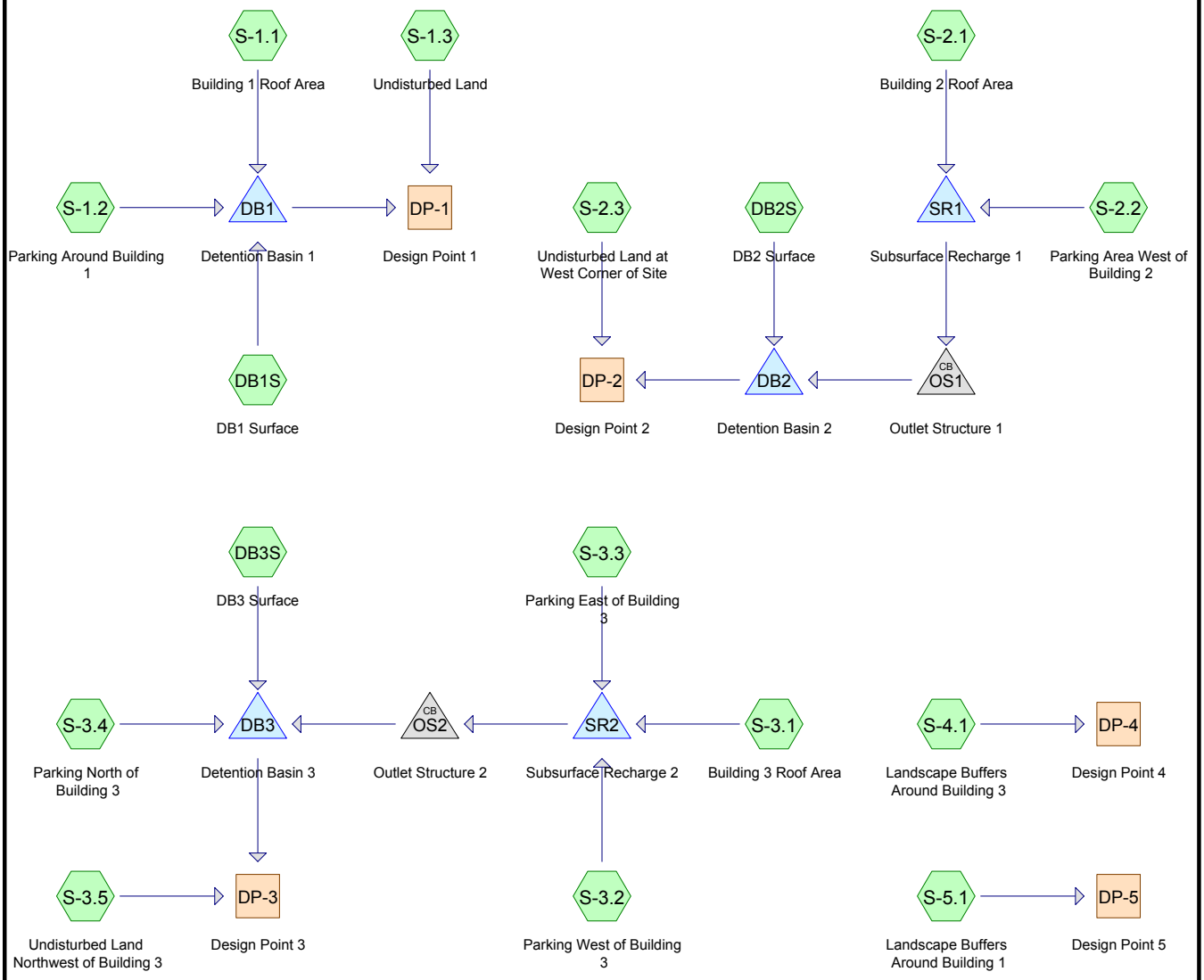

Routing Diagram for Taylor Street, Littleton - Proposed Conditions CULVERTS

Prepared by SMMA, Printed 1/2/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.851	74	>75% Grass cover, Good, HSG C (DB1S, DB2S, DB3S, S-1.2, S-2.2, S-3.2, S-3.3, S-3.4)
10.360	98	Pavement (S-1.2, S-2.2, S-3.2, S-3.3, S-3.4)
2.570	98	Roof Area (S-1.1, S-2.1, S-3.1)
5.640	90	Wetlands (S-1.3, S-2.3, S-3.5)
6.570	73	Woods (C Soils, Fair) (S-2.3)
19.310	73	Woods, Fair, HSG C (S-1.3, S-3.5, S-4.1, S-5.1)
48.301	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
23.161	HSG C	DB1S, DB2S, DB3S, S-1.2, S-1.3, S-2.2, S-3.2, S-3.3, S-3.4, S-3.5, S-4.1, S-5.1
0.000	HSG D	
25.140	Other	S-1.1, S-1.2, S-1.3, S-2.1, S-2.2, S-2.3, S-3.1, S-3.2, S-3.3, S-3.4, S-3.5
48.301		**TOTAL AREA**

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	3.851	0.000	0.000	3.851	>75% Grass cover, Good	DB1S, DB2S, DB3S, S-1.2, S-2.2, S-3.2, S-3.3, S-3.4
0.000	0.000	0.000	0.000	10.360	10.360	Pavement	S-1.2, S-2.2, S-3.2, S-3.3, S-3.4
0.000	0.000	0.000	0.000	2.570	2.570	Roof Area	S-1.1, S-2.1, S-3.1
0.000	0.000	0.000	0.000	5.640	5.640	Wetlands	S-1.3, S-2.3, S-3.5
0.000	0.000	0.000	0.000	6.570	6.570	Woods (C Soils, Fair)	S-2.3
0.000	0.000	19.310	0.000	0.000	19.310	Woods, Fair	S-1.3, S-3.5, S-4.1, S-5.1
0.000	**0.000**	**23.161**	**0.000**	**25.140**	**48.301**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentDB1S: DB1 Surface Runoff Area=19,241 sf 0.00% Impervious Runoff Depth=1.04"
Tc=0.0 min CN=74 Runoff=0.62 cfs 0.038 af

SubcatchmentDB2S: DB2 Surface Runoff Area=18,796 sf 0.00% Impervious Runoff Depth=1.04"
Tc=0.0 min CN=74 Runoff=0.61 cfs 0.037 af

SubcatchmentDB3S: DB3 Surface Runoff Area=4,710 sf 0.00% Impervious Runoff Depth=1.04"
Tc=0.0 min CN=74 Runoff=0.15 cfs 0.009 af

SubcatchmentS-1.1: Building 1 Roof Area Runoff Area=0.850 ac 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=2.74 cfs 0.210 af

SubcatchmentS-1.2: Parking Around Runoff Area=4.200 ac 81.90% Impervious Runoff Depth=2.54"
Tc=5.0 min CN=94 Runoff=12.43 cfs 0.890 af

SubcatchmentS-1.3: Undisturbed Land Runoff Area=15.010 ac 0.00% Impervious Runoff Depth=1.21"
Flow Length=1,370' Tc=43.7 min CN=77 Runoff=9.71 cfs 1.516 af

SubcatchmentS-2.1: Building 2 Roof Area Runoff Area=1.240 ac 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=3.99 cfs 0.307 af

SubcatchmentS-2.2: Parking Area West of Runoff Area=6.140 ac 78.50% Impervious Runoff Depth=2.45"
Tc=5.0 min CN=93 Runoff=17.66 cfs 1.251 af

SubcatchmentS-2.3: Undisturbed Land at Runoff Area=6.810 ac 0.00% Impervious Runoff Depth=1.04"
Flow Length=565' Tc=10.4 min CN=74 Runoff=6.73 cfs 0.589 af

SubcatchmentS-3.1: Building 3 Roof Area Runoff Area=0.480 ac 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=1.54 cfs 0.119 af

SubcatchmentS-3.2: Parking West of Runoff Area=0.440 ac 72.73% Impervious Runoff Depth=2.26"
Tc=5.0 min CN=91 Runoff=1.19 cfs 0.083 af

SubcatchmentS-3.3: Parking East of Runoff Area=1.500 ac 61.33% Impervious Runoff Depth=2.08"
Tc=5.0 min CN=89 Runoff=3.77 cfs 0.260 af

SubcatchmentS-3.4: Parking North of Runoff Area=0.950 ac 90.53% Impervious Runoff Depth=2.75"
Flow Length=917' Tc=5.0 min CN=96 Runoff=2.95 cfs 0.218 af

SubcatchmentS-3.5: Undisturbed Land Runoff Area=8.800 ac 0.00% Impervious Runoff Depth=1.15"
Flow Length=945' Tc=26.8 min CN=76 Runoff=6.79 cfs 0.845 af

SubcatchmentS-4.1: Landscape Buffers Runoff Area=0.460 ac 0.00% Impervious Runoff Depth=0.98"
Flow Length=210' Tc=6.2 min CN=73 Runoff=0.49 cfs 0.038 af

SubcatchmentS-5.1: Landscape Buffers Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=0.98"
Flow Length=205' Tc=11.1 min CN=73 Runoff=0.40 cfs 0.036 af

Reach DP-1: Design Point 1 Inflow=11.03 cfs 2.653 af
Outflow=11.03 cfs 2.653 af

Reach DP-2: Design Point 2 Inflow=7.55 cfs 1.911 af
Outflow=7.55 cfs 1.911 af

Reach DP-3: Design Point 3 Inflow=9.46 cfs 1.429 af
Outflow=9.46 cfs 1.429 af

Reach DP-4: Design Point 4 Inflow=0.49 cfs 0.038 af
Outflow=0.49 cfs 0.038 af

Reach DP-5: Design Point 5 Inflow=0.40 cfs 0.036 af
Outflow=0.40 cfs 0.036 af

Pond DB1: Detention Basin 1 Peak Elev=341.22' Storage=25,579 cf Inflow=15.58 cfs 1.139 af
Outflow=1.33 cfs 1.137 af

Pond DB2: Detention Basin 2 Peak Elev=330.76' Storage=28,548 cf Inflow=12.32 cfs 1.323 af
Outflow=1.77 cfs 1.323 af

Pond DB3: Detention Basin 3 Peak Elev=324.87' Storage=4,950 cf Inflow=4.62 cfs 0.584 af
Outflow=2.74 cfs 0.584 af

Pond OS1: Outlet Structure 1 Peak Elev=334.80' Inflow=12.06 cfs 1.286 af
Outflow=12.06 cfs 1.286 af

Pond OS2: Outlet Structure 2 Peak Elev=326.62' Inflow=2.53 cfs 0.357 af
Outflow=2.53 cfs 0.357 af

Pond SR1: Subsurface Recharge 1 Peak Elev=335.20' Storage=0.525 af Inflow=21.65 cfs 1.558 af
Discarded=0.04 cfs 0.199 af Primary=12.06 cfs 1.286 af Outflow=12.09 cfs 1.485 af

Pond SR2: Subsurface Recharge 2 Peak Elev=327.33' Storage=0.185 af Inflow=6.50 cfs 0.462 af
Discarded=0.01 cfs 0.078 af Primary=2.53 cfs 0.357 af Outflow=2.54 cfs 0.435 af

Total Runoff Area = 48.301 ac Runoff Volume = 6.446 af Average Runoff Depth = 1.60"
73.23% Pervious = 35.371 ac 26.77% Impervious = 12.930 ac

