flow Depth=0.37' Max Vel=3.16 fps Inflow=35.5 cfs 5.234 af
n=0.035 L=1,160.0' S=0.0351 '/' Capacity=1,284.7 cfs Outflow=34.1 cfs 5.230 af

Reach RC4: WETLAND STREAM Avg. Flow Depth=0.67' Max Vel=4.79 fps Inflow=35.1 cfs 5.074 af
n=0.035 L=645.0' S=0.0376 '/' Capacity=1,660.9 cfs Outflow=34.8 cfs 5.073 af

Reach RC5: WETLAND STREAM Avg. Flow Depth=0.22' Max Vel=2.67 fps Inflow=13.4 cfs 1.695 af
n=0.035 L=205.0' S=0.0498 '/' Capacity=1,529.4 cfs Outflow=13.4 cfs 1.694 af

Reach RC6: WETLAND STREAM Avg. Flow Depth=0.27' Max Vel=1.57 fps Inflow=10.5 cfs 1.588 af
n=0.035 L=315.0' S=0.0135 '/' Capacity=795.1 cfs Outflow=10.3 cfs 1.587 af

Reach RC8: WOODS Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.100 L=210.0' S=0.0464 '/' Capacity=97.7 cfs Outflow=0.0 cfs 0.000 af

Reach RC9: WETLAND Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af
n=0.035 L=955.0' S=0.0335 '/' Capacity=436.9 cfs Outflow=0.0 cfs 0.000 af

Pond FB10: FOREBAY Peak Elev=1,212.09' Storage=2,942 cf Inflow=5.3 cfs 1.013 af
Discarded=0.2 cfs 0.285 af Primary=5.1 cfs 0.700 af Outflow=5.3 cfs 0.985 af

Pond FB3: FOREBAY Peak Elev=1,122.11' Storage=3,053 cf Inflow=7.4 cfs 1.066 af
Discarded=0.2 cfs 0.275 af Primary=7.2 cfs 0.762 af Outflow=7.4 cfs 1.038 af

Pond FB5: FOREBAY Peak Elev=1,133.40' Storage=1,436 cf Inflow=7.2 cfs 0.350 af
Discarded=0.2 cfs 0.155 af Primary=7.0 cfs 0.195 af Outflow=7.1 cfs 0.350 af

Pond FB6: FOREBAY Peak Elev=1,125.61' Storage=3,946 cf Inflow=3.2 cfs 0.227 af
Primary=0.0 cfs 0.000 af Secondary=0.4 cfs 0.227 af Outflow=0.4 cfs 0.227 af

Pond FB7: FOREBAY Peak Elev=1,142.18' Storage=4,215 cf Inflow=13.2 cfs 0.950 af
Discarded=0.3 cfs 0.343 af Primary=12.9 cfs 0.598 af Outflow=13.2 cfs 0.941 af

Pond FB8: FOREBAY Peak Elev=1,151.31' Storage=6,226 cf Inflow=13.7 cfs 1.065 af
Discarded=0.4 cfs 0.447 af Primary=13.2 cfs 0.618 af Outflow=13.6 cfs 1.064 af

Pond FB9: FOREBAY Peak Elev=1,177.19' Storage=4,423 cf Inflow=12.4 cfs 1.848 af
Discarded=0.3 cfs 0.390 af Primary=12.0 cfs 1.423 af Outflow=12.3 cfs 1.813 af

Pond P1: WATER STORAGE FOR REUSE Peak Elev=1,136.04' Storage=5,473 cf Inflow=2.3 cfs 0.126 af
Outflow=0.0 cfs 0.000 af

Pond P10: INFILTRATION BASIN Peak Elev=1,208.82' Storage=11,781 cf Inflow=5.1 cfs 0.700 af
Discarded=0.9 cfs 0.700 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.9 cfs 0.700 af

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Pond P2: INFILTRATION BASIN Peak Elev=1,108.83' Storage=23,813 cf Inflow=24.3 cfs 1.167 af
Discarded=1.2 cfs 1.167 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.2 cfs 1.167 af

Pond P3: INFILTRATION BASIN Peak Elev=1,118.98' Storage=17,483 cf Inflow=7.2 cfs 0.762 af
Discarded=0.7 cfs 0.724 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.7 cfs 0.724 af

Pond P4: INFILTRATION BASIN Peak Elev=1,139.13' Storage=940 cf Inflow=2.6 cfs 0.120 af
Discarded=0.8 cfs 0.120 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.8 cfs 0.120 af

Pond P5: INFILTRATION BASIN Peak Elev=1,132.32' Storage=5,515 cf Inflow=7.0 cfs 0.195 af
Discarded=0.4 cfs 0.174 af Primary=1.0 cfs 0.020 af Secondary=0.0 cfs 0.000 af Outflow=1.4 cfs 0.195 af

Pond P6: RAIN GARDEN Peak Elev=1,124.44' Storage=1,820 cf Inflow=0.4 cfs 0.227 af
Primary=0.4 cfs 0.220 af Secondary=0.0 cfs 0.000 af Outflow=0.4 cfs 0.220 af

Pond P7: INFILTRATION BASIN Peak Elev=1,140.26' Storage=13,657 cf Inflow=12.9 cfs 0.598 af
Discarded=1.4 cfs 0.491 af Primary=3.2 cfs 0.107 af Secondary=0.0 cfs 0.000 af Outflow=4.6 cfs 0.598 af

Pond P8: INFILTRATION BASIN Peak Elev=1,147.65' Storage=19,372 cf Inflow=13.2 cfs 0.618 af
Discarded=1.0 cfs 0.618 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=1.0 cfs 0.618 af

Pond P9: INFILTRATION BASIN Peak Elev=1,175.36' Storage=14,814 cf Inflow=12.0 cfs 1.423 af
Discarded=0.9 cfs 0.945 af Primary=6.8 cfs 0.477 af Secondary=0.0 cfs 0.000 af Outflow=7.7 cfs 1.423 af

Pond PCB1: CATCH BASIN Peak Elev=1,147.19' Inflow=22.6 cfs 1.084 af
15.0" Round Culvert n=0.013 L=145.3' S=0.1445 '/' Outflow=22.6 cfs 1.084 af

Pond PHW19: HEADWALL Peak Elev=1,170.71' Inflow=25.5 cfs 1.809 af
Primary=12.7 cfs 0.904 af Secondary=12.7 cfs 0.904 af Outflow=25.5 cfs 1.809 af

Pond PHW24: HEADWALL Peak Elev=1,215.64' Inflow=25.4 cfs 2.275 af
Primary=12.0 cfs 1.747 af Secondary=13.5 cfs 0.528 af Outflow=25.4 cfs 2.275 af

Pond PHW3: HEADWALL Peak Elev=1,153.88' Inflow=0.7 cfs 0.161 af
15.0" Round Culvert n=0.013 L=541.7' S=0.0471 '/' Outflow=0.7 cfs 0.161 af

Pond PHW5: HEADWALL Peak Elev=1,142.10' Inflow=7.2 cfs 0.988 af
15.0" Round Culvert n=0.013 L=353.3' S=0.0509 '/' Outflow=7.2 cfs 0.988 af

Pond RC13: NEW CULVERT Peak Elev=1,127.20' Inflow=21.9 cfs 3.359 af
72.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=53.0' S=0.0189 '/' Outflow=21.9 cfs 3.359 af

Pond RC7: NEW DOUGLAS DRIVE CULVERT Peak Elev=1,110.76' Inflow=10.5 cfs 1.588 af
144.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=43.2' S=0.0058 '/' Outflow=10.5 cfs 1.588 af

Total Runoff Area = 270.740 ac Runoff Volume = 18.171 af Average Runoff Depth = 0.81"
97.11% Pervious = 262.920 ac 2.89% Impervious = 7.820 ac

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: WOODS	Runoff Area=39.170 ac 0.00% Impervious Runoff Depth=1.01" Flow Length=2,195' Tc=40.4 min CN=64 Runoff=23.8 cfs 3.285 af
Subcatchment C10: DOUGLAS DRIVE	Runoff Area=2.010 ac 31.34% Impervious Runoff Depth=1.93" Flow Length=210' Tc=17.3 min CN=78 Runoff=4.7 cfs 0.324 af
Subcatchment C11: DOUGLAS DRIVE	Runoff Area=1.850 ac 73.51% Impervious Runoff Depth=2.98" Tc=6.0 min CN=90 Runoff=9.3 cfs 0.459 af
Subcatchment C12: WOODS & EX.	Runoff Area=54.070 ac 0.20% Impervious Runoff Depth=1.18" Flow Length=3,290' Tc=43.9 min CN=67 Runoff=38.3 cfs 5.325 af
Subcatchment C13: BUILDINGS	Runoff Area=0.970 ac 40.21% Impervious Runoff Depth=2.09" Tc=6.0 min CN=80 Runoff=3.6 cfs 0.169 af
Subcatchment C14: OVERLAND FLOW	Runoff Area=0.930 ac 0.00% Impervious Runoff Depth=1.50" Tc=6.0 min CN=72 Runoff=2.5 cfs 0.116 af
Subcatchment C15: WOODS & EX. QUARRY	Runoff Area=15.910 ac 2.77% Impervious Runoff Depth=1.18" Flow Length=1,520' Tc=37.9 min CN=67 Runoff=12.5 cfs 1.567 af
Subcatchment C16: WOODS	Runoff Area=6.130 ac 0.00% Impervious Runoff Depth=0.60" Flow Length=950' Tc=39.0 min CN=56 Runoff=1.8 cfs 0.306 af
Subcatchment C17: TANK AREA	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth=3.82" Tc=6.0 min CN=98 Runoff=1.3 cfs 0.070 af
Subcatchment C18: OVERLAND FLOW	Runoff Area=0.270 ac 100.00% Impervious Runoff Depth=3.82" Tc=6.0 min CN=98 Runoff=1.6 cfs 0.086 af
Subcatchment C19: OVERLAND FLOW	Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=1.44" Tc=6.0 min CN=71 Runoff=2.7 cfs 0.126 af
Subcatchment C2: Woods	Runoff Area=61.700 ac 0.26% Impervious Runoff Depth=1.18" Flow Length=3,605' Tc=29.2 min CN=67 Runoff=58.3 cfs 6.077 af
Subcatchment C20: INFRASTRUCTURE	Runoff Area=5.960 ac 66.44% Impervious Runoff Depth=2.88" Tc=6.0 min CN=89 Runoff=29.3 cfs 1.430 af
Subcatchment C3: OVERLAND FLOW	Runoff Area=0.780 ac 0.00% Impervious Runoff Depth=1.12" Flow Length=100' Slope=0.1300 '/' Tc=20.8 min CN=66 Runoff=0.9 cfs 0.073 af
Subcatchment C4: DOUGLAS DRIVE	Runoff Area=1.420 ac 19.72% Impervious Runoff Depth=1.93" Tc=6.0 min CN=78 Runoff=4.9 cfs 0.229 af
Subcatchment C5: LANDFILL	Runoff Area=12.500 ac 0.00% Impervious Runoff Depth=1.78" Flow Length=1,530' Tc=14.9 min CN=76 Runoff=28.9 cfs 1.859 af

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Subcatchment C6: OVERLAND FLOW	Runoff Area=1.290 ac 0.00% Impervious Runoff Depth=1.44" Tc=6.0 min CN=71 Runoff=3.3 cfs 0.154 af
Subcatchment C7: LANDFILL	Runoff Area=23.350 ac 0.00% Impervious Runoff Depth=1.71" Flow Length=2,945' Tc=25.0 min CN=75 Runoff=38.3 cfs 3.331 af
Subcatchment C8: WOODS	Runoff Area=24.830 ac 0.00% Impervious Runoff Depth=0.84" Flow Length=3,485' Tc=44.5 min CN=61 Runoff=10.9 cfs 1.745 af
Subcatchment C9: WOODS	Runoff Area=16.330 ac 0.00% Impervious Runoff Depth=1.06" Flow Length=1,960' Tc=32.0 min CN=65 Runoff=12.6 cfs 1.447 af
Reach 20R: TOE SWALE	Avg. Flow Depth=1.08' Max Vel=3.48 fps Inflow=23.3 cfs 0.969 af n=0.069 L=1,065.0' S=0.0423 '/' Capacity=78.3 cfs Outflow=21.3 cfs 0.969 af
Reach OUT-C: WETLANDS COMPLEX	Inflow=131.7 cfs 19.290 af Outflow=131.7 cfs 19.290 af
Reach RC1: WETLANDS	Avg. Flow Depth=0.49' Max Vel=2.01 fps Inflow=23.8 cfs 3.285 af n=0.035 L=525.0' S=0.0099 '/' Capacity=107.5 cfs Outflow=23.3 cfs 3.285 af
Reach RC10: WETLAND	Avg. Flow Depth=0.35' Max Vel=3.37 fps Inflow=13.0 cfs 1.395 af n=0.035 L=1,010.0' S=0.0433 '/' Capacity=496.7 cfs Outflow=11.7 cfs 1.395 af
Reach RC11: WOODS	Avg. Flow Depth=0.45' Max Vel=1.86 fps Inflow=5.7 cfs 0.416 af n=0.100 L=255.0' S=0.0784 '/' Capacity=31.5 cfs Outflow=5.6 cfs 0.416 af
Reach RC12: WETLAND	Avg. Flow Depth=0.41' Max Vel=5.37 fps Inflow=13.4 cfs 0.489 af n=0.035 L=310.0' S=0.0905 '/' Capacity=405.6 cfs Outflow=13.3 cfs 0.489 af
Reach RC14: WETLAND	Avg. Flow Depth=0.56' Max Vel=4.91 fps Inflow=38.8 cfs 5.410 af n=0.035 L=440.0' S=0.0500 '/' Capacity=610.7 cfs Outflow=38.6 cfs 5.410 af
Reach RC15: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=165.0' S=0.2000 '/' Capacity=33.2 cfs Outflow=0.0 cfs 0.000 af
Reach RC16: WETLAND	Avg. Flow Depth=0.55' Max Vel=3.54 fps Inflow=38.6 cfs 5.410 af n=0.035 L=319.0' S=0.0265 '/' Capacity=140.5 cfs Outflow=38.5 cfs 5.410 af
Reach RC17: FLOW THROUGH WOODS	Avg. Flow Depth=0.20' Max Vel=1.39 fps Inflow=2.6 cfs 0.191 af n=0.100 L=158.1' S=0.1265 '/' Capacity=80.5 cfs Outflow=2.6 cfs 0.191 af
Reach RC18: FLOW THROUGH WOODS	Avg. Flow Depth=0.17' Max Vel=1.43 fps Inflow=1.8 cfs 0.306 af n=0.100 L=195.0' S=0.1641 '/' Capacity=76.3 cfs Outflow=1.7 cfs 0.306 af
Reach RC19: WETLAND	Avg. Flow Depth=0.19' Max Vel=2.29 fps Inflow=3.3 cfs 0.497 af n=0.035 L=545.0' S=0.0454 '/' Capacity=114.7 cfs Outflow=3.2 cfs 0.497 af
Reach RC2: WETLAND STREAM	Avg. Flow Depth=0.55' Max Vel=3.97 fps Inflow=76.7 cfs 9.930 af n=0.035 L=445.0' S=0.0332 '/' Capacity=1,248.5 cfs Outflow=76.4 cfs 9.929 af
Reach RC20: SWALE	Avg. Flow Depth=0.21' Max Vel=2.90 fps Inflow=21.2 cfs 1.140 af n=0.022 L=64.0' S=0.0156 '/' Capacity=994.2 cfs Outflow=21.2 cfs 1.140 af

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Reach RC21: FLOW THROUGH WOODS Avg. Flow Depth=0.22' Max Vel=1.30 fps Inflow=1.8 cfs 0.091 af
n=0.100 L=140.0' S=0.1000 '/' Capacity=47.6 cfs Outflow=1.8 cfs 0.091 af

Reach RC22: WETLAND Avg. Flow Depth=0.17' Max Vel=2.26 fps Inflow=1.8 cfs 0.091 af
n=0.035 L=1,155.0' S=0.0515 '/' Capacity=306.0 cfs Outflow=1.5 cfs 0.091 af

Reach RC3: WETLAND STREAM Avg. Flow Depth=0.54' Max Vel=4.03 fps Inflow=77.2 cfs 9.844 af
n=0.035 L=1,160.0' S=0.0351 '/' Capacity=1,284.7 cfs Outflow=75.2 cfs 9.840 af

