Summary for Subcatchment PA #1: PA #1

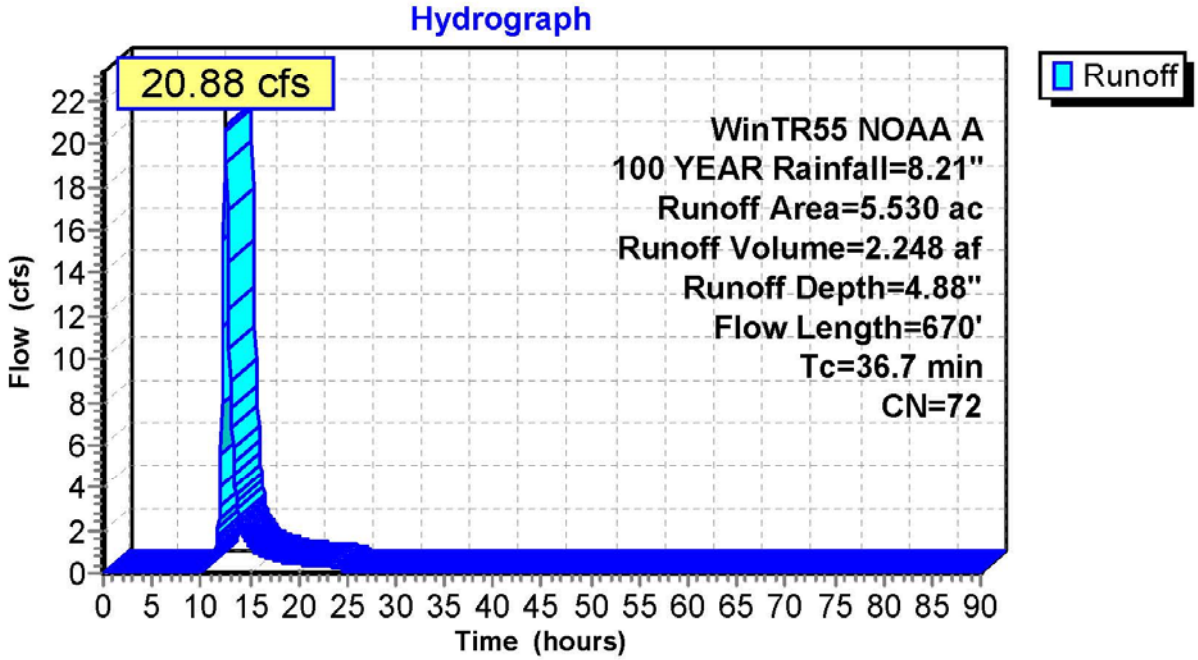
Runoff = 20.88 cfs @ 12.52 hrs, Volume= 2.248 af, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



2) Drainage Area #2

Summary for Subcatchment PA #2: PA #2

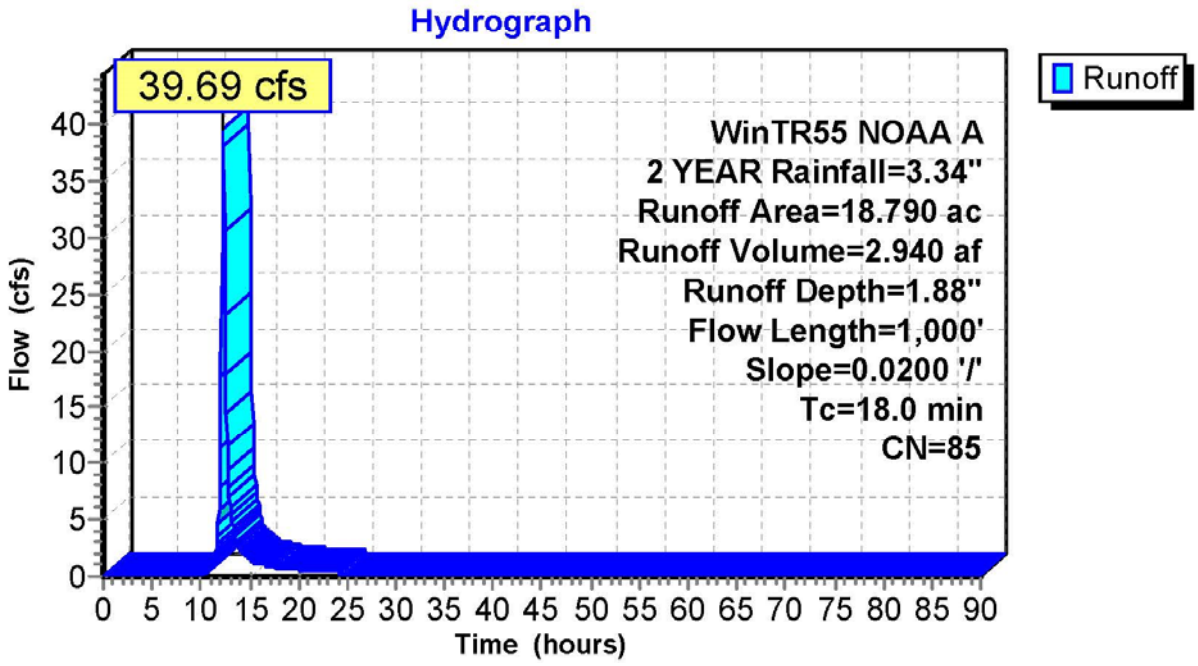
Runoff = 39.69 cfs @ 12.28 hrs, Volume= 2.940 af, Depth= 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	5.400	64	>75% Grass cover, Good, HSG C
	8.590	98	Paved parking, HSG C
*	0.640	92	Paved roads w/curbs & sewers, HSG C
*	4.160	86	Urban industrial, 65% imp, HSG C
	18.790	85	Weighted Average
	7.496		39.89% Pervious Area
	11.294		60.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0200	0.12		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
0.6	100	0.0200	2.87		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
3.3	800		4.00		**Direct Entry, Segment #3**
18.0	1,000	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