Summary for Subcatchment DB1S: DB1 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.62 cfs @ 12.00 hrs, Volume= 0.038 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
19,241	74	>75% Grass cover, Good, HSG C
19,241		100.00% Pervious Area

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

Summary for Subcatchment DB2S: DB2 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.61 cfs @ 12.00 hrs, Volume= 0.037 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
18,796	74	>75% Grass cover, Good, HSG C
18,796		100.00% Pervious Area

Summary for Subcatchment DB3S: DB3 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.15 cfs @ 12.00 hrs, Volume= 0.009 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
4,710	74	>75% Grass cover, Good, HSG C
4,710		100.00% Pervious Area

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

Summary for Subcatchment S-1.1: Building 1 Roof Area

Runoff = 2.74 cfs @ 12.07 hrs, Volume= 0.210 af, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
*	0.850	98	Roof Area
	0.850		100.00% Impervious Area

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

Summary for Subcatchment S-1.2: Parking Around Building 1

Runoff = 12.43 cfs @ 12.07 hrs, Volume= 0.890 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
*	3.440	98	Pavement
	0.760	74	>75% Grass cover, Good, HSG C
	4.200	94	Weighted Average
	0.760		18.10% Pervious Area
	3.440		81.90% Impervious Area

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

Summary for Subcatchment S-1.3: Undisturbed Land

Runoff = 9.71 cfs @ 12.63 hrs, Volume= 1.516 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
	11.160	73	Woods, Fair, HSG C
*	3.850	90	Wetlands
	15.010	77	Weighted Average
	15.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.7	250	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	150	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.7	920	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.7	1,370	Total			

Summary for Subcatchment S-2.1: Building 2 Roof Area

Runoff = 3.99 cfs @ 12.07 hrs, Volume= 0.307 af, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
*	1.240	98	Roof Area
	1.240		100.00% Impervious Area

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

Summary for Subcatchment S-2.2: Parking Area West of Building 2

Runoff = 17.66 cfs @ 12.07 hrs, Volume= 1.251 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
	1.320	74	>75% Grass cover, Good, HSG C
*	4.820	98	Pavement
	6.140	93	Weighted Average
	1.320		21.50% Pervious Area
	4.820		78.50% Impervious Area

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

Summary for Subcatchment S-2.3: Undisturbed Land at West Corner of Site

Runoff = 6.73 cfs @ 12.15 hrs, Volume= 0.589 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (ac)	CN	Description
6.570	73	Woods (C Soils, Fair)
* 0.240	90	Wetlands
6.810	74	Weighted Average
6.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0600	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.20"
0.5	85	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	340	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.7	90	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.4	565	Total			

Summary for Subcatchment S-3.1: Building 3 Roof Area

Runoff = 1.54 cfs @ 12.07 hrs, Volume= 0.119 af, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (ac)	CN	Description
* 0.480	98	Roof Area
0.480		100.00% Impervious Area

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

Summary for Subcatchment S-3.2: Parking West of Building 3

Runoff = 1.19 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
	0.120	74	>75% Grass cover, Good, HSG C
*	0.320	98	Pavement
	0.440	91	Weighted Average
	0.120		27.27% Pervious Area
	0.320		72.73% Impervious Area

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

Summary for Subcatchment S-3.3: Parking East of Building 3

Runoff = 3.77 cfs @ 12.07 hrs, Volume= 0.260 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
*	0.920	98	Pavement
	0.580	74	>75% Grass cover, Good, HSG C
	1.500	89	Weighted Average
	0.580		38.67% Pervious Area
	0.920		61.33% Impervious Area

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

Summary for Subcatchment S-3.4: Parking North of Building 3

Runoff = 2.95 cfs @ 12.07 hrs, Volume= 0.218 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
	0.090	74	>75% Grass cover, Good, HSG C
*	0.860	98	Pavement
	0.950	96	Weighted Average
	0.090		9.47% Pervious Area
	0.860		90.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	217	0.0200	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.6	600	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Concrete pipe, bends & connections
1.1	100	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
5.0	917	Total			

Summary for Subcatchment S-3.5: Undisturbed Land Northwest of Building 3

Runoff = 6.79 cfs @ 12.41 hrs, Volume= 0.845 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

	Area (ac)	CN	Description
	7.250	73	Woods, Fair, HSG C
*	1.550	90	Wetlands
	8.800	76	Weighted Average
	8.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	35	0.3700	4.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.2	500	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.6	360	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	945	Total			

Summary for Subcatchment S-4.1: Landscape Buffers Around Building 3

Runoff = 0.49 cfs @ 12.10 hrs, Volume= 0.038 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (ac)	CN	Description
0.460	73	Woods, Fair, HSG C
0.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	10	0.0500	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.8	200	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	210	Total			

Summary for Subcatchment S-5.1: Landscape Buffers Around Building 1

Runoff = 0.40 cfs @ 12.17 hrs, Volume= 0.036 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.20"

Area (ac)	CN	Description
0.440	73	Woods, Fair, HSG C
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	20	0.0150	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.1	115	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	70	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.1	205	Total			

Summary for Reach DP-1: Design Point 1

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

Inflow Area = 20.502 ac, 20.93% Impervious, Inflow Depth = 1.55" for 2-yr event
Inflow = 11.03 cfs @ 12.63 hrs, Volume= 2.653 af
Outflow = 11.03 cfs @ 12.63 hrs, Volume= 2.653 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-2: Design Point 2

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

Inflow Area = 14.621 ac, 41.45% Impervious, Inflow Depth = 1.57" for 2-yr event
Inflow = 7.55 cfs @ 12.16 hrs, Volume= 1.911 af
Outflow = 7.55 cfs @ 12.16 hrs, Volume= 1.911 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-3: Design Point 3

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

Inflow Area = 12.278 ac, 21.01% Impervious, Inflow Depth = 1.40" for 2-yr event
Inflow = 9.46 cfs @ 12.42 hrs, Volume= 1.429 af
Outflow = 9.46 cfs @ 12.42 hrs, Volume= 1.429 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-4: Design Point 4

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

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth = 0.98" for 2-yr event
Inflow = 0.49 cfs @ 12.10 hrs, Volume= 0.038 af
Outflow = 0.49 cfs @ 12.10 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-5: Design Point 5

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

Inflow Area = 0.440 ac, 0.00% Impervious, Inflow Depth = 0.98" for 2-yr event
Inflow = 0.40 cfs @ 12.17 hrs, Volume= 0.036 af
Outflow = 0.40 cfs @ 12.17 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond DB1: Detention Basin 1

Inflow Area = 5.492 ac, 78.12% Impervious, Inflow Depth = 2.49" for 2-yr event
Inflow = 15.58 cfs @ 12.07 hrs, Volume= 1.139 af
Outflow = 1.33 cfs @ 12.99 hrs, Volume= 1.137 af, Atten= 91%, Lag= 55.0 min
Primary = 1.33 cfs @ 12.99 hrs, Volume= 1.137 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 341.22' @ 12.99 hrs Surf.Area= 12,855 sf Storage= 25,579 cf

Plug-Flow detention time= 272.4 min calculated for 1.137 af (100% of inflow)
Center-of-Mass det. time= 271.7 min (1,054.6 - 782.9)

Volume	Invert	Avail.Storage	Storage Description
#1	339.00'	101,889 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
339.00	10,066	0	0
340.00	11,309	10,688	10,688
341.00	12,568	11,939	22,626
342.00	13,851	13,210	35,836
343.00	15,160	14,506	50,341
344.00	16,494	15,827	66,168
345.00	17,853	17,174	83,342
346.00	19,241	18,547	101,889

Device	Routing	Invert	Outlet Devices
#1	Device 5	339.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Device 5	342.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 5	344.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	345.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Primary	339.00'	**18.0" Round Culvert** L= 45.0' Ke= 0.900 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.33 cfs @ 12.99 hrs HW=341.22' (Free Discharge)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **5=Culvert** (Passes 1.33 cfs of 8.15 cfs potential flow)
  - **1=Orifice/Grate** (Orifice Controls 1.33 cfs @ 6.76 fps)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond DB2: Detention Basin 2

Inflow Area = 7.811 ac, 77.58% Impervious, Inflow Depth = 2.03" for 2-yr event
Inflow = 12.32 cfs @ 12.18 hrs, Volume= 1.323 af
Outflow = 1.77 cfs @ 13.63 hrs, Volume= 1.323 af, Atten= 86%, Lag= 87.2 min
Primary = 1.77 cfs @ 13.63 hrs, Volume= 1.323 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 330.76' @ 13.63 hrs Surf.Area= 12,312 sf Storage= 28,548 cf

Plug-Flow detention time= 253.1 min calculated for 1.322 af (100% of inflow)
Center-of-Mass det. time= 253.0 min (1,105.5 - 852.5)

Volume	Invert	Avail.Storage	Storage Description
#1	328.00'	94,285 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
328.00	8,337	0	0
329.00	9,762	9,050	9,050
330.00	11,201	10,482	19,531
331.00	12,672	11,937	31,468
332.00	14,168	13,420	44,888
333.00	15,686	14,927	59,815
334.00	17,229	16,458	76,272
335.00	18,796	18,013	94,285

Device	Routing	Invert	Outlet Devices
#1	Primary	328.00'	**18.0" Round Culvert** L= 27.0' Ke= 0.900 Inlet / Outlet Invert= 328.00' / 327.86' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	328.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	330.50'	**12.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	333.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	334.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=1.77 cfs @ 13.63 hrs HW=330.76' (Free Discharge)
- **1=Culvert** (Passes 1.77 cfs of 9.51 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.50 cfs @ 7.62 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.27 cfs @ 1.72 fps)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond DB3: Detention Basin 3

Inflow Area = 3.478 ac, 74.18% Impervious, Inflow Depth = 2.02" for 2-yr event
Inflow = 4.62 cfs @ 12.09 hrs, Volume= 0.584 af
Outflow = 2.74 cfs @ 12.51 hrs, Volume= 0.584 af, Atten= 41%, Lag= 24.9 min
Primary = 2.74 cfs @ 12.51 hrs, Volume= 0.584 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 324.87' @ 12.51 hrs Surf.Area= 3,068 sf Storage= 4,950 cf

Plug-Flow detention time= 48.2 min calculated for 0.584 af (100% of inflow)
Center-of-Mass det. time= 48.1 min (883.3 - 835.3)

Volume	Invert	Avail.Storage	Storage Description
#1	323.00'	17,028 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
323.00	2,211	0	0
324.00	2,651	2,431	2,431
325.00	3,129	2,890	5,321
326.00	3,630	3,380	8,701
327.00	4,157	3,894	12,594
328.00	4,710	4,434	17,028

Device	Routing	Invert	Outlet Devices
#1	Primary	323.00'	**18.0" Round Culvert** L= 31.0' Ke= 0.900 Inlet / Outlet Invert= 323.00' / 322.00' S= 0.0323 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	323.00'	**4.0" W x 30.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	326.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	327.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=2.74 cfs @ 12.51 hrs HW=324.87' (Free Discharge)
- **1=Culvert** (Passes 2.74 cfs of 7.11 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 2.74 cfs @ 4.39 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond OS1: Outlet Structure 1

[79] Warning: Submerged Pond SR1 Primary device # 1 by 1.24'

