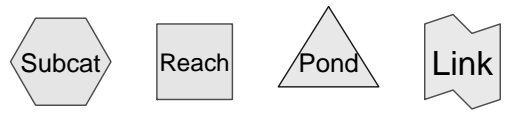


Point of Analysis 1



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
12.842	43	(S12, S19)
30.525	98	(S12, S19, S20, S21, S21.1, S21.2.1, S22, S22.1, S22.2, S22.3, S24, S28, S31.1, S32, S32.1, S32.2)
3.360	65	(S19)
9.300	76	(S19)
6.036	49	(S21, S21.1, S21.2.1, S21.2.2, S30, S32.1, S32.2)
5.680	69	(S22, S22.1, S22.2, S22.3, S22.4, S28, S32)
4.940	60	(S22.4, S31.1)
0.620	89	(S28, S31.1)
0.440	79	(S31.1)
1.476	49	50-75% Grass cover, Fair, HSG A (S23)
0.936	39	>75% Grass cover, Good, HSG A (S6)
9.002	61	>75% Grass cover, Good, HSG B (S26, S27, S29, S31)
10.253	98	Paved parking, HSG A (S23, S27, S6)
1.644	98	Roofs, HSG A (S27)
97.055	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	73.743	73.743		S12, S19, S20, S21, S21.1, S21.2.1, S21.2.2, S22, S22.1, S22.2, S22.3, S22.4, S24, S28, S30, S31.1, S32, S32.1, S32.2
1.476	0.000	0.000	0.000	0.000	1.476	50-75% Grass cover, Fair	S23
0.936	9.002	0.000	0.000	0.000	9.939	>75% Grass cover, Good	S26, S27, S29, S31, S6
10.253	0.000	0.000	0.000	0.000	10.253	Paved parking	S23, S27, S6
1.644	0.000	0.000	0.000	0.000	1.644	Roofs	S27
14.310	9.002	0.000	0.000	73.743	97.055	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	S12	0.00	0.00	258.0	0.0430	0.014	15.0	0.0	0.0
2	S12	0.00	0.00	44.0	0.0205	0.014	18.0	0.0	0.0
3	S12	0.00	0.00	1,709.0	0.0257	0.014	48.0	0.0	0.0
4	S19	0.00	0.00	1,420.0	0.0200	0.014	24.0	0.0	0.0
5	S21	0.00	0.00	1,215.0	0.0300	0.012	24.0	0.0	0.0
6	S21	0.00	0.00	240.0	0.0969	0.012	30.0	0.0	0.0
7	S21.1	0.00	0.00	140.0	0.1015	0.014	30.0	0.0	0.0
8	S21.2.2	0.00	0.00	77.0	0.0837	0.014	12.0	0.0	0.0
9	S23	0.00	0.00	40.0	0.0050	0.012	15.0	0.0	0.0
10	S23	0.00	0.00	1,555.0	0.0200	0.012	48.0	0.0	0.0
11	S28	0.00	0.00	160.0	0.0087	0.014	12.0	0.0	0.0
12	S28	0.00	0.00	247.0	0.0146	0.014	18.0	0.0	0.0
13	S28	0.00	0.00	225.0	0.1800	0.025	24.0	0.0	0.0
14	S31.1	0.00	0.00	15.0	0.0330	0.014	12.0	0.0	0.0
15	S31.1	0.00	0.00	235.0	0.0801	0.014	36.0	0.0	0.0
16	S6	0.00	0.00	45.0	0.0010	0.014	6.0	0.0	0.0
17	S6	0.00	0.00	706.0	0.0050	0.014	12.0	0.0	0.0
18	L57	49.00	47.18	446.0	0.0041	0.014	48.0	0.0	0.0
19	L65	71.00	56.50	104.0	0.1394	0.014	30.0	0.0	0.0
20	L67	50.70	49.00	185.0	0.0092	0.014	48.0	0.0	0.0
21	19P	137.80	105.30	612.0	0.0531	0.014	24.0	0.0	0.0
22	20P	166.00	142.00	293.0	0.0819	0.014	24.0	0.0	0.0
23	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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