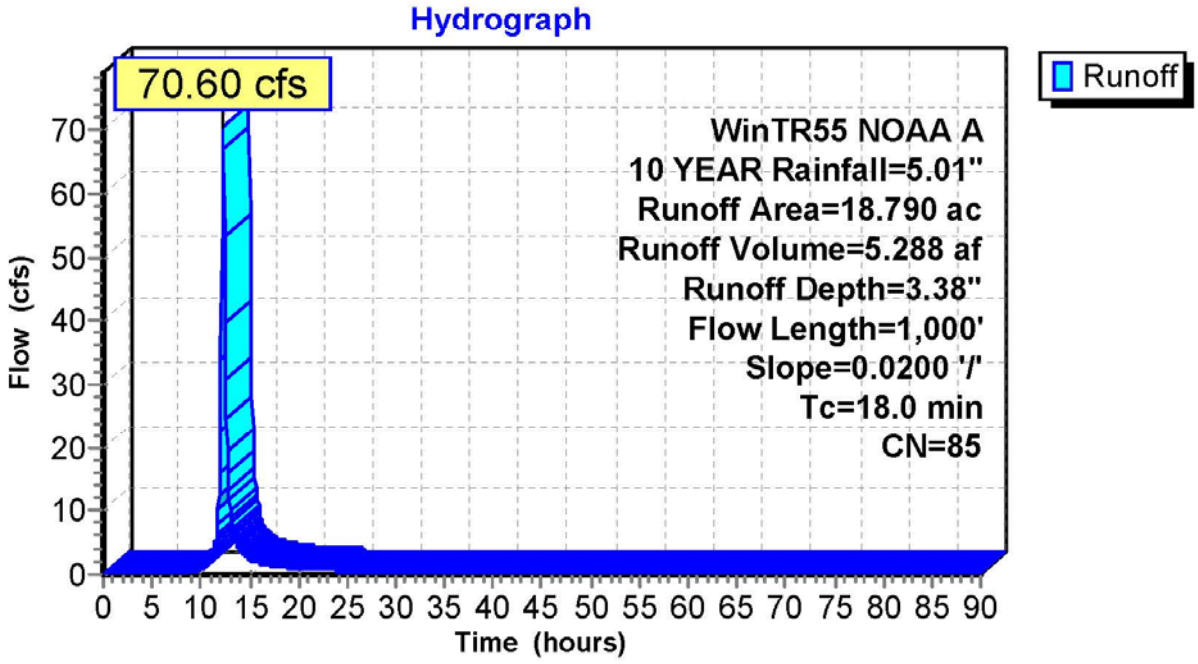
Runoff = 70.60 cfs @ 12.27 hrs, Volume= 5.288 af, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	5.400	64	>75% Grass cover, Good, HSG C
	8.590	98	Paved parking, HSG C
*	0.640	92	Paved roads w/curbs & sewers, HSG C
*	4.160	86	Urban industrial, 65% imp, HSG C
	18.790	85	Weighted Average
	7.496		39.89% Pervious Area
	11.294		60.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0200	0.12		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
0.6	100	0.0200	2.87		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
3.3	800		4.00		**Direct Entry, Segment #3**
18.0	1,000	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

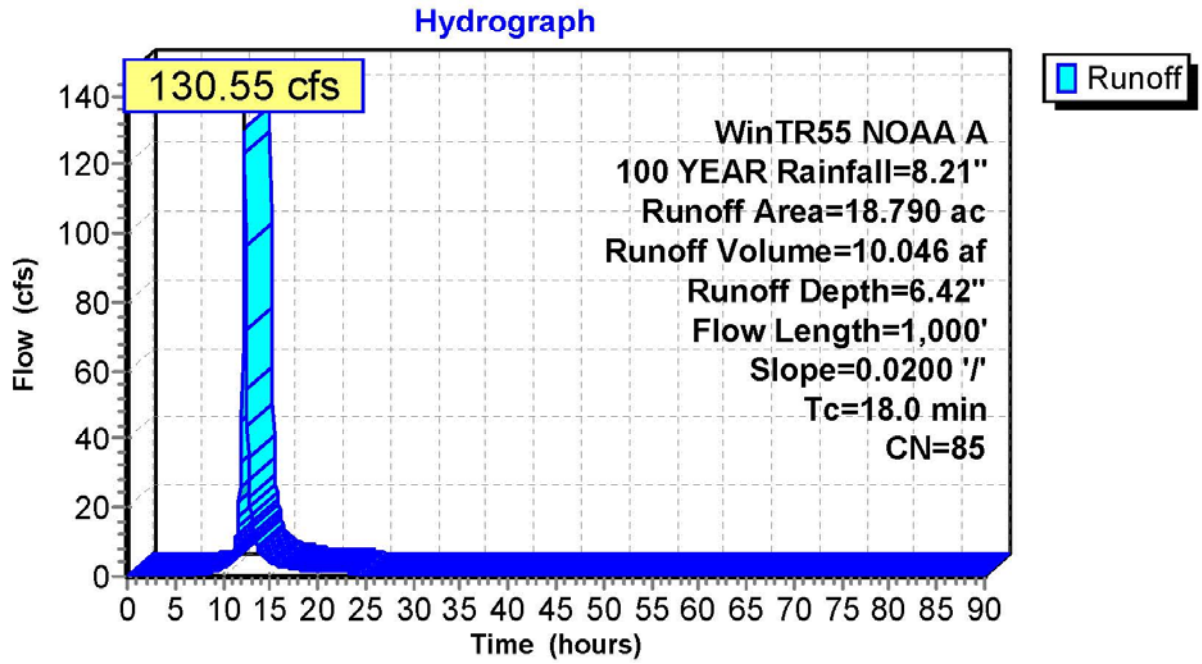
Runoff = 130.55 cfs @ 12.27 hrs, Volume= 10.046 af, Depth= 6.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	5.400	64	>75% Grass cover, Good, HSG C
	8.590	98	Paved parking, HSG C
*	0.640	92	Paved roads w/curbs & sewers, HSG C
*	4.160	86	Urban industrial, 65% imp, HSG C
	18.790	85	Weighted Average
	7.496		39.89% Pervious Area
	11.294		60.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0200	0.12		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
0.6	100	0.0200	2.87		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
3.3	800		4.00		**Direct Entry, Segment #3**
18.0	1,000	Total			