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 2.09" for 2-yr event
Inflow = 12.06 cfs @ 12.18 hrs, Volume= 1.286 af
Outflow = 12.06 cfs @ 12.18 hrs, Volume= 1.286 af, Atten= 0%, Lag= 0.0 min
Primary = 12.06 cfs @ 12.18 hrs, Volume= 1.286 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 334.80' @ 12.18 hrs
Flood Elev= 344.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.46'	**36.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=12.05 cfs @ 12.18 hrs HW=334.80' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 12.05 cfs @ 3.94 fps)

Summary for Pond OS2: Outlet Structure 2

[57] Hint: Peaked at 326.62' (Flood elevation advised)
[79] Warning: Submerged Pond SR2 Primary device # 1 by 0.64'

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 1.77" for 2-yr event
Inflow = 2.53 cfs @ 12.29 hrs, Volume= 0.357 af
Outflow = 2.53 cfs @ 12.29 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min
Primary = 2.53 cfs @ 12.29 hrs, Volume= 0.357 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 326.62' @ 12.29 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	325.88'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=2.53 cfs @ 12.29 hrs HW=326.62' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 2.53 cfs @ 2.92 fps)

Summary for Pond SR1: Subsurface Recharge 1

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 2.53" for 2-yr event
Inflow = 21.65 cfs @ 12.07 hrs, Volume= 1.558 af
Outflow = 12.09 cfs @ 12.18 hrs, Volume= 1.485 af, Atten= 44%, Lag= 6.4 min
Discarded = 0.04 cfs @ 6.15 hrs, Volume= 0.199 af
Primary = 12.06 cfs @ 12.18 hrs, Volume= 1.286 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 335.20' @ 12.18 hrs Surf.Area= 0.209 ac Storage= 0.525 af

Plug-Flow detention time= 288.5 min calculated for 1.485 af (95% of inflow)
Center-of-Mass det. time= 262.1 min (1,046.7 - 784.6)

Volume	Invert	Avail.Storage	Storage Description
#1	332.56'	0.992 af	**70.00'W x 130.00'L x 5.00'H Prismatoid** 1.045 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	333.56'	**24.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	332.56'	**0.170 in/hr Exfiltration over Horizontal area**
#3	Primary	336.56'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.04 cfs @ 6.15 hrs HW=332.61' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=12.06 cfs @ 12.18 hrs HW=335.20' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 12.06 cfs @ 4.36 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond SR2: Subsurface Recharge 2

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 2.29" for 2-yr event
Inflow = 6.50 cfs @ 12.07 hrs, Volume= 0.462 af
Outflow = 2.54 cfs @ 12.29 hrs, Volume= 0.435 af, Atten= 61%, Lag= 13.1 min
Discarded = 0.01 cfs @ 7.16 hrs, Volume= 0.078 af
Primary = 2.53 cfs @ 12.29 hrs, Volume= 0.357 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 327.33' @ 12.29 hrs Surf.Area= 0.083 ac Storage= 0.185 af

Plug-Flow detention time= 368.2 min calculated for 0.435 af (94% of inflow)
Center-of-Mass det. time= 337.2 min (1,131.7 - 794.6)

Volume	Invert	Avail.Storage	Storage Description
#1	324.98'	0.393 af	**40.00'W x 90.00'L x 5.00'H Prismatoid** 0.413 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	325.98'	**6.0" W x 22.0" H Vert. Orifice/Grate** C= 0.600
#2	Primary	329.48'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	324.98'	**0.170 in/hr Exfiltration over Horizontal area**

Discarded OutFlow Max=0.01 cfs @ 7.16 hrs HW=325.03' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=2.53 cfs @ 12.29 hrs HW=327.33' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 2.53 cfs @ 3.74 fps)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DB1S: DB1 Surface Runoff Area=19,241 sf 0.00% Impervious Runoff Depth=2.32"
Tc=0.0 min CN=74 Runoff=1.46 cfs 0.085 af

Subcatchment DB2S: DB2 Surface Runoff Area=18,796 sf 0.00% Impervious Runoff Depth=2.32"
Tc=0.0 min CN=74 Runoff=1.43 cfs 0.083 af

Subcatchment DB3S: DB3 Surface Runoff Area=4,710 sf 0.00% Impervious Runoff Depth=2.32"
Tc=0.0 min CN=74 Runoff=0.36 cfs 0.021 af

Subcatchment S-1.1: Building 1 Roof Area Runoff Area=0.850 ac 100.00% Impervious Runoff Depth=4.70"
Tc=5.0 min CN=98 Runoff=4.25 cfs 0.333 af

Subcatchment S-1.2: Parking Around Runoff Area=4.200 ac 81.90% Impervious Runoff Depth=4.25"
Tc=5.0 min CN=94 Runoff=20.17 cfs 1.487 af

Subcatchment S-1.3: Undisturbed Land Runoff Area=15.010 ac 0.00% Impervious Runoff Depth=2.57"
Flow Length=1,370' Tc=43.7 min CN=77 Runoff=21.23 cfs 3.218 af

Subcatchment S-2.1: Building 2 Roof Area Runoff Area=1.240 ac 100.00% Impervious Runoff Depth=4.70"
Tc=5.0 min CN=98 Runoff=6.21 cfs 0.486 af

Subcatchment S-2.2: Parking Area West of Runoff Area=6.140 ac 78.50% Impervious Runoff Depth=4.14"
Tc=5.0 min CN=93 Runoff=29.04 cfs 2.118 af

Subcatchment S-2.3: Undisturbed Land at Runoff Area=6.810 ac 0.00% Impervious Runoff Depth=2.32"
Flow Length=565' Tc=10.4 min CN=74 Runoff=15.84 cfs 1.315 af

Subcatchment S-3.1: Building 3 Roof Area Runoff Area=0.480 ac 100.00% Impervious Runoff Depth=4.70"
Tc=5.0 min CN=98 Runoff=2.40 cfs 0.188 af

Subcatchment S-3.2: Parking West of Runoff Area=0.440 ac 72.73% Impervious Runoff Depth=3.92"
Tc=5.0 min CN=91 Runoff=2.01 cfs 0.144 af

Subcatchment S-3.3: Parking East of Runoff Area=1.500 ac 61.33% Impervious Runoff Depth=3.71"
Tc=5.0 min CN=89 Runoff=6.58 cfs 0.464 af

Subcatchment S-3.4: Parking North of Runoff Area=0.950 ac 90.53% Impervious Runoff Depth=4.47"
Flow Length=917' Tc=5.0 min CN=96 Runoff=4.68 cfs 0.354 af

Subcatchment S-3.5: Undisturbed Land Runoff Area=8.800 ac 0.00% Impervious Runoff Depth=2.49"
Flow Length=945' Tc=26.8 min CN=76 Runoff=15.20 cfs 1.823 af

Subcatchment S-4.1: Landscape Buffers Runoff Area=0.460 ac 0.00% Impervious Runoff Depth=2.23"
Flow Length=210' Tc=6.2 min CN=73 Runoff=1.19 cfs 0.086 af

Subcatchment S-5.1: Landscape Buffers Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=2.23"
Flow Length=205' Tc=11.1 min CN=73 Runoff=0.96 cfs 0.082 af

Reach DP-1: Design Point 1 Inflow=23.76 cfs 5.122 af
Outflow=23.76 cfs 5.122 af

Reach DP-2: Design Point 2 Inflow=17.21 cfs 3.723 af
Outflow=17.21 cfs 3.723 af

Reach DP-3: Design Point 3 Inflow=20.46 cfs 2.888 af
Outflow=20.46 cfs 2.888 af

Reach DP-4: Design Point 4 Inflow=1.19 cfs 0.086 af
Outflow=1.19 cfs 0.086 af

Reach DP-5: Design Point 5 Inflow=0.96 cfs 0.082 af
Outflow=0.96 cfs 0.082 af

Pond DB1: Detention Basin 1 Peak Elev=342.48' Storage=42,728 cf Inflow=25.35 cfs 1.905 af
Outflow=2.56 cfs 1.904 af

Pond DB2: Detention Basin 2 Peak Elev=332.13' Storage=46,757 cf Inflow=19.28 cfs 2.409 af
Outflow=5.87 cfs 2.409 af

Pond DB3: Detention Basin 3 Peak Elev=326.10' Storage=9,070 cf Inflow=9.10 cfs 1.064 af
Outflow=5.33 cfs 1.064 af

Pond OS1: Outlet Structure 1 Peak Elev=335.18' Inflow=18.73 cfs 2.326 af
Outflow=18.73 cfs 2.326 af

Pond OS2: Outlet Structure 2 Peak Elev=327.01' Inflow=5.14 cfs 0.689 af
Outflow=5.14 cfs 0.689 af

Pond SR1: Subsurface Recharge 1 Peak Elev=336.09' Storage=0.701 af Inflow=35.25 cfs 2.604 af
Discarded=0.04 cfs 0.203 af Primary=18.73 cfs 2.326 af Outflow=18.77 cfs 2.529 af

Pond SR2: Subsurface Recharge 2 Peak Elev=328.31' Storage=0.261 af Inflow=10.99 cfs 0.796 af
Discarded=0.01 cfs 0.080 af Primary=5.14 cfs 0.689 af Outflow=5.16 cfs 0.769 af

Total Runoff Area = 48.301 ac Runoff Volume = 12.287 af Average Runoff Depth = 3.05"
73.23% Pervious = 35.371 ac 26.77% Impervious = 12.930 ac

Summary for Subcatchment DB1S: DB1 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 1.46 cfs @ 12.00 hrs, Volume= 0.085 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (sf)	CN	Description
19,241	74	>75% Grass cover, Good, HSG C
19,241		100.00% Pervious Area

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

Summary for Subcatchment DB2S: DB2 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 1.43 cfs @ 12.00 hrs, Volume= 0.083 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (sf)	CN	Description
18,796	74	>75% Grass cover, Good, HSG C
18,796		100.00% Pervious Area

Summary for Subcatchment DB3S: DB3 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.36 cfs @ 12.00 hrs, Volume= 0.021 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (sf)	CN	Description
4,710	74	>75% Grass cover, Good, HSG C
4,710		100.00% Pervious Area

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

Summary for Subcatchment S-1.1: Building 1 Roof Area

Runoff = 4.25 cfs @ 12.07 hrs, Volume= 0.333 af, Depth= 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	0.850	98	Roof Area
	0.850		100.00% Impervious Area

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

Summary for Subcatchment S-1.2: Parking Around Building 1

Runoff = 20.17 cfs @ 12.07 hrs, Volume= 1.487 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	3.440	98	Pavement
	0.760	74	>75% Grass cover, Good, HSG C
	4.200	94	Weighted Average
	0.760		18.10% Pervious Area
	3.440		81.90% Impervious Area

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

Summary for Subcatchment S-1.3: Undisturbed Land

Runoff = 21.23 cfs @ 12.58 hrs, Volume= 3.218 af, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
	11.160	73	Woods, Fair, HSG C
*	3.850	90	Wetlands
	15.010	77	Weighted Average
	15.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.7	250	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	150	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.7	920	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.7	1,370	Total			

Summary for Subcatchment S-2.1: Building 2 Roof Area

Runoff = 6.21 cfs @ 12.07 hrs, Volume= 0.486 af, Depth= 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	1.240	98	Roof Area
	1.240		100.00% Impervious Area