Reach RC4: WETLAND STREAM Avg. Flow Depth=0.95' Max Vel=6.07 fps Inflow=75.7 cfs 9.347 af
n=0.035 L=645.0' S=0.0376 '/' Capacity=1,660.9 cfs Outflow=75.5 cfs 9.346 af

Reach RC5: WETLAND STREAM Avg. Flow Depth=0.36' Max Vel=3.66 fps Inflow=37.3 cfs 3.938 af
n=0.035 L=205.0' S=0.0498 '/' Capacity=1,529.4 cfs Outflow=37.2 cfs 3.937 af

Reach RC6: WETLAND STREAM Avg. Flow Depth=0.42' Max Vel=2.12 fps Inflow=28.0 cfs 3.449 af
n=0.035 L=315.0' S=0.0135 '/' Capacity=795.1 cfs Outflow=27.6 cfs 3.448 af

Reach RC8: WOODS Avg. Flow Depth=0.31' Max Vel=1.11 fps Inflow=8.0 cfs 0.294 af
n=0.100 L=210.0' S=0.0464 '/' Capacity=97.7 cfs Outflow=7.5 cfs 0.294 af

Reach RC9: WETLAND Avg. Flow Depth=0.25' Max Vel=2.36 fps Inflow=5.6 cfs 0.416 af
n=0.035 L=955.0' S=0.0335 '/' Capacity=436.9 cfs Outflow=4.9 cfs 0.416 af

Pond FB10: FOREBAY Peak Elev=1,212.14' Storage=3,061 cf Inflow=10.9 cfs 1.745 af
Discarded=0.3 cfs 0.289 af Primary=10.7 cfs 1.425 af Outflow=10.9 cfs 1.715 af

Pond FB3: FOREBAY Peak Elev=1,122.16' Storage=3,155 cf Inflow=12.8 cfs 1.683 af
Discarded=0.2 cfs 0.280 af Primary=12.6 cfs 1.374 af Outflow=12.8 cfs 1.654 af

Pond FB5: FOREBAY Peak Elev=1,133.46' Storage=1,523 cf Inflow=9.3 cfs 0.459 af
Discarded=0.2 cfs 0.177 af Primary=9.1 cfs 0.282 af Outflow=9.2 cfs 0.459 af

Pond FB6: FOREBAY Peak Elev=1,126.03' Storage=5,417 cf Inflow=4.7 cfs 0.324 af
Primary=1.0 cfs 0.020 af Secondary=0.4 cfs 0.304 af Outflow=1.4 cfs 0.324 af

Pond FB7: FOREBAY Peak Elev=1,142.25' Storage=4,387 cf Inflow=21.3 cfs 1.487 af
Discarded=0.3 cfs 0.368 af Primary=21.0 cfs 1.095 af Outflow=21.3 cfs 1.463 af

Pond FB8: FOREBAY Peak Elev=1,151.42' Storage=6,584 cf Inflow=21.7 cfs 1.643 af
Discarded=0.4 cfs 0.479 af Primary=21.2 cfs 1.140 af Outflow=21.6 cfs 1.619 af

Pond FB9: FOREBAY Peak Elev=1,177.22' Storage=4,511 cf Inflow=15.6 cfs 2.516 af
Discarded=0.3 cfs 0.407 af Primary=15.2 cfs 2.073 af Outflow=15.6 cfs 2.480 af

Pond P1: WATER STORAGE FOR REUSE Peak Elev=1,136.27' Storage=6,803 cf Inflow=2.8 cfs 0.156 af
Outflow=0.0 cfs 0.000 af

Pond P10: INFILTRATION BASIN Peak Elev=1,209.43' Storage=16,615 cf Inflow=10.7 cfs 1.425 af
Discarded=1.0 cfs 1.009 af Primary=5.7 cfs 0.416 af Secondary=0.0 cfs 0.000 af Outflow=6.6 cfs 1.425 af

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Pond P2: INFILTRATION BASIN Peak Elev=1,109.50' Storage=31,007 cf Inflow=32.0 cfs 1.556 af
Discarded=1.3 cfs 1.465 af Primary=1.8 cfs 0.091 af Secondary=0.0 cfs 0.000 af Outflow=3.0 cfs 1.556 af

Pond P3: INFILTRATION BASIN Peak Elev=1,120.48' Storage=27,901 cf Inflow=12.6 cfs 1.374 af
Discarded=0.9 cfs 0.958 af Primary=2.6 cfs 0.191 af Secondary=0.0 cfs 0.000 af Outflow=3.5 cfs 1.149 af

Pond P4: INFILTRATION BASIN Peak Elev=1,139.24' Storage=1,739 cf Inflow=3.6 cfs 0.169 af
Discarded=0.9 cfs 0.169 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.9 cfs 0.169 af

Pond P5: INFILTRATION BASIN Peak Elev=1,132.49' Storage=6,041 cf Inflow=9.1 cfs 0.282 af
Discarded=0.4 cfs 0.197 af Primary=6.0 cfs 0.085 af Secondary=0.0 cfs 0.000 af Outflow=6.4 cfs 0.282 af

Pond P6: RAIN GARDEN Peak Elev=1,124.47' Storage=1,894 cf Inflow=1.4 cfs 0.324 af
Primary=0.6 cfs 0.313 af Secondary=0.0 cfs 0.000 af Outflow=0.6 cfs 0.313 af

Pond P7: INFILTRATION BASIN Peak Elev=1,140.50' Storage=16,693 cf Inflow=21.0 cfs 1.095 af
Discarded=1.4 cfs 0.606 af Primary=13.4 cfs 0.489 af Secondary=0.0 cfs 0.000 af Outflow=14.8 cfs 1.095 af

Pond P8: INFILTRATION BASIN Peak Elev=1,148.49' Storage=27,162 cf Inflow=21.2 cfs 1.140 af
Discarded=1.1 cfs 0.846 af Primary=8.0 cfs 0.294 af Secondary=0.0 cfs 0.000 af Outflow=9.1 cfs 1.140 af

Pond P9: INFILTRATION BASIN Peak Elev=1,175.49' Storage=15,896 cf Inflow=15.2 cfs 2.073 af
Discarded=0.9 cfs 1.041 af Primary=13.0 cfs 0.979 af Secondary=0.0 cfs 0.000 af Outflow=13.9 cfs 2.020 af

Pond PCB1: CATCH BASIN Peak Elev=1,157.22' Inflow=29.3 cfs 1.430 af
15.0" Round Culvert n=0.013 L=145.3' S=0.1445 '/' Outflow=29.3 cfs 1.430 af

Pond PHW19: HEADWALL Peak Elev=1,171.82' Inflow=40.8 cfs 2.828 af
Primary=20.4 cfs 1.414 af Secondary=20.4 cfs 1.414 af Outflow=40.8 cfs 2.828 af

Pond PHW24: HEADWALL Peak Elev=1,215.98' Inflow=38.3 cfs 3.331 af
Primary=15.0 cfs 2.362 af Secondary=23.3 cfs 0.969 af Outflow=38.3 cfs 3.331 af

Pond PHW3: HEADWALL Peak Elev=1,154.15' Inflow=1.8 cfs 0.306 af
15.0" Round Culvert n=0.013 L=541.7' S=0.0471 '/' Outflow=1.8 cfs 0.306 af

Pond PHW5: HEADWALL Peak Elev=1,145.09' Inflow=12.5 cfs 1.567 af
15.0" Round Culvert n=0.013 L=353.3' S=0.0509 '/' Outflow=12.5 cfs 1.567 af

Pond RC13: NEW CULVERT Peak Elev=1,127.64' Inflow=38.3 cfs 5.325 af
72.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=53.0' S=0.0189 '/' Outflow=38.3 cfs 5.325 af

Pond RC7: NEW DOUGLAS DRIVE CULVERT Peak Elev=1,111.19' Inflow=28.0 cfs 3.449 af
144.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=43.2' S=0.0058 '/' Outflow=28.0 cfs 3.449 af

Total Runoff Area = 270.740 ac Runoff Volume = 28.178 af Average Runoff Depth = 1.25"
97.11% Pervious = 262.920 ac 2.89% Impervious = 7.820 ac

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Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment C1: WOODS	Runoff Area=39.170 ac 0.00% Impervious Runoff Depth=1.41" Flow Length=2,195' Tc=40.4 min CN=64 Runoff=35.2 cfs 4.596 af
Subcatchment C10: DOUGLAS DRIVE	Runoff Area=2.010 ac 31.34% Impervious Runoff Depth=2.48" Flow Length=210' Tc=17.3 min CN=78 Runoff=6.0 cfs 0.416 af
Subcatchment C11: DOUGLAS DRIVE	Runoff Area=1.850 ac 73.51% Impervious Runoff Depth=3.62" Tc=6.0 min CN=90 Runoff=11.2 cfs 0.558 af
Subcatchment C12: WOODS & EX.	Runoff Area=54.070 ac 0.20% Impervious Runoff Depth=1.62" Flow Length=3,290' Tc=43.9 min CN=67 Runoff=54.8 cfs 7.288 af
Subcatchment C13: BUILDINGS	Runoff Area=0.970 ac 40.21% Impervious Runoff Depth=2.66" Tc=6.0 min CN=80 Runoff=4.6 cfs 0.215 af
Subcatchment C14: OVERLAND FLOW	Runoff Area=0.930 ac 0.00% Impervious Runoff Depth=1.99" Tc=6.0 min CN=72 Runoff=3.3 cfs 0.154 af
Subcatchment C15: WOODS & EX. QUARRY	Runoff Area=15.910 ac 2.77% Impervious Runoff Depth=1.62" Flow Length=1,520' Tc=37.9 min CN=67 Runoff=17.8 cfs 2.145 af
Subcatchment C16: WOODS	Runoff Area=6.130 ac 0.00% Impervious Runoff Depth=0.91" Flow Length=950' Tc=39.0 min CN=56 Runoff=3.1 cfs 0.463 af
Subcatchment C17: TANK AREA	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth=4.49" Tc=6.0 min CN=98 Runoff=1.5 cfs 0.082 af
Subcatchment C18: OVERLAND FLOW	Runoff Area=0.270 ac 100.00% Impervious Runoff Depth=4.49" Tc=6.0 min CN=98 Runoff=1.8 cfs 0.101 af
Subcatchment C19: OVERLAND FLOW	Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=1.91" Tc=6.0 min CN=71 Runoff=3.6 cfs 0.168 af
Subcatchment C2: Woods	Runoff Area=61.700 ac 0.26% Impervious Runoff Depth=1.62" Flow Length=3,605' Tc=29.2 min CN=67 Runoff=83.0 cfs 8.317 af
Subcatchment C20: INFRASTRUCTURE	Runoff Area=5.960 ac 66.44% Impervious Runoff Depth=3.51" Tc=6.0 min CN=89 Runoff=35.3 cfs 1.745 af
Subcatchment C3: OVERLAND FLOW	Runoff Area=0.780 ac 0.00% Impervious Runoff Depth=1.55" Flow Length=100' Slope=0.1300 '/' Tc=20.8 min CN=66 Runoff=1.2 cfs 0.101 af
Subcatchment C4: DOUGLAS DRIVE	Runoff Area=1.420 ac 19.72% Impervious Runoff Depth=2.48" Tc=6.0 min CN=78 Runoff=6.3 cfs 0.294 af
Subcatchment C5: LANDFILL	Runoff Area=12.500 ac 0.00% Impervious Runoff Depth=2.31" Flow Length=1,530' Tc=14.9 min CN=76 Runoff=37.7 cfs 2.411 af

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Subcatchment C6: OVERLAND FLOW	Runoff Area=1.290 ac 0.00% Impervious Runoff Depth=1.91" Tc=6.0 min CN=71 Runoff=4.4 cfs 0.206 af
Subcatchment C7: LANDFILL	Runoff Area=23.350 ac 0.00% Impervious Runoff Depth=2.23" Flow Length=2,945' Tc=25.0 min CN=75 Runoff=50.5 cfs 4.343 af
Subcatchment C8: WOODS	Runoff Area=24.830 ac 0.00% Impervious Runoff Depth=1.21" Flow Length=3,485' Tc=44.5 min CN=61 Runoff=17.0 cfs 2.504 af
Subcatchment C9: WOODS	Runoff Area=16.330 ac 0.00% Impervious Runoff Depth=1.48" Flow Length=1,960' Tc=32.0 min CN=65 Runoff=18.4 cfs 2.009 af
Reach 20R: TOE SWALE	Avg. Flow Depth=1.30' Max Vel=3.85 fps Inflow=33.5 cfs 1.458 af n=0.069 L=1,065.0' S=0.0423 '/ Capacity=78.3 cfs Outflow=31.2 cfs 1.458 af
Reach OUT-C: WETLANDS COMPLEX	Inflow=219.7 cfs 28.323 af Outflow=219.7 cfs 28.323 af
Reach RC1: WETLANDS	Avg. Flow Depth=0.59' Max Vel=2.28 fps Inflow=35.2 cfs 4.596 af n=0.035 L=525.0' S=0.0099 '/ Capacity=107.5 cfs Outflow=34.8 cfs 4.596 af
Reach RC10: WETLAND	Avg. Flow Depth=0.44' Max Vel=3.90 fps Inflow=19.5 cfs 2.464 af n=0.035 L=1,010.0' S=0.0433 '/ Capacity=496.7 cfs Outflow=18.9 cfs 2.464 af
Reach RC11: WOODS	Avg. Flow Depth=0.68' Max Vel=2.44 fps Inflow=13.8 cfs 1.025 af n=0.100 L=255.0' S=0.0784 '/ Capacity=31.5 cfs Outflow=13.7 cfs 1.025 af
Reach RC12: WETLAND	Avg. Flow Depth=0.53' Max Vel=6.35 fps Inflow=23.1 cfs 0.903 af n=0.035 L=310.0' S=0.0905 '/ Capacity=405.6 cfs Outflow=23.1 cfs 0.903 af
Reach RC14: WETLAND	Avg. Flow Depth=0.66' Max Vel=5.48 fps Inflow=55.4 cfs 7.434 af n=0.035 L=440.0' S=0.0500 '/ Capacity=610.7 cfs Outflow=55.2 cfs 7.434 af
Reach RC15: FLOW THROUGH WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.100 L=165.0' S=0.2000 '/ Capacity=33.2 cfs Outflow=0.0 cfs 0.000 af
Reach RC16: WETLAND	Avg. Flow Depth=0.65' Max Vel=3.95 fps Inflow=55.2 cfs 7.434 af n=0.035 L=319.0' S=0.0265 '/ Capacity=140.5 cfs Outflow=55.1 cfs 7.434 af
Reach RC17: FLOW THROUGH WOODS	Avg. Flow Depth=0.39' Max Vel=2.15 fps Inflow=10.6 cfs 0.674 af n=0.100 L=158.1' S=0.1265 '/ Capacity=80.5 cfs Outflow=10.5 cfs 0.674 af
Reach RC18: FLOW THROUGH WOODS	Avg. Flow Depth=0.23' Max Vel=1.70 fps Inflow=3.1 cfs 0.463 af n=0.100 L=195.0' S=0.1641 '/ Capacity=76.3 cfs Outflow=3.1 cfs 0.463 af
Reach RC19: WETLAND	Avg. Flow Depth=0.36' Max Vel=3.48 fps Inflow=12.8 cfs 1.137 af n=0.035 L=545.0' S=0.0454 '/ Capacity=114.7 cfs Outflow=12.4 cfs 1.137 af
Reach RC2: WETLAND STREAM	Avg. Flow Depth=0.70' Max Vel=4.64 fps Inflow=128.1 cfs 15.412 af n=0.035 L=445.0' S=0.0332 '/ Capacity=1,248.5 cfs Outflow=127.6 cfs 15.410 af
Reach RC20: SWALE	Avg. Flow Depth=0.25' Max Vel=3.30 fps Inflow=29.5 cfs 1.687 af n=0.022 L=64.0' S=0.0156 '/ Capacity=994.2 cfs Outflow=29.4 cfs 1.687 af

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Reach RC21: FLOW THROUGH WOODS Avg. Flow Depth=0.50' Max Vel=2.25 fps Inflow=10.7 cfs 0.325 af
n=0.100 L=140.0' S=0.1000 '/' Capacity=47.6 cfs Outflow=10.5 cfs 0.325 af

Reach RC22: WETLAND Avg. Flow Depth=0.36' Max Vel=3.72 fps Inflow=10.5 cfs 0.325 af
n=0.035 L=1,155.0' S=0.0515 '/' Capacity=306.0 cfs Outflow=7.6 cfs 0.325 af