Subcatchment PA #2: PA #2



3) Routing for Basin #1

Summary for Pond Basin #1: Pond #1

Inflow Area = 24.320 ac, 52.34% Impervious, Inflow Depth = 1.68" for 2 YEAR event
Inflow = 41.33 cfs @ 12.28 hrs, Volume= 3.409 af
Outflow = 0.88 cfs @ 17.86 hrs, Volume= 3.137 af, Atten= 98%, Lag= 334.7 min
Primary = 0.88 cfs @ 17.86 hrs, Volume= 3.137 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 74.27' @ 17.86 hrs Surf.Area= 1.051 ac Storage= 2.729 af

Plug-Flow detention time= 1,914.1 min calculated for 3.135 af (92% of inflow)
Center-of-Mass det. time= 1,877.1 min (2,699.1 - 822.0)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	8.785 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

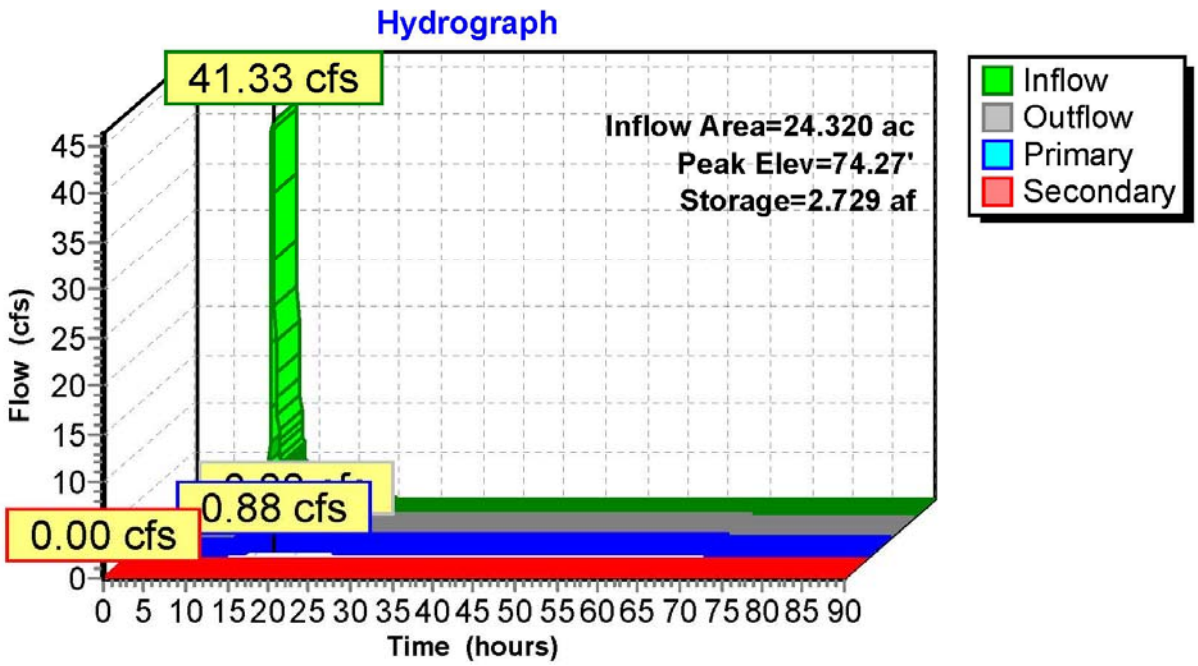
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
68.90	0.000	0.000	0.000
70.00	0.210	0.115	0.115
71.00	0.490	0.350	0.465
72.00	0.590	0.540	1.005
73.00	0.700	0.645	1.650
74.00	0.920	0.810	2.460
75.00	1.400	1.160	3.620
76.00	1.610	1.505	5.125
77.00	1.830	1.720	6.845
78.00	2.050	1.940	8.785

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.88 cfs @ 17.86 hrs HW=74.27' (Free Discharge)
└**6=Culvert** (Passes 0.88 cfs of 67.83 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.54 cfs @ 11.03 fps)
  ├**2=Orifice/Grate** (Orifice Controls 0.34 cfs @ 1.67 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 24.320 ac, 52.34% Impervious, Inflow Depth = 3.11" for 10 YEAR event
Inflow = 75.94 cfs @ 12.28 hrs, Volume= 6.305 af
Outflow = 5.03 cfs @ 13.96 hrs, Volume= 5.906 af, Atten= 93%, Lag= 100.8 min
Primary = 5.03 cfs @ 13.96 hrs, Volume= 5.906 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 75.50' @ 13.96 hrs Surf.Area= 1.505 ac Storage= 4.349 af