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

Summary for Subcatchment S-2.2: Parking Area West of Building 2

Runoff = 29.04 cfs @ 12.07 hrs, Volume= 2.118 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
	1.320	74	>75% Grass cover, Good, HSG C
*	4.820	98	Pavement
	6.140	93	Weighted Average
	1.320		21.50% Pervious Area
	4.820		78.50% Impervious Area

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

Summary for Subcatchment S-2.3: Undisturbed Land at West Corner of Site

Runoff = 15.84 cfs @ 12.15 hrs, Volume= 1.315 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (ac)	CN	Description
6.570	73	Woods (C Soils, Fair)
* 0.240	90	Wetlands
6.810	74	Weighted Average
6.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0600	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.20"
0.5	85	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	340	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.7	90	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.4	565	Total			

Summary for Subcatchment S-3.1: Building 3 Roof Area

Runoff = 2.40 cfs @ 12.07 hrs, Volume= 0.188 af, Depth= 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (ac)	CN	Description
* 0.480	98	Roof Area
0.480		100.00% Impervious Area

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

Summary for Subcatchment S-3.2: Parking West of Building 3

Runoff = 2.01 cfs @ 12.07 hrs, Volume= 0.144 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
	0.120	74	>75% Grass cover, Good, HSG C
*	0.320	98	Pavement
	0.440	91	Weighted Average
	0.120		27.27% Pervious Area
	0.320		72.73% Impervious Area

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

Summary for Subcatchment S-3.3: Parking East of Building 3

Runoff = 6.58 cfs @ 12.07 hrs, Volume= 0.464 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	0.920	98	Pavement
	0.580	74	>75% Grass cover, Good, HSG C
	1.500	89	Weighted Average
	0.580		38.67% Pervious Area
	0.920		61.33% Impervious Area

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

Summary for Subcatchment S-3.4: Parking North of Building 3

Runoff = 4.68 cfs @ 12.07 hrs, Volume= 0.354 af, Depth= 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
	0.090	74	>75% Grass cover, Good, HSG C
*	0.860	98	Pavement
	0.950	96	Weighted Average
	0.090		9.47% Pervious Area
	0.860		90.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	217	0.0200	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.6	600	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Concrete pipe, bends & connections
1.1	100	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
5.0	917	Total			

Summary for Subcatchment S-3.5: Undisturbed Land Northwest of Building 3

Runoff = 15.20 cfs @ 12.37 hrs, Volume= 1.823 af, Depth= 2.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
	7.250	73	Woods, Fair, HSG C
*	1.550	90	Wetlands
	8.800	76	Weighted Average
	8.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	35	0.3700	4.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.2	500	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.6	360	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	945	Total			

Summary for Subcatchment S-4.1: Landscape Buffers Around Building 3

Runoff = 1.19 cfs @ 12.09 hrs, Volume= 0.086 af, Depth= 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (ac)	CN	Description
0.460	73	Woods, Fair, HSG C
0.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	10	0.0500	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.8	200	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	210	Total			

Summary for Subcatchment S-5.1: Landscape Buffers Around Building 1

Runoff = 0.96 cfs @ 12.16 hrs, Volume= 0.082 af, Depth= 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.94"

Area (ac)	CN	Description
0.440	73	Woods, Fair, HSG C
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	20	0.0150	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.1	115	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	70	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.1	205	Total			

Summary for Reach DP-1: Design Point 1

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

Inflow Area = 20.502 ac, 20.93% Impervious, Inflow Depth = 3.00" for 10-yr event
Inflow = 23.76 cfs @ 12.62 hrs, Volume= 5.122 af
Outflow = 23.76 cfs @ 12.62 hrs, Volume= 5.122 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-2: Design Point 2

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

Inflow Area = 14.621 ac, 41.45% Impervious, Inflow Depth = 3.06" for 10-yr event
Inflow = 17.21 cfs @ 12.15 hrs, Volume= 3.723 af
Outflow = 17.21 cfs @ 12.15 hrs, Volume= 3.723 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-3: Design Point 3

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

Inflow Area = 12.278 ac, 21.01% Impervious, Inflow Depth = 2.82" for 10-yr event
Inflow = 20.46 cfs @ 12.39 hrs, Volume= 2.888 af
Outflow = 20.46 cfs @ 12.39 hrs, Volume= 2.888 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-4: Design Point 4

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

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth = 2.23" for 10-yr event
Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.086 af
Outflow = 1.19 cfs @ 12.09 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-5: Design Point 5

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

Inflow Area = 0.440 ac, 0.00% Impervious, Inflow Depth = 2.23" for 10-yr event
Inflow = 0.96 cfs @ 12.16 hrs, Volume= 0.082 af
Outflow = 0.96 cfs @ 12.16 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond DB1: Detention Basin 1

Inflow Area = 5.492 ac, 78.12% Impervious, Inflow Depth = 4.16" for 10-yr event
Inflow = 25.35 cfs @ 12.07 hrs, Volume= 1.905 af
Outflow = 2.56 cfs @ 12.80 hrs, Volume= 1.904 af, Atten= 90%, Lag= 44.0 min
Primary = 2.56 cfs @ 12.80 hrs, Volume= 1.904 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 342.48' @ 12.80 hrs Surf.Area= 14,473 sf Storage= 42,728 cf

Plug-Flow detention time= 300.6 min calculated for 1.904 af (100% of inflow)
Center-of-Mass det. time= 300.4 min (1,071.5 - 771.1)

Volume	Invert	Avail.Storage	Storage Description
#1	339.00'	101,889 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
339.00	10,066	0	0
340.00	11,309	10,688	10,688
341.00	12,568	11,939	22,626
342.00	13,851	13,210	35,836
343.00	15,160	14,506	50,341
344.00	16,494	15,827	66,168
345.00	17,853	17,174	83,342
346.00	19,241	18,547	101,889

Device	Routing	Invert	Outlet Devices
#1	Device 5	339.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Device 5	342.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 5	344.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	345.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Primary	339.00'	**18.0" Round Culvert** L= 45.0' Ke= 0.900 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.56 cfs @ 12.80 hrs HW=342.48' (Free Discharge)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **5=Culvert** (Passes 2.56 cfs of 11.09 cfs potential flow)
  - **1=Orifice/Grate** (Orifice Controls 1.70 cfs @ 8.65 fps)
  - **2=Orifice/Grate** (Orifice Controls 0.86 cfs @ 2.35 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond DB2: Detention Basin 2

Inflow Area = 7.811 ac, 77.58% Impervious, Inflow Depth = 3.70" for 10-yr event
Inflow = 19.28 cfs @ 12.18 hrs, Volume= 2.409 af
Outflow = 5.87 cfs @ 12.89 hrs, Volume= 2.409 af, Atten= 70%, Lag= 42.4 min
Primary = 5.87 cfs @ 12.89 hrs, Volume= 2.409 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 332.13' @ 12.89 hrs Surf.Area= 14,358 sf Storage= 46,757 cf

Plug-Flow detention time= 200.1 min calculated for 2.408 af (100% of inflow)
Center-of-Mass det. time= 200.2 min (1,030.1 - 829.9)

Volume	Invert	Avail.Storage	Storage Description
#1	328.00'	94,285 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
328.00	8,337	0	0
329.00	9,762	9,050	9,050
330.00	11,201	10,482	19,531
331.00	12,672	11,937	31,468
332.00	14,168	13,420	44,888
333.00	15,686	14,927	59,815
334.00	17,229	16,458	76,272
335.00	18,796	18,013	94,285

Device	Routing	Invert	Outlet Devices
#1	Primary	328.00'	**18.0" Round Culvert** L= 27.0' Ke= 0.900 Inlet / Outlet Invert= 328.00' / 327.86' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	328.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	330.50'	**12.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	333.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	334.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=5.87 cfs @ 12.89 hrs HW=332.13' (Free Discharge)
- **1=Culvert** (Passes 5.87 cfs of 12.34 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.86 cfs @ 9.48 fps)
  - **3=Orifice/Grate** (Orifice Controls 4.01 cfs @ 5.11 fps)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond DB3: Detention Basin 3

[79] Warning: Submerged Pond OS2 Primary device # 1 by 0.21'

Inflow Area = 3.478 ac, 74.18% Impervious, Inflow Depth = 3.67" for 10-yr event
Inflow = 9.10 cfs @ 12.09 hrs, Volume= 1.064 af
Outflow = 5.33 cfs @ 12.49 hrs, Volume= 1.064 af, Atten= 41%, Lag= 23.8 min
Primary = 5.33 cfs @ 12.49 hrs, Volume= 1.064 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 326.10' @ 12.49 hrs Surf.Area= 3,680 sf Storage= 9,070 cf

Plug-Flow detention time= 40.4 min calculated for 1.064 af (100% of inflow)
Center-of-Mass det. time= 40.5 min (859.1 - 818.6)

Volume	Invert	Avail.Storage	Storage Description
#1	323.00'	17,028 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
323.00	2,211	0	0
324.00	2,651	2,431	2,431
325.00	3,129	2,890	5,321
326.00	3,630	3,380	8,701
327.00	4,157	3,894	12,594
328.00	4,710	4,434	17,028

Device	Routing	Invert	Outlet Devices
#1	Primary	323.00'	**18.0" Round Culvert** L= 31.0' Ke= 0.900 Inlet / Outlet Invert= 323.00' / 322.00' S= 0.0323 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	323.00'	**4.0" W x 30.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	326.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	327.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=5.33 cfs @ 12.49 hrs HW=326.09' (Free Discharge)
- **1=Culvert** (Passes 5.33 cfs of 10.29 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 5.33 cfs @ 6.40 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond OS1: Outlet Structure 1

[79] Warning: Submerged Pond SR1 Primary device # 1 by 1.62'

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 3.78" for 10-yr event
Inflow = 18.73 cfs @ 12.18 hrs, Volume= 2.326 af
Outflow = 18.73 cfs @ 12.18 hrs, Volume= 2.326 af, Atten= 0%, Lag= 0.0 min
Primary = 18.73 cfs @ 12.18 hrs, Volume= 2.326 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 335.18' @ 12.18 hrs
Flood Elev= 344.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.46'	**36.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=18.72 cfs @ 12.18 hrs HW=335.18' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 18.72 cfs @ 4.47 fps)

Summary for Pond OS2: Outlet Structure 2

[57] Hint: Peaked at 327.01' (Flood elevation advised)
[79] Warning: Submerged Pond SR2 Primary device # 1 by 1.03'

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 3.42" for 10-yr event
Inflow = 5.14 cfs @ 12.22 hrs, Volume= 0.689 af
Outflow = 5.14 cfs @ 12.22 hrs, Volume= 0.689 af, Atten= 0%, Lag= 0.0 min
Primary = 5.14 cfs @ 12.22 hrs, Volume= 0.689 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 327.01' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	325.88'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=5.14 cfs @ 12.22 hrs HW=327.01' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 5.14 cfs @ 3.61 fps)

Summary for Pond SR1: Subsurface Recharge 1

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 4.23" for 10-yr event
Inflow = 35.25 cfs @ 12.07 hrs, Volume= 2.604 af
Outflow = 18.77 cfs @ 12.18 hrs, Volume= 2.529 af, Atten= 47%, Lag= 6.8 min
Discarded = 0.04 cfs @ 4.32 hrs, Volume= 0.203 af
Primary = 18.73 cfs @ 12.18 hrs, Volume= 2.326 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 336.09' @ 12.18 hrs Surf.Area= 0.209 ac Storage= 0.701 af