- Subcatchment S12:** Runoff Area=218,472 sf 12.42% Impervious Runoff Depth>0.80"
Flow Length=2,838' Tc=14.6 min CN=50 Runoff=2.90 cfs 0.333 af
- 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=5.517 ac 62.75% Impervious Runoff Depth>3.11"
Flow Length=1,904' Tc=12.4 min CN=80 Runoff=17.39 cfs 1.431 af
- Subcatchment S21.1:** Runoff Area=48,374 sf 22.82% Impervious Runoff Depth>1.45"
Flow Length=410' Tc=11.6 min CN=60 Runoff=1.57 cfs 0.134 af
- Subcatchment S21.2.1:** Runoff Area=4,774 sf 72.83% Impervious Runoff Depth>3.61"
Tc=5.0 min CN=85 Runoff=0.49 cfs 0.033 af
- Subcatchment S21.2.2:** Runoff Area=13,984 sf 0.00% Impervious Runoff Depth>0.74"
Flow Length=325' Tc=5.4 min CN=49 Runoff=0.22 cfs 0.020 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:** Runoff Area=196,590 sf 67.29% Impervious Runoff Depth>3.30"
Flow Length=2,025' Tc=12.4 min CN=82 Runoff=15.02 cfs 1.243 af
- Subcatchment S24:** Runoff Area=26,018 sf 100.00% Impervious Runoff Depth>5.02"
Tc=5.0 min CN=98 Runoff=3.24 cfs 0.250 af
- Subcatchment S26:** Runoff Area=51,609 sf 0.00% Impervious Runoff Depth>1.53"
Tc=5.0 min CN=61 Runoff=2.20 cfs 0.151 af
- Subcatchment S27:** Runoff Area=373,123 sf 89.13% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=94 Runoff=44.83 cfs 3.258 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=103,869 sf 0.00% Impervious Runoff Depth>1.53" Flow Length=325' Tc=6.7 min CN=61 Runoff=4.23 cfs 0.303 af
Subcatchment S30:	Runoff Area=81,302 sf 0.00% Impervious Runoff Depth>0.74" Tc=5.0 min CN=49 Runoff=1.30 cfs 0.116 af
Subcatchment S31:	Runoff Area=196,099 sf 0.00% Impervious Runoff Depth>1.52" Flow Length=758' Tc=9.6 min CN=61 Runoff=7.22 cfs 0.572 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=63,019 sf 49.57% Impervious Runoff Depth>3.41" Tc=5.0 min CN=83 Runoff=6.14 cfs 0.411 af
Subcatchment S32.1:	Runoff Area=124,022 sf 80.54% Impervious Runoff Depth>3.92" Tc=5.0 min CN=88 Runoff=13.52 cfs 0.929 af
Subcatchment S32.2:	Runoff Area=92,854 sf 83.48% Impervious Runoff Depth>4.13" Tc=5.0 min CN=90 Runoff=10.51 cfs 0.733 af
Subcatchment S6: Retail Core South	Runoff Area=94,182 sf 56.70% Impervious Runoff Depth>2.40" Flow Length=926' Tc=10.2 min CN=72 Runoff=5.61 cfs 0.432 af
Reach 1R: Point of Analysis 1	Inflow=75.65 cfs 19.204 af Outflow=75.65 cfs 19.204 af
Reach L150:	Avg. Flow Depth=1.47' Max Vel=3.41 fps Inflow=57.57 cfs 17.078 af n=0.030 L=136.0' S=0.0043 '/ Capacity=654.46 cfs Outflow=57.35 cfs 17.065 af
Reach L151:	Avg. Flow Depth=1.38' Max Vel=5.60 fps Inflow=57.35 cfs 17.065 af n=0.030 L=155.0' S=0.0148 '/ Capacity=2,128.99 cfs Outflow=57.38 cfs 17.057 af
Reach L186:	Avg. Flow Depth=2.23' Max Vel=2.83 fps Inflow=66.43 cfs 17.905 af n=0.030 L=340.0' S=0.0020 '/ Capacity=279.47 cfs Outflow=65.90 cfs 17.866 af
Reach L57: 48"	Avg. Flow Depth=1.48' Max Vel=5.88 fps Inflow=24.85 cfs 9.114 af 48.0" Round Pipe n=0.014 L=446.0' S=0.0041 '/ Capacity=85.21 cfs Outflow=24.85 cfs 9.104 af
Reach L65: 30"	Avg. Flow Depth=0.71' Max Vel=21.77 fps Inflow=24.85 cfs 9.117 af 30.0" Round Pipe n=0.014 L=104.0' S=0.1394 '/ Capacity=142.22 cfs Outflow=24.85 cfs 9.117 af
Reach L67: 48"	Avg. Flow Depth=1.20' Max Vel=7.88 fps Inflow=24.85 cfs 9.117 af 48.0" Round Pipe n=0.014 L=185.0' S=0.0092 '/ Capacity=127.86 cfs Outflow=24.85 cfs 9.114 af
Reach P1:	Avg. Flow Depth=0.78' Max Vel=8.07 fps Inflow=75.64 cfs 19.206 af n=0.030 L=46.0' S=0.0435 '/ Capacity=407.83 cfs Outflow=75.65 cfs 19.204 af
Pond 19P:	Peak Elev=139.87' Storage=3,305 cf Inflow=65.01 cfs 5.531 af Primary=15.66 cfs 3.751 af Secondary=49.34 cfs 1.774 af Outflow=65.00 cfs 5.525 af