Plug-Flow detention time= 1,192.2 min calculated for 5.901 af (94% of inflow)
Center-of-Mass det. time= 1,162.3 min (1,972.5 - 810.1)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	8.785 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

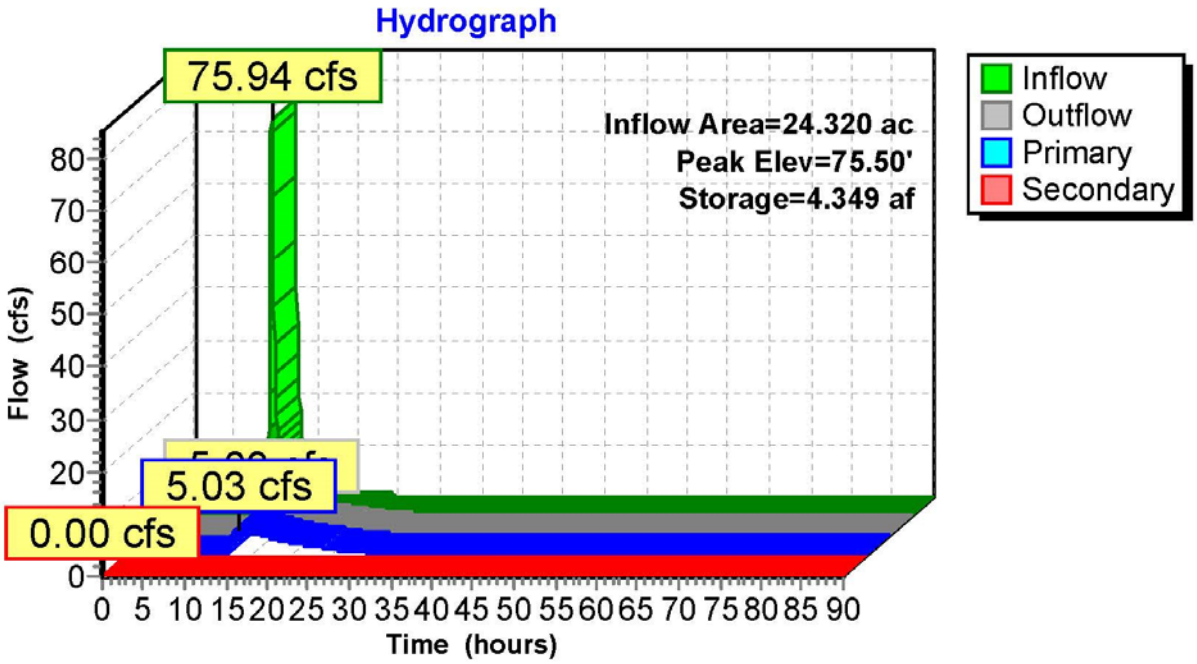
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
68.90	0.000	0.000	0.000
70.00	0.210	0.115	0.115
71.00	0.490	0.350	0.465
72.00	0.590	0.540	1.005
73.00	0.700	0.645	1.650
74.00	0.920	0.810	2.460
75.00	1.400	1.160	3.620
76.00	1.610	1.505	5.125
77.00	1.830	1.720	6.845
78.00	2.050	1.940	8.785

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.03 cfs @ 13.96 hrs HW=75.50' (Free Discharge)
↑—**6=Culvert** (Passes 5.03 cfs of 77.62 cfs potential flow)
↑—**1=Orifice/Grate** (Orifice Controls 0.60 cfs @ 12.25 fps)
—**2=Orifice/Grate** (Orifice Controls 4.43 cfs @ 3.93 fps)
—**3=Orifice/Grate** (Controls 0.00 cfs)
—**4=Orifice/Grate** (Controls 0.00 cfs)
—**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
↑—**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 24.320 ac, 52.34% Impervious, Inflow Depth = 6.07" for 100 YEAR event
Inflow = 143.56 cfs @ 12.28 hrs, Volume= 12.295 af
Outflow = 47.05 cfs @ 12.76 hrs, Volume= 11.834 af, Atten= 67%, Lag= 29.1 min
Primary = 47.05 cfs @ 12.76 hrs, Volume= 11.834 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 76.87' @ 12.76 hrs Surf.Area= 1.802 ac Storage= 6.614 af

Plug-Flow detention time= 669.2 min calculated for 11.824 af (96% of inflow)
Center-of-Mass det. time= 651.1 min (1,448.4 - 797.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	8.785 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

