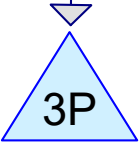




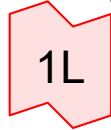
POST TO SCM



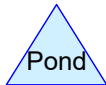
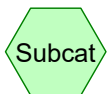
WET POND 1



BYPASS



POST



Drainage Diagram for Rolesville Road
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Rolesville Road

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.300	61	>75% Grass cover, Good, HSG B (1S,2S)
0.050	70	Woods, Good, HSG C (2S)
3.960	74	>75% Grass cover, Good, HSG C (1S,2S)
0.220	77	Woods, Good, HSG D (2S)
0.190	80	>75% Grass cover, Good, HSG D (1S,2S)
5.060	98	Paved parking & roofs (1S,2S)
11.780		TOTAL AREA

Summary for Subcatchment 1S: POST TO SCM

Runoff = 22.15 cfs @ 11.97 hrs, Volume= 1.071 af, Depth= 1.38"

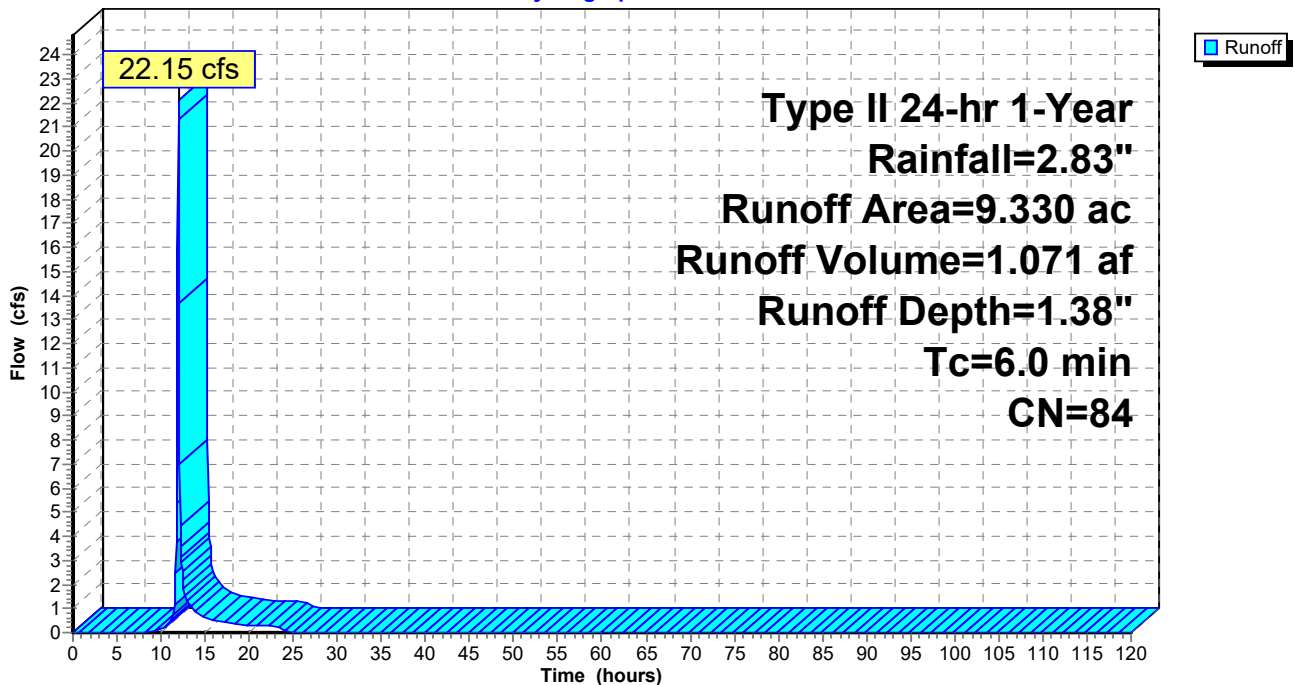
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-Year Rainfall=2.83"

Area (ac)	CN	Description
2.100	61	>75% Grass cover, Good, HSG B
2.190	74	>75% Grass cover, Good, HSG C
0.150	80	>75% Grass cover, Good, HSG D
4.890	98	Paved parking & roofs
9.330	84	Weighted Average
4.440		Pervious Area
4.890		Impervious Area

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

Subcatchment 1S: POST TO SCM

Hydrograph



Rolesville Road

Type II 24-hr 1-Year Rainfall=2.83"

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Summary for Subcatchment 2S: BYPASS

Runoff = 3.05 cfs @ 12.03 hrs, Volume= 0.174 af, Depth= 0.85"

