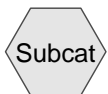


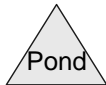
Point of Analysis 1



Subcat



Reach



Pond



Link

Routing Diagram for 3659-12003C-Existing Conditions POA 1-01

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.450	43	(S19)
3.360	65	(S19)
9.300	76	(S19)
41.760	98	(S19, S20, S21, S21.1, S21.2.1, S21.2.2, S22, S22.1, S22.2, S22.3, S23.1, S23.2, S24, S24.1, S25, S26, S27, S28, S29, S30, S31.1, S32, S32.1)
14.410	49	(S21, S21.1, S21.2.2, S23.1, S23.2, S24, S24.1, S24.2, S25, S26, S27, S30, S32.1, S33)
5.960	69	(S22, S22.1, S22.2, S22.3, S22.4, S28, S29, S32)
11.490	60	(S22.4, S29, S31, S31.1)
0.620	89	(S28, S31.1)
1.170	79	(S31, S31.1)
96.520	76	TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	96.520	96.520		S19, S20, S21, S21.1, S21.2.1, S21.2.2, S22, S22.1, S22.2, S22.3, S22.4, S23.1, S23.2, S24, S24.1, S24.2, S25, S26, S27, S28, S29, S30, S31, S31.1, S32, S32.1, S33
0.000	0.000	0.000	0.000	96.520	96.520	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	S19	0.00	0.00	1,420.0	0.0200	0.014	24.0	0.0	0.0
2	S21	0.00	0.00	1,215.0	0.0300	0.014	24.0	0.0	0.0
3	S21	0.00	0.00	240.0	0.0969	0.014	30.0	0.0	0.0
4	S21.1	0.00	0.00	140.0	0.1015	0.014	30.0	0.0	0.0
5	S21.2.2	0.00	0.00	90.0	0.0070	0.014	12.0	0.0	0.0
6	S23.1	0.00	0.00	24.0	0.0330	0.014	12.0	0.0	0.0
7	S23.2	0.00	0.00	105.0	0.0050	0.014	12.0	0.0	0.0
8	S24	0.00	0.00	70.0	0.0050	0.014	12.0	0.0	0.0
9	S24	0.00	0.00	190.0	0.0030	0.014	30.0	0.0	0.0
10	S24	0.00	0.00	760.0	0.0028	0.014	36.0	0.0	0.0
11	S24.1	0.00	0.00	447.0	0.0250	0.014	12.0	0.0	0.0
12	S24.1	0.00	0.00	953.0	0.0038	0.014	30.0	0.0	0.0
13	S24.2	0.00	0.00	986.0	0.0040	0.014	30.0	0.0	0.0
14	S25	0.00	0.00	106.0	0.0160	0.010	6.0	0.0	0.0
15	S25	0.00	0.00	380.0	0.0003	0.014	36.0	0.0	0.0
16	S26	0.00	0.00	95.0	0.0200	0.025	8.0	0.0	0.0
17	S26	0.00	0.00	110.0	0.0010	0.014	36.0	0.0	0.0
18	S27	0.00	0.00	70.0	0.0050	0.014	15.0	0.0	0.0
19	S27	0.00	0.00	707.0	0.0007	0.014	21.0	0.0	0.0
20	S28	0.00	0.00	160.0	0.0087	0.014	12.0	0.0	0.0
21	S28	0.00	0.00	247.0	0.0146	0.014	18.0	0.0	0.0
22	S28	0.00	0.00	225.0	0.1800	0.025	24.0	0.0	0.0
23	S31.1	0.00	0.00	15.0	0.0330	0.014	12.0	0.0	0.0
24	S31.1	0.00	0.00	235.0	0.0801	0.014	36.0	0.0	0.0
25	23R	47.50	46.32	310.0	0.0038	0.014	36.0	0.0	0.0
26	L57	47.30	46.28	446.0	0.0023	0.014	36.0	0.0	0.0
27	L65	71.00	56.50	104.0	0.1394	0.014	30.0	0.0	0.0
28	L67	50.70	47.40	185.0	0.0178	0.014	48.0	0.0	0.0
29	19P	137.80	105.30	612.0	0.0531	0.014	24.0	0.0	0.0
30	20P	166.00	142.00	293.0	0.0819	0.014	24.0	0.0	0.0
31	22.4P	71.00	70.99	1.0	0.0100	0.005	21.0	0.0	0.0