Reach RC3: WETLAND STREAM Avg. Flow Depth=0.68' Max Vel=4.70 fps Inflow=128.3 cfs 15.092 af
n=0.035 L=1,160.0' S=0.0351 '/' Capacity=1,284.7 cfs Outflow=124.4 cfs 15.088 af

Reach RC4: WETLAND STREAM Avg. Flow Depth=1.21' Max Vel=7.09 fps Inflow=126.1 cfs 13.957 af
n=0.035 L=645.0' S=0.0376 '/' Capacity=1,660.9 cfs Outflow=125.5 cfs 13.956 af

Reach RC5: WETLAND STREAM Avg. Flow Depth=0.49' Max Vel=4.52 fps Inflow=74.1 cfs 6.524 af
n=0.035 L=205.0' S=0.0498 '/' Capacity=1,529.4 cfs Outflow=74.0 cfs 6.523 af

Reach RC6: WETLAND STREAM Avg. Flow Depth=0.58' Max Vel=2.61 fps Inflow=54.8 cfs 5.622 af
n=0.035 L=315.0' S=0.0135 '/' Capacity=795.1 cfs Outflow=54.0 cfs 5.621 af

Reach RC8: WOODS Avg. Flow Depth=0.47' Max Vel=1.48 fps Inflow=20.1 cfs 0.746 af
n=0.100 L=210.0' S=0.0464 '/' Capacity=97.7 cfs Outflow=19.4 cfs 0.746 af

Reach RC9: WETLAND Avg. Flow Depth=0.39' Max Vel=3.14 fps Inflow=13.7 cfs 1.025 af
n=0.035 L=955.0' S=0.0335 '/' Capacity=436.9 cfs Outflow=12.4 cfs 1.025 af

Pond FB10: FOREBAY Peak Elev=1,212.19' Storage=3,170 cf Inflow=17.0 cfs 2.504 af
Discarded=0.3 cfs 0.293 af Primary=16.8 cfs 2.180 af Outflow=17.0 cfs 2.472 af

Pond FB3: FOREBAY Peak Elev=1,122.21' Storage=3,243 cf Inflow=18.2 cfs 2.299 af
Discarded=0.2 cfs 0.286 af Primary=18.0 cfs 1.983 af Outflow=18.2 cfs 2.269 af

Pond FB5: FOREBAY Peak Elev=1,133.52' Storage=1,595 cf Inflow=11.2 cfs 0.558 af
Discarded=0.2 cfs 0.193 af Primary=10.9 cfs 0.365 af Outflow=11.1 cfs 0.558 af

Pond FB6: FOREBAY Peak Elev=1,126.07' Storage=5,570 cf Inflow=6.0 cfs 0.416 af
Primary=3.8 cfs 0.076 af Secondary=0.4 cfs 0.340 af Outflow=4.2 cfs 0.416 af

Pond FB7: FOREBAY Peak Elev=1,142.30' Storage=4,537 cf Inflow=29.5 cfs 2.035 af
Discarded=0.3 cfs 0.382 af Primary=29.2 cfs 1.623 af Outflow=29.5 cfs 2.005 af

Pond FB8: FOREBAY Peak Elev=1,151.51' Storage=6,869 cf Inflow=29.8 cfs 2.229 af
Discarded=0.4 cfs 0.503 af Primary=29.5 cfs 1.687 af Outflow=29.9 cfs 2.190 af

Pond FB9: FOREBAY Peak Elev=1,177.24' Storage=4,565 cf Inflow=17.7 cfs 3.091 af
Discarded=0.3 cfs 0.423 af Primary=17.4 cfs 2.631 af Outflow=17.7 cfs 3.054 af

Pond P1: WATER STORAGE FOR REUSE Peak Elev=1,136.46' Storage=7,993 cf Inflow=3.3 cfs 0.183 af
Outflow=0.0 cfs 0.000 af

Pond P10: INFILTRATION BASIN Peak Elev=1,209.61' Storage=18,159 cf Inflow=16.8 cfs 2.180 af
Discarded=1.0 cfs 1.090 af Primary=13.8 cfs 1.025 af Secondary=0.0 cfs 0.000 af Outflow=14.8 cfs 2.115 af

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Pond P2: INFILTRATION BASIN Peak Elev=1,109.75' Storage=33,727 cf Inflow=38.9 cfs 1.913 af
Discarded=1.3 cfs 1.587 af Primary=10.7 cfs 0.325 af Secondary=0.0 cfs 0.000 af Outflow=12.0 cfs 1.912 af

Pond P3: INFILTRATION BASIN Peak Elev=1,120.69' Storage=29,521 cf Inflow=18.0 cfs 1.983 af
Discarded=0.9 cfs 1.008 af Primary=10.6 cfs 0.674 af Secondary=0.0 cfs 0.000 af Outflow=11.5 cfs 1.682 af

Pond P4: INFILTRATION BASIN Peak Elev=1,139.35' Storage=2,554 cf Inflow=4.6 cfs 0.215 af
Discarded=0.9 cfs 0.215 af Primary=0.0 cfs 0.000 af Secondary=0.0 cfs 0.000 af Outflow=0.9 cfs 0.215 af

Pond P5: INFILTRATION BASIN Peak Elev=1,132.59' Storage=6,384 cf Inflow=10.9 cfs 0.365 af
Discarded=0.4 cfs 0.219 af Primary=8.5 cfs 0.145 af Secondary=0.0 cfs 0.000 af Outflow=8.9 cfs 0.365 af

Pond P6: RAIN GARDEN Peak Elev=1,124.60' Storage=2,218 cf Inflow=4.2 cfs 0.416 af
Primary=2.4 cfs 0.403 af Secondary=0.0 cfs 0.000 af Outflow=2.4 cfs 0.403 af

Pond P7: INFILTRATION BASIN Peak Elev=1,140.68' Storage=18,952 cf Inflow=29.2 cfs 1.623 af
Discarded=1.5 cfs 0.721 af Primary=23.1 cfs 0.903 af Secondary=0.0 cfs 0.000 af Outflow=24.6 cfs 1.623 af

Pond P8: INFILTRATION BASIN Peak Elev=1,148.73' Storage=29,575 cf Inflow=29.4 cfs 1.687 af
Discarded=1.2 cfs 0.941 af Primary=20.1 cfs 0.746 af Secondary=0.0 cfs 0.000 af Outflow=21.2 cfs 1.687 af

Pond P9: INFILTRATION BASIN Peak Elev=1,175.55' Storage=16,369 cf Inflow=17.4 cfs 2.631 af
Discarded=0.9 cfs 1.087 af Primary=16.0 cfs 1.438 af Secondary=0.0 cfs 0.000 af Outflow=16.9 cfs 2.525 af

Pond PCB1: CATCH BASIN Peak Elev=1,175.15' Inflow=35.3 cfs 1.745 af
15.0" Round Culvert n=0.013 L=145.3' S=0.1445 '/' Outflow=35.3 cfs 1.745 af

Pond PHW19: HEADWALL Peak Elev=1,173.50' Inflow=56.6 cfs 3.870 af
Primary=28.3 cfs 1.935 af Secondary=28.3 cfs 1.935 af Outflow=56.6 cfs 3.870 af

Pond PHW24: HEADWALL Peak Elev=1,216.26' Inflow=50.5 cfs 4.343 af
Primary=17.0 cfs 2.885 af Secondary=33.5 cfs 1.458 af Outflow=50.5 cfs 4.343 af

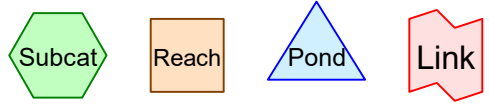
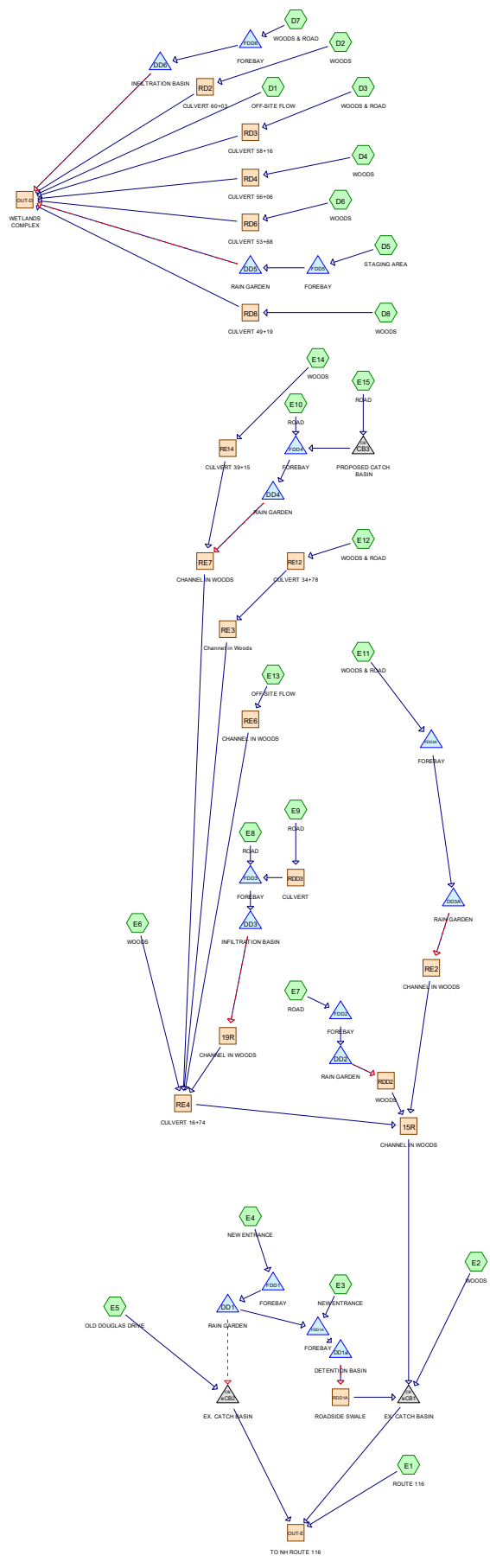
Pond PHW3: HEADWALL Peak Elev=1,154.40' Inflow=3.1 cfs 0.463 af
15.0" Round Culvert n=0.013 L=541.7' S=0.0471 '/' Outflow=3.1 cfs 0.463 af

Pond PHW5: HEADWALL Peak Elev=1,155.17' Inflow=17.8 cfs 2.145 af
15.0" Round Culvert n=0.013 L=353.3' S=0.0509 '/' Outflow=17.8 cfs 2.145 af

Pond RC13: NEW CULVERT Peak Elev=1,128.01' Inflow=54.8 cfs 7.288 af
72.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=53.0' S=0.0189 '/' Outflow=54.8 cfs 7.288 af

Pond RC7: NEW DOUGLAS DRIVE CULVERT Peak Elev=1,111.71' Inflow=54.8 cfs 5.622 af
144.0" x 72.0" Box Culvert w/ 24.0" inside fill n=0.025 L=43.2' S=0.0058 '/' Outflow=54.8 cfs 5.622 af

Total Runoff Area = 270.740 ac Runoff Volume = 38.116 af Average Runoff Depth = 1.69"
97.11% Pervious = 262.920 ac 2.89% Impervious = 7.820 ac



Routing Diagram for 1101-POSTDEV_To OUT4
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Project Notes

Defined 7 rainfall events from NH-Dalton IDF

1101-POSTDEV_To OUTDE

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	2.32	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.31	2
3	25-yr	Type II 24-hr		Default	24.00	1	4.06	2
4	50-yr	Type II 24-hr		Default	24.00	1	4.73	2
5	HALF	Type II 24-hr		Default	24.00	1	0.50	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.280	96	Gravel surface, HSG A (E14, E15)
0.790	96	Gravel surface, HSG C (D1, D2, D3, D5, D6, D7, E1, E10, E11, E12, E13, E14, E2, E3, E4, E6, E7, E8, E9)
1.200	30	Meadow, non-grazed, HSG A (D2, D7, E14, E6, E7)
2.130	58	Meadow, non-grazed, HSG B (D2, D5, D7, D8, E1, E14, E2, E5)
8.090	71	Meadow, non-grazed, HSG C (D1, D2, D3, D4, D5, D6, D7, D8, E1, E10, E11, E12, E13, E14, E15, E2, E3, E4, E5, E6, E7, E8, E9)
0.090	78	Meadow, non-grazed, HSG D (D3, D4, E11, E14)
0.050	98	Paved parking, HSG B (E5)
1.840	98	Paved parking, HSG C (D1, E10, E15, E2, E3, E5)
0.170	98	Unconnected pavement, HSG B (E1)
4.110	98	Unconnected pavement, HSG C (D2, D3, D5, D6, D7, E1, E11, E12, E13, E4, E6, E7, E8, E9)
0.090	98	Unconnected roofs, HSG A (E14)
10.620	30	Woods, Good, HSG A (D2, E11, E14, E2, E6)
23.180	55	Woods, Good, HSG B (D2, D3, D4, D5, D6, D7, D8, E14, E2, E5, E6)
3.550	70	Woods, Good, HSG C (E11, E13, E14, E2, E5, E6)
56.190	59	TOTAL AREA

1101-POSTDEV_To OUTDE

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
12.190	HSG A	D2, D7, E11, E14, E15, E2, E6, E7
25.530	HSG B	D2, D3, D4, D5, D6, D7, D8, E1, E14, E2, E5, E6
18.380	HSG C	D1, D2, D3, D4, D5, D6, D7, D8, E1, E10, E11, E12, E13, E14, E15, E2, E3, E4, E5, E6, E7, E8, E9
0.090	HSG D	D3, D4, E11, E14
0.000	Other	
56.190		TOTAL AREA

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment D1: OFF-SITE FLOW	Runoff Area=1.410 ac 47.52% Impervious Runoff Depth=1.16" Flow Length=155' Tc=16.1 min CN=87 Runoff=2.0 cfs 0.137 af
Subcatchment D2: WOODS	Runoff Area=3.280 ac 2.44% Impervious Runoff Depth=0.07" Flow Length=735' Tc=37.7 min CN=56 Runoff=0.0 cfs 0.018 af
Subcatchment D3: WOODS & ROAD	Runoff Area=4.950 ac 2.42% Impervious Runoff Depth=0.07" Flow Length=1,020' Tc=51.0 min CN=56 Runoff=0.0 cfs 0.027 af
Subcatchment D4: WOODS	Runoff Area=1.760 ac 0.00% Impervious Runoff Depth=0.07" Flow Length=855' Tc=40.1 min CN=56 Runoff=0.0 cfs 0.010 af
Subcatchment D5: STAGING AREA	Runoff Area=2.390 ac 50.63% Impervious Runoff Depth=0.87" Flow Length=385' Tc=23.9 min CN=82 Runoff=2.0 cfs 0.173 af
Subcatchment D6: WOODS	Runoff Area=3.750 ac 2.40% Impervious Runoff Depth=0.08" Flow Length=845' Tc=41.5 min CN=57 Runoff=0.0 cfs 0.025 af
Subcatchment D7: WOODS & ROAD	Runoff Area=4.400 ac 7.27% Impervious Runoff Depth=0.11" Flow Length=409' Tc=12.4 min UI Adjusted CN=59 Runoff=0.1 cfs 0.040 af
Subcatchment D8: WOODS	Runoff Area=5.720 ac 0.00% Impervious Runoff Depth=0.07" Flow Length=1,135' Slope=0.0650 '/' Tc=54.5 min CN=56 Runoff=0.0 cfs 0.031 af
Subcatchment E1: ROUTE 116	Runoff Area=1.320 ac 75.00% Impervious Runoff Depth=1.53" Tc=6.0 min CN=92 Runoff=3.5 cfs 0.168 af
Subcatchment E10: ROAD	Runoff Area=0.510 ac 62.75% Impervious Runoff Depth=1.45" Tc=6.0 min CN=91 Runoff=1.3 cfs 0.062 af
Subcatchment E11: WOODS & ROAD	Runoff Area=0.560 ac 46.43% Impervious Runoff Depth=0.98" Tc=6.0 min CN=84 Runoff=1.0 cfs 0.046 af
Subcatchment E12: WOODS & ROAD	Runoff Area=0.140 ac 78.57% Impervious Runoff Depth=1.89" Tc=6.0 min CN=96 Runoff=0.4 cfs 0.022 af
Subcatchment E13: OFF-SITE FLOW	Runoff Area=0.100 ac 20.00% Impervious Runoff Depth=0.59" Tc=6.0 min UI Adjusted CN=76 Runoff=0.1 cfs 0.005 af
Subcatchment E14: WOODS	Runoff Area=5.440 ac 1.65% Impervious Runoff Depth=0.01" Flow Length=540' Tc=16.5 min UI Adjusted CN=50 Runoff=0.0 cfs 0.004 af
Subcatchment E15: ROAD	Runoff Area=0.270 ac 81.48% Impervious Runoff Depth=1.99" Tc=6.0 min CN=97 Runoff=0.9 cfs 0.045 af
Subcatchment E2: WOODS	Runoff Area=11.100 ac 2.79% Impervious Runoff Depth=0.00" Flow Length=2,320' Tc=28.5 min CN=44 Runoff=0.0 cfs 0.000 af
Subcatchment E3: NEW ENTRANCE	Runoff Area=1.250 ac 22.40% Impervious Runoff Depth=0.63" Tc=6.0 min CN=77 Runoff=1.4 cfs 0.066 af