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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=76.48' Storage=103,273 cf Inflow=85.34 cfs 9.255 af
Primary=24.85 cfs 9.117 af Secondary=0.00 cfs 0.000 af Outflow=24.85 cfs 9.117 af

Pond 27P: Peak Elev=52.49' Storage=31,321 cf Inflow=44.83 cfs 3.258 af
Discarded=0.86 cfs 0.972 af Primary=34.83 cfs 1.812 af Outflow=35.69 cfs 2.785 af

Pond 30P: Peak Elev=52.48' Storage=236,315 cf Inflow=136.07 cfs 15.517 af
Outflow=37.89 cfs 13.308 af

Total Runoff Area = 97.055 ac Runoff Volume = 23.083 af Average Runoff Depth = 2.85"
56.29% Pervious = 54.632 ac 43.71% Impervious = 42.422 ac

Summary for Subcatchment S12:

Runoff = 2.90 cfs @ 12.27 hrs, Volume= 0.333 af, Depth> 0.80"

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 (sf)	CN	Description
* 191,337	43	
* 27,135	98	
218,472	50	Weighted Average
191,337		87.58% Pervious Area
27,135		12.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
2.6	727	0.0830	4.64		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.4	258	0.0430	10.14	12.44	Pipe Channel, 15" RCP 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.014
0.1	44	0.0205	7.90	13.97	Pipe Channel, 18" RCP 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.014
1.7	1,709	0.0257	17.02	213.83	Pipe Channel, 48" RCP 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.014
14.6	2,838	Total			

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

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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
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 = 17.39 cfs @ 12.17 hrs, Volume= 1.431 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"

Area (ac)	CN	Description
* 2.055	49	
* 3.462	98	
5.517	80	Weighted Average
2.055		37.25% Pervious Area
3.462		62.75% 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
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
1.5	1,215	0.0300	13.51	42.45	Pipe Channel, 24" Pipe 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
0.1	240	0.0969	28.18	138.32	Pipe Channel, 24" Pipe 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012
12.4	1,904	Total			

Summary for Subcatchment S21.1:

Runoff = 1.57 cfs @ 12.18 hrs, Volume= 0.134 af, Depth> 1.45"

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 (sf)	CN	Description
* 37,334	49	
* 11,040	98	
48,374	60	Weighted Average
37,334		77.18% Pervious Area
11,040		22.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.1100	0.15		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.20"
0.6	170	0.0865	4.74		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.1	140	0.1015	24.72	121.34	Pipe Channel, 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.014
11.6	410	Total			

Summary for Subcatchment S21.2.1:

Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.033 af, Depth> 3.61"