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

- Subcatchment S19:** Runoff Area=25.790 ac 18.15% Impervious Runoff Depth>2.06"
Flow Length=1,620' Tc=11.2 min CN=68 Runoff=55.53 cfs 4.431 af
- Subcatchment S20:** Runoff Area=2.640 ac 100.00% Impervious Runoff Depth>5.02"
Tc=5.0 min CN=98 Runoff=14.31 cfs 1.105 af
- Subcatchment S21:** Runoff Area=5.370 ac 63.69% Impervious Runoff Depth>3.11"
Flow Length=1,904' Tc=12.7 min CN=80 Runoff=16.68 cfs 1.393 af
- Subcatchment S21.1:** Runoff Area=1.730 ac 26.59% Impervious Runoff Depth>1.60"
Flow Length=530' Tc=13.6 min CN=62 Runoff=2.61 cfs 0.230 af
- Subcatchment S21.2.1:** Runoff Area=0.107 ac 100.00% Impervious Runoff Depth>5.02"
Tc=5.0 min CN=98 Runoff=0.58 cfs 0.045 af
- Subcatchment S21.2.2:** Runoff Area=1.133 ac 3.80% Impervious Runoff Depth>0.86"
Flow Length=752' Tc=10.9 min CN=51 Runoff=0.80 cfs 0.081 af
- Subcatchment S22:** Runoff Area=3.230 ac 73.07% Impervious Runoff Depth>4.13"
Tc=5.0 min CN=90 Runoff=15.92 cfs 1.111 af
- Subcatchment S22.1:** Runoff Area=3.010 ac 65.12% Impervious Runoff Depth>3.92"
Tc=5.0 min CN=88 Runoff=14.29 cfs 0.982 af
- Subcatchment S22.2:** Runoff Area=2.220 ac 76.13% Impervious Runoff Depth>4.23"
Tc=5.0 min CN=91 Runoff=11.13 cfs 0.783 af
- Subcatchment S22.3:** Runoff Area=1.150 ac 75.65% Impervious Runoff Depth>4.23"
Tc=5.0 min CN=91 Runoff=5.77 cfs 0.406 af
- Subcatchment S22.4:** Runoff Area=4.970 ac 0.00% Impervious Runoff Depth>1.46"
Tc=5.0 min CN=60 Runoff=8.71 cfs 0.603 af
- Subcatchment S23.1:** Runoff Area=2.670 ac 49.44% Impervious Runoff Depth>2.48"
Flow Length=1,129' Tc=11.4 min CN=73 Runoff=6.94 cfs 0.552 af
- Subcatchment S23.2:** Runoff Area=1.450 ac 38.62% Impervious Runoff Depth>2.06"
Flow Length=955' Tc=14.4 min CN=68 Runoff=2.85 cfs 0.249 af
- Subcatchment S24:** Runoff Area=2.660 ac 95.86% Impervious Runoff Depth>4.79"
Flow Length=1,232' Tc=8.4 min CN=96 Runoff=12.88 cfs 1.061 af
- Subcatchment S24.1:** Runoff Area=2.330 ac 67.38% Impervious Runoff Depth>3.31"
Flow Length=1,769' Tc=10.5 min CN=82 Runoff=8.18 cfs 0.642 af
- Subcatchment S24.2:** Runoff Area=1.300 ac 0.00% Impervious Runoff Depth>0.74"
Flow Length=1,421' Tc=9.4 min CN=49 Runoff=0.77 cfs 0.080 af

Subcatchment S25:	Runoff Area=2.050 ac 82.93% Impervious Runoff Depth>4.13" Flow Length=608' Tc=6.5 min CN=90 Runoff=9.71 cfs 0.705 af
Subcatchment S26:	Runoff Area=1.770 ac 41.24% Impervious Runoff Depth>2.15" Flow Length=447' Tc=7.8 min CN=69 Runoff=4.41 cfs 0.317 af
Subcatchment S27:	Runoff Area=3.680 ac 93.21% Impervious Runoff Depth>4.67" Flow Length=1,055' Tc=13.3 min CN=95 Runoff=15.28 cfs 1.431 af
Subcatchment S28:	Runoff Area=8.850 ac 69.72% Impervious Runoff Depth>4.12" Flow Length=1,367' Tc=13.3 min CN=90 Runoff=34.17 cfs 3.037 af
Subcatchment S29:	Runoff Area=3.760 ac 2.93% Impervious Runoff Depth>1.60" Flow Length=325' Tc=6.7 min CN=62 Runoff=7.04 cfs 0.501 af
Subcatchment S30:	Runoff Area=4.820 ac 38.17% Impervious Runoff Depth>2.06" Flow Length=1,003' Tc=17.7 min CN=68 Runoff=8.75 cfs 0.826 af
Subcatchment S31:	Runoff Area=3.920 ac 0.00% Impervious Runoff Depth>1.75" Flow Length=758' Tc=9.6 min CN=64 Runoff=7.36 cfs 0.571 af
Subcatchment S31.1:	Runoff Area=0.920 ac 38.04% Impervious Runoff Depth>3.60" Flow Length=711' Tc=8.9 min CN=85 Runoff=3.64 cfs 0.276 af
Subcatchment S32:	Runoff Area=1.450 ac 50.34% Impervious Runoff Depth>3.51" Tc=5.0 min CN=84 Runoff=6.31 cfs 0.424 af
Subcatchment S32.1:	Runoff Area=2.720 ac 90.81% Impervious Runoff Depth>4.45" Tc=5.0 min CN=93 Runoff=14.05 cfs 1.009 af
Subcatchment S33:	Runoff Area=0.820 ac 0.00% Impervious Runoff Depth>0.74" Tc=5.0 min CN=49 Runoff=0.57 cfs 0.051 af
Reach 1R: Point of Analysis 1	Inflow=131.69 cfs 20.813 af Outflow=131.69 cfs 20.813 af
Reach 23R:	Avg. Flow Depth=2.60' Max Vel=6.16 fps Inflow=40.44 cfs 3.514 af 36.0" Round Pipe n=0.014 L=310.0' S=0.0038 '/' Capacity=38.21 cfs Outflow=39.34 cfs 3.511 af
Reach L150:	Avg. Flow Depth=2.17' Max Vel=4.21 fps Inflow=119.14 cfs 18.554 af n=0.030 L=136.0' S=0.0043 '/' Capacity=654.46 cfs Outflow=118.55 cfs 18.539 af
Reach L151:	Avg. Flow Depth=1.96' Max Vel=6.79 fps Inflow=118.55 cfs 18.539 af n=0.030 L=155.0' S=0.0148 '/' Capacity=2,128.99 cfs Outflow=118.03 cfs 18.530 af
Reach L186:	Avg. Flow Depth=3.06' Max Vel=3.35 fps Inflow=125.66 cfs 19.377 af n=0.030 L=340.0' S=0.0020 '/' Capacity=279.47 cfs Outflow=123.76 cfs 19.331 af
Reach L57:	Avg. Flow Depth=2.72' Max Vel=4.78 fps Inflow=32.01 cfs 10.039 af 36.0" Round Pipe n=0.014 L=446.0' S=0.0023 '/' Capacity=29.62 cfs Outflow=31.59 cfs 10.020 af
Reach L59:	Avg. Flow Depth=2.93' Max Vel=2.31 fps Inflow=82.59 cfs 14.754 af n=0.030 L=430.0' S=0.0010 '/' Capacity=84.11 cfs Outflow=79.99 cfs 14.691 af