Subcatchment E4: NEW ENTRANCE	Runoff Area=1.380 ac 34.78% Impervious Runoff Depth=0.87" Tc=6.0 min CN=82 Runoff=2.1 cfs 0.100 af
Subcatchment E5: OLD DOUGLAS DRIVE	Runoff Area=1.800 ac 5.00% Impervious Runoff Depth=0.28" Flow Length=660' Tc=23.5 min CN=67 Runoff=0.3 cfs 0.043 af
Subcatchment E6: WOODS	Runoff Area=3.550 ac 1.69% Impervious Runoff Depth=0.00" Flow Length=930' Tc=47.8 min CN=46 Runoff=0.0 cfs 0.000 af
Subcatchment E7: ROAD	Runoff Area=0.580 ac 50.00% Impervious Runoff Depth=0.98" Tc=6.0 min CN=84 Runoff=1.0 cfs 0.047 af
Subcatchment E8: ROAD	Runoff Area=0.470 ac 48.94% Impervious Runoff Depth=1.16" Tc=6.0 min CN=87 Runoff=1.0 cfs 0.046 af
Subcatchment E9: ROAD	Runoff Area=0.060 ac 33.33% Impervious Runoff Depth=0.98" Tc=6.0 min CN=84 Runoff=0.1 cfs 0.005 af
Reach 15R: CHANNEL IN WOODS	Avg. Flow Depth=0.06' Max Vel=1.26 fps Inflow=0.2 cfs 0.187 af n=0.035 L=855.0' S=0.0572 '/ Capacity=405.6 cfs Outflow=0.2 cfs 0.186 af
Reach 19R: CHANNEL IN WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=920.0' S=0.0413 '/ Capacity=87.4 cfs Outflow=0.0 cfs 0.000 af
Reach OUT-D: WETLANDS COMPLEX	Inflow=2.1 cfs 0.402 af Outflow=2.1 cfs 0.402 af
Reach OUT-E: TO NH ROUTE 116	Inflow=3.6 cfs 0.396 af Outflow=3.6 cfs 0.396 af
Reach RD2: CULVERT 60+03	Avg. Flow Depth=0.04' Max Vel=2.24 fps Inflow=0.0 cfs 0.018 af 18.0" Round Pipe n=0.013 L=56.6' S=0.0530 '/ Capacity=24.2 cfs Outflow=0.0 cfs 0.018 af
Reach RD3: CULVERT 58+16	Avg. Flow Depth=0.05' Max Vel=1.95 fps Inflow=0.0 cfs 0.027 af 18.0" Round Pipe n=0.013 L=38.4' S=0.0260 '/ Capacity=17.0 cfs Outflow=0.0 cfs 0.027 af
Reach RD4: CULVERT 56+06	Avg. Flow Depth=0.04' Max Vel=1.08 fps Inflow=0.0 cfs 0.010 af 18.0" Round Pipe n=0.013 L=50.8' S=0.0112 '/ Capacity=11.1 cfs Outflow=0.0 cfs 0.010 af
Reach RD6: CULVERT 53+68	Avg. Flow Depth=0.05' Max Vel=1.92 fps Inflow=0.0 cfs 0.025 af 18.0" Round Pipe n=0.013 L=58.0' S=0.0241 '/ Capacity=16.3 cfs Outflow=0.0 cfs 0.025 af
Reach RD8: CULVERT 49+19	Avg. Flow Depth=0.04' Max Vel=2.76 fps Inflow=0.0 cfs 0.031 af 18.0" Round Pipe n=0.013 L=61.0' S=0.0639 '/ Capacity=26.6 cfs Outflow=0.0 cfs 0.031 af
Reach RDD1A: ROADSIDE SWALE	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.022 L=175.0' S=0.0143 '/ Capacity=14.7 cfs Outflow=0.0 cfs 0.000 af
Reach RDD2: WOODS	Avg. Flow Depth=0.03' Max Vel=1.08 fps Inflow=0.0 cfs 0.037 af n=0.035 L=75.0' S=0.1267 '/ Capacity=75.6 cfs Outflow=0.0 cfs 0.037 af
Reach RDD3: CULVERT	Avg. Flow Depth=0.12' Max Vel=2.04 fps Inflow=0.1 cfs 0.005 af 12.0" Round Pipe n=0.013 L=48.6' S=0.0103 '/ Capacity=3.6 cfs Outflow=0.1 cfs 0.005 af
Reach RE12: CULVERT 34+78	Avg. Flow Depth=0.24' Max Vel=3.00 fps Inflow=0.4 cfs 0.022 af 12.0" Round Pipe n=0.013 L=53.4' S=0.0094 '/ Capacity=3.4 cfs Outflow=0.4 cfs 0.022 af

Reach RE14: CULVERT 39+15	Avg. Flow Depth=0.04'	Max Vel=0.73 fps	Inflow=0.0 cfs	0.004 af
18.0" Round Pipe n=0.013 L=54.7' S=0.0055 '/	Capacity=7.8 cfs	Outflow=0.0 cfs	0.004 af	
Reach RE2: CHANNEL IN WOODS	Avg. Flow Depth=0.04'	Max Vel=0.68 fps	Inflow=0.0 cfs	0.038 af
n=0.035 L=1,520.0' S=0.0372 '/	Capacity=62.0 cfs	Outflow=0.0 cfs	0.037 af	
Reach RE3: Channel in Woods	Avg. Flow Depth=0.05'	Max Vel=0.78 fps	Inflow=0.4 cfs	0.022 af
n=0.035 L=2,335.0' S=0.0289 '/	Capacity=73.1 cfs	Outflow=0.1 cfs	0.022 af	
Reach RE4: CULVERT 16+74	Avg. Flow Depth=0.13'	Max Vel=2.28 fps	Inflow=0.2 cfs	0.113 af
18.0" Round Pipe n=0.013 L=50.0' S=0.0108 '/	Capacity=10.9 cfs	Outflow=0.2 cfs	0.113 af	
Reach RE6: CHANNEL IN WOODS	Avg. Flow Depth=0.02'	Max Vel=0.42 fps	Inflow=0.1 cfs	0.005 af
n=0.035 L=1,985.0' S=0.0320 '/	Capacity=76.9 cfs	Outflow=0.0 cfs	0.005 af	
Reach RE7: CHANNEL IN WOODS	Avg. Flow Depth=0.05'	Max Vel=0.71 fps	Inflow=0.2 cfs	0.090 af
n=0.035 L=2,760.0' S=0.0228 '/	Capacity=64.9 cfs	Outflow=0.1 cfs	0.087 af	
Pond CB3: PROPOSED CATCH BASIN	Peak Elev=1,104.39'	Inflow=0.9 cfs	0.045 af	
15.0" Round Culvert n=0.013 L=128.1' S=0.0195 '/	Outflow=0.9 cfs	0.045 af		
Pond DD1: RAIN GARDEN	Peak Elev=997.73'	Storage=1,389 cf	Inflow=2.7 cfs	0.085 af
Primary=0.1 cfs 0.085 af	Secondary=0.0 cfs 0.000 af	Outflow=0.1 cfs	0.085 af	
Pond DD1a: DETENTION BASIN	Peak Elev=987.31'	Storage=5,005 cf	Inflow=2.1 cfs	0.139 af
Discarded=0.0 cfs 0.025 af	Primary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.025 af	
Pond DD2: RAIN GARDEN	Peak Elev=1,048.02'	Storage=852 cf	Inflow=1.2 cfs	0.040 af
Primary=0.0 cfs 0.037 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.037 af	
Pond DD3: INFILTRATION BASIN	Peak Elev=1,074.25'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Discarded=0.0 cfs 0.000 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af
Pond DD3A: RAIN GARDEN	Peak Elev=1,095.05'	Storage=737 cf	Inflow=1.4 cfs	0.039 af
Primary=0.0 cfs 0.038 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.038 af	
Pond DD4: RAIN GARDEN	Peak Elev=1,100.42'	Storage=1,726 cf	Inflow=2.4 cfs	0.085 af
Primary=0.2 cfs 0.085 af	Secondary=0.0 cfs 0.000 af	Outflow=0.2 cfs	0.085 af	
Pond DD5: RAIN GARDEN	Peak Elev=1,138.13'	Storage=3,623 cf	Inflow=1.6 cfs	0.173 af
Primary=0.3 cfs 0.156 af	Secondary=0.0 cfs 0.000 af	Outflow=0.3 cfs	0.156 af	
Pond DD6: INFILTRATION BASIN	Peak Elev=1,144.00'	Storage=0 cf	Inflow=0.1 cfs	0.016 af
Discarded=0.1 cfs 0.016 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.1 cfs	0.016 af
Pond eCB1: EX. CATCH BASIN	Peak Elev=982.70'	Inflow=0.2 cfs	0.186 af	
24.0" Round Culvert n=0.012 L=80.0' S=0.0400 '/	Outflow=0.2 cfs	0.186 af		
Pond eCB2: EX. CATCH BASIN	Peak Elev=988.52'	Inflow=0.3 cfs	0.043 af	
24.0" Round Culvert n=0.012 L=70.0' S=0.0036 '/	Outflow=0.3 cfs	0.043 af		
Pond FDD1: FOREBAY	Peak Elev=998.31'	Storage=656 cf	Inflow=2.1 cfs	0.100 af
	Outflow=2.7 cfs	0.085 af		

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Type II 24-hr 2-yr Rainfall=2.32"

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Pond FDD1A: FOREBAYPeak Elev=987.30' Storage=438 cf Inflow=1.4 cfs 0.150 af
Discarded=0.0 cfs 0.001 af Primary=2.1 cfs 0.139 af Outflow=2.1 cfs 0.140 af**Pond FDD2: FOREBAY**Peak Elev=1,049.13' Storage=315 cf Inflow=1.0 cfs 0.047 af
Outflow=1.2 cfs 0.040 af**Pond FDD3: FOREBAY**Peak Elev=1,077.02' Storage=906 cf Inflow=1.1 cfs 0.050 af
Discarded=0.1 cfs 0.050 af Primary=0.0 cfs 0.000 af Outflow=0.1 cfs 0.050 af**Pond FDD3A: FOREBAY**Peak Elev=1,096.14' Storage=301 cf Inflow=1.0 cfs 0.046 af
Outflow=1.4 cfs 0.039 af**Pond FDD4: FOREBAY**Peak Elev=1,100.42' Storage=921 cf Inflow=2.1 cfs 0.106 af
Outflow=2.4 cfs 0.085 af**Pond FDD5: FOREBAY**Peak Elev=1,149.08' Storage=1,641 cf Inflow=2.0 cfs 0.173 af
Outflow=1.6 cfs 0.173 af**Pond FDD6: FOREBAY**Peak Elev=1,147.01' Storage=1,043 cf Inflow=0.1 cfs 0.040 af
Outflow=0.1 cfs 0.016 af**Total Runoff Area = 56.190 ac Runoff Volume = 1.117 af Average Runoff Depth = 0.24"**
88.86% Pervious = 49.930 ac 11.14% Impervious = 6.260 ac

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment D1: OFF-SITE FLOW	Runoff Area=1.410 ac 47.52% Impervious Runoff Depth=2.01" Flow Length=155' Tc=16.1 min CN=87 Runoff=3.5 cfs 0.236 af
Subcatchment D2: WOODS	Runoff Area=3.280 ac 2.44% Impervious Runoff Depth=0.31" Flow Length=735' Tc=37.7 min CN=56 Runoff=0.4 cfs 0.086 af
Subcatchment D3: WOODS & ROAD	Runoff Area=4.950 ac 2.42% Impervious Runoff Depth=0.31" Flow Length=1,020' Tc=51.0 min CN=56 Runoff=0.5 cfs 0.130 af
Subcatchment D4: WOODS	Runoff Area=1.760 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=855' Tc=40.1 min CN=56 Runoff=0.2 cfs 0.046 af
Subcatchment D5: STAGING AREA	Runoff Area=2.390 ac 50.63% Impervious Runoff Depth=1.63" Flow Length=385' Tc=23.9 min CN=82 Runoff=3.9 cfs 0.324 af
Subcatchment D6: WOODS	Runoff Area=3.750 ac 2.40% Impervious Runoff Depth=0.35" Flow Length=845' Tc=41.5 min CN=57 Runoff=0.5 cfs 0.108 af
Subcatchment D7: WOODS & ROAD	Runoff Area=4.400 ac 7.27% Impervious Runoff Depth=0.42" Flow Length=409' Tc=12.4 min UI Adjusted CN=59 Runoff=1.7 cfs 0.152 af
Subcatchment D8: WOODS	Runoff Area=5.720 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=1,135' Slope=0.0650 '/' Tc=54.5 min CN=56 Runoff=0.5 cfs 0.150 af
Subcatchment E1: ROUTE 116	Runoff Area=1.320 ac 75.00% Impervious Runoff Depth=2.46" Tc=6.0 min CN=92 Runoff=5.5 cfs 0.270 af
Subcatchment E10: ROAD	Runoff Area=0.510 ac 62.75% Impervious Runoff Depth=2.36" Tc=6.0 min CN=91 Runoff=2.1 cfs 0.100 af
Subcatchment E11: WOODS & ROAD	Runoff Area=0.560 ac 46.43% Impervious Runoff Depth=1.77" Tc=6.0 min CN=84 Runoff=1.8 cfs 0.083 af
Subcatchment E12: WOODS & ROAD	Runoff Area=0.140 ac 78.57% Impervious Runoff Depth=2.86" Tc=6.0 min CN=96 Runoff=0.6 cfs 0.033 af
Subcatchment E13: OFF-SITE FLOW	Runoff Area=0.100 ac 20.00% Impervious Runoff Depth=1.23" Tc=6.0 min UI Adjusted CN=76 Runoff=0.2 cfs 0.010 af
Subcatchment E14: WOODS	Runoff Area=5.440 ac 1.65% Impervious Runoff Depth=0.15" Flow Length=540' Tc=16.5 min UI Adjusted CN=50 Runoff=0.2 cfs 0.069 af
Subcatchment E15: ROAD	Runoff Area=0.270 ac 81.48% Impervious Runoff Depth=2.97" Tc=6.0 min CN=97 Runoff=1.2 cfs 0.067 af
Subcatchment E2: WOODS	Runoff Area=11.100 ac 2.79% Impervious Runoff Depth=0.04" Flow Length=2,320' Tc=28.5 min CN=44 Runoff=0.1 cfs 0.040 af
Subcatchment E3: NEW ENTRANCE	Runoff Area=1.250 ac 22.40% Impervious Runoff Depth=1.29" Tc=6.0 min CN=77 Runoff=2.9 cfs 0.134 af