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 (sf)	CN	Description
*	3,477	98	
*	1,297	49	
	4,774	85	Weighted Average
	1,297		27.17% Pervious Area
	3,477		72.83% 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 = 0.22 cfs @ 12.11 hrs, Volume= 0.020 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 (sf)	CN	Description
*	13,984	49	
	13,984		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
0.4	118	0.0932	4.92		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.1	30	0.0890	6.06		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.1	77	0.0837	12.19	9.57	Pipe Channel, 12" RCP 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
5.4	325	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"

	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"

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

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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:

Runoff = 15.02 cfs @ 12.17 hrs, Volume= 1.243 af, Depth> 3.30"

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 (sf)	CN	Description
64,303	49	50-75% Grass cover, Fair, HSG A
132,287	98	Paved parking, HSG A
196,590	82	Weighted Average
64,303		32.71% Pervious Area
132,287		67.29% 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
9.0	100	0.0250	0.19		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 3.20"
0.9	156	0.0350	3.01		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.8	174	0.0360	3.85		Shallow Concentrated Flow, Shallow Conc Paved Kv= 20.3 fps
0.2	40	0.0050	4.03	4.95	Pipe Channel, 15" HDPE 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
1.5	1,555	0.0200	17.51	220.07	Pipe Channel, 48" HDPE 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.012
12.4	2,025	Total			

Summary for Subcatchment S24:

Runoff = 3.24 cfs @ 12.07 hrs, Volume= 0.250 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 (sf)	CN	Description
* 26,018	98	
26,018		100.00% Impervious Area

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

Summary for Subcatchment S26:

Runoff = 2.20 cfs @ 12.09 hrs, Volume= 0.151 af, Depth> 1.53"

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 (sf)	CN	Description
51,609	61	>75% Grass cover, Good, HSG B
51,609		100.00% Pervious Area

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

Summary for Subcatchment S27:

Runoff = 44.83 cfs @ 12.07 hrs, Volume= 3.258 af, Depth> 4.56"

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 (sf)	CN	Description
40,569	61	>75% Grass cover, Good, HSG B
260,944	98	Paved parking, HSG A
71,610	98	Roofs, HSG A
373,123	94	Weighted Average
40,569		10.87% Pervious Area
332,554		89.13% Impervious Area

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

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 = 4.23 cfs @ 12.11 hrs, Volume= 0.303 af, Depth> 1.53"

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 (sf)	CN	Description
103,869	61	>75% Grass cover, Good, HSG B
103,869		100.00% Pervious 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 = 1.30 cfs @ 12.11 hrs, Volume= 0.116 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 (sf)	CN	Description
* 81,302	49	
81,302		100.00% Pervious Area

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

Summary for Subcatchment S31:

Runoff = 7.22 cfs @ 12.15 hrs, Volume= 0.572 af, Depth> 1.52"

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 (sf)	CN	Description
196,099	61	>75% Grass cover, Good, HSG B
196,099		100.00% Pervious 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
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 = 6.14 cfs @ 12.07 hrs, Volume= 0.411 af, Depth> 3.41"

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 (sf)	CN	Description
*	31,783	69	
*	31,236	98	
	63,019	83	Weighted Average
	31,783		50.43% Pervious Area
	31,236		49.57% 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 = 13.52 cfs @ 12.07 hrs, Volume= 0.929 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 (sf)	CN	Description
*	24,135	49	
*	99,887	98	
	124,022	88	Weighted Average
	24,135		19.46% Pervious Area
	99,887		80.54% Impervious Area

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

Summary for Subcatchment S32.2:

Runoff = 10.51 cfs @ 12.07 hrs, Volume= 0.733 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 (sf)	CN	Description
*	15,341	49	
*	77,513	98	
	92,854	90	Weighted Average
	15,341		16.52% Pervious Area
	77,513		83.48% Impervious Area

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

Summary for Subcatchment S6: Retail Core South Loading

Runoff = 5.61 cfs @ 12.15 hrs, Volume= 0.432 af, Depth> 2.40"

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 (sf)	CN	Description
40,780	39	>75% Grass cover, Good, HSG A
53,402	98	Paved parking, HSG A
94,182	72	Weighted Average
40,780		43.30% Pervious Area
53,402		56.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	75	0.1460	0.24		Sheet Flow, Sheet Grass: Dense n= 0.240 P2= 3.20"
0.2	100	0.2700	8.37		Shallow Concentrated Flow, Shallow Conc Unpaved Kv= 16.1 fps
0.9	45	0.0010	0.84	0.16	Pipe Channel, Underdrain 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.014
4.0	706	0.0050	2.98	2.34	Pipe Channel, 12" Pipe 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.014
10.2	926	Total			