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Type III 24-hr 25-Year Rainfall=5.50"

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Reach L65: Avg. Flow Depth=0.71' Max Vel=21.81 fps Inflow=25.01 cfs 9.243 af
30.0" Round Pipe n=0.014 L=104.0' S=0.1394 '/' Capacity=142.22 cfs Outflow=25.01 cfs 9.242 af

Reach L67: Avg. Flow Depth=1.10' Max Vel=10.45 fps Inflow=29.18 cfs 9.794 af
48.0" Round Pipe n=0.014 L=185.0' S=0.0178 '/' Capacity=178.14 cfs Outflow=29.16 cfs 9.790 af

Reach P1: Avg. Flow Depth=1.11' Max Vel=9.89 fps Inflow=131.79 cfs 20.815 af
n=0.030 L=46.0' S=0.0435 '/' Capacity=407.83 cfs Outflow=131.69 cfs 20.813 af

Pond 19P: Peak Elev=139.87' Storage=3,303 cf Inflow=65.01 cfs 5.531 af
Primary=15.65 cfs 3.748 af Secondary=49.35 cfs 1.777 af Outflow=65.00 cfs 5.525 af

Pond 20P: Peak Elev=167.88' Storage=2,838 cf Inflow=14.31 cfs 1.105 af
24.0" Round Culvert n=0.014 L=293.0' S=0.0819 '/' Outflow=14.34 cfs 1.101 af

Pond 22.4P: Peak Elev=76.54' Storage=105,127 cf Inflow=85.64 cfs 9.382 af
Primary=25.01 cfs 9.243 af Secondary=0.00 cfs 0.000 af Outflow=25.01 cfs 9.243 af

Total Runoff Area = 96.520 ac Runoff Volume = 22.902 af Average Runoff Depth = 2.85"
56.73% Pervious = 54.760 ac 43.27% Impervious = 41.760 ac

Summary for Subcatchment S19:

Runoff = 55.53 cfs @ 12.16 hrs, Volume= 4.431 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 8.450	43	
* 3.360	65	
* 9.300	76	
* 4.680	98	
25.790	68	Weighted Average
21.110		81.85% Pervious Area
4.680		18.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.0300	0.20		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
2.5	1,420	0.0200	9.46	29.71	Pipe Channel, Pipe 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.014
0.4	100	0.0600	3.94		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
11.2	1,620	Total			

Summary for Subcatchment S20:

Runoff = 14.31 cfs @ 12.07 hrs, Volume= 1.105 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 2.640	98	
2.640		100.00% Impervious Area

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

Summary for Subcatchment S21:

Runoff = 16.68 cfs @ 12.18 hrs, Volume= 1.393 af, Depth> 3.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

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Type III 24-hr 25-Year Rainfall=5.50"

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Area (ac)	CN	Description
* 1.950	49	
* 3.420	98	
5.370	80	Weighted Average
1.950		36.31% Pervious Area
3.420		63.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	61	0.0660	0.11		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
1.8	388	0.0310	3.57		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
1.7	1,215	0.0300	11.58	36.38	Pipe Channel, 24" Pipe 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.014
0.2	240	0.0969	24.15	118.56	Pipe Channel, 24" Pipe 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.014
12.7	1,904	Total			

Summary for Subcatchment S21.1:

Runoff = 2.61 cfs @ 12.21 hrs, Volume= 0.230 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 1.270	49	
* 0.460	98	
1.730	62	Weighted Average
1.270		73.41% Pervious Area
0.460		26.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0800	0.14		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
1.2	290	0.0614	3.99		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.1	140	0.1015	24.72	121.34	Pipe Channel, 30" RCP 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.014
13.6	530	Total			

Summary for Subcatchment S21.2.1:

Runoff = 0.58 cfs @ 12.07 hrs, Volume= 0.045 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.107	98	
0.107		100.00% Impervious Area

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

Summary for Subcatchment S21.2.2:

Runoff = 0.80 cfs @ 12.20 hrs, Volume= 0.081 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 1.090	49	
* 0.043	98	
1.133	51	Weighted Average
1.090		96.20% Pervious Area
0.043		3.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.0300	0.20		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
1.8	442	0.0660	4.14		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.4	120	0.0670	5.25		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.4	90	0.0070	3.52	2.77	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
10.9	752	Total			

Summary for Subcatchment S22:

Runoff = 15.92 cfs @ 12.07 hrs, Volume= 1.111 af, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

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Type III 24-hr 25-Year Rainfall=5.50"

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Area (ac)	CN	Description
* 0.870	69	
* 2.360	98	
3.230	90	Weighted Average
0.870		26.93% Pervious Area
2.360		73.07% Impervious Area

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

Summary for Subcatchment S22.1:

Runoff = 14.29 cfs @ 12.07 hrs, Volume= 0.982 af, Depth> 3.92"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 1.050	69	
* 1.960	98	
3.010	88	Weighted Average
1.050		34.88% Pervious Area
1.960		65.12% Impervious Area

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

Summary for Subcatchment S22.2:

Runoff = 11.13 cfs @ 12.07 hrs, Volume= 0.783 af, Depth> 4.23"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.530	69	
* 1.690	98	
2.220	91	Weighted Average
0.530		23.87% Pervious Area
1.690		76.13% Impervious Area

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

Summary for Subcatchment S22.3:

Runoff = 5.77 cfs @ 12.07 hrs, Volume= 0.406 af, Depth> 4.23"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.280	69	
* 0.870	98	
1.150	91	Weighted Average
0.280		24.35% Pervious Area
0.870		75.65% Impervious Area

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

Summary for Subcatchment S22.4:

Runoff = 8.71 cfs @ 12.09 hrs, Volume= 0.603 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.100	69	
* 4.870	60	
4.970	60	Weighted Average
4.970		100.00% Pervious Area

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

Summary for Subcatchment S23.1:

Runoff = 6.94 cfs @ 12.16 hrs, Volume= 0.552 af, Depth> 2.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 1.350	49	
* 1.320	98	
2.670	73	Weighted Average
1.350		50.56% Pervious Area
1.320		49.44% Impervious Area

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	100	0.1800	0.41		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
4.6	300	0.0046	1.09		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
2.6	705	0.0480	4.45		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.1	24	0.0330	7.65	6.01	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
11.4	1,129	Total			

Summary for Subcatchment S23.2:

Runoff = 2.85 cfs @ 12.21 hrs, Volume= 0.249 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.890	49	
* 0.560	98	
1.450	68	Weighted Average
0.890		61.38% Pervious Area
0.560		38.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1825	0.19		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
3.2	360	0.0139	1.90		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
1.7	390	0.0374	3.93		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.6	105	0.0050	2.98	2.34	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
14.4	955	Total			

Summary for Subcatchment S24:

Runoff = 12.88 cfs @ 12.11 hrs, Volume= 1.061 af, Depth> 4.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

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Type III 24-hr 25-Year Rainfall=5.50"

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Area (ac)	CN	Description
* 0.110	49	
* 2.550	98	
2.660	96	Weighted Average
0.110		4.14% Pervious Area
2.550		95.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	100	0.0025	0.60		Sheet Flow, Sheet Smooth surfaces n= 0.011 P2= 3.20"
1.8	112	0.0025	1.02		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.4	70	0.0050	2.98	2.34	Pipe Channel, 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
0.7	190	0.0030	4.25	20.86	Pipe Channel, 30" 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.014
2.7	760	0.0028	4.64	32.77	Pipe Channel, 36" 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.014
8.4	1,232	Total			

Summary for Subcatchment S24.1:

Runoff = 8.18 cfs @ 12.15 hrs, Volume= 0.642 af, Depth> 3.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.760	49	
* 1.570	98	
2.330	82	Weighted Average
0.760		32.62% Pervious Area
1.570		67.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.1300	0.36		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
1.0	153	0.0260	2.60		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.5	116	0.0430	4.21		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
1.1	447	0.0250	6.66	5.23	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
3.3	953	0.0038	4.78	23.48	Pipe Channel, 30" RCP 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'

n= 0.014

10.5 1,769 Total

Summary for Subcatchment S24.2:

Runoff = 0.77 cfs @ 12.17 hrs, Volume= 0.080 af, Depth> 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 1.300	49	
1.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.04		Sheet Flow, Sheet Smooth surfaces n= 0.011 P2= 3.20"
4.5	335	0.0060	1.25		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
3.3	986	0.0040	4.91	24.09	Pipe Channel, 30" RCP 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.014
9.4	1,421	Total			

Summary for Subcatchment S25:

Runoff = 9.71 cfs @ 12.09 hrs, Volume= 0.705 af, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.350	49	
* 1.700	98	
2.050	90	Weighted Average
0.350		17.07% Pervious Area
1.700		82.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0070	0.90		Sheet Flow, Sheet Smooth surfaces n= 0.011 P2= 3.20"
0.1	22	0.0480	4.45		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.4	106	0.0160	4.70	0.92	Pipe Channel, 6" PVC 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010 PVC, smooth interior
4.2	380	0.0003	1.52	10.73	Pipe Channel, 36" 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.014

6.5 608 Total

Summary for Subcatchment S26:

Runoff = 4.41 cfs @ 12.12 hrs, Volume= 0.317 af, Depth> 2.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 1.040	49	
* 0.730	98	
1.770	69	Weighted Average
1.040		58.76% Pervious Area
0.730		41.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.2000	0.29		Sheet Flow, Sheet Grass: Dense n= 0.240 P2= 3.20"
0.8	142	0.0377	3.13		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.6	95	0.0200	2.55	0.89	Pipe Channel, 8" Metal 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.025
0.7	110	0.0010	2.77	19.59	Pipe Channel, 36" RCP 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.014

7.8 447 Total

Summary for Subcatchment S27:

Runoff = 15.28 cfs @ 12.18 hrs, Volume= 1.431 af, Depth> 4.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.250	49	
* 3.430	98	
3.680	95	Weighted Average
0.250		6.79% Pervious Area
3.430		93.21% Impervious Area

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Type III 24-hr 25-Year Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	100	0.0025	0.60		Sheet Flow, Sheet Smooth surfaces n= 0.011 P2= 3.20"
2.9	178	0.0025	1.02		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.3	70	0.0050	3.46	4.24	Pipe Channel, 15" RCP 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.014
7.3	707	0.0007	1.62	3.89	Pipe Channel, 21" RCP 21.0" Round Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.014
13.3	1,055	Total			

Summary for Subcatchment S28:

Runoff = 34.17 cfs @ 12.18 hrs, Volume= 3.037 af, Depth> 4.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 2.120	69	
* 0.560	89	
* 6.170	98	
8.850	90	Weighted Average
2.680		30.28% Pervious Area
6.170		69.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1400	0.17		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
0.2	67	0.2090	7.36		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
1.7	568	0.0742	5.53		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.7	160	0.0087	3.93	3.09	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
0.6	247	0.0146	6.67	11.79	Pipe Channel, 18" RCP 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.014
0.2	225	0.1800	15.89	49.91	Pipe Channel, 24" CMP 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
13.3	1,367	Total			

Summary for Subcatchment S29:

Runoff = 7.04 cfs @ 12.11 hrs, Volume= 0.501 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 3.360	60	
* 0.290	69	
* 0.110	98	
3.760	62	Weighted Average
3.650		97.07% Pervious Area
0.110		2.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.4500	0.27		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	225	0.2300	7.72		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
6.7	325	Total			

Summary for Subcatchment S30:

Runoff = 8.75 cfs @ 12.26 hrs, Volume= 0.826 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 2.980	49	
* 1.840	98	
4.820	68	Weighted Average
2.980		61.83% Pervious Area
1.840		38.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	100	0.2300	0.21		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
7.3	708	0.0100	1.61		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
2.3	195	0.0050	1.44		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
17.7	1,003	Total			

Summary for Subcatchment S31:

Runoff = 7.36 cfs @ 12.15 hrs, Volume= 0.571 af, Depth> 1.75"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 3.190	60	
* 0.730	79	
3.920	64	Weighted Average
3.920		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.2900	0.23		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
2.2	658	0.0970	5.01		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
9.6	758	Total			

Summary for Subcatchment S31.1:

Runoff = 3.64 cfs @ 12.12 hrs, Volume= 0.276 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.070	60	
* 0.440	79	
* 0.060	89	
* 0.350	98	
0.920	85	Weighted Average
0.570		61.96% Pervious Area
0.350		38.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.2800	0.22		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.20"
0.2	57	0.1400	6.02		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
1.0	304	0.0660	5.22		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.0	15	0.0330	7.65	6.01	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
0.2	235	0.0801	24.80	175.29	Pipe Channel, 36" RCP 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.014

8.9 711 Total

Summary for Subcatchment S32:

Runoff = 6.31 cfs @ 12.07 hrs, Volume= 0.424 af, Depth> 3.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.720	69	
* 0.730	98	
1.450	84	Weighted Average
0.720		49.66% Pervious Area
0.730		50.34% Impervious Area

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

Summary for Subcatchment S32.1:

Runoff = 14.05 cfs @ 12.07 hrs, Volume= 1.009 af, Depth> 4.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.250	49	
* 2.470	98	
2.720	93	Weighted Average
0.250		9.19% Pervious Area
2.470		90.81% Impervious Area

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

Summary for Subcatchment S33:

Runoff = 0.57 cfs @ 12.11 hrs, Volume= 0.051 af, Depth> 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
* 0.820	49	
0.820		100.00% Pervious Area

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

Summary for Reach 1R: Point of Analysis 1

Inflow Area = 96.520 ac, 43.27% Impervious, Inflow Depth > 2.59" for 25-Year event
 Inflow = 131.69 cfs @ 12.31 hrs, Volume= 20.813 af
 Outflow = 131.69 cfs @ 12.31 hrs, Volume= 20.813 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