Subcatchment E4: NEW ENTRANCE	Runoff Area=1.380 ac 34.78% Impervious Runoff Depth=1.63" Tc=6.0 min CN=82 Runoff=4.0 cfs 0.187 af
Subcatchment E5: OLD DOUGLAS DRIVE	Runoff Area=1.800 ac 5.00% Impervious Runoff Depth=0.75" Flow Length=660' Tc=23.5 min CN=67 Runoff=1.1 cfs 0.112 af
Subcatchment E6: WOODS	Runoff Area=3.550 ac 1.69% Impervious Runoff Depth=0.07" Flow Length=930' Tc=47.8 min CN=46 Runoff=0.0 cfs 0.022 af
Subcatchment E7: ROAD	Runoff Area=0.580 ac 50.00% Impervious Runoff Depth=1.77" Tc=6.0 min CN=84 Runoff=1.8 cfs 0.086 af
Subcatchment E8: ROAD	Runoff Area=0.470 ac 48.94% Impervious Runoff Depth=2.01" Tc=6.0 min CN=87 Runoff=1.7 cfs 0.079 af
Subcatchment E9: ROAD	Runoff Area=0.060 ac 33.33% Impervious Runoff Depth=1.77" Tc=6.0 min CN=84 Runoff=0.2 cfs 0.009 af
Reach 15R: CHANNEL IN WOODS	Avg. Flow Depth=0.15' Max Vel=2.21 fps Inflow=2.1 cfs 0.415 af n=0.035 L=855.0' S=0.0572 '/' Capacity=405.6 cfs Outflow=1.5 cfs 0.413 af
Reach 19R: CHANNEL IN WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=920.0' S=0.0413 '/' Capacity=87.4 cfs Outflow=0.0 cfs 0.000 af
Reach OUT-D: WETLANDS COMPLEX	Inflow=4.3 cfs 1.044 af Outflow=4.3 cfs 1.044 af
Reach OUT-E: TO NH ROUTE 116	Inflow=5.9 cfs 0.864 af Outflow=5.9 cfs 0.864 af
Reach RD2: CULVERT 60+03	Avg. Flow Depth=0.13' Max Vel=4.98 fps Inflow=0.4 cfs 0.086 af 18.0" Round Pipe n=0.013 L=56.6' S=0.0530 '/' Capacity=24.2 cfs Outflow=0.4 cfs 0.086 af
Reach RD3: CULVERT 58+16	Avg. Flow Depth=0.17' Max Vel=4.18 fps Inflow=0.5 cfs 0.130 af 18.0" Round Pipe n=0.013 L=38.4' S=0.0260 '/' Capacity=17.0 cfs Outflow=0.5 cfs 0.130 af
Reach RD4: CULVERT 56+06	Avg. Flow Depth=0.14' Max Vel=2.38 fps Inflow=0.2 cfs 0.046 af 18.0" Round Pipe n=0.013 L=50.8' S=0.0112 '/' Capacity=11.1 cfs Outflow=0.2 cfs 0.046 af
Reach RD6: CULVERT 53+68	Avg. Flow Depth=0.17' Max Vel=4.09 fps Inflow=0.5 cfs 0.108 af 18.0" Round Pipe n=0.013 L=58.0' S=0.0241 '/' Capacity=16.3 cfs Outflow=0.5 cfs 0.108 af
Reach RD8: CULVERT 49+19	Avg. Flow Depth=0.14' Max Vel=5.91 fps Inflow=0.5 cfs 0.150 af 18.0" Round Pipe n=0.013 L=61.0' S=0.0639 '/' Capacity=26.6 cfs Outflow=0.5 cfs 0.150 af
Reach RDD1A: ROADSIDE SWALE	Avg. Flow Depth=0.15' Max Vel=1.39 fps Inflow=0.3 cfs 0.029 af n=0.022 L=175.0' S=0.0143 '/' Capacity=14.7 cfs Outflow=0.1 cfs 0.029 af
Reach RDD2: WOODS	Avg. Flow Depth=0.16' Max Vel=3.34 fps Inflow=1.4 cfs 0.070 af n=0.035 L=75.0' S=0.1267 '/' Capacity=75.6 cfs Outflow=1.4 cfs 0.070 af
Reach RDD3: CULVERT	Avg. Flow Depth=0.16' Max Vel=2.43 fps Inflow=0.2 cfs 0.009 af 12.0" Round Pipe n=0.013 L=48.6' S=0.0103 '/' Capacity=3.6 cfs Outflow=0.2 cfs 0.009 af
Reach RE12: CULVERT 34+78	Avg. Flow Depth=0.29' Max Vel=3.35 fps Inflow=0.6 cfs 0.033 af 12.0" Round Pipe n=0.013 L=53.4' S=0.0094 '/' Capacity=3.4 cfs Outflow=0.6 cfs 0.033 af

Reach RE14: CULVERT 39+15	Avg. Flow Depth=0.15'	Max Vel=1.76 fps	Inflow=0.2 cfs	0.069 af
18.0" Round Pipe n=0.013 L=54.7' S=0.0055 '/	Capacity=7.8 cfs	Outflow=0.2 cfs	0.069 af	
Reach RE2: CHANNEL IN WOODS	Avg. Flow Depth=0.10'	Max Vel=1.34 fps	Inflow=1.4 cfs	0.074 af
n=0.035 L=1,520.0' S=0.0372 '/	Capacity=62.0 cfs	Outflow=0.4 cfs	0.073 af	
Reach RE3: Channel in Woods	Avg. Flow Depth=0.07'	Max Vel=0.91 fps	Inflow=0.6 cfs	0.033 af
n=0.035 L=2,335.0' S=0.0289 '/	Capacity=73.1 cfs	Outflow=0.2 cfs	0.033 af	
Reach RE4: CULVERT 16+74	Avg. Flow Depth=0.28'	Max Vel=3.63 fps	Inflow=0.8 cfs	0.272 af
18.0" Round Pipe n=0.013 L=50.0' S=0.0108 '/	Capacity=10.9 cfs	Outflow=0.8 cfs	0.272 af	
Reach RE6: CHANNEL IN WOODS	Avg. Flow Depth=0.03'	Max Vel=0.60 fps	Inflow=0.2 cfs	0.010 af
n=0.035 L=1,985.0' S=0.0320 '/	Capacity=76.9 cfs	Outflow=0.0 cfs	0.010 af	
Reach RE7: CHANNEL IN WOODS	Avg. Flow Depth=0.11'	Max Vel=1.16 fps	Inflow=2.6 cfs	0.212 af
n=0.035 L=2,760.0' S=0.0228 '/	Capacity=64.9 cfs	Outflow=0.6 cfs	0.207 af	
Pond CB3: PROPOSED CATCH BASIN	Peak Elev=1,104.47'	Inflow=1.2 cfs	0.067 af	
15.0" Round Culvert n=0.013 L=128.1' S=0.0195 '/	Outflow=1.2 cfs	0.067 af		
Pond DD1: RAIN GARDEN	Peak Elev=998.16'	Storage=2,592 cf	Inflow=4.5 cfs	0.172 af
Primary=1.9 cfs 0.166 af	Secondary=0.0 cfs 0.000 af	Outflow=1.9 cfs	0.166 af	
Pond DD1a: DETENTION BASIN	Peak Elev=988.14'	Storage=9,490 cf	Inflow=4.4 cfs	0.289 af
Discarded=0.0 cfs 0.052 af	Primary=0.3 cfs 0.029 af	Outflow=0.3 cfs	0.082 af	
Pond DD2: RAIN GARDEN	Peak Elev=1,048.29'	Storage=1,098 cf	Inflow=1.9 cfs	0.079 af
Primary=1.4 cfs 0.070 af	Secondary=0.0 cfs 0.000 af	Outflow=1.4 cfs	0.070 af	
Pond DD3: INFILTRATION BASIN	Peak Elev=1,074.92'	Storage=497 cf	Inflow=3.3 cfs	0.016 af
Discarded=0.1 cfs 0.016 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.1 cfs	0.016 af
Pond DD3A: RAIN GARDEN	Peak Elev=1,095.29'	Storage=996 cf	Inflow=1.9 cfs	0.076 af
Primary=1.4 cfs 0.074 af	Secondary=0.0 cfs 0.000 af	Outflow=1.4 cfs	0.074 af	
Pond DD4: RAIN GARDEN	Peak Elev=1,100.57'	Storage=2,214 cf	Inflow=3.4 cfs	0.146 af
Primary=2.0 cfs 0.139 af	Secondary=0.5 cfs 0.004 af	Outflow=2.6 cfs	0.143 af	
Pond DD5: RAIN GARDEN	Peak Elev=1,138.26'	Storage=4,014 cf	Inflow=3.9 cfs	0.324 af
Primary=1.8 cfs 0.287 af	Secondary=0.0 cfs 0.000 af	Outflow=1.8 cfs	0.287 af	
Pond DD6: INFILTRATION BASIN	Peak Elev=1,144.75'	Storage=1,061 cf	Inflow=2.1 cfs	0.128 af
Discarded=0.2 cfs 0.129 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.2 cfs	0.129 af
Pond eCB1: EX. CATCH BASIN	Peak Elev=983.01'	Inflow=1.5 cfs	0.482 af	
24.0" Round Culvert n=0.012 L=80.0' S=0.0400 '/	Outflow=1.5 cfs	0.482 af		
Pond eCB2: EX. CATCH BASIN	Peak Elev=988.76'	Inflow=1.1 cfs	0.112 af	
24.0" Round Culvert n=0.012 L=70.0' S=0.0036 '/	Outflow=1.1 cfs	0.112 af		
Pond FDD1: FOREBAY	Peak Elev=998.44'	Storage=656 cf	Inflow=4.0 cfs	0.187 af
	Outflow=4.5 cfs	0.172 af		

1101-POSTDEV_To OUTDE

Type II 24-hr 10-yr Rainfall=3.31"

Prepared by CMA Engineers

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Pond FDD1A: FOREBAY	Peak Elev=988.13' Storage=438 cf Inflow=3.6 cfs 0.301 af Discarded=0.0 cfs 0.001 af Primary=4.4 cfs 0.289 af Outflow=4.4 cfs 0.290 af
Pond FDD2: FOREBAY	Peak Elev=1,049.17' Storage=315 cf Inflow=1.8 cfs 0.086 af Outflow=1.9 cfs 0.079 af
Pond FDD3: FOREBAY	Peak Elev=1,077.33' Storage=1,125 cf Inflow=1.8 cfs 0.088 af Discarded=0.1 cfs 0.072 af Primary=3.3 cfs 0.016 af Outflow=3.5 cfs 0.088 af
Pond FDD3A: FOREBAY	Peak Elev=1,096.18' Storage=301 cf Inflow=1.8 cfs 0.083 af Outflow=1.9 cfs 0.076 af
Pond FDD4: FOREBAY	Peak Elev=1,100.58' Storage=921 cf Inflow=3.3 cfs 0.167 af Outflow=3.4 cfs 0.146 af
Pond FDD5: FOREBAY	Peak Elev=1,149.16' Storage=1,774 cf Inflow=3.9 cfs 0.324 af Outflow=3.9 cfs 0.324 af
Pond FDD6: FOREBAY	Peak Elev=1,147.11' Storage=1,043 cf Inflow=1.7 cfs 0.152 af Outflow=2.1 cfs 0.128 af

Total Runoff Area = 56.190 ac Runoff Volume = 2.535 af Average Runoff Depth = 0.54"
88.86% Pervious = 49.930 ac 11.14% Impervious = 6.260 ac

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment D1: OFF-SITE FLOW	Runoff Area=1.410 ac 47.52% Impervious Runoff Depth=2.69" Flow Length=155' Tc=16.1 min CN=87 Runoff=4.7 cfs 0.316 af
Subcatchment D2: WOODS	Runoff Area=3.280 ac 2.44% Impervious Runoff Depth=0.60" Flow Length=735' Tc=37.7 min CN=56 Runoff=1.0 cfs 0.164 af
Subcatchment D3: WOODS & ROAD	Runoff Area=4.950 ac 2.42% Impervious Runoff Depth=0.60" Flow Length=1,020' Tc=51.0 min CN=56 Runoff=1.2 cfs 0.247 af
Subcatchment D4: WOODS	Runoff Area=1.760 ac 0.00% Impervious Runoff Depth=0.60" Flow Length=855' Tc=40.1 min CN=56 Runoff=0.5 cfs 0.088 af
Subcatchment D5: STAGING AREA	Runoff Area=2.390 ac 50.63% Impervious Runoff Depth=2.25" Flow Length=385' Tc=23.9 min CN=82 Runoff=5.4 cfs 0.449 af
Subcatchment D6: WOODS	Runoff Area=3.750 ac 2.40% Impervious Runoff Depth=0.64" Flow Length=845' Tc=41.5 min CN=57 Runoff=1.2 cfs 0.201 af
Subcatchment D7: WOODS & ROAD	Runoff Area=4.400 ac 7.27% Impervious Runoff Depth=0.74" Flow Length=409' Tc=12.4 min UI Adjusted CN=59 Runoff=3.8 cfs 0.272 af
Subcatchment D8: WOODS	Runoff Area=5.720 ac 0.00% Impervious Runoff Depth=0.60" Flow Length=1,135' Slope=0.0650 '/' Tc=54.5 min CN=56 Runoff=1.3 cfs 0.285 af
Subcatchment E1: ROUTE 116	Runoff Area=1.320 ac 75.00% Impervious Runoff Depth=3.18" Tc=6.0 min CN=92 Runoff=7.0 cfs 0.349 af
Subcatchment E10: ROAD	Runoff Area=0.510 ac 62.75% Impervious Runoff Depth=3.07" Tc=6.0 min CN=91 Runoff=2.6 cfs 0.131 af
Subcatchment E11: WOODS & ROAD	Runoff Area=0.560 ac 46.43% Impervious Runoff Depth=2.42" Tc=6.0 min CN=84 Runoff=2.4 cfs 0.113 af
Subcatchment E12: WOODS & ROAD	Runoff Area=0.140 ac 78.57% Impervious Runoff Depth=3.60" Tc=6.0 min CN=96 Runoff=0.8 cfs 0.042 af
Subcatchment E13: OFF-SITE FLOW	Runoff Area=0.100 ac 20.00% Impervious Runoff Depth=1.78" Tc=6.0 min UI Adjusted CN=76 Runoff=0.3 cfs 0.015 af
Subcatchment E14: WOODS	Runoff Area=5.440 ac 1.65% Impervious Runoff Depth=0.35" Flow Length=540' Tc=16.5 min UI Adjusted CN=50 Runoff=1.0 cfs 0.160 af
Subcatchment E15: ROAD	Runoff Area=0.270 ac 81.48% Impervious Runoff Depth=3.71" Tc=6.0 min CN=97 Runoff=1.5 cfs 0.083 af
Subcatchment E2: WOODS	Runoff Area=11.100 ac 2.79% Impervious Runoff Depth=0.16" Flow Length=2,320' Tc=28.5 min CN=44 Runoff=0.3 cfs 0.149 af
Subcatchment E3: NEW ENTRANCE	Runoff Area=1.250 ac 22.40% Impervious Runoff Depth=1.86" Tc=6.0 min CN=77 Runoff=4.2 cfs 0.194 af