Summary for Reach 1R: Point of Analysis 1

Inflow Area = 97.055 ac, 43.71% Impervious, Inflow Depth > 2.37" for 25-Year event
Inflow = 75.65 cfs @ 12.21 hrs, Volume= 19.204 af
Outflow = 75.65 cfs @ 12.21 hrs, Volume= 19.204 af, Atten= 0%, Lag= 0.0 min

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

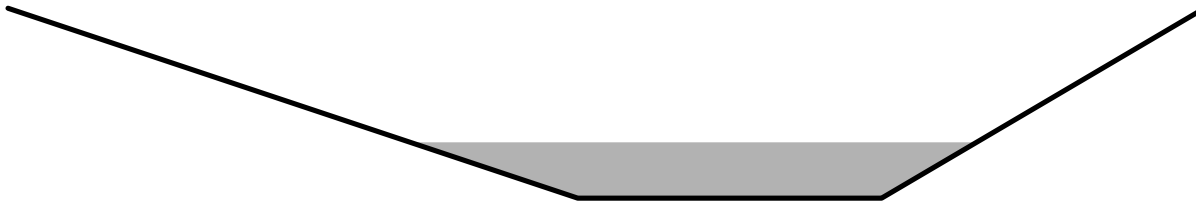
Summary for Reach L150:

Inflow Area = 87.339 ac, 44.72% Impervious, Inflow Depth > 2.35" for 25-Year event
Inflow = 57.57 cfs @ 12.22 hrs, Volume= 17.078 af
Outflow = 57.35 cfs @ 12.23 hrs, Volume= 17.065 af, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.41 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 1.4 min

Peak Storage= 2,287 cf @ 12.23 hrs
Average Depth at Peak Storage= 1.47'
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'



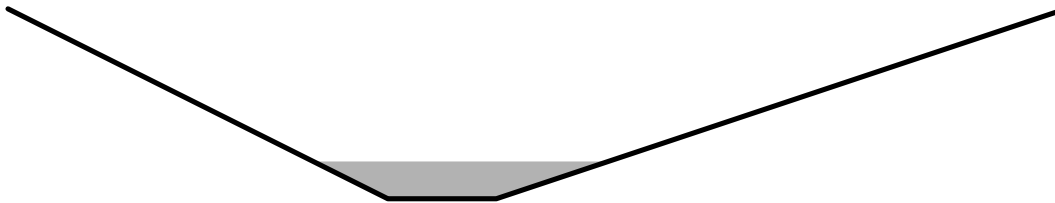
Summary for Reach L151:

Inflow Area = 87.339 ac, 44.72% Impervious, Inflow Depth > 2.34" for 25-Year event
Inflow = 57.35 cfs @ 12.23 hrs, Volume= 17.065 af
Outflow = 57.38 cfs @ 12.24 hrs, Volume= 17.057 af, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.60 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.91 fps, Avg. Travel Time= 0.9 min

Peak Storage= 1,589 cf @ 12.24 hrs
Average Depth at Peak Storage= 1.38'
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 = 92.761 ac, 42.49% Impervious, Inflow Depth > 2.32" for 25-Year event
Inflow = 66.43 cfs @ 12.21 hrs, Volume= 17.905 af
Outflow = 65.90 cfs @ 12.24 hrs, Volume= 17.866 af, Atten= 1%, Lag= 1.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.83 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 4.1 min

Peak Storage= 7,920 cf @ 12.24 hrs
Average Depth at Peak Storage= 2.23'
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'



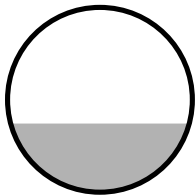
Summary for Reach L57: 48"

Inflow Area = 50.068 ac, 35.94% Impervious, Inflow Depth > 2.18" for 25-Year event
Inflow = 24.85 cfs @ 12.59 hrs, Volume= 9.114 af
Outflow = 24.85 cfs @ 12.61 hrs, Volume= 9.104 af, Atten= 0%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.88 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 3.07 fps, Avg. Travel Time= 2.4 min