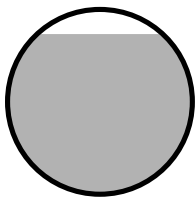
Summary for Reach 23R:

Inflow Area = 10.160 ac, 82.78% Impervious, Inflow Depth > 4.15" for 25-Year event
 Inflow = 40.44 cfs @ 12.12 hrs, Volume= 3.514 af
 Outflow = 39.34 cfs @ 12.16 hrs, Volume= 3.511 af, Atten= 3%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 6.16 fps, Min. Travel Time= 0.8 min
 Avg. Velocity = 2.42 fps, Avg. Travel Time= 2.1 min

Peak Storage= 2,017 cf @ 12.14 hrs
 Average Depth at Peak Storage= 2.60'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 38.21 cfs

36.0" Round Pipe
 n= 0.014
 Length= 310.0' Slope= 0.0038 '/
 Inlet Invert= 47.50', Outlet Invert= 46.32'



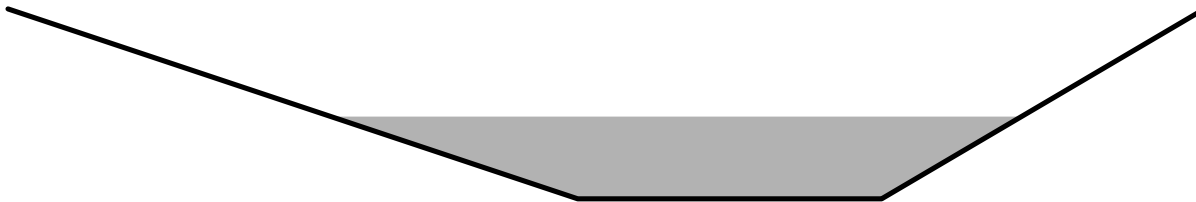
Summary for Reach L150:

Inflow Area = 86.690 ac, 44.08% Impervious, Inflow Depth > 2.57" for 25-Year event
 Inflow = 119.14 cfs @ 12.24 hrs, Volume= 18.554 af
 Outflow = 118.55 cfs @ 12.25 hrs, Volume= 18.539 af, Atten= 1%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.21 fps, Min. Travel Time= 0.5 min
 Avg. Velocity = 1.62 fps, Avg. Travel Time= 1.4 min

Peak Storage= 3,855 cf @ 12.24 hrs
 Average Depth at Peak Storage= 2.17'
 Bank-Full Depth= 5.00' Flow Area= 98.8 sf, Capacity= 654.46 cfs

8.00' x 5.00' deep channel, n= 0.030
Side Slope Z-value= 3.0 1.7 '/' Top Width= 31.50'
Length= 136.0' Slope= 0.0043 '/'
Inlet Invert= 48.58', Outlet Invert= 48.00'



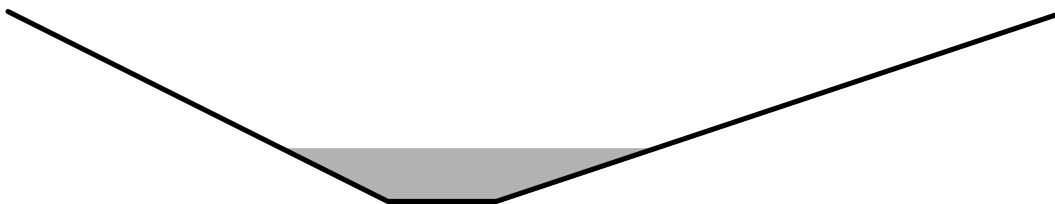
Summary for Reach L151:

Inflow Area = 86.690 ac, 44.08% Impervious, Inflow Depth > 2.57" for 25-Year event
Inflow = 118.55 cfs @ 12.25 hrs, Volume= 18.539 af
Outflow = 118.03 cfs @ 12.26 hrs, Volume= 18.530 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.79 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.84 fps, Avg. Travel Time= 0.9 min

Peak Storage= 2,708 cf @ 12.26 hrs
Average Depth at Peak Storage= 1.96'
Bank-Full Depth= 7.00' Flow Area= 150.5 sf, Capacity= 2,128.99 cfs

4.00' x 7.00' deep channel, n= 0.030
Side Slope Z-value= 2.0 3.0 '/' Top Width= 39.00'
Length= 155.0' Slope= 0.0148 '/'
Inlet Invert= 48.00', Outlet Invert= 45.71'



Summary for Reach L186:

Inflow Area = 91.530 ac, 42.13% Impervious, Inflow Depth > 2.54" for 25-Year event
Inflow = 125.66 cfs @ 12.26 hrs, Volume= 19.377 af
Outflow = 123.76 cfs @ 12.31 hrs, Volume= 19.331 af, Atten= 2%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.35 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 4.2 min

Peak Storage= 12,622 cf @ 12.28 hrs
Average Depth at Peak Storage= 3.06'
Bank-Full Depth= 4.50' Flow Area= 67.5 sf, Capacity= 279.47 cfs

6.00' x 4.50' deep channel, n= 0.030
Side Slope Z-value= 2.0 '/' Top Width= 24.00'
Length= 340.0' Slope= 0.0020 '/'
Inlet Invert= 45.71', Outlet Invert= 45.04'