Subcatchment E4: NEW ENTRANCE	Runoff Area=1.380 ac 34.78% Impervious Runoff Depth=2.25" Tc=6.0 min CN=82 Runoff=5.5 cfs 0.259 af
Subcatchment E5: OLD DOUGLAS DRIVE	Runoff Area=1.800 ac 5.00% Impervious Runoff Depth=1.18" Flow Length=660' Tc=23.5 min CN=67 Runoff=2.0 cfs 0.177 af
Subcatchment E6: WOODS	Runoff Area=3.550 ac 1.69% Impervious Runoff Depth=0.22" Flow Length=930' Tc=47.8 min CN=46 Runoff=0.1 cfs 0.064 af
Subcatchment E7: ROAD	Runoff Area=0.580 ac 50.00% Impervious Runoff Depth=2.42" Tc=6.0 min CN=84 Runoff=2.5 cfs 0.117 af
Subcatchment E8: ROAD	Runoff Area=0.470 ac 48.94% Impervious Runoff Depth=2.69" Tc=6.0 min CN=87 Runoff=2.2 cfs 0.105 af
Subcatchment E9: ROAD	Runoff Area=0.060 ac 33.33% Impervious Runoff Depth=2.42" Tc=6.0 min CN=84 Runoff=0.3 cfs 0.012 af
Reach 15R: CHANNEL IN WOODS	Avg. Flow Depth=0.22' Max Vel=2.81 fps Inflow=4.0 cfs 0.664 af n=0.035 L=855.0' S=0.0572 '/ Capacity=405.6 cfs Outflow=3.4 cfs 0.662 af
Reach 19R: CHANNEL IN WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=920.0' S=0.0413 '/ Capacity=87.4 cfs Outflow=0.0 cfs 0.000 af
Reach OUT-D: WETLANDS COMPLEX	Inflow=9.8 cfs 1.702 af Outflow=9.8 cfs 1.702 af
Reach OUT-E: TO NH ROUTE 116	Inflow=9.0 cfs 1.490 af Outflow=9.0 cfs 1.490 af
Reach RD2: CULVERT 60+03	Avg. Flow Depth=0.20' Max Vel=6.67 fps Inflow=1.0 cfs 0.164 af 18.0" Round Pipe n=0.013 L=56.6' S=0.0530 '/ Capacity=24.2 cfs Outflow=1.0 cfs 0.164 af
Reach RD3: CULVERT 58+16	Avg. Flow Depth=0.27' Max Vel=5.51 fps Inflow=1.2 cfs 0.247 af 18.0" Round Pipe n=0.013 L=38.4' S=0.0260 '/ Capacity=17.0 cfs Outflow=1.2 cfs 0.247 af
Reach RD4: CULVERT 56+06	Avg. Flow Depth=0.21' Max Vel=3.17 fps Inflow=0.5 cfs 0.088 af 18.0" Round Pipe n=0.013 L=50.8' S=0.0112 '/ Capacity=11.1 cfs Outflow=0.5 cfs 0.088 af
Reach RD6: CULVERT 53+68	Avg. Flow Depth=0.27' Max Vel=5.34 fps Inflow=1.2 cfs 0.201 af 18.0" Round Pipe n=0.013 L=58.0' S=0.0241 '/ Capacity=16.3 cfs Outflow=1.2 cfs 0.201 af
Reach RD8: CULVERT 49+19	Avg. Flow Depth=0.23' Max Vel=7.78 fps Inflow=1.3 cfs 0.285 af 18.0" Round Pipe n=0.013 L=61.0' S=0.0639 '/ Capacity=26.6 cfs Outflow=1.3 cfs 0.285 af
Reach RDD1A: ROADSIDE SWALE	Avg. Flow Depth=0.24' Max Vel=1.88 fps Inflow=0.6 cfs 0.152 af n=0.022 L=175.0' S=0.0143 '/ Capacity=14.7 cfs Outflow=0.3 cfs 0.152 af
Reach RDD2: WOODS	Avg. Flow Depth=0.20' Max Vel=3.96 fps Inflow=2.4 cfs 0.099 af n=0.035 L=75.0' S=0.1267 '/ Capacity=75.6 cfs Outflow=2.4 cfs 0.099 af
Reach RDD3: CULVERT	Avg. Flow Depth=0.18' Max Vel=2.66 fps Inflow=0.3 cfs 0.012 af 12.0" Round Pipe n=0.013 L=48.6' S=0.0103 '/ Capacity=3.6 cfs Outflow=0.3 cfs 0.012 af
Reach RE12: CULVERT 34+78	Avg. Flow Depth=0.33' Max Vel=3.56 fps Inflow=0.8 cfs 0.042 af 12.0" Round Pipe n=0.013 L=53.4' S=0.0094 '/ Capacity=3.4 cfs Outflow=0.8 cfs 0.042 af

Reach RE14: CULVERT 39+15	Avg. Flow Depth=0.37'	Max Vel=3.06 fps	Inflow=1.0 cfs	0.160 af
18.0" Round Pipe n=0.013 L=54.7' S=0.0055 '/	Capacity=7.8 cfs	Outflow=1.0 cfs	0.160 af	
Reach RE2: CHANNEL IN WOODS	Avg. Flow Depth=0.15'	Max Vel=1.76 fps	Inflow=2.3 cfs	0.103 af
n=0.035 L=1,520.0' S=0.0372 '/	Capacity=62.0 cfs	Outflow=1.0 cfs	0.102 af	
Reach RE3: Channel in Woods	Avg. Flow Depth=0.08'	Max Vel=1.00 fps	Inflow=0.8 cfs	0.042 af
n=0.035 L=2,335.0' S=0.0289 '/	Capacity=73.1 cfs	Outflow=0.3 cfs	0.042 af	
Reach RE4: CULVERT 16+74	Avg. Flow Depth=0.41'	Max Vel=4.56 fps	Inflow=1.8 cfs	0.464 af
18.0" Round Pipe n=0.013 L=50.0' S=0.0108 '/	Capacity=10.9 cfs	Outflow=1.8 cfs	0.464 af	
Reach RE6: CHANNEL IN WOODS	Avg. Flow Depth=0.04'	Max Vel=0.71 fps	Inflow=0.3 cfs	0.015 af
n=0.035 L=1,985.0' S=0.0320 '/	Capacity=76.9 cfs	Outflow=0.1 cfs	0.015 af	
Reach RE7: CHANNEL IN WOODS	Avg. Flow Depth=0.17'	Max Vel=1.52 fps	Inflow=4.1 cfs	0.348 af
n=0.035 L=2,760.0' S=0.0228 '/	Capacity=64.9 cfs	Outflow=1.5 cfs	0.343 af	
Pond CB3: PROPOSED CATCH BASIN	Peak Elev=1,104.53'	Inflow=1.5 cfs	0.083 af	
15.0" Round Culvert n=0.013 L=128.1' S=0.0195 '/	Outflow=1.5 cfs	0.083 af		
Pond DD1: RAIN GARDEN	Peak Elev=998.30'	Storage=3,019 cf	Inflow=5.5 cfs	0.244 af
Primary=4.4 cfs 0.238 af	Secondary=0.0 cfs 0.000 af	Outflow=4.4 cfs	0.238 af	
Pond DD1a: DETENTION BASIN	Peak Elev=988.21'	Storage=10,002 cf	Inflow=8.3 cfs	0.419 af
Discarded=0.0 cfs 0.058 af	Primary=0.6 cfs 0.152 af	Outflow=0.7 cfs	0.210 af	
Pond DD2: RAIN GARDEN	Peak Elev=1,048.35'	Storage=1,161 cf	Inflow=2.5 cfs	0.110 af
Primary=2.4 cfs 0.099 af	Secondary=0.0 cfs 0.000 af	Outflow=2.4 cfs	0.099 af	
Pond DD3: INFILTRATION BASIN	Peak Elev=1,075.54'	Storage=1,148 cf	Inflow=4.2 cfs	0.034 af
Discarded=0.1 cfs 0.034 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.1 cfs	0.034 af
Pond DD3A: RAIN GARDEN	Peak Elev=1,095.35'	Storage=1,061 cf	Inflow=2.4 cfs	0.106 af
Primary=2.3 cfs 0.103 af	Secondary=0.0 cfs 0.000 af	Outflow=2.3 cfs	0.103 af	
Pond DD4: RAIN GARDEN	Peak Elev=1,100.62'	Storage=2,366 cf	Inflow=4.2 cfs	0.193 af
Primary=2.8 cfs 0.176 af	Secondary=1.0 cfs 0.012 af	Outflow=3.9 cfs	0.188 af	
Pond DD5: RAIN GARDEN	Peak Elev=1,138.41'	Storage=4,469 cf	Inflow=5.0 cfs	0.449 af
Primary=4.6 cfs 0.401 af	Secondary=0.0 cfs 0.000 af	Outflow=4.6 cfs	0.401 af	
Pond DD6: INFILTRATION BASIN	Peak Elev=1,146.16'	Storage=3,778 cf	Inflow=5.9 cfs	0.248 af
Discarded=0.3 cfs 0.248 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.3 cfs	0.248 af
Pond eCB1: EX. CATCH BASIN	Peak Elev=983.28'	Inflow=3.4 cfs	0.963 af	
24.0" Round Culvert n=0.012 L=80.0' S=0.0400 '/	Outflow=3.4 cfs	0.963 af		
Pond eCB2: EX. CATCH BASIN	Peak Elev=988.92'	Inflow=2.0 cfs	0.177 af	
24.0" Round Culvert n=0.012 L=70.0' S=0.0036 '/	Outflow=2.0 cfs	0.177 af		
Pond FDD1: FOREBAY	Peak Elev=998.54'	Storage=656 cf	Inflow=5.5 cfs	0.259 af
	Outflow=5.5 cfs	0.244 af		

1101-POSTDEV_To OUTDE

Type II 24-hr 25-yr Rainfall=4.06"

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Pond FDD1A: FOREBAY Peak Elev=988.21' Storage=438 cf Inflow=8.1 cfs 0.432 af
Discarded=0.0 cfs 0.001 af Primary=8.3 cfs 0.419 af Outflow=8.3 cfs 0.420 af

Pond FDD2: FOREBAY Peak Elev=1,049.21' Storage=315 cf Inflow=2.5 cfs 0.117 af
Outflow=2.5 cfs 0.110 af

Pond FDD3: FOREBAY Peak Elev=1,077.34' Storage=1,125 cf Inflow=2.4 cfs 0.118 af
Discarded=0.1 cfs 0.084 af Primary=4.2 cfs 0.034 af Outflow=4.3 cfs 0.118 af

Pond FDD3A: FOREBAY Peak Elev=1,096.21' Storage=301 cf Inflow=2.4 cfs 0.113 af
Outflow=2.4 cfs 0.106 af

Pond FDD4: FOREBAY Peak Elev=1,100.64' Storage=921 cf Inflow=4.2 cfs 0.214 af
Outflow=4.2 cfs 0.193 af

Pond FDD5: FOREBAY Peak Elev=1,149.27' Storage=1,955 cf Inflow=5.4 cfs 0.449 af
Outflow=5.0 cfs 0.449 af

Pond FDD6: FOREBAY Peak Elev=1,147.23' Storage=1,043 cf Inflow=3.8 cfs 0.272 af
Outflow=5.9 cfs 0.248 af

Total Runoff Area = 56.190 ac Runoff Volume = 3.994 af Average Runoff Depth = 0.85"
88.86% Pervious = 49.930 ac 11.14% Impervious = 6.260 ac

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment D1: OFF-SITE FLOW	Runoff Area=1.410 ac 47.52% Impervious Runoff Depth=3.31" Flow Length=155' Tc=16.1 min CN=87 Runoff=5.7 cfs 0.389 af
Subcatchment D2: WOODS	Runoff Area=3.280 ac 2.44% Impervious Runoff Depth=0.91" Flow Length=735' Tc=37.7 min CN=56 Runoff=1.7 cfs 0.248 af
Subcatchment D3: WOODS & ROAD	Runoff Area=4.950 ac 2.42% Impervious Runoff Depth=0.91" Flow Length=1,020' Tc=51.0 min CN=56 Runoff=2.0 cfs 0.374 af
Subcatchment D4: WOODS	Runoff Area=1.760 ac 0.00% Impervious Runoff Depth=0.91" Flow Length=855' Tc=40.1 min CN=56 Runoff=0.9 cfs 0.133 af
Subcatchment D5: STAGING AREA	Runoff Area=2.390 ac 50.63% Impervious Runoff Depth=2.84" Flow Length=385' Tc=23.9 min CN=82 Runoff=6.8 cfs 0.565 af
Subcatchment D6: WOODS	Runoff Area=3.750 ac 2.40% Impervious Runoff Depth=0.96" Flow Length=845' Tc=41.5 min CN=57 Runoff=2.0 cfs 0.301 af
Subcatchment D7: WOODS & ROAD	Runoff Area=4.400 ac 7.27% Impervious Runoff Depth=1.08" Flow Length=409' Tc=12.4 min UI Adjusted CN=59 Runoff=6.1 cfs 0.398 af
Subcatchment D8: WOODS	Runoff Area=5.720 ac 0.00% Impervious Runoff Depth=0.91" Flow Length=1,135' Slope=0.0650 '/' Tc=54.5 min CN=56 Runoff=2.3 cfs 0.432 af
Subcatchment E1: ROUTE 116	Runoff Area=1.320 ac 75.00% Impervious Runoff Depth=3.83" Tc=6.0 min CN=92 Runoff=8.3 cfs 0.421 af
Subcatchment E10: ROAD	Runoff Area=0.510 ac 62.75% Impervious Runoff Depth=3.72" Tc=6.0 min CN=91 Runoff=3.1 cfs 0.158 af
Subcatchment E11: WOODS & ROAD	Runoff Area=0.560 ac 46.43% Impervious Runoff Depth=3.02" Tc=6.0 min CN=84 Runoff=3.0 cfs 0.141 af
Subcatchment E12: WOODS & ROAD	Runoff Area=0.140 ac 78.57% Impervious Runoff Depth=4.26" Tc=6.0 min CN=96 Runoff=0.9 cfs 0.050 af
Subcatchment E13: OFF-SITE FLOW	Runoff Area=0.100 ac 20.00% Impervious Runoff Depth=2.31" Tc=6.0 min UI Adjusted CN=76 Runoff=0.4 cfs 0.019 af
Subcatchment E14: WOODS	Runoff Area=5.440 ac 1.65% Impervious Runoff Depth=0.59" Flow Length=540' Tc=16.5 min UI Adjusted CN=50 Runoff=2.5 cfs 0.265 af
Subcatchment E15: ROAD	Runoff Area=0.270 ac 81.48% Impervious Runoff Depth=4.38" Tc=6.0 min CN=97 Runoff=1.8 cfs 0.099 af
Subcatchment E2: WOODS	Runoff Area=11.100 ac 2.79% Impervious Runoff Depth=0.32" Flow Length=2,320' Tc=28.5 min CN=44 Runoff=1.0 cfs 0.296 af
Subcatchment E3: NEW ENTRANCE	Runoff Area=1.250 ac 22.40% Impervious Runoff Depth=2.40" Tc=6.0 min CN=77 Runoff=5.4 cfs 0.250 af

Subcatchment E4: NEW ENTRANCE	Runoff Area=1.380 ac 34.78% Impervious Runoff Depth=2.84" Tc=6.0 min CN=82 Runoff=6.9 cfs 0.326 af
Subcatchment E5: OLD DOUGLAS DRIVE	Runoff Area=1.800 ac 5.00% Impervious Runoff Depth=1.62" Flow Length=660' Tc=23.5 min CN=67 Runoff=2.8 cfs 0.243 af
Subcatchment E6: WOODS	Runoff Area=3.550 ac 1.69% Impervious Runoff Depth=0.40" Flow Length=930' Tc=47.8 min CN=46 Runoff=0.4 cfs 0.119 af
Subcatchment E7: ROAD	Runoff Area=0.580 ac 50.00% Impervious Runoff Depth=3.02" Tc=6.0 min CN=84 Runoff=3.1 cfs 0.146 af
Subcatchment E8: ROAD	Runoff Area=0.470 ac 48.94% Impervious Runoff Depth=3.31" Tc=6.0 min CN=87 Runoff=2.7 cfs 0.130 af
Subcatchment E9: ROAD	Runoff Area=0.060 ac 33.33% Impervious Runoff Depth=3.02" Tc=6.0 min CN=84 Runoff=0.3 cfs 0.015 af
Reach 15R: CHANNEL IN WOODS	Avg. Flow Depth=0.27' Max Vel=3.23 fps Inflow=5.8 cfs 0.933 af n=0.035 L=855.0' S=0.0572 '/ Capacity=405.6 cfs Outflow=5.3 cfs 0.931 af
Reach 19R: CHANNEL IN WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=920.0' S=0.0413 '/ Capacity=87.4 cfs Outflow=0.0 cfs 0.000 af
Reach OUT-D: WETLANDS COMPLEX	Inflow=14.7 cfs 2.387 af Outflow=14.7 cfs 2.387 af
Reach OUT-E: TO NH ROUTE 116	Inflow=12.6 cfs 2.162 af Outflow=12.6 cfs 2.162 af
Reach RD2: CULVERT 60+03	Avg. Flow Depth=0.27' Max Vel=7.86 fps Inflow=1.7 cfs 0.248 af 18.0" Round Pipe n=0.013 L=56.6' S=0.0530 '/ Capacity=24.2 cfs Outflow=1.7 cfs 0.248 af
Reach RD3: CULVERT 58+16	Avg. Flow Depth=0.35' Max Vel=6.47 fps Inflow=2.0 cfs 0.374 af 18.0" Round Pipe n=0.013 L=38.4' S=0.0260 '/ Capacity=17.0 cfs Outflow=2.0 cfs 0.374 af
Reach RD4: CULVERT 56+06	Avg. Flow Depth=0.28' Max Vel=3.74 fps Inflow=0.9 cfs 0.133 af 18.0" Round Pipe n=0.013 L=50.8' S=0.0112 '/ Capacity=11.1 cfs Outflow=0.9 cfs 0.133 af
Reach RD6: CULVERT 53+68	Avg. Flow Depth=0.35' Max Vel=6.23 fps Inflow=2.0 cfs 0.301 af 18.0" Round Pipe n=0.013 L=58.0' S=0.0241 '/ Capacity=16.3 cfs Outflow=2.0 cfs 0.301 af
Reach RD8: CULVERT 49+19	Avg. Flow Depth=0.30' Max Vel=9.16 fps Inflow=2.3 cfs 0.432 af 18.0" Round Pipe n=0.013 L=61.0' S=0.0639 '/ Capacity=26.6 cfs Outflow=2.3 cfs 0.432 af
Reach RDD1A: ROADSIDE SWALE	Avg. Flow Depth=0.35' Max Vel=2.43 fps Inflow=1.4 cfs 0.271 af n=0.022 L=175.0' S=0.0143 '/ Capacity=14.7 cfs Outflow=0.9 cfs 0.271 af
Reach RDD2: WOODS	Avg. Flow Depth=0.22' Max Vel=4.24 fps Inflow=3.0 cfs 0.126 af n=0.035 L=75.0' S=0.1267 '/ Capacity=75.6 cfs Outflow=3.0 cfs 0.126 af
Reach RDD3: CULVERT	Avg. Flow Depth=0.20' Max Vel=2.83 fps Inflow=0.3 cfs 0.015 af 12.0" Round Pipe n=0.013 L=48.6' S=0.0103 '/ Capacity=3.6 cfs Outflow=0.3 cfs 0.015 af
Reach RE12: CULVERT 34+78	Avg. Flow Depth=0.35' Max Vel=3.72 fps Inflow=0.9 cfs 0.050 af 12.0" Round Pipe n=0.013 L=53.4' S=0.0094 '/ Capacity=3.4 cfs Outflow=0.9 cfs 0.050 af