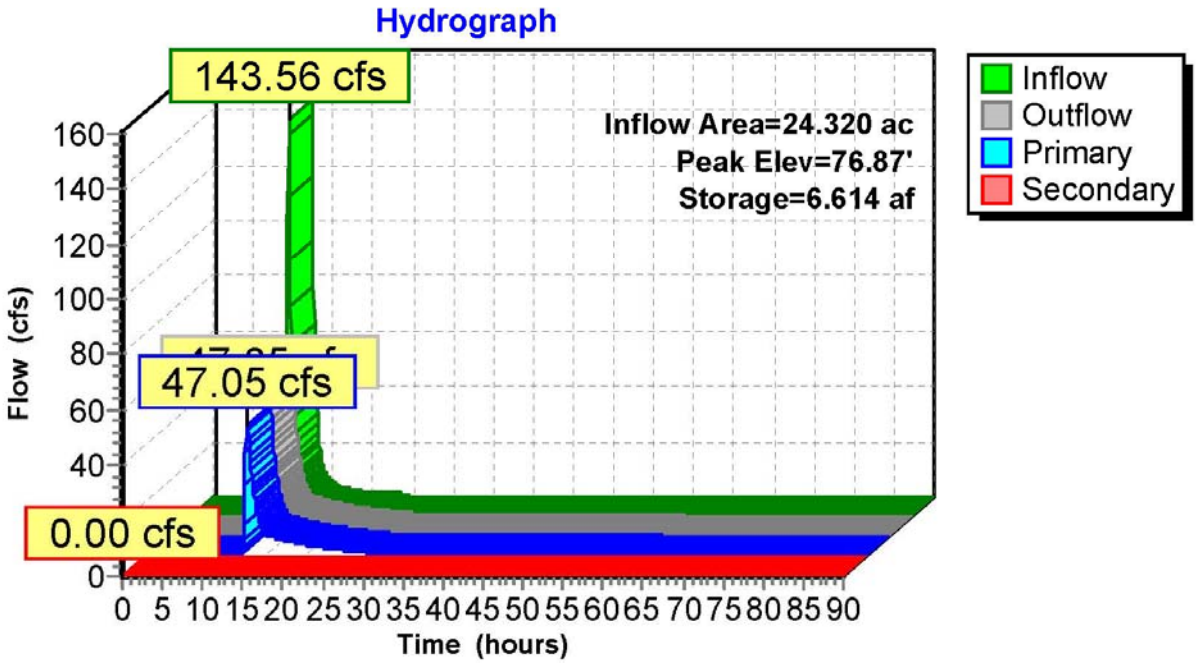
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
68.90	0.000	0.000	0.000
70.00	0.210	0.115	0.115
71.00	0.490	0.350	0.465
72.00	0.590	0.540	1.005
73.00	0.700	0.645	1.650
74.00	0.920	0.810	2.460
75.00	1.400	1.160	3.620
76.00	1.610	1.505	5.125
77.00	1.830	1.720	6.845
78.00	2.050	1.940	8.785

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=46.83 cfs @ 12.76 hrs HW=76.87' (Free Discharge)
↑—**6=Culvert** (Passes 46.83 cfs of 87.23 cfs potential flow)
↑—**1=Orifice/Grate** (Orifice Controls 0.66 cfs @ 13.49 fps)
—**2=Orifice/Grate** (Orifice Controls 9.75 cfs @ 6.50 fps)
—**3=Orifice/Grate** (Orifice Controls 13.01 cfs @ 2.99 fps)
—**4=Orifice/Grate** (Orifice Controls 11.71 cfs @ 2.99 fps)
—**5=Orifice/Grate** (Orifice Controls 11.71 cfs @ 2.99 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
↑—**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



ii. Post Development Peak Flow Conditions (Basin #3)

1) Drainage Area #3

Summary for Subcatchment PA #3: PA #3

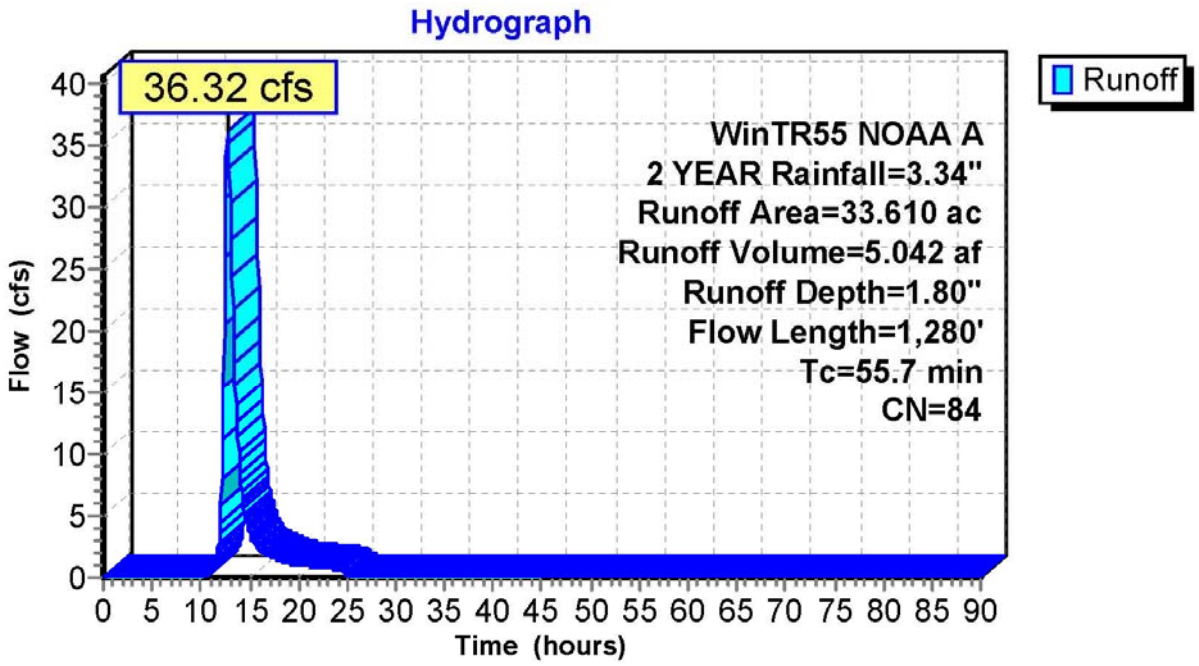
Runoff = 36.32 cfs @ 12.78 hrs, Volume= 5.042 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	10.170	98	Paved parking, HSG C
*	0.210	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	84	Weighted Average
	12.732		37.88% Pervious Area
	20.878		62.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