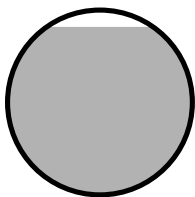
Summary for Reach L57:

Inflow Area = 55.470 ac, 36.25% Impervious, Inflow Depth > 2.17" for 25-Year event
Inflow = 32.01 cfs @ 12.22 hrs, Volume= 10.039 af
Outflow = 31.59 cfs @ 12.29 hrs, Volume= 10.020 af, Atten= 1%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.78 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 2.53 fps, Avg. Travel Time= 2.9 min

Peak Storage= 3,008 cf @ 12.26 hrs
Average Depth at Peak Storage= 2.72'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 29.62 cfs

36.0" Round Pipe
n= 0.014
Length= 446.0' Slope= 0.0023 '/'
Inlet Invert= 47.30', Outlet Invert= 46.28'



Summary for Reach L59:

Inflow Area = 73.020 ac, 41.36% Impervious, Inflow Depth > 2.42" for 25-Year event
Inflow = 82.59 cfs @ 12.16 hrs, Volume= 14.754 af
Outflow = 79.99 cfs @ 12.26 hrs, Volume= 14.691 af, Atten= 3%, Lag= 5.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.31 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 7.4 min

Peak Storage= 14,936 cf @ 12.21 hrs
Average Depth at Peak Storage= 2.93'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 84.11 cfs

6.00' x 3.00' deep channel, n= 0.030
Side Slope Z-value= 2.0 '/' Top Width= 18.00'
Length= 430.0' Slope= 0.0010 '/'
Inlet Invert= 49.00', Outlet Invert= 48.58'



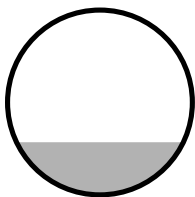
Summary for Reach L65:

Inflow Area = 51.350 ac, 35.50% Impervious, Inflow Depth > 2.16" for 25-Year event
Inflow = 25.01 cfs @ 12.60 hrs, Volume= 9.243 af
Outflow = 25.01 cfs @ 12.60 hrs, Volume= 9.242 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 21.81 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 11.14 fps, Avg. Travel Time= 0.2 min

Peak Storage= 119 cf @ 12.60 hrs
Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 2.50' Flow Area= 4.9 sf, Capacity= 142.22 cfs

30.0" Round Pipe
n= 0.014
Length= 104.0' Slope= 0.1394 '/'
Inlet Invert= 71.00', Outlet Invert= 56.50'



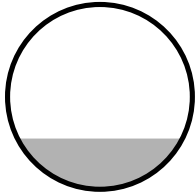
Summary for Reach L67:

Inflow Area = 54.020 ac, 36.19% Impervious, Inflow Depth > 2.18" for 25-Year event
Inflow = 29.18 cfs @ 12.21 hrs, Volume= 9.794 af
Outflow = 29.16 cfs @ 12.22 hrs, Volume= 9.790 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.45 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 5.16 fps, Avg. Travel Time= 0.6 min

Peak Storage= 516 cf @ 12.22 hrs
Average Depth at Peak Storage= 1.10'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 178.14 cfs

48.0" Round Pipe
n= 0.014
Length= 185.0' Slope= 0.0178 '/'
Inlet Invert= 50.70', Outlet Invert= 47.40'



Summary for Reach P1:

Inflow Area = 96.520 ac, 43.27% Impervious, Inflow Depth > 2.59" for 25-Year event
Inflow = 131.79 cfs @ 12.30 hrs, Volume= 20.815 af
Outflow = 131.69 cfs @ 12.31 hrs, Volume= 20.813 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.89 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.32 fps, Avg. Travel Time= 0.2 min

Peak Storage= 613 cf @ 12.31 hrs
Average Depth at Peak Storage= 1.11'
Bank-Full Depth= 2.33' Flow Area= 28.0 sf, Capacity= 407.83 cfs

12.00' x 2.33' deep channel, n= 0.030
Length= 46.0' Slope= 0.0435 '/'
Inlet Invert= 43.00', Outlet Invert= 41.00'



Summary for Pond 19P:

Inflow Area = 28.430 ac, 25.75% Impervious, Inflow Depth > 2.33" for 25-Year event
Inflow = 65.01 cfs @ 12.15 hrs, Volume= 5.531 af
Outflow = 65.00 cfs @ 12.16 hrs, Volume= 5.525 af, Atten= 0%, Lag= 0.6 min
Primary = 15.65 cfs @ 12.16 hrs, Volume= 3.748 af
Secondary = 49.35 cfs @ 12.16 hrs, Volume= 1.777 af

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 139.87' @ 12.16 hrs Surf.Area= 3,017 sf Storage= 3,303 cf

Plug-Flow detention time= 1.9 min calculated for 5.525 af (100% of inflow)
Center-of-Mass det. time= 1.5 min (796.3 - 794.8)

3659-12003C-Existing Conditions POA 1-01

Type III 24-hr 25-Year Rainfall=5.50"