Plug-Flow detention time= 189.7 min calculated for 2.529 af (97% of inflow)
Center-of-Mass det. time= 172.6 min (944.7 - 772.0)

Volume	Invert	Avail.Storage	Storage Description
#1	332.56'	0.992 af	**70.00'W x 130.00'L x 5.00'H Prismatoid** 1.045 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	333.56'	**24.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	332.56'	**0.170 in/hr Exfiltration over Horizontal area**
#3	Primary	336.56'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.04 cfs @ 4.32 hrs HW=332.61' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=18.73 cfs @ 12.18 hrs HW=336.09' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 18.73 cfs @ 5.96 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond SR2: Subsurface Recharge 2

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 3.95" for 10-yr event
Inflow = 10.99 cfs @ 12.07 hrs, Volume= 0.796 af
Outflow = 5.16 cfs @ 12.22 hrs, Volume= 0.769 af, Atten= 53%, Lag= 8.7 min
Discarded = 0.01 cfs @ 5.15 hrs, Volume= 0.080 af
Primary = 5.14 cfs @ 12.22 hrs, Volume= 0.689 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 328.31' @ 12.22 hrs Surf.Area= 0.083 ac Storage= 0.261 af

Plug-Flow detention time= 233.3 min calculated for 0.769 af (97% of inflow)
Center-of-Mass det. time= 213.6 min (995.2 - 781.5)

Volume	Invert	Avail.Storage	Storage Description
#1	324.98'	0.393 af	**40.00'W x 90.00'L x 5.00'H Prismatoid** 0.413 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	325.98'	**6.0" W x 22.0" H Vert. Orifice/Grate** C= 0.600
#2	Primary	329.48'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	324.98'	**0.170 in/hr Exfiltration over Horizontal area**

Discarded OutFlow Max=0.01 cfs @ 5.15 hrs HW=325.03' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=5.14 cfs @ 12.22 hrs HW=328.31' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 5.14 cfs @ 5.61 fps)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DB1S: DB1 Surface Runoff Area=19,241 sf 0.00% Impervious Runoff Depth=3.20"
Tc=0.0 min CN=74 Runoff=2.03 cfs 0.118 af

Subcatchment DB2S: DB2 Surface Runoff Area=18,796 sf 0.00% Impervious Runoff Depth=3.20"
Tc=0.0 min CN=74 Runoff=1.98 cfs 0.115 af

Subcatchment DB3S: DB3 Surface Runoff Area=4,710 sf 0.00% Impervious Runoff Depth=3.20"
Tc=0.0 min CN=74 Runoff=0.50 cfs 0.029 af

Subcatchment S-1.1: Building 1 Roof Area Runoff Area=0.850 ac 100.00% Impervious Runoff Depth=5.78"
Tc=5.0 min CN=98 Runoff=5.20 cfs 0.410 af

Subcatchment S-1.2: Parking Around Runoff Area=4.200 ac 81.90% Impervious Runoff Depth=5.32"
Tc=5.0 min CN=94 Runoff=24.92 cfs 1.861 af

Subcatchment S-1.3: Undisturbed Land Runoff Area=15.010 ac 0.00% Impervious Runoff Depth=3.50"
Flow Length=1,370' Tc=43.7 min CN=77 Runoff=28.97 cfs 4.374 af

Subcatchment S-2.1: Building 2 Roof Area Runoff Area=1.240 ac 100.00% Impervious Runoff Depth=5.78"
Tc=5.0 min CN=98 Runoff=7.58 cfs 0.597 af

Subcatchment S-2.2: Parking Area West of Runoff Area=6.140 ac 78.50% Impervious Runoff Depth=5.20"
Tc=5.0 min CN=93 Runoff=36.02 cfs 2.662 af

Subcatchment S-2.3: Undisturbed Land at Runoff Area=6.810 ac 0.00% Impervious Runoff Depth=3.20"
Flow Length=565' Tc=10.4 min CN=74 Runoff=22.04 cfs 1.817 af

Subcatchment S-3.1: Building 3 Roof Area Runoff Area=0.480 ac 100.00% Impervious Runoff Depth=5.78"
Tc=5.0 min CN=98 Runoff=2.93 cfs 0.231 af

Subcatchment S-3.2: Parking West of Runoff Area=0.440 ac 72.73% Impervious Runoff Depth=4.98"
Tc=5.0 min CN=91 Runoff=2.52 cfs 0.182 af

Subcatchment S-3.3: Parking East of Runoff Area=1.500 ac 61.33% Impervious Runoff Depth=4.75"
Tc=5.0 min CN=89 Runoff=8.32 cfs 0.594 af

Subcatchment S-3.4: Parking North of Runoff Area=0.950 ac 90.53% Impervious Runoff Depth=5.55"
Flow Length=917' Tc=5.0 min CN=96 Runoff=5.74 cfs 0.439 af

Subcatchment S-3.5: Undisturbed Land Runoff Area=8.800 ac 0.00% Impervious Runoff Depth=3.40"
Flow Length=945' Tc=26.8 min CN=76 Runoff=20.88 cfs 2.491 af

Subcatchment S-4.1: Landscape Buffers Runoff Area=0.460 ac 0.00% Impervious Runoff Depth=3.11"
Flow Length=210' Tc=6.2 min CN=73 Runoff=1.66 cfs 0.119 af

Subcatchment S-5.1: Landscape Buffers Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=3.11"
Flow Length=205' Tc=11.1 min CN=73 Runoff=1.35 cfs 0.114 af

Reach DP-1: Design Point 1 Inflow=33.61 cfs 6.760 af
Outflow=33.61 cfs 6.760 af

Reach DP-2: Design Point 2 Inflow=24.87 cfs 4.911 af
Outflow=24.87 cfs 4.911 af

Reach DP-3: Design Point 3 Inflow=26.97 cfs 3.860 af
Outflow=26.97 cfs 3.860 af

Reach DP-4: Design Point 4 Inflow=1.66 cfs 0.119 af
Outflow=1.66 cfs 0.119 af

Reach DP-5: Design Point 5 Inflow=1.35 cfs 0.114 af
Outflow=1.35 cfs 0.114 af

Pond DB1: Detention Basin 1 Peak Elev=343.05' Storage=51,161 cf Inflow=31.39 cfs 2.388 af
Outflow=4.65 cfs 2.387 af

Pond DB2: Detention Basin 2 Peak Elev=332.99' Storage=59,592 cf Inflow=22.95 cfs 3.095 af
Outflow=7.39 cfs 3.094 af

Pond DB3: Detention Basin 3 Peak Elev=326.75' Storage=11,603 cf Inflow=11.19 cfs 1.368 af
Outflow=6.27 cfs 1.368 af

Pond OS1: Outlet Structure 1 Peak Elev=335.36' Inflow=22.22 cfs 2.979 af
Outflow=22.22 cfs 2.979 af

Pond OS2: Outlet Structure 2 Peak Elev=327.16' Inflow=6.17 cfs 0.900 af
Outflow=6.17 cfs 0.900 af

Pond SR1: Subsurface Recharge 1 Peak Elev=336.67' Storage=0.816 af Inflow=43.60 cfs 3.259 af
Discarded=0.04 cfs 0.205 af Primary=22.22 cfs 2.979 af Outflow=22.26 cfs 3.184 af

Pond SR2: Subsurface Recharge 2 Peak Elev=328.89' Storage=0.307 af Inflow=13.76 cfs 1.008 af
Discarded=0.01 cfs 0.081 af Primary=6.17 cfs 0.900 af Outflow=6.19 cfs 0.981 af

Total Runoff Area = 48.301 ac Runoff Volume = 16.154 af Average Runoff Depth = 4.01"
73.23% Pervious = 35.371 ac 26.77% Impervious = 12.930 ac

Summary for Subcatchment DB1S: DB1 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.03 cfs @ 12.00 hrs, Volume= 0.118 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

Area (sf)	CN	Description
19,241	74	>75% Grass cover, Good, HSG C
19,241		100.00% Pervious Area

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

Summary for Subcatchment DB2S: DB2 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 1.98 cfs @ 12.00 hrs, Volume= 0.115 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

Area (sf)	CN	Description
18,796	74	>75% Grass cover, Good, HSG C
18,796		100.00% Pervious Area

Summary for Subcatchment DB3S: DB3 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.50 cfs @ 12.00 hrs, Volume= 0.029 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

Area (sf)	CN	Description
4,710	74	>75% Grass cover, Good, HSG C
4,710		100.00% Pervious Area

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

Summary for Subcatchment S-1.1: Building 1 Roof Area

Runoff = 5.20 cfs @ 12.07 hrs, Volume= 0.410 af, Depth= 5.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
*	0.850	98	Roof Area
	0.850		100.00% Impervious Area

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

Summary for Subcatchment S-1.2: Parking Around Building 1

Runoff = 24.92 cfs @ 12.07 hrs, Volume= 1.861 af, Depth= 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
*	3.440	98	Pavement
	0.760	74	>75% Grass cover, Good, HSG C
	4.200	94	Weighted Average
	0.760		18.10% Pervious Area
	3.440		81.90% Impervious Area

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

Summary for Subcatchment S-1.3: Undisturbed Land

Runoff = 28.97 cfs @ 12.58 hrs, Volume= 4.374 af, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
	11.160	73	Woods, Fair, HSG C
*	3.850	90	Wetlands
	15.010	77	Weighted Average
	15.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.7	250	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	150	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.7	920	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.7	1,370	Total			

Summary for Subcatchment S-2.1: Building 2 Roof Area

Runoff = 7.58 cfs @ 12.07 hrs, Volume= 0.597 af, Depth= 5.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
*	1.240	98	Roof Area
	1.240		100.00% Impervious Area

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

Summary for Subcatchment S-2.2: Parking Area West of Building 2

Runoff = 36.02 cfs @ 12.07 hrs, Volume= 2.662 af, Depth= 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
	1.320	74	>75% Grass cover, Good, HSG C
*	4.820	98	Pavement
	6.140	93	Weighted Average
	1.320		21.50% Pervious Area
	4.820		78.50% Impervious Area

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

Summary for Subcatchment S-2.3: Undisturbed Land at West Corner of Site

Runoff = 22.04 cfs @ 12.15 hrs, Volume= 1.817 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
	6.570	73	Woods (C Soils, Fair)
*	0.240	90	Wetlands
	6.810	74	Weighted Average
	6.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0600	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.20"
0.5	85	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	340	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.7	90	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.4	565	Total			

Summary for Subcatchment S-3.1: Building 3 Roof Area

Runoff = 2.93 cfs @ 12.07 hrs, Volume= 0.231 af, Depth= 5.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
*	0.480	98	Roof Area
	0.480		100.00% Impervious Area

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

Summary for Subcatchment S-3.2: Parking West of Building 3

Runoff = 2.52 cfs @ 12.07 hrs, Volume= 0.182 af, Depth= 4.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
	0.120	74	>75% Grass cover, Good, HSG C
*	0.320	98	Pavement
	0.440	91	Weighted Average
	0.120		27.27% Pervious Area
	0.320		72.73% Impervious Area