Summary for Subcatchment PA #3: PA #3

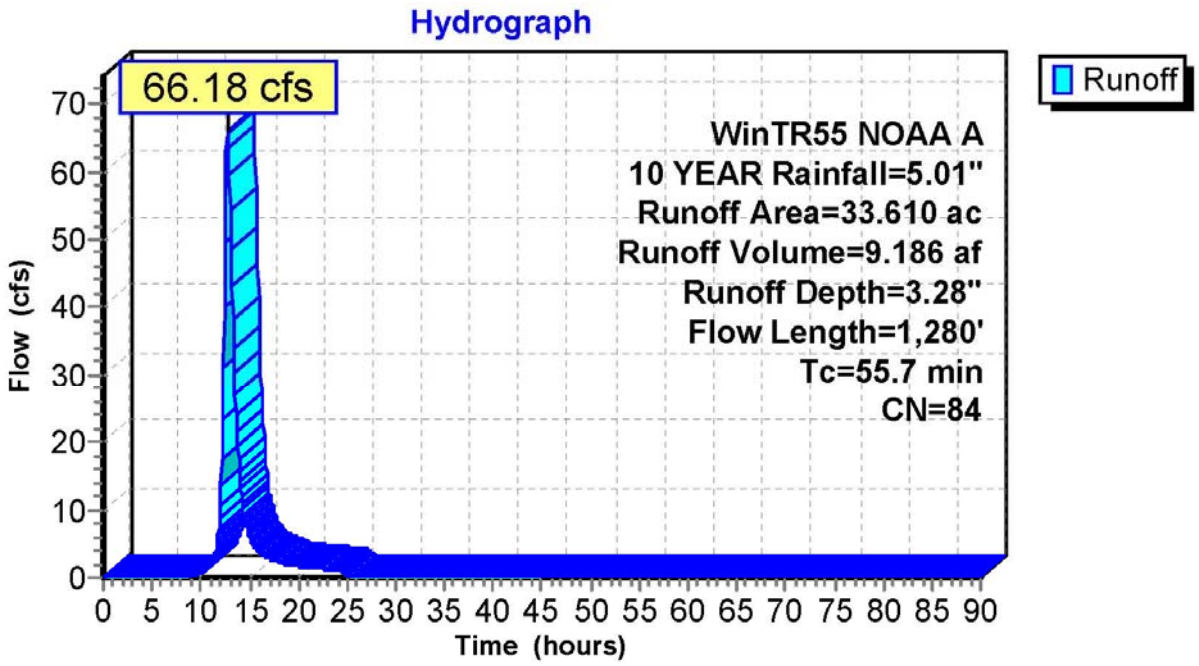
Runoff = 66.18 cfs @ 12.76 hrs, Volume= 9.186 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	10.170	98	Paved parking, HSG C
*	0.210	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	84	Weighted Average
	12.732		37.88% Pervious Area
	20.878		62.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



Summary for Subcatchment PA #3: PA #3

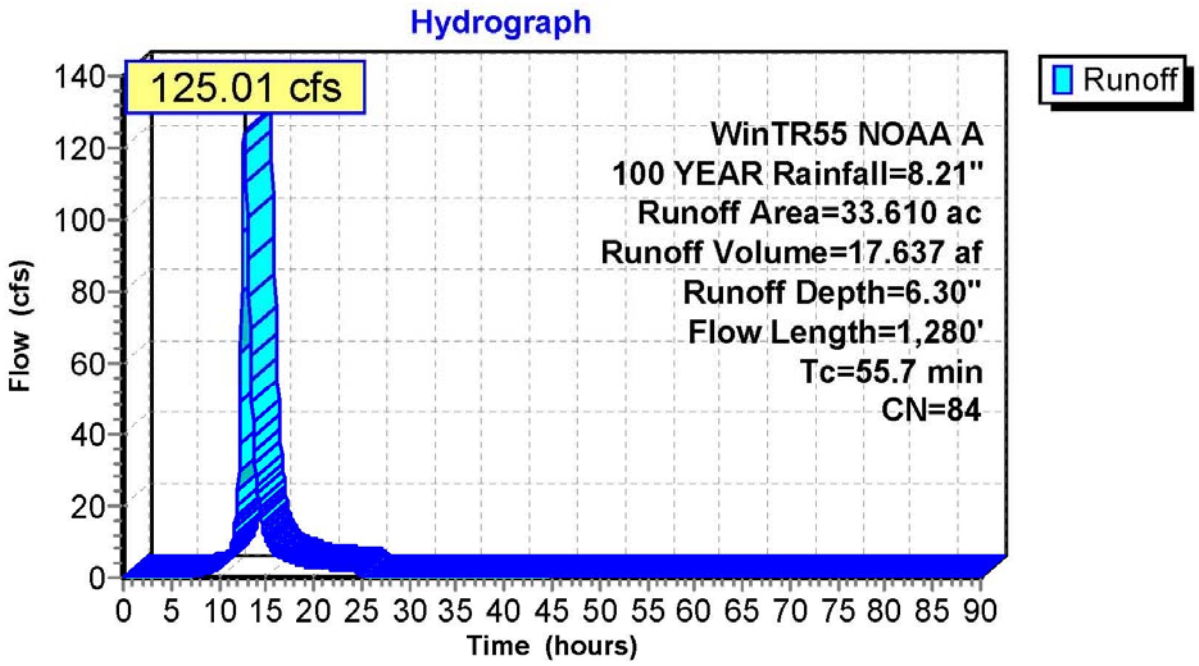
Runoff = 125.01 cfs @ 12.75 hrs, Volume= 17.637 af, Depth= 6.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	10.170	98	Paved parking, HSG C
*	0.210	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	84	Weighted Average
	12.732		37.88% Pervious Area
	20.878		62.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