Peak Storage= 1,885 cf @ 12.61 hrs
Average Depth at Peak Storage= 1.48'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 85.21 cfs

48.0" Round Pipe
n= 0.014
Length= 446.0' Slope= 0.0041 '/'
Inlet Invert= 49.00', Outlet Invert= 47.18'



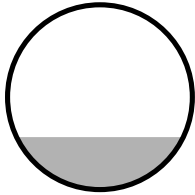
Summary for Reach L65: 30"

Inflow Area = 50.068 ac, 35.94% Impervious, Inflow Depth > 2.19" for 25-Year event
Inflow = 24.85 cfs @ 12.59 hrs, Volume= 9.117 af
Outflow = 24.85 cfs @ 12.59 hrs, Volume= 9.117 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 21.77 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 11.34 fps, Avg. Travel Time= 0.2 min

Peak Storage= 119 cf @ 12.59 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'



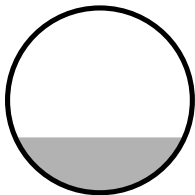
Summary for Reach L67: 48"

Inflow Area = 50.068 ac, 35.94% Impervious, Inflow Depth > 2.18" for 25-Year event
Inflow = 24.85 cfs @ 12.59 hrs, Volume= 9.117 af
Outflow = 24.85 cfs @ 12.59 hrs, Volume= 9.114 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.88 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 4.09 fps, Avg. Travel Time= 0.8 min

Peak Storage= 583 cf @ 12.59 hrs
Average Depth at Peak Storage= 1.20'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 127.86 cfs

48.0" Round Pipe
n= 0.014
Length= 185.0' Slope= 0.0092 '/'
Inlet Invert= 50.70', Outlet Invert= 49.00'



Summary for Reach P1:

Inflow Area = 97.055 ac, 43.71% Impervious, Inflow Depth > 2.37" for 25-Year event
Inflow = 75.64 cfs @ 12.21 hrs, Volume= 19.206 af
Outflow = 75.65 cfs @ 12.21 hrs, Volume= 19.204 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.07 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.45 fps, Avg. Travel Time= 0.2 min

Peak Storage= 431 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.78'
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 = 15.66 cfs @ 12.16 hrs, Volume= 3.751 af
 Secondary = 49.34 cfs @ 12.16 hrs, Volume= 1.774 af

Routing by Dyn-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= 3,305 cf

Plug-Flow detention time= 1.9 min calculated for 5.511 af (100% of inflow)
 Center-of-Mass det. time= 1.5 min (796.3 - 794.8)

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' TW=75.41' (Dynamic Tailwater)

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

Secondary OutFlow Max=48.73 cfs @ 12.16 hrs HW=139.86' TW=51.32' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 48.73 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 Dyn-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)

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 1/ S Cc= 0.900 n= 0.014, Flow Area= 3.14 sf

Primary OutFlow Max=13.81 cfs @ 12.07 hrs HW=167.82' TW=139.69' (Dynamic Tailwater)

↳ **1=Culvert** (Inlet Controls 13.81 cfs @ 4.60 fps)

Summary for Pond 22.4P:

Inflow Area = 50.068 ac, 35.94% Impervious, Inflow Depth > 2.22" for 25-Year event
 Inflow = 85.34 cfs @ 12.09 hrs, Volume= 9.255 af
 Outflow = 24.85 cfs @ 12.59 hrs, Volume= 9.117 af, Atten= 71%, Lag= 29.8 min
 Primary = 24.85 cfs @ 12.59 hrs, Volume= 9.117 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 76.48' @ 12.59 hrs Surf.Area= 32,386 sf Storage= 103,273 cf

Plug-Flow detention time= 45.4 min calculated for 9.117 af (99% of inflow)

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

Prepared by {enter your company name here}

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Center-of-Mass det. time= 39.6 min (834.8 - 795.1)

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

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 1/8" Cc= 0.900 n= 0.005, Flow Area= 2.41 sf