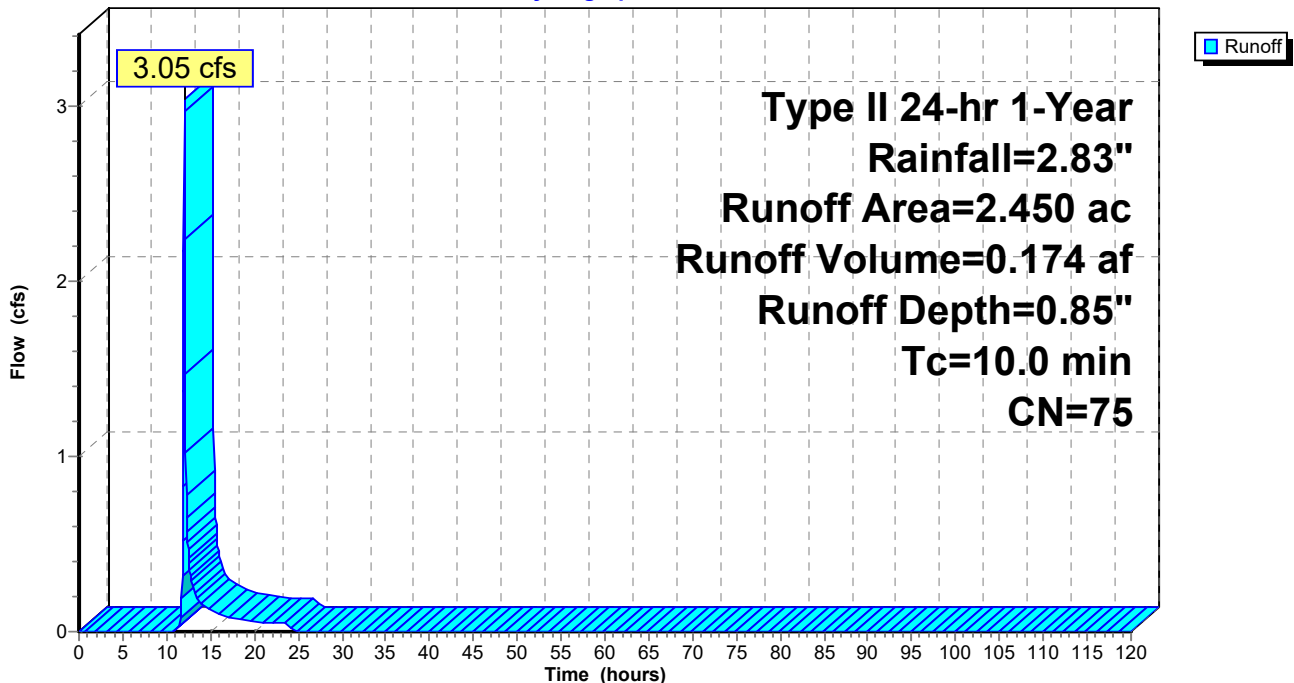
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.83"

Area (ac)	CN	Description
0.050	70	Woods, Good, HSG C
0.220	77	Woods, Good, HSG D
0.200	61	>75% Grass cover, Good, HSG B
1.770	74	>75% Grass cover, Good, HSG C
0.040	80	>75% Grass cover, Good, HSG D
0.170	98	Paved parking & roofs
2.450	75	Weighted Average
2.280		Pervious Area
0.170		Impervious Area

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

Subcatchment 2S: BYPASS

Hydrograph



Rolesville Road

Type II 24-hr 1-Year Rainfall=2.83"

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Summary for Pond 3P: WET POND 1

Inflow Area = 9.330 ac, 52.41% Impervious, Inflow Depth = 1.38" for 1-Year event
 Inflow = 22.15 cfs @ 11.97 hrs, Volume= 1.071 af
 Outflow = 1.12 cfs @ 13.23 hrs, Volume= 1.065 af, Atten= 95%, Lag= 75.5 min
 Primary = 1.12 cfs @ 13.23 hrs, Volume= 1.065 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
 Peak Elev= 382.83' @ 13.23 hrs Surf.Area= 15,715 sf Storage= 26,342 cf

Plug-Flow detention time= 811.5 min calculated for 1.064 af (99% of inflow)
 Center-of-Mass det. time= 809.9 min (1,642.0 - 832.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	381.00'	64,061 cf	Custom Stage Data (Irregular) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
381.00	12,964	479.0	0	0	12,964
382.00	14,436	501.0	13,693	13,693	14,748
383.00	15,973	524.0	15,198	28,891	16,693
384.00	17,576	545.0	16,768	45,660	18,558
385.00	19,239	564.0	18,401	64,061	20,324