2) Routing for Basin #3

Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 62.12% Impervious, Inflow Depth = 1.80" for 2 YEAR event
Inflow = 36.32 cfs @ 12.78 hrs, Volume= 5.042 af
Outflow = 3.13 cfs @ 15.25 hrs, Volume= 4.318 af, Atten= 91%, Lag= 148.5 min
Primary = 3.13 cfs @ 15.25 hrs, Volume= 4.318 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 73.06' @ 15.25 hrs Surf.Area= 2.315 ac Storage= 3.613 af

Plug-Flow detention time= 1,374.0 min calculated for 4.318 af (86% of inflow)
Center-of-Mass det. time= 1,316.6 min (2,169.4 - 852.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

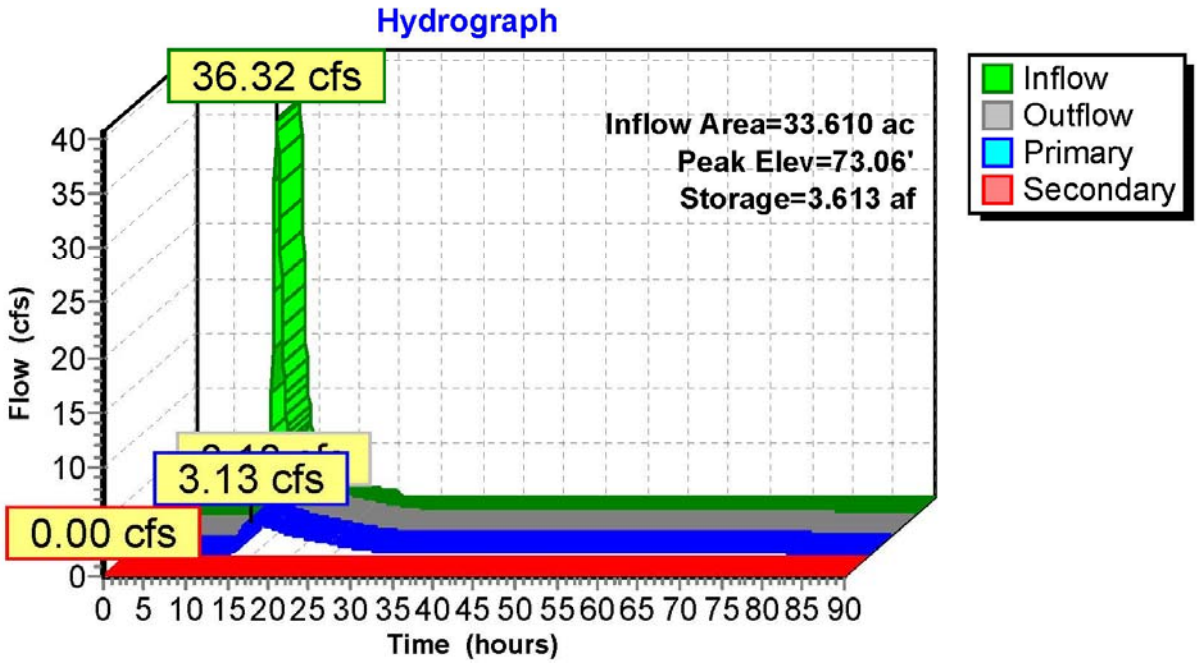
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 6	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	72.50'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.13 cfs @ 15.25 hrs HW=73.06' (Free Discharge)
└**6=Culvert** (Passes 3.13 cfs of 50.02 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.44 cfs @ 8.92 fps)
  ├**2=Orifice/Grate** (Orifice Controls 2.69 cfs @ 2.40 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 62.12% Impervious, Inflow Depth = 3.28" for 10 YEAR event
Inflow = 66.18 cfs @ 12.76 hrs, Volume= 9.186 af
Outflow = 12.22 cfs @ 14.14 hrs, Volume= 8.394 af, Atten= 82%, Lag= 82.7 min
Primary = 12.22 cfs @ 14.14 hrs, Volume= 8.394 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 73.99' @ 14.14 hrs Surf.Area= 2.399 ac Storage= 5.815 af

Plug-Flow detention time= 822.4 min calculated for 8.394 af (91% of inflow)
Center-of-Mass det. time= 781.7 min (1,622.2 - 840.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