Reach RE14: CULVERT 39+15	Avg. Flow Depth=0.58'	Max Vel=3.90 fps	Inflow=2.5 cfs	0.265 af
18.0" Round Pipe n=0.013 L=54.7' S=0.0055 '/	Capacity=7.8 cfs	Outflow=2.4 cfs	0.265 af	
Reach RE2: CHANNEL IN WOODS	Avg. Flow Depth=0.18'	Max Vel=2.02 fps	Inflow=2.9 cfs	0.130 af
n=0.035 L=1,520.0' S=0.0372 '/	Capacity=62.0 cfs	Outflow=1.6 cfs	0.129 af	
Reach RE3: Channel in Woods	Avg. Flow Depth=0.08'	Max Vel=1.06 fps	Inflow=0.9 cfs	0.050 af
n=0.035 L=2,335.0' S=0.0289 '/	Capacity=73.1 cfs	Outflow=0.3 cfs	0.049 af	
Reach RE4: CULVERT 16+74	Avg. Flow Depth=0.55'	Max Vel=5.34 fps	Inflow=3.1 cfs	0.678 af
18.0" Round Pipe n=0.013 L=50.0' S=0.0108 '/	Capacity=10.9 cfs	Outflow=3.1 cfs	0.678 af	
Reach RE6: CHANNEL IN WOODS	Avg. Flow Depth=0.05'	Max Vel=0.79 fps	Inflow=0.4 cfs	0.019 af
n=0.035 L=1,985.0' S=0.0320 '/	Capacity=76.9 cfs	Outflow=0.1 cfs	0.019 af	
Reach RE7: CHANNEL IN WOODS	Avg. Flow Depth=0.23'	Max Vel=1.82 fps	Inflow=5.6 cfs	0.496 af
n=0.035 L=2,760.0' S=0.0228 '/	Capacity=64.9 cfs	Outflow=2.6 cfs	0.491 af	
Pond CB3: PROPOSED CATCH BASIN	Peak Elev=1,104.58'	Inflow=1.8 cfs	0.099 af	
15.0" Round Culvert n=0.013 L=128.1' S=0.0195 '/	Outflow=1.8 cfs	0.099 af		
Pond DD1: RAIN GARDEN	Peak Elev=998.38'	Storage=3,270 cf	Inflow=6.9 cfs	0.311 af
Primary=6.2 cfs 0.305 af	Secondary=0.0 cfs 0.000 af	Outflow=6.2 cfs	0.305 af	
Pond DD1a: DETENTION BASIN	Peak Elev=988.35'	Storage=10,967 cf	Inflow=11.3 cfs	0.541 af
Discarded=0.0 cfs 0.060 af	Primary=1.4 cfs 0.271 af	Outflow=1.4 cfs	0.331 af	
Pond DD2: RAIN GARDEN	Peak Elev=1,048.38'	Storage=1,194 cf	Inflow=3.1 cfs	0.139 af
Primary=3.0 cfs 0.126 af	Secondary=0.0 cfs 0.000 af	Outflow=3.0 cfs	0.126 af	
Pond DD3: INFILTRATION BASIN	Peak Elev=1,076.01'	Storage=1,769 cf	Inflow=3.4 cfs	0.052 af
Discarded=0.2 cfs 0.052 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.2 cfs	0.052 af
Pond DD3A: RAIN GARDEN	Peak Elev=1,095.38'	Storage=1,098 cf	Inflow=3.0 cfs	0.134 af
Primary=2.9 cfs 0.130 af	Secondary=0.0 cfs 0.000 af	Outflow=2.9 cfs	0.130 af	
Pond DD4: RAIN GARDEN	Peak Elev=1,100.64'	Storage=2,455 cf	Inflow=5.0 cfs	0.235 af
Primary=3.3 cfs 0.211 af	Secondary=1.4 cfs 0.019 af	Outflow=4.7 cfs	0.231 af	
Pond DD5: RAIN GARDEN	Peak Elev=1,138.45'	Storage=4,598 cf	Inflow=5.6 cfs	0.565 af
Primary=5.5 cfs 0.511 af	Secondary=0.0 cfs 0.000 af	Outflow=5.5 cfs	0.511 af	
Pond DD6: INFILTRATION BASIN	Peak Elev=1,147.28'	Storage=6,755 cf	Inflow=7.8 cfs	0.374 af
Discarded=0.4 cfs 0.358 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.4 cfs	0.358 af
Pond eCB1: EX. CATCH BASIN	Peak Elev=983.55'	Inflow=5.9 cfs	1.498 af	
24.0" Round Culvert n=0.012 L=80.0' S=0.0400 '/	Outflow=5.9 cfs	1.498 af		
Pond eCB2: EX. CATCH BASIN	Peak Elev=989.06'	Inflow=2.8 cfs	0.243 af	
24.0" Round Culvert n=0.012 L=70.0' S=0.0036 '/	Outflow=2.8 cfs	0.243 af		
Pond FDD1: FOREBAY	Peak Elev=998.65'	Storage=656 cf	Inflow=6.9 cfs	0.326 af
	Outflow=6.9 cfs	0.311 af		

Pond FDD1A: FOREBAY Peak Elev=988.35' Storage=438 cf Inflow=11.2 cfs 0.555 af
Discarded=0.0 cfs 0.001 af Primary=11.3 cfs 0.541 af Outflow=11.3 cfs 0.542 af

Pond FDD2: FOREBAY Peak Elev=1,049.24' Storage=315 cf Inflow=3.1 cfs 0.146 af
Outflow=3.1 cfs 0.139 af

Pond FDD3: FOREBAY Peak Elev=1,077.33' Storage=1,125 cf Inflow=3.0 cfs 0.145 af
Discarded=0.1 cfs 0.093 af Primary=3.4 cfs 0.052 af Outflow=3.5 cfs 0.145 af

Pond FDD3A: FOREBAY Peak Elev=1,096.24' Storage=301 cf Inflow=3.0 cfs 0.141 af
Outflow=3.0 cfs 0.134 af

Pond FDD4: FOREBAY Peak Elev=1,100.67' Storage=921 cf Inflow=4.9 cfs 0.257 af
Outflow=5.0 cfs 0.235 af

Pond FDD5: FOREBAY Peak Elev=1,149.66' Storage=2,678 cf Inflow=6.8 cfs 0.565 af
Outflow=5.6 cfs 0.565 af

Pond FDD6: FOREBAY Peak Elev=1,147.28' Storage=1,043 cf Inflow=6.1 cfs 0.398 af
Outflow=7.8 cfs 0.374 af

Total Runoff Area = 56.190 ac Runoff Volume = 5.517 af Average Runoff Depth = 1.18"
88.86% Pervious = 49.930 ac 11.14% Impervious = 6.260 ac

Time span=0.00-27.00 hrs, dt=0.01 hrs, 2701 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment D1: OFF-SITE FLOW	Runoff Area=1.410 ac 47.52% Impervious Runoff Depth=0.02" Flow Length=155' Tc=16.1 min CN=87 Runoff=0.0 cfs 0.003 af
Subcatchment D2: WOODS	Runoff Area=3.280 ac 2.44% Impervious Runoff Depth=0.00" Flow Length=735' Tc=37.7 min CN=56 Runoff=0.0 cfs 0.000 af
Subcatchment D3: WOODS & ROAD	Runoff Area=4.950 ac 2.42% Impervious Runoff Depth=0.00" Flow Length=1,020' Tc=51.0 min CN=56 Runoff=0.0 cfs 0.000 af
Subcatchment D4: WOODS	Runoff Area=1.760 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=855' Tc=40.1 min CN=56 Runoff=0.0 cfs 0.000 af
Subcatchment D5: STAGING AREA	Runoff Area=2.390 ac 50.63% Impervious Runoff Depth=0.00" Flow Length=385' Tc=23.9 min CN=82 Runoff=0.0 cfs 0.000 af
Subcatchment D6: WOODS	Runoff Area=3.750 ac 2.40% Impervious Runoff Depth=0.00" Flow Length=845' Tc=41.5 min CN=57 Runoff=0.0 cfs 0.000 af
Subcatchment D7: WOODS & ROAD	Runoff Area=4.400 ac 7.27% Impervious Runoff Depth=0.00" Flow Length=409' Tc=12.4 min UI Adjusted CN=59 Runoff=0.0 cfs 0.000 af
Subcatchment D8: WOODS	Runoff Area=5.720 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=1,135' Slope=0.0650 '/' Tc=54.5 min CN=56 Runoff=0.0 cfs 0.000 af
Subcatchment E1: ROUTE 116	Runoff Area=1.320 ac 75.00% Impervious Runoff Depth=0.09" Tc=6.0 min CN=92 Runoff=0.2 cfs 0.010 af
Subcatchment E10: ROAD	Runoff Area=0.510 ac 62.75% Impervious Runoff Depth=0.07" Tc=6.0 min CN=91 Runoff=0.1 cfs 0.003 af
Subcatchment E11: WOODS & ROAD	Runoff Area=0.560 ac 46.43% Impervious Runoff Depth=0.01" Tc=6.0 min CN=84 Runoff=0.0 cfs 0.000 af
Subcatchment E12: WOODS & ROAD	Runoff Area=0.140 ac 78.57% Impervious Runoff Depth=0.21" Tc=6.0 min CN=96 Runoff=0.1 cfs 0.002 af
Subcatchment E13: OFF-SITE FLOW	Runoff Area=0.100 ac 20.00% Impervious Runoff Depth=0.00" Tc=6.0 min UI Adjusted CN=76 Runoff=0.0 cfs 0.000 af
Subcatchment E14: WOODS	Runoff Area=5.440 ac 1.65% Impervious Runoff Depth=0.00" Flow Length=540' Tc=16.5 min UI Adjusted CN=50 Runoff=0.0 cfs 0.000 af
Subcatchment E15: ROAD	Runoff Area=0.270 ac 81.48% Impervious Runoff Depth=0.26" Tc=6.0 min CN=97 Runoff=0.1 cfs 0.006 af
Subcatchment E2: WOODS	Runoff Area=11.100 ac 2.79% Impervious Runoff Depth=0.00" Flow Length=2,320' Tc=28.5 min CN=44 Runoff=0.0 cfs 0.000 af
Subcatchment E3: NEW ENTRANCE	Runoff Area=1.250 ac 22.40% Impervious Runoff Depth=0.00" Tc=6.0 min CN=77 Runoff=0.0 cfs 0.000 af

Subcatchment E4: NEW ENTRANCE	Runoff Area=1.380 ac 34.78% Impervious Runoff Depth=0.00" Tc=6.0 min CN=82 Runoff=0.0 cfs 0.000 af
Subcatchment E5: OLD DOUGLAS DRIVE	Runoff Area=1.800 ac 5.00% Impervious Runoff Depth=0.00" Flow Length=660' Tc=23.5 min CN=67 Runoff=0.0 cfs 0.000 af
Subcatchment E6: WOODS	Runoff Area=3.550 ac 1.69% Impervious Runoff Depth=0.00" Flow Length=930' Tc=47.8 min CN=46 Runoff=0.0 cfs 0.000 af
Subcatchment E7: ROAD	Runoff Area=0.580 ac 50.00% Impervious Runoff Depth=0.01" Tc=6.0 min CN=84 Runoff=0.0 cfs 0.000 af
Subcatchment E8: ROAD	Runoff Area=0.470 ac 48.94% Impervious Runoff Depth=0.02" Tc=6.0 min CN=87 Runoff=0.0 cfs 0.001 af
Subcatchment E9: ROAD	Runoff Area=0.060 ac 33.33% Impervious Runoff Depth=0.01" Tc=6.0 min CN=84 Runoff=0.0 cfs 0.000 af
Reach 15R: CHANNEL IN WOODS	Avg. Flow Depth=0.01' Max Vel=0.57 fps Inflow=0.0 cfs 0.002 af n=0.035 L=855.0' S=0.0572 '/ Capacity=405.6 cfs Outflow=0.0 cfs 0.002 af
Reach 19R: CHANNEL IN WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=920.0' S=0.0413 '/ Capacity=87.4 cfs Outflow=0.0 cfs 0.000 af
Reach OUT-D: WETLANDS COMPLEX	Inflow=0.0 cfs 0.003 af Outflow=0.0 cfs 0.003 af
Reach OUT-E: TO NH ROUTE 116	Inflow=0.2 cfs 0.012 af Outflow=0.2 cfs 0.012 af
Reach RD2: CULVERT 60+03	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af 18.0" Round Pipe n=0.013 L=56.6' S=0.0530 '/ Capacity=24.2 cfs Outflow=0.0 cfs 0.000 af
Reach RD3: CULVERT 58+16	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af 18.0" Round Pipe n=0.013 L=38.4' S=0.0260 '/ Capacity=17.0 cfs Outflow=0.0 cfs 0.000 af
Reach RD4: CULVERT 56+06	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af 18.0" Round Pipe n=0.013 L=50.8' S=0.0112 '/ Capacity=11.1 cfs Outflow=0.0 cfs 0.000 af
Reach RD6: CULVERT 53+68	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af 18.0" Round Pipe n=0.013 L=58.0' S=0.0241 '/ Capacity=16.3 cfs Outflow=0.0 cfs 0.000 af
Reach RD8: CULVERT 49+19	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af 18.0" Round Pipe n=0.013 L=61.0' S=0.0639 '/ Capacity=26.6 cfs Outflow=0.0 cfs 0.000 af
Reach RDD1A: ROADSIDE SWALE	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.022 L=175.0' S=0.0143 '/ Capacity=14.7 cfs Outflow=0.0 cfs 0.000 af
Reach RDD2: WOODS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0.000 af n=0.035 L=75.0' S=0.1267 '/ Capacity=75.6 cfs Outflow=0.0 cfs 0.000 af
Reach RDD3: CULVERT	Avg. Flow Depth=0.00' Max Vel=0.41 fps Inflow=0.0 cfs 0.000 af 12.0" Round Pipe n=0.013 L=48.6' S=0.0103 '/ Capacity=3.6 cfs Outflow=0.0 cfs 0.000 af
Reach RE12: CULVERT 34+78	Avg. Flow Depth=0.09' Max Vel=1.60 fps Inflow=0.1 cfs 0.002 af 12.0" Round Pipe n=0.013 L=53.4' S=0.0094 '/ Capacity=3.4 cfs Outflow=0.1 cfs 0.002 af