Device	Routing	Invert	Outlet Devices
#1	Primary	381.00'	18.0" x 36.0' long Culvert RCP, groove end projecting, Ke= 0.200 Outlet Invert= 380.00' S= 0.0278 '/' Cc= 0.900 n= 0.013
#2	Device 1	381.00'	3.0" Vert. Orifice C= 0.600
#3	Device 1	382.50'	6.0" Vert. Orifice X 3.00 C= 0.600
#4	Device 1	383.00'	4.00' x 4.00' Horiz. Grate Limited to weir flow C= 0.600
#5	Secondary	384.00'	60.0' long x 16.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.12 cfs @ 13.23 hrs HW=382.83' (Free Discharge)

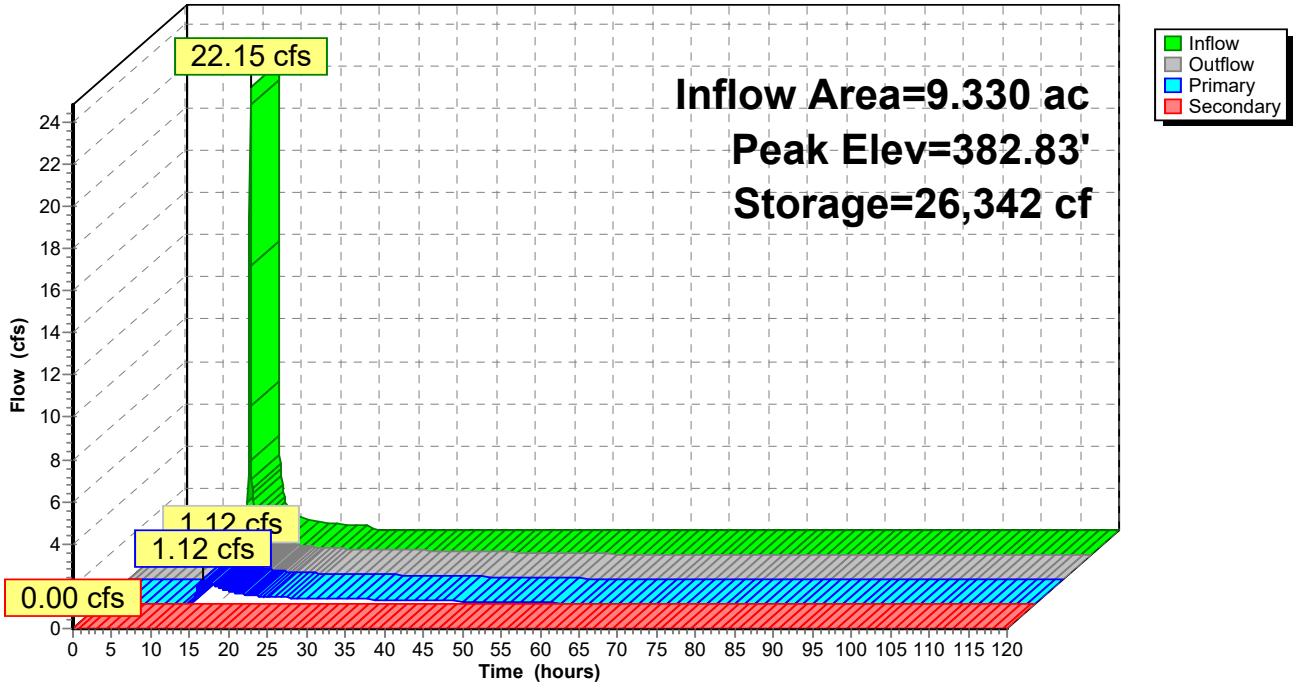
- ↑ 1=Culvert (Passes 1.12 cfs of 11.06 cfs potential flow)
- ↑ 2=Orifice (Orifice Controls 0.31 cfs @ 6.29 fps)
- ↑ 3=Orifice (Orifice Controls 0.82 cfs @ 1.96 fps)
- ↑ 4=Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=381.00' (Free Discharge)

- ↑ 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 3P: WET POND 1

Hydrograph



Summary for Link 1L: POST

Inflow Area = 11.780 ac, 42.95% Impervious, Inflow Depth > 1.26" for 1-Year event
Inflow = 3.31 cfs @ 12.03 hrs, Volume= 1.239 af
Primary = 3.31 cfs @ 12.03 hrs, Volume= 1.239 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Link 1L: POST

Hydrograph