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Volume	Invert	Avail.Storage	Storage Description
#1	137.80'	30,987 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
137.80	174	0	0
138.30	860	259	259
138.80	1,546	602	860
139.30	2,232	945	1,805
139.80	2,919	1,288	3,092
140.30	3,605	1,631	4,723
140.80	4,291	1,974	6,697
141.30	4,977	2,317	9,014
141.80	5,663	2,660	11,674
148.00	567	19,313	30,987

Device	Routing	Invert	Outlet Devices
#1	Primary	137.80'	24.0" Round Culvert L= 612.0' Ke= 0.500 Inlet / Outlet Invert= 137.80' / 105.30' S= 0.0531 '/' Cc= 0.900 n= 0.014, Flow Area= 3.14 sf
#2	Secondary	139.00'	23.0' long x 18.0' 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=15.60 cfs @ 12.16 hrs HW=139.86' (Free Discharge)

↳ **1=Culvert** (Inlet Controls 15.60 cfs @ 4.97 fps)

Secondary OutFlow Max=48.69 cfs @ 12.16 hrs HW=139.86' (Free Discharge)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 48.69 cfs @ 2.45 fps)

Summary for Pond 20P:

Inflow Area = 2.640 ac, 100.00% Impervious, Inflow Depth > 5.02" for 25-Year event
 Inflow = 14.31 cfs @ 12.07 hrs, Volume= 1.105 af
 Outflow = 14.34 cfs @ 12.07 hrs, Volume= 1.101 af, Atten= 0%, Lag= 0.0 min
 Primary = 14.34 cfs @ 12.07 hrs, Volume= 1.101 af

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 167.88' @ 12.07 hrs Surf.Area= 4,356 sf Storage= 2,838 cf

Plug-Flow detention time= 11.5 min calculated for 1.098 af (99% of inflow)
 Center-of-Mass det. time= 9.8 min (728.1 - 718.4)

Volume	Invert	Avail.Storage	Storage Description
#1	166.00'	2,838 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

3659-12003C-Existing Conditions POA 1-01

Type III 24-hr 25-Year Rainfall=5.50"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
166.00	0	0	0
166.25	2,875	359	359
166.50	3,790	833	1,193
166.75	4,225	1,002	2,194
166.90	4,356	644	2,838

Device	Routing	Invert	Outlet Devices
#1	Primary	166.00'	24.0" Round Culvert L= 293.0' Ke= 0.500 Inlet / Outlet Invert= 166.00' / 142.00' S= 0.0819 '/' Cc= 0.900 n= 0.014, Flow Area= 3.14 sf

Primary OutFlow Max=13.81 cfs @ 12.07 hrs HW=167.82' (Free Discharge)
 ↳ **1=Culvert** (Inlet Controls 13.81 cfs @ 4.60 fps)

Summary for Pond 22.4P:

Inflow Area = 51.350 ac, 35.50% Impervious, Inflow Depth > 2.19" for 25-Year event
 Inflow = 85.64 cfs @ 12.09 hrs, Volume= 9.382 af
 Outflow = 25.01 cfs @ 12.60 hrs, Volume= 9.243 af, Atten= 71%, Lag= 30.4 min
 Primary = 25.01 cfs @ 12.60 hrs, Volume= 9.243 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 76.54' @ 12.60 hrs Surf.Area= 32,611 sf Storage= 105,127 cf

Plug-Flow detention time= 45.8 min calculated for 9.243 af (99% of inflow)
 Center-of-Mass det. time= 40.1 min (835.6 - 795.5)

Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	233,786 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

3659-12003C-Existing Conditions POA 1-01

Type III 24-hr 25-Year Rainfall=5.50"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	5,227	0	0
71.25	5,793	1,378	1,378
71.50	6,360	1,519	2,897
71.75	6,926	1,661	4,557
72.00	7,492	1,802	6,360
72.25	9,295	2,098	8,458
72.50	11,097	2,549	11,007
72.75	12,899	3,000	14,007
73.00	14,702	3,450	17,457
73.25	16,504	3,901	21,357
73.50	18,306	4,351	25,709
73.75	20,108	4,802	30,510
74.00	21,911	5,252	35,763
74.25	22,983	5,612	41,375
74.50	24,056	5,880	47,254
74.75	25,129	6,148	53,403
75.00	26,201	6,416	59,819
75.25	27,274	6,684	66,503
75.50	28,347	6,953	73,456
75.75	29,419	7,221	80,677
76.00	30,492	7,489	88,165
76.25	31,478	7,746	95,912
76.50	32,463	7,993	103,904
76.75	33,449	8,239	112,143
77.00	34,434	8,485	120,629
77.25	35,420	8,732	129,360
77.50	36,405	8,978	138,339
77.75	37,391	9,225	147,563
78.00	38,376	9,471	157,034
79.00	38,376	38,376	195,410
80.00	38,376	38,376	233,786

Device	Routing	Invert	Outlet Devices
#1	Secondary	79.00'	12.0' long x 37.0' 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
#2	Primary	71.00'	21.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 71.00' / 70.99' S= 0.0100 1/ S= 0.0100 Cc= 0.900 n= 0.005, Flow Area= 2.41 sf

Primary OutFlow Max=25.01 cfs @ 12.60 hrs HW=76.54' (Free Discharge)

↑**2=Culvert** (Inlet Controls 25.01 cfs @ 10.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=71.00' (Free Discharge)

↑**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)