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

Summary for Subcatchment S-3.3: Parking East of Building 3

Runoff = 8.32 cfs @ 12.07 hrs, Volume= 0.594 af, Depth= 4.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
*	0.920	98	Pavement
	0.580	74	>75% Grass cover, Good, HSG C
	1.500	89	Weighted Average
	0.580		38.67% Pervious Area
	0.920		61.33% Impervious Area

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

Summary for Subcatchment S-3.4: Parking North of Building 3

Runoff = 5.74 cfs @ 12.07 hrs, Volume= 0.439 af, Depth= 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
	0.090	74	>75% Grass cover, Good, HSG C
*	0.860	98	Pavement
	0.950	96	Weighted Average
	0.090		9.47% Pervious Area
	0.860		90.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	217	0.0200	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.6	600	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Concrete pipe, bends & connections
1.1	100	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
5.0	917	Total			

Summary for Subcatchment S-3.5: Undisturbed Land Northwest of Building 3

Runoff = 20.88 cfs @ 12.36 hrs, Volume= 2.491 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

	Area (ac)	CN	Description
	7.250	73	Woods, Fair, HSG C
*	1.550	90	Wetlands
	8.800	76	Weighted Average
	8.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	35	0.3700	4.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.2	500	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.6	360	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	945	Total			

Summary for Subcatchment S-4.1: Landscape Buffers Around Building 3

Runoff = 1.66 cfs @ 12.09 hrs, Volume= 0.119 af, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

Area (ac)	CN	Description
0.460	73	Woods, Fair, HSG C
0.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	10	0.0500	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.8	200	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	210	Total			

Summary for Subcatchment S-5.1: Landscape Buffers Around Building 1

Runoff = 1.35 cfs @ 12.15 hrs, Volume= 0.114 af, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.02"

Area (ac)	CN	Description
0.440	73	Woods, Fair, HSG C
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	20	0.0150	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.1	115	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	70	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.1	205	Total			

Summary for Reach DP-1: Design Point 1

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

Inflow Area = 20.502 ac, 20.93% Impervious, Inflow Depth = 3.96" for 25-yr event
Inflow = 33.61 cfs @ 12.58 hrs, Volume= 6.760 af
Outflow = 33.61 cfs @ 12.58 hrs, Volume= 6.760 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-2: Design Point 2

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

Inflow Area = 14.621 ac, 41.45% Impervious, Inflow Depth = 4.03" for 25-yr event
Inflow = 24.87 cfs @ 12.16 hrs, Volume= 4.911 af
Outflow = 24.87 cfs @ 12.16 hrs, Volume= 4.911 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-3: Design Point 3

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

Inflow Area = 12.278 ac, 21.01% Impervious, Inflow Depth = 3.77" for 25-yr event
Inflow = 26.97 cfs @ 12.37 hrs, Volume= 3.860 af
Outflow = 26.97 cfs @ 12.37 hrs, Volume= 3.860 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-4: Design Point 4

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

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth = 3.11" for 25-yr event
Inflow = 1.66 cfs @ 12.09 hrs, Volume= 0.119 af
Outflow = 1.66 cfs @ 12.09 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-5: Design Point 5

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

Inflow Area = 0.440 ac, 0.00% Impervious, Inflow Depth = 3.11" for 25-yr event
Inflow = 1.35 cfs @ 12.15 hrs, Volume= 0.114 af
Outflow = 1.35 cfs @ 12.15 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond DB1: Detention Basin 1

Inflow Area = 5.492 ac, 78.12% Impervious, Inflow Depth = 5.22" for 25-yr event
Inflow = 31.39 cfs @ 12.07 hrs, Volume= 2.388 af
Outflow = 4.65 cfs @ 12.55 hrs, Volume= 2.387 af, Atten= 85%, Lag= 28.8 min
Primary = 4.65 cfs @ 12.55 hrs, Volume= 2.387 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 343.05' @ 12.55 hrs Surf.Area= 15,229 sf Storage= 51,161 cf

Plug-Flow detention time= 275.1 min calculated for 2.387 af (100% of inflow)
Center-of-Mass det. time= 274.7 min (1,040.9 - 766.2)

Volume	Invert	Avail.Storage	Storage Description
#1	339.00'	101,889 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
339.00	10,066	0	0
340.00	11,309	10,688	10,688
341.00	12,568	11,939	22,626
342.00	13,851	13,210	35,836
343.00	15,160	14,506	50,341
344.00	16,494	15,827	66,168
345.00	17,853	17,174	83,342
346.00	19,241	18,547	101,889

Device	Routing	Invert	Outlet Devices
#1	Device 5	339.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Device 5	342.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 5	344.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	345.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Primary	339.00'	**18.0" Round Culvert** L= 45.0' Ke= 0.900 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.65 cfs @ 12.55 hrs HW=343.05' (Free Discharge)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **5=Culvert** (Passes 4.65 cfs of 12.21 cfs potential flow)
  - **1=Orifice/Grate** (Orifice Controls 1.84 cfs @ 9.39 fps)
  - **2=Orifice/Grate** (Orifice Controls 2.81 cfs @ 3.58 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond DB2: Detention Basin 2

Inflow Area = 7.811 ac, 77.58% Impervious, Inflow Depth = 4.75" for 25-yr event
Inflow = 22.95 cfs @ 12.19 hrs, Volume= 3.095 af
Outflow = 7.39 cfs @ 12.90 hrs, Volume= 3.094 af, Atten= 68%, Lag= 42.8 min
Primary = 7.39 cfs @ 12.90 hrs, Volume= 3.094 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 332.99' @ 12.90 hrs Surf.Area= 15,663 sf Storage= 59,592 cf

Plug-Flow detention time= 186.6 min calculated for 3.093 af (100% of inflow)
Center-of-Mass det. time= 186.7 min (1,007.5 - 820.8)

Volume	Invert	Avail.Storage	Storage Description
#1	328.00'	94,285 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
328.00	8,337	0	0
329.00	9,762	9,050	9,050
330.00	11,201	10,482	19,531
331.00	12,672	11,937	31,468
332.00	14,168	13,420	44,888
333.00	15,686	14,927	59,815
334.00	17,229	16,458	76,272
335.00	18,796	18,013	94,285

Device	Routing	Invert	Outlet Devices
#1	Primary	328.00'	**18.0" Round Culvert** L= 27.0' Ke= 0.900 Inlet / Outlet Invert= 328.00' / 327.86' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	328.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	330.50'	**12.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	333.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	334.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=7.39 cfs @ 12.90 hrs HW=332.99' (Free Discharge)
- **1=Culvert** (Passes 7.39 cfs of 13.82 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 2.06 cfs @ 10.48 fps)
  - **3=Orifice/Grate** (Orifice Controls 5.33 cfs @ 6.78 fps)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond DB3: Detention Basin 3

[79] Warning: Submerged Pond OS2 Primary device # 1 by 0.87'

Inflow Area = 3.478 ac, 74.18% Impervious, Inflow Depth = 4.72" for 25-yr event
Inflow = 11.19 cfs @ 12.08 hrs, Volume= 1.368 af
Outflow = 6.27 cfs @ 12.52 hrs, Volume= 1.368 af, Atten= 44%, Lag= 26.3 min
Primary = 6.27 cfs @ 12.52 hrs, Volume= 1.368 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 326.75' @ 12.52 hrs Surf.Area= 4,023 sf Storage= 11,603 cf

Plug-Flow detention time= 39.1 min calculated for 1.368 af (100% of inflow)
Center-of-Mass det. time= 38.9 min (850.6 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	323.00'	17,028 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
323.00	2,211	0	0
324.00	2,651	2,431	2,431
325.00	3,129	2,890	5,321
326.00	3,630	3,380	8,701
327.00	4,157	3,894	12,594
328.00	4,710	4,434	17,028

Device	Routing	Invert	Outlet Devices
#1	Primary	323.00'	**18.0" Round Culvert** L= 31.0' Ke= 0.900 Inlet / Outlet Invert= 323.00' / 322.00' S= 0.0323 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	323.00'	**4.0" W x 30.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	326.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	327.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=6.27 cfs @ 12.52 hrs HW=326.75' (Free Discharge)
- **1=Culvert** (Passes 6.27 cfs of 11.63 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 6.27 cfs @ 7.52 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond OS1: Outlet Structure 1

[79] Warning: Submerged Pond SR1 Primary device # 1 by 1.80'

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 4.84" for 25-yr event
Inflow = 22.22 cfs @ 12.19 hrs, Volume= 2.979 af
Outflow = 22.22 cfs @ 12.19 hrs, Volume= 2.979 af, Atten= 0%, Lag= 0.0 min
Primary = 22.22 cfs @ 12.19 hrs, Volume= 2.979 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 335.36' @ 12.19 hrs
Flood Elev= 344.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.46'	**36.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=22.22 cfs @ 12.19 hrs HW=335.36' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 22.22 cfs @ 4.70 fps)

Summary for Pond OS2: Outlet Structure 2

[57] Hint: Peaked at 327.16' (Flood elevation advised)
[79] Warning: Submerged Pond SR2 Primary device # 1 by 1.18'

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 4.46" for 25-yr event
Inflow = 6.17 cfs @ 12.23 hrs, Volume= 0.900 af
Outflow = 6.17 cfs @ 12.23 hrs, Volume= 0.900 af, Atten= 0%, Lag= 0.0 min
Primary = 6.17 cfs @ 12.23 hrs, Volume= 0.900 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 327.16' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	325.88'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=6.17 cfs @ 12.23 hrs HW=327.16' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 6.17 cfs @ 3.85 fps)

Summary for Pond SR1: Subsurface Recharge 1

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 5.30" for 25-yr event
Inflow = 43.60 cfs @ 12.07 hrs, Volume= 3.259 af
Outflow = 22.26 cfs @ 12.19 hrs, Volume= 3.184 af, Atten= 49%, Lag= 7.3 min
Discarded = 0.04 cfs @ 3.64 hrs, Volume= 0.205 af
Primary = 22.22 cfs @ 12.19 hrs, Volume= 2.979 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 336.67' @ 12.19 hrs Surf.Area= 0.209 ac Storage= 0.816 af

Plug-Flow detention time= 159.8 min calculated for 3.184 af (98% of inflow)
Center-of-Mass det. time= 145.4 min (912.3 - 766.9)

Volume	Invert	Avail.Storage	Storage Description
#1	332.56'	0.992 af	**70.00'W x 130.00'L x 5.00'H Prismatoid** 1.045 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	333.56'	**24.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	332.56'	**0.170 in/hr Exfiltration over Horizontal area**
#3	Primary	336.56'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.04 cfs @ 3.64 hrs HW=332.61' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=22.22 cfs @ 12.19 hrs HW=336.67' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 21.98 cfs @ 7.00 fps)
└**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.24 cfs @ 1.09 fps)

Summary for Pond SR2: Subsurface Recharge 2

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 5.00" for 25-yr event
Inflow = 13.76 cfs @ 12.07 hrs, Volume= 1.008 af
Outflow = 6.19 cfs @ 12.23 hrs, Volume= 0.981 af, Atten= 55%, Lag= 9.4 min
Discarded = 0.01 cfs @ 4.34 hrs, Volume= 0.081 af
Primary = 6.17 cfs @ 12.23 hrs, Volume= 0.900 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 328.89' @ 12.23 hrs Surf.Area= 0.083 ac Storage= 0.307 af