Reach RE14: CULVERT 39+15	Avg. Flow Depth=0.00'	Max Vel=0.00 fps	Inflow=0.0 cfs	0.000 af
18.0" Round Pipe n=0.013 L=54.7' S=0.0055 '/	Capacity=7.8 cfs	Outflow=0.0 cfs	0.000 af	
Reach RE2: CHANNEL IN WOODS	Avg. Flow Depth=0.00'	Max Vel=0.00 fps	Inflow=0.0 cfs	0.000 af
n=0.035 L=1,520.0' S=0.0372 '/	Capacity=62.0 cfs	Outflow=0.0 cfs	0.000 af	
Reach RE3: Channel in Woods	Avg. Flow Depth=0.01'	Max Vel=0.32 fps	Inflow=0.1 cfs	0.002 af
n=0.035 L=2,335.0' S=0.0289 '/	Capacity=73.1 cfs	Outflow=0.0 cfs	0.002 af	
Reach RE4: CULVERT 16+74	Avg. Flow Depth=0.03'	Max Vel=0.84 fps	Inflow=0.0 cfs	0.002 af
18.0" Round Pipe n=0.013 L=50.0' S=0.0108 '/	Capacity=10.9 cfs	Outflow=0.0 cfs	0.002 af	
Reach RE6: CHANNEL IN WOODS	Avg. Flow Depth=0.00'	Max Vel=0.00 fps	Inflow=0.0 cfs	0.000 af
n=0.035 L=1,985.0' S=0.0320 '/	Capacity=76.9 cfs	Outflow=0.0 cfs	0.000 af	
Reach RE7: CHANNEL IN WOODS	Avg. Flow Depth=0.00'	Max Vel=0.00 fps	Inflow=0.0 cfs	0.000 af
n=0.035 L=2,760.0' S=0.0228 '/	Capacity=64.9 cfs	Outflow=0.0 cfs	0.000 af	
Pond CB3: PROPOSED CATCH BASIN	Peak Elev=1,104.14'	Inflow=0.1 cfs	0.006 af	
15.0" Round Culvert n=0.013 L=128.1' S=0.0195 '/	Outflow=0.1 cfs	0.006 af		
Pond DD1: RAIN GARDEN	Peak Elev=995.75'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af	
Pond DD1a: DETENTION BASIN	Peak Elev=985.00'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Discarded=0.0 cfs 0.000 af	Primary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af	
Pond DD2: RAIN GARDEN	Peak Elev=1,045.25'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af	
Pond DD3: INFILTRATION BASIN	Peak Elev=1,074.25'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Discarded=0.0 cfs 0.000 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af
Pond DD3A: RAIN GARDEN	Peak Elev=1,092.75'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af	
Pond DD4: RAIN GARDEN	Peak Elev=1,098.25'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af	
Pond DD5: RAIN GARDEN	Peak Elev=1,134.75'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af	
Pond DD6: INFILTRATION BASIN	Peak Elev=1,144.00'	Storage=0 cf	Inflow=0.0 cfs	0.000 af
Discarded=0.0 cfs 0.000 af	Primary=0.0 cfs 0.000 af	Secondary=0.0 cfs 0.000 af	Outflow=0.0 cfs	0.000 af
Pond eCB1: EX. CATCH BASIN	Peak Elev=982.53'	Inflow=0.0 cfs	0.002 af	
24.0" Round Culvert n=0.012 L=80.0' S=0.0400 '/	Outflow=0.0 cfs	0.002 af		
Pond eCB2: EX. CATCH BASIN	Peak Elev=988.25'	Inflow=0.0 cfs	0.000 af	
24.0" Round Culvert n=0.012 L=70.0' S=0.0036 '/	Outflow=0.0 cfs	0.000 af		
Pond FDD1: FOREBAY	Peak Elev=996.05'	Storage=8 cf	Inflow=0.0 cfs	0.000 af
	Outflow=0.0 cfs	0.000 af		

1101-POSTDEV_To OUTDE*Type II 24-hr HALF Rainfall=0.50"*

Prepared by CMA Engineers

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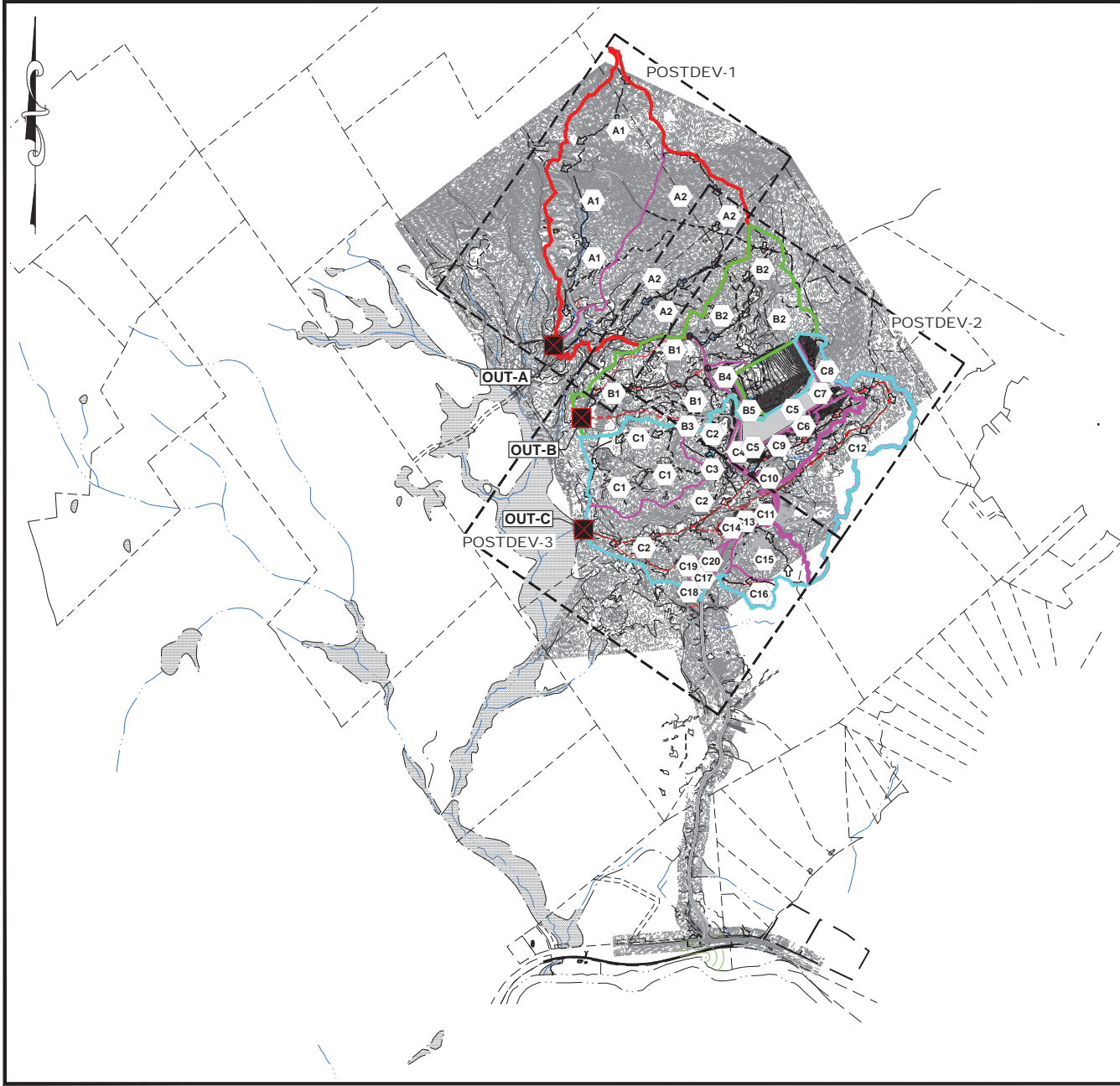
Pond FDD1A: FOREBAYPeak Elev=985.00' Storage=0 cf Inflow=0.0 cfs 0.000 af
Discarded=0.0 cfs 0.000 af Primary=0.0 cfs 0.000 af Outflow=0.0 cfs 0.000 af**Pond FDD2: FOREBAY**Peak Elev=1,047.35' Storage=15 cf Inflow=0.0 cfs 0.000 af
Outflow=0.0 cfs 0.000 af**Pond FDD3: FOREBAY**Peak Elev=1,075.25' Storage=0 cf Inflow=0.0 cfs 0.001 af
Discarded=0.0 cfs 0.001 af Primary=0.0 cfs 0.000 af Outflow=0.0 cfs 0.001 af**Pond FDD3A: FOREBAY**Peak Elev=1,094.32' Storage=14 cf Inflow=0.0 cfs 0.000 af
Outflow=0.0 cfs 0.000 af**Pond FDD4: FOREBAY**Peak Elev=1,099.39' Storage=383 cf Inflow=0.2 cfs 0.009 af
Outflow=0.0 cfs 0.000 af**Pond FDD5: FOREBAY**Peak Elev=1,147.02' Storage=3 cf Inflow=0.0 cfs 0.000 af
Outflow=0.0 cfs 0.000 af**Pond FDD6: FOREBAY**Peak Elev=1,145.00' Storage=0 cf Inflow=0.0 cfs 0.000 af
Outflow=0.0 cfs 0.000 af**Total Runoff Area = 56.190 ac Runoff Volume = 0.026 af Average Runoff Depth = 0.01"**
88.86% Pervious = 49.930 ac 11.14% Impervious = 6.260 ac

Appendix J.3

Intermediate-Development Drainage Analysis (Stage 1, Cell 2)

J.3 Intermediate-Development Drainage Analysis

- i. Drainage Diagrams
- ii. 10-year, 24-Hour Storm Calculations (Full Calculations)
- iii. 2, 10, 25 and 50 -year, 24-Hour Storm Calculation Summaries

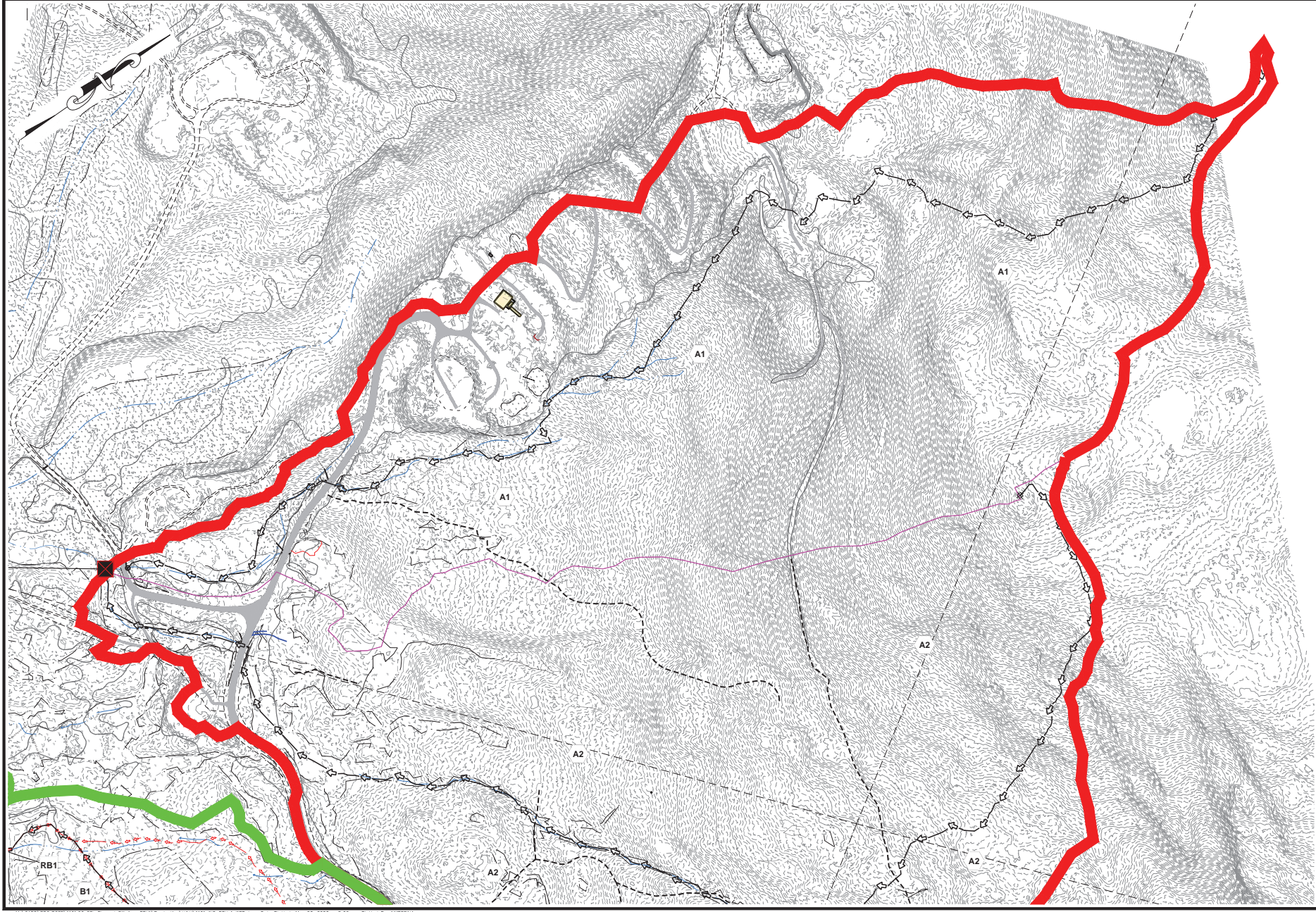


POST-DEVELOPMENT WATERSHED PLAN LEGEND	
PROPOSED CONTOUR (2')	----- 220' -----
PROPOSED CONTOUR (10')	----- 1100 -----
OUTFALL (OUT) A WATERSHED BOUNDARY	
OUTFALL (OUT) B WATERSHED BOUNDARY	
OUTFALL (OUT) C WATERSHED BOUNDARY	
SUBCATCHMENT BOUNDARY	
SUBBASIN ID	
SUBBASIN TIME OF CONCENTRATION	
MODEL REACH	
IMPERVIOUS SURFACE	
OUTFALL	
EXISTING WETLAND	

- NOTES:
- FOR CLARITY TO FLOW PATHS WITH TIMES LESS THAN OR APPROXIMATELY 6 MINUTES ARE NOT SHOWN.
 - DARK GREY SYMBOLIZES PAVEMENT, GREY SYMBOLIZES GRAVEL SURFACES, AND LIGHT GREY SYMBOLIZES EXPOSED GEOMEMBRANE LINER. THIS MODEL ASSUMES UP TO 10.4 ACRES OF EXPOSED GEOMEMBRANE.

OUT-A					
A1	A2				
AREA: 89.3 AC.	AREA: 92.8 AC.				
OUT-B					
B1	B2	B3	B4	B5	
AREA: 47.9 AC.	AREA: 47.5 AC.	AREA: 0.6 AC.	AREA: 4.2 AC.	AREA: 1.7 AC.	
OUT-C					
C1	C2	C3	C4	C5	C6
AREA: 39.2 AC.	AREA: 62.1 AC.	AREA: 0.8 AC.	AREA: 1.5 AC.	AREA: 10.4 AC.	AREA: 1.3 AC.
C7	C8	C9	C10	C11	C12
AREA: 2.4 AC.	AREA: 6.1 AC.	AREA: 16.3 AC.	AREA: 2.0 AC.	AREA: 1.9 AC.	AREA: 54.1 AC.
C13	C14	C15	C16	C17	C18
AREA: 1.0 AC.	AREA: 0.9 AC.	AREA: 15.9 AC.	AREA: 6.1 AC.	AREA: 0.2 AC.	AREA: 0.3 AC.
C19	C20				
AREA: 0.6 AC.	AREA: 6.0 AC.				

<p>CMAA ENGINEERS Civil/Environmental/Structural</p> <p>Portland, NH • Manchester, NH • Portland, ME 603.431-6186 • 603.627-0708 • 207.541-4223</p> <p style="font-size: small;">c.m.a.a.e.n.g.i.n.e.e.r.s.,c.o.m</p>	<p>revision: _____</p> <p>date: _____</p> <p>drawn by: _____</p> <p>checked by: _____</p> <p>approved by: _____</p> <p>scale: 1" = 750'</p> <p>date: April 2023</p> <p>project no: 1101</p> <p>project by: AUS</p>
<p>Granite State Landfill, LLC. Dalton, New Hampshire NHDES Alteration of Terrain Permit Application Intermediate-Development 1 Diagram Index</p>	
<p>drawing no: INTDEV1-1</p> <p>sheet: 1 of 4</p>	



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Granite State Landfill, LLC. Dalton, New Hampshire NHDES Alteration of Terrain Permit Application Intermediate-Development 1 Drainage Diagram		date: April 2023 prepared by: TJO checked by: AUS	designed by: MUM drawn by: MUM approved by: AUS	scale: 0 100' 200' Scale: 1" = 100'	drawing no: INTDEV1-2	revision: no. by date
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