Primary OutFlow Max=24.85 cfs @ 12.59 hrs HW=76.48' TW=71.71' (Dynamic Tailwater)
 ↑**2=Culvert** (Inlet Controls 24.85 cfs @ 10.33 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=71.00' TW=48.58' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 27P:

Inflow Area = 8.566 ac, 89.13% Impervious, Inflow Depth > 4.56" for 25-Year event
 Inflow = 44.83 cfs @ 12.07 hrs, Volume= 3.258 af
 Outflow = 35.69 cfs @ 12.13 hrs, Volume= 2.785 af, Atten= 20%, Lag= 3.6 min
 Discarded = 0.86 cfs @ 12.83 hrs, Volume= 0.972 af
 Primary = 34.83 cfs @ 12.13 hrs, Volume= 1.812 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 52.49' @ 12.83 hrs Surf.Area= 11,100 sf Storage= 31,321 cf

Plug-Flow detention time= 82.7 min calculated for 2.785 af (85% of inflow)
 Center-of-Mass det. time= 38.1 min (779.6 - 741.6)

Volume	Invert	Avail.Storage	Storage Description
#1	47.00'	27,300 cf	Custom Stage Data (Prismatic) Listed below Inside #2
#2	47.00'	46,800 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
			144,300 cf Overall - 27,300 cf Embedded = 117,000 cf x 40.0% Voids
		74,100 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.00	2,100	0	0
48.00	2,100	2,100	2,100
49.00	2,100	2,100	4,200
50.00	2,100	2,100	6,300
51.00	2,100	2,100	8,400
52.00	2,100	2,100	10,500
53.00	2,100	2,100	12,600
54.00	2,100	2,100	14,700
60.00	2,100	12,600	27,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.00	11,100	0	0
48.00	11,100	11,100	11,100
49.00	11,100	11,100	22,200
50.00	11,100	11,100	33,300
51.00	11,100	11,100	44,400
52.00	11,100	11,100	55,500
53.00	11,100	11,100	66,600
54.00	11,100	11,100	77,700
60.00	11,100	66,600	144,300

Device	Routing	Invert	Outlet Devices
#1	Discarded	47.00'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'
#2	Primary	50.00'	24.0" Vert. Orifice/Grate X 2.00 C= 0.600

Discarded OutFlow Max=0.86 cfs @ 12.83 hrs HW=52.49' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.86 cfs)

Primary OutFlow Max=31.67 cfs @ 12.13 hrs HW=52.26' TW=51.17' (Dynamic Tailwater)

↳ **2=Orifice/Grate** (Orifice Controls 31.67 cfs @ 5.04 fps)

Summary for Pond 30P:

Inflow Area = 76.358 ac, 40.75% Impervious, Inflow Depth > 2.44" for 25-Year event
 Inflow = 136.07 cfs @ 12.15 hrs, Volume= 15.517 af
 Outflow = 37.89 cfs @ 12.80 hrs, Volume= 13.308 af, Atten= 72%, Lag= 39.1 min
 Primary = 37.89 cfs @ 12.80 hrs, Volume= 13.308 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 52.48' @ 12.79 hrs Surf.Area= 80,151 sf Storage= 236,315 cf

Plug-Flow detention time= 120.8 min calculated for 13.275 af (86% of inflow)
 Center-of-Mass det. time= 81.8 min (893.6 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	546,807 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	52,745	0	0
50.00	60,878	56,812	56,812
51.00	72,370	66,624	123,436
52.00	77,568	74,969	198,405
53.00	82,940	80,254	278,659
54.00	87,726	85,333	363,992
55.00	92,635	90,181	454,172
56.00	92,635	92,635	546,807

Device	Routing	Invert	Outlet Devices
#1	Primary	52.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Primary	49.50'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 3.00 3.00 5.00 Width (feet) 1.00 4.00 6.00 6.00
#3	Primary	49.00'	5.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=37.90 cfs @ 12.80 hrs HW=52.48' TW=49.86' (Dynamic Tailwater)

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

↳ **2=Custom Weir/Orifice** (Weir Controls 36.84 cfs @ 4.96 fps)

↳ **3=Orifice/Grate** (Orifice Controls 1.06 cfs @ 7.79 fps)