Plug-Flow detention time= 194.6 min calculated for 0.981 af (97% of inflow)
Center-of-Mass det. time= 178.2 min (954.2 - 776.0)

Volume	Invert	Avail.Storage	Storage Description
#1	324.98'	0.393 af	**40.00'W x 90.00'L x 5.00'H Prismatoid** 0.413 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	325.98'	**6.0" W x 22.0" H Vert. Orifice/Grate** C= 0.600
#2	Primary	329.48'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	324.98'	**0.170 in/hr Exfiltration over Horizontal area**

Discarded OutFlow Max=0.01 cfs @ 4.34 hrs HW=325.03' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=6.17 cfs @ 12.23 hrs HW=328.89' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 6.17 cfs @ 6.73 fps)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DB1S: DB1 Surface Runoff Area=19,241 sf 0.00% Impervious Runoff Depth=4.65"
Tc=0.0 min CN=74 Runoff=2.94 cfs 0.171 af

Subcatchment DB2S: DB2 Surface Runoff Area=18,796 sf 0.00% Impervious Runoff Depth=4.65"
Tc=0.0 min CN=74 Runoff=2.87 cfs 0.167 af

Subcatchment DB3S: DB3 Surface Runoff Area=4,710 sf 0.00% Impervious Runoff Depth=4.65"
Tc=0.0 min CN=74 Runoff=0.72 cfs 0.042 af

Subcatchment S-1.1: Building 1 Roof Area Runoff Area=0.850 ac 100.00% Impervious Runoff Depth=7.45"
Tc=5.0 min CN=98 Runoff=6.65 cfs 0.528 af

Subcatchment S-1.2: Parking Around Runoff Area=4.200 ac 81.90% Impervious Runoff Depth=6.97"
Tc=5.0 min CN=94 Runoff=32.21 cfs 2.441 af

Subcatchment S-1.3: Undisturbed Land Runoff Area=15.010 ac 0.00% Impervious Runoff Depth=4.99"
Flow Length=1,370' Tc=43.7 min CN=77 Runoff=41.25 cfs 6.243 af

Subcatchment S-2.1: Building 2 Roof Area Runoff Area=1.240 ac 100.00% Impervious Runoff Depth=7.45"
Tc=5.0 min CN=98 Runoff=9.70 cfs 0.770 af

Subcatchment S-2.2: Parking Area West of Runoff Area=6.140 ac 78.50% Impervious Runoff Depth=6.86"
Tc=5.0 min CN=93 Runoff=46.74 cfs 3.508 af

Subcatchment S-2.3: Undisturbed Land at Runoff Area=6.810 ac 0.00% Impervious Runoff Depth=4.65"
Flow Length=565' Tc=10.4 min CN=74 Runoff=32.00 cfs 2.639 af

Subcatchment S-3.1: Building 3 Roof Area Runoff Area=0.480 ac 100.00% Impervious Runoff Depth=7.45"
Tc=5.0 min CN=98 Runoff=3.75 cfs 0.298 af

Subcatchment S-3.2: Parking West of Runoff Area=0.440 ac 72.73% Impervious Runoff Depth=6.62"
Tc=5.0 min CN=91 Runoff=3.29 cfs 0.243 af

Subcatchment S-3.3: Parking East of Runoff Area=1.500 ac 61.33% Impervious Runoff Depth=6.38"
Tc=5.0 min CN=89 Runoff=10.98 cfs 0.798 af

Subcatchment S-3.4: Parking North of Runoff Area=0.950 ac 90.53% Impervious Runoff Depth=7.21"
Flow Length=917' Tc=5.0 min CN=96 Runoff=7.37 cfs 0.571 af

Subcatchment S-3.5: Undisturbed Land Runoff Area=8.800 ac 0.00% Impervious Runoff Depth=4.88"
Flow Length=945' Tc=26.8 min CN=76 Runoff=29.91 cfs 3.576 af

Subcatchment S-4.1: Landscape Buffers Runoff Area=0.460 ac 0.00% Impervious Runoff Depth=4.54"
Flow Length=210' Tc=6.2 min CN=73 Runoff=2.43 cfs 0.174 af

Subcatchment S-5.1: Landscape Buffers Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=4.54"
Flow Length=205' Tc=11.1 min CN=73 Runoff=1.98 cfs 0.166 af

Reach DP-1: Design Point 1 Inflow=47.87 cfs 9.381 af
Outflow=47.87 cfs 9.381 af

Reach DP-2: Design Point 2 Inflow=37.62 cfs 6.800 af
Outflow=37.62 cfs 6.800 af

Reach DP-3: Design Point 3 Inflow=40.31 cfs 5.419 af
Outflow=40.31 cfs 5.419 af

Reach DP-4: Design Point 4 Inflow=2.43 cfs 0.174 af
Outflow=2.43 cfs 0.174 af

Reach DP-5: Design Point 5 Inflow=1.98 cfs 0.166 af
Outflow=1.98 cfs 0.166 af

Pond DB1: Detention Basin 1 Peak Elev=343.97' Storage=65,706 cf Inflow=40.68 cfs 3.140 af
Outflow=6.64 cfs 3.138 af

Pond DB2: Detention Basin 2 Peak Elev=333.98' Storage=75,911 cf Inflow=31.95 cfs 4.163 af
Outflow=14.51 cfs 4.162 af

Pond DB3: Detention Basin 3 Peak Elev=326.96' Storage=12,432 cf Inflow=14.08 cfs 1.843 af
Outflow=11.36 cfs 1.843 af

Pond OS1: Outlet Structure 1 Peak Elev=335.80' Inflow=30.89 cfs 3.995 af
Outflow=30.89 cfs 3.995 af

Pond OS2: Outlet Structure 2 Peak Elev=327.59' Inflow=8.33 cfs 1.230 af
Outflow=8.33 cfs 1.230 af

Pond SR1: Subsurface Recharge 1 Peak Elev=337.46' Storage=0.973 af Inflow=56.43 cfs 4.277 af
Discarded=0.04 cfs 0.207 af Primary=30.89 cfs 3.995 af Outflow=30.93 cfs 4.202 af

Pond SR2: Subsurface Recharge 2 Peak Elev=329.75' Storage=0.375 af Inflow=18.02 cfs 1.339 af
Discarded=0.01 cfs 0.082 af Primary=8.33 cfs 1.230 af Outflow=8.34 cfs 1.311 af

Total Runoff Area = 48.301 ac Runoff Volume = 22.333 af Average Runoff Depth = 5.55"
73.23% Pervious = 35.371 ac 26.77% Impervious = 12.930 ac

Summary for Subcatchment DB1S: DB1 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.94 cfs @ 12.00 hrs, Volume= 0.171 af, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (sf)	CN	Description
19,241	74	>75% Grass cover, Good, HSG C
19,241		100.00% Pervious Area

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

Summary for Subcatchment DB2S: DB2 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.87 cfs @ 12.00 hrs, Volume= 0.167 af, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (sf)	CN	Description
18,796	74	>75% Grass cover, Good, HSG C
18,796		100.00% Pervious Area

Summary for Subcatchment DB3S: DB3 Surface

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.72 cfs @ 12.00 hrs, Volume= 0.042 af, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (sf)	CN	Description
4,710	74	>75% Grass cover, Good, HSG C
4,710		100.00% Pervious Area

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

Summary for Subcatchment S-1.1: Building 1 Roof Area

Runoff = 6.65 cfs @ 12.07 hrs, Volume= 0.528 af, Depth= 7.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
*	0.850	98	Roof Area
	0.850		100.00% Impervious Area

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

Summary for Subcatchment S-1.2: Parking Around Building 1

Runoff = 32.21 cfs @ 12.07 hrs, Volume= 2.441 af, Depth= 6.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
*	3.440	98	Pavement
	0.760	74	>75% Grass cover, Good, HSG C
	4.200	94	Weighted Average
	0.760		18.10% Pervious Area
	3.440		81.90% Impervious Area

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

Summary for Subcatchment S-1.3: Undisturbed Land

Runoff = 41.25 cfs @ 12.58 hrs, Volume= 6.243 af, Depth= 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
	11.160	73	Woods, Fair, HSG C
*	3.850	90	Wetlands
	15.010	77	Weighted Average
	15.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	50	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.7	250	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	150	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.7	920	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.7	1,370	Total			

Summary for Subcatchment S-2.1: Building 2 Roof Area

Runoff = 9.70 cfs @ 12.07 hrs, Volume= 0.770 af, Depth= 7.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
*	1.240	98	Roof Area
	1.240		100.00% Impervious Area

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

Summary for Subcatchment S-2.2: Parking Area West of Building 2

Runoff = 46.74 cfs @ 12.07 hrs, Volume= 3.508 af, Depth= 6.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
	1.320	74	>75% Grass cover, Good, HSG C
*	4.820	98	Pavement
	6.140	93	Weighted Average
	1.320		21.50% Pervious Area
	4.820		78.50% Impervious Area

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

Summary for Subcatchment S-2.3: Undisturbed Land at West Corner of Site

Runoff = 32.00 cfs @ 12.14 hrs, Volume= 2.639 af, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (ac)	CN	Description
6.570	73	Woods (C Soils, Fair)
* 0.240	90	Wetlands
6.810	74	Weighted Average
6.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0600	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.20"
0.5	85	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	340	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.7	90	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.4	565	Total			

Summary for Subcatchment S-3.1: Building 3 Roof Area

Runoff = 3.75 cfs @ 12.07 hrs, Volume= 0.298 af, Depth= 7.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (ac)	CN	Description
* 0.480	98	Roof Area
0.480		100.00% Impervious Area

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

Summary for Subcatchment S-3.2: Parking West of Building 3

Runoff = 3.29 cfs @ 12.07 hrs, Volume= 0.243 af, Depth= 6.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
	0.120	74	>75% Grass cover, Good, HSG C
*	0.320	98	Pavement
	0.440	91	Weighted Average
	0.120		27.27% Pervious Area
	0.320		72.73% Impervious Area

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

Summary for Subcatchment S-3.3: Parking East of Building 3

Runoff = 10.98 cfs @ 12.07 hrs, Volume= 0.798 af, Depth= 6.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
*	0.920	98	Pavement
	0.580	74	>75% Grass cover, Good, HSG C
	1.500	89	Weighted Average
	0.580		38.67% Pervious Area
	0.920		61.33% Impervious Area

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

Summary for Subcatchment S-3.4: Parking North of Building 3

Runoff = 7.37 cfs @ 12.07 hrs, Volume= 0.571 af, Depth= 7.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
	0.090	74	>75% Grass cover, Good, HSG C
*	0.860	98	Pavement
	0.950	96	Weighted Average
	0.090		9.47% Pervious Area
	0.860		90.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	217	0.0200	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.6	600	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Concrete pipe, bends & connections
1.1	100	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
5.0	917	Total			

Summary for Subcatchment S-3.5: Undisturbed Land Northwest of Building 3

Runoff = 29.91 cfs @ 12.36 hrs, Volume= 3.576 af, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

	Area (ac)	CN	Description
	7.250	73	Woods, Fair, HSG C
*	1.550	90	Wetlands
	8.800	76	Weighted Average
	8.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	35	0.3700	4.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.2	500	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.6	360	0.0330	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	945	Total			

Summary for Subcatchment S-4.1: Landscape Buffers Around Building 3

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.174 af, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (ac)	CN	Description
0.460	73	Woods, Fair, HSG C
0.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	10	0.0500	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.8	200	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	210	Total			

Summary for Subcatchment S-5.1: Landscape Buffers Around Building 1

Runoff = 1.98 cfs @ 12.15 hrs, Volume= 0.166 af, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.69"

Area (ac)	CN	Description
0.440	73	Woods, Fair, HSG C
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	20	0.0150	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.1	115	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	70	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.1	205	Total			

Summary for Reach DP-1: Design Point 1

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

Inflow Area = 20.502 ac, 20.93% Impervious, Inflow Depth = 5.49" for 100-yr event
Inflow = 47.87 cfs @ 12.58 hrs, Volume= 9.381 af
Outflow = 47.87 cfs @ 12.58 hrs, Volume= 9.381 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-2: Design Point 2

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

Inflow Area = 14.621 ac, 41.45% Impervious, Inflow Depth = 5.58" for 100-yr event
Inflow = 37.62 cfs @ 12.15 hrs, Volume= 6.800 af
Outflow = 37.62 cfs @ 12.15 hrs, Volume= 6.800 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-3: Design Point 3

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

Inflow Area = 12.278 ac, 21.01% Impervious, Inflow Depth = 5.30" for 100-yr event
Inflow = 40.31 cfs @ 12.34 hrs, Volume= 5.419 af
Outflow = 40.31 cfs @ 12.34 hrs, Volume= 5.419 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-4: Design Point 4

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

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth = 4.54" for 100-yr event
Inflow = 2.43 cfs @ 12.09 hrs, Volume= 0.174 af
Outflow = 2.43 cfs @ 12.09 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach DP-5: Design Point 5

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

Inflow Area = 0.440 ac, 0.00% Impervious, Inflow Depth = 4.54" for 100-yr event
Inflow = 1.98 cfs @ 12.15 hrs, Volume= 0.166 af
Outflow = 1.98 cfs @ 12.15 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond DB1: Detention Basin 1

Inflow Area = 5.492 ac, 78.12% Impervious, Inflow Depth = 6.86" for 100-yr event
Inflow = 40.68 cfs @ 12.07 hrs, Volume= 3.140 af
Outflow = 6.64 cfs @ 12.53 hrs, Volume= 3.138 af, Atten= 84%, Lag= 27.6 min
Primary = 6.64 cfs @ 12.53 hrs, Volume= 3.138 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 343.97' @ 12.53 hrs Surf.Area= 16,455 sf Storage= 65,706 cf

Plug-Flow detention time= 249.1 min calculated for 3.137 af (100% of inflow)
Center-of-Mass det. time= 249.1 min (1,009.8 - 760.7)

Volume	Invert	Avail.Storage	Storage Description
#1	339.00'	101,889 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
339.00	10,066	0	0
340.00	11,309	10,688	10,688
341.00	12,568	11,939	22,626
342.00	13,851	13,210	35,836
343.00	15,160	14,506	50,341
344.00	16,494	15,827	66,168
345.00	17,853	17,174	83,342
346.00	19,241	18,547	101,889

Device	Routing	Invert	Outlet Devices
#1	Device 5	339.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Device 5	342.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 5	344.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	345.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Primary	339.00'	**18.0" Round Culvert** L= 45.0' Ke= 0.900 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.64 cfs @ 12.53 hrs HW=343.97' (Free Discharge)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **5=Culvert** (Passes 6.64 cfs of 13.80 cfs potential flow)
  - **1=Orifice/Grate** (Orifice Controls 2.05 cfs @ 10.46 fps)
  - **2=Orifice/Grate** (Orifice Controls 4.59 cfs @ 5.84 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond DB2: Detention Basin 2

[79] Warning: Submerged Pond OS1 Primary device # 1 by 0.52'

Inflow Area = 7.811 ac, 77.58% Impervious, Inflow Depth = 6.39" for 100-yr event
Inflow = 31.95 cfs @ 12.18 hrs, Volume= 4.163 af
Outflow = 14.51 cfs @ 12.74 hrs, Volume= 4.162 af, Atten= 55%, Lag= 33.8 min
Primary = 14.51 cfs @ 12.74 hrs, Volume= 4.162 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 333.98' @ 12.74 hrs Surf.Area= 17,195 sf Storage= 75,911 cf

Plug-Flow detention time= 172.7 min calculated for 4.161 af (100% of inflow)
Center-of-Mass det. time= 172.9 min (983.0 - 810.1)

Volume	Invert	Avail.Storage	Storage Description
#1	328.00'	94,285 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
328.00	8,337	0	0
329.00	9,762	9,050	9,050
330.00	11,201	10,482	19,531
331.00	12,672	11,937	31,468
332.00	14,168	13,420	44,888
333.00	15,686	14,927	59,815
334.00	17,229	16,458	76,272
335.00	18,796	18,013	94,285

Device	Routing	Invert	Outlet Devices
#1	Primary	328.00'	**18.0" Round Culvert** L= 27.0' Ke= 0.900 Inlet / Outlet Invert= 328.00' / 327.86' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	328.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	330.50'	**12.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	333.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Primary	334.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=14.49 cfs @ 12.74 hrs HW=333.98' (Free Discharge)
- **1=Culvert** (Passes 14.49 cfs of 15.36 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 2.26 cfs @ 11.52 fps)
  - **3=Orifice/Grate** (Orifice Controls 6.53 cfs @ 8.31 fps)
  - **4=Orifice/Grate** (Weir Controls 5.70 cfs @ 1.56 fps)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond DB3: Detention Basin 3

[79] Warning: Submerged Pond OS2 Primary device # 1 by 1.08'

Inflow Area = 3.478 ac, 74.18% Impervious, Inflow Depth = 6.36" for 100-yr event
Inflow = 14.08 cfs @ 12.08 hrs, Volume= 1.843 af
Outflow = 11.36 cfs @ 12.26 hrs, Volume= 1.843 af, Atten= 19%, Lag= 10.8 min
Primary = 11.36 cfs @ 12.26 hrs, Volume= 1.843 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 326.96' @ 12.26 hrs Surf.Area= 4,135 sf Storage= 12,432 cf

Plug-Flow detention time= 35.2 min calculated for 1.842 af (100% of inflow)
Center-of-Mass det. time= 35.3 min (838.8 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	323.00'	17,028 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
323.00	2,211	0	0
324.00	2,651	2,431	2,431
325.00	3,129	2,890	5,321
326.00	3,630	3,380	8,701
327.00	4,157	3,894	12,594
328.00	4,710	4,434	17,028

Device	Routing	Invert	Outlet Devices
#1	Primary	323.00'	**18.0" Round Culvert** L= 31.0' Ke= 0.900 Inlet / Outlet Invert= 323.00' / 322.00' S= 0.0323 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	323.00'	**4.0" W x 30.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	326.75'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	327.00'	**8.0' long x 8.0' 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) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=11.52 cfs @ 12.26 hrs HW=326.96' (Free Discharge)
- **1=Culvert** (Passes 11.52 cfs of 12.03 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 6.54 cfs @ 7.85 fps)
  - **3=Orifice/Grate** (Weir Controls 4.97 cfs @ 1.49 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond OS1: Outlet Structure 1

[79] Warning: Submerged Pond SR1 Primary device # 1 by 2.24'

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 6.50" for 100-yr event
Inflow = 30.89 cfs @ 12.18 hrs, Volume= 3.995 af
Outflow = 30.89 cfs @ 12.18 hrs, Volume= 3.995 af, Atten= 0%, Lag= 0.0 min
Primary = 30.89 cfs @ 12.18 hrs, Volume= 3.995 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 335.80' @ 12.18 hrs
Flood Elev= 344.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.46'	**36.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=30.89 cfs @ 12.18 hrs HW=335.80' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 30.89 cfs @ 5.21 fps)

Summary for Pond OS2: Outlet Structure 2

[57] Hint: Peaked at 327.59' (Flood elevation advised)
[79] Warning: Submerged Pond SR2 Primary device # 1 by 1.61'

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 6.10" for 100-yr event
Inflow = 8.33 cfs @ 12.22 hrs, Volume= 1.230 af
Outflow = 8.33 cfs @ 12.22 hrs, Volume= 1.230 af, Atten= 0%, Lag= 0.0 min
Primary = 8.33 cfs @ 12.22 hrs, Volume= 1.230 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 327.59' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	325.88'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=8.33 cfs @ 12.22 hrs HW=327.59' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 8.33 cfs @ 4.71 fps)

Summary for Pond SR1: Subsurface Recharge 1

Inflow Area = 7.380 ac, 82.11% Impervious, Inflow Depth = 6.96" for 100-yr event
Inflow = 56.43 cfs @ 12.07 hrs, Volume= 4.277 af
Outflow = 30.93 cfs @ 12.18 hrs, Volume= 4.202 af, Atten= 45%, Lag= 6.5 min
Discarded = 0.04 cfs @ 2.93 hrs, Volume= 0.207 af
Primary = 30.89 cfs @ 12.18 hrs, Volume= 3.995 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 337.46' @ 12.18 hrs Surf.Area= 0.209 ac Storage= 0.973 af

Plug-Flow detention time= 129.6 min calculated for 4.201 af (98% of inflow)
Center-of-Mass det. time= 118.6 min (879.6 - 761.0)

Volume	Invert	Avail.Storage	Storage Description
#1	332.56'	0.992 af	**70.00'W x 130.00'L x 5.00'H Prismatoid** 1.045 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	333.56'	**24.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	332.56'	**0.170 in/hr Exfiltration over Horizontal area**
#3	Primary	336.56'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.04 cfs @ 2.93 hrs HW=332.61' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=30.88 cfs @ 12.18 hrs HW=337.46' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 25.78 cfs @ 8.20 fps)
└**3=Sharp-Crested Rectangular Weir** (Weir Controls 5.11 cfs @ 3.11 fps)

Summary for Pond SR2: Subsurface Recharge 2

Inflow Area = 2.420 ac, 71.07% Impervious, Inflow Depth = 6.64" for 100-yr event
Inflow = 18.02 cfs @ 12.07 hrs, Volume= 1.339 af
Outflow = 8.34 cfs @ 12.22 hrs, Volume= 1.311 af, Atten= 54%, Lag= 8.8 min
Discarded = 0.01 cfs @ 3.49 hrs, Volume= 0.082 af
Primary = 8.33 cfs @ 12.22 hrs, Volume= 1.230 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 329.75' @ 12.22 hrs Surf.Area= 0.083 ac Storage= 0.375 af

Plug-Flow detention time= 157.6 min calculated for 1.311 af (98% of inflow)
Center-of-Mass det. time= 144.8 min (914.4 - 769.6)

Volume	Invert	Avail.Storage	Storage Description
#1	324.98'	0.393 af	**40.00'W x 90.00'L x 5.00'H Prismatoid** 0.413 af Overall x 95.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	325.98'	**6.0" W x 22.0" H Vert. Orifice/Grate** C= 0.600
#2	Primary	329.48'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	324.98'	**0.170 in/hr Exfiltration over Horizontal area**

Discarded OutFlow Max=0.01 cfs @ 3.49 hrs HW=325.03' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=8.32 cfs @ 12.22 hrs HW=329.75' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 7.42 cfs @ 8.10 fps)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.90 cfs @ 1.70 fps)