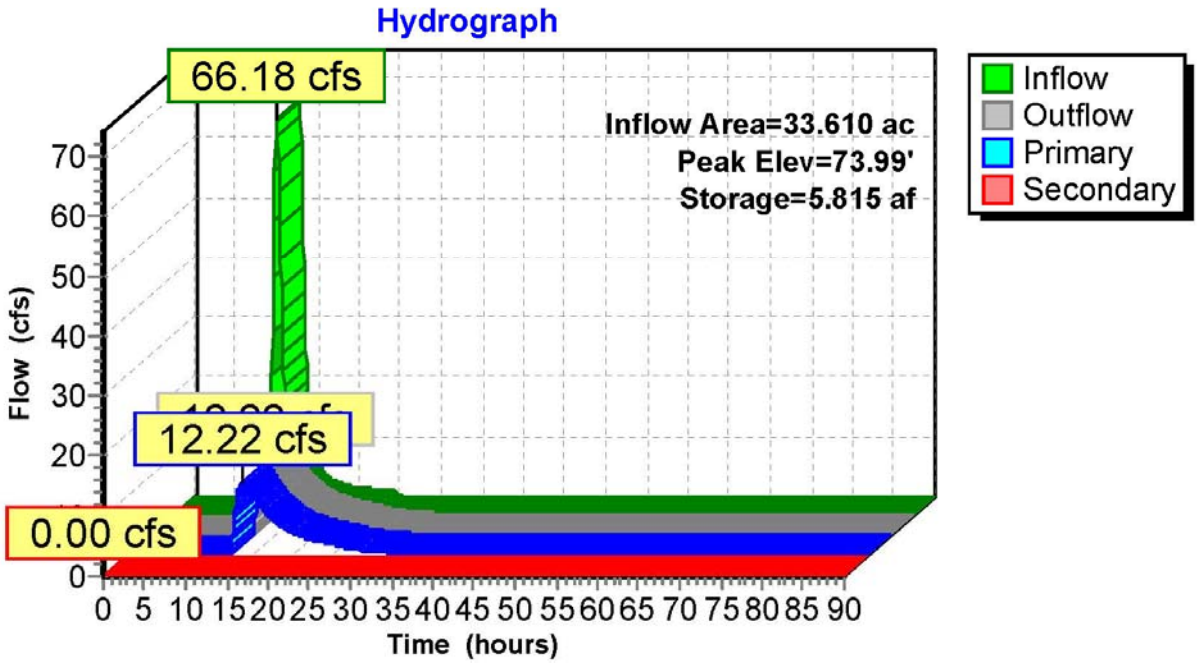
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 6	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	72.50'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=12.21 cfs @ 14.14 hrs HW=73.99' (Free Discharge)
└**6=Culvert** (Passes 12.21 cfs of 59.86 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.49 cfs @ 10.06 fps)
  ├**2=Orifice/Grate** (Orifice Controls 11.72 cfs @ 3.92 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 62.12% Impervious, Inflow Depth = 6.30" for 100 YEAR event
Inflow = 125.01 cfs @ 12.75 hrs, Volume= 17.637 af
Outflow = 68.86 cfs @ 13.30 hrs, Volume= 16.802 af, Atten= 45%, Lag= 33.1 min
Primary = 68.86 cfs @ 13.30 hrs, Volume= 16.802 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 75.02' @ 13.30 hrs Surf.Area= 2.502 ac Storage= 8.319 af

Plug-Flow detention time= 459.4 min calculated for 16.787 af (95% of inflow)
Center-of-Mass det. time= 437.0 min (1,264.1 - 827.1)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

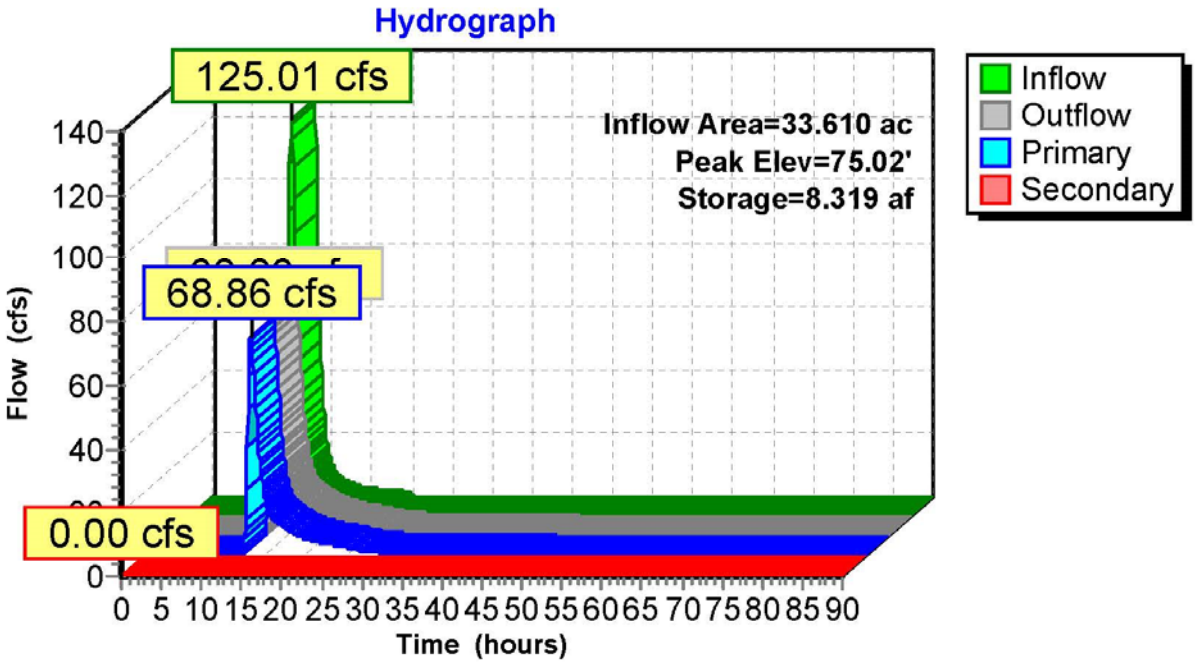
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 6	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	72.50'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=68.72 cfs @ 13.30 hrs HW=75.01' (Free Discharge)
└**6=Culvert** (Passes 68.72 cfs of 69.03 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.55 cfs @ 11.18 fps)
  ├**2=Orifice/Grate** (Orifice Controls 19.03 cfs @ 6.34 fps)
  ├**3=Orifice/Grate** (Orifice Controls 16.38 cfs @ 3.23 fps)
  ├**4=Orifice/Grate** (Orifice Controls 16.38 cfs @ 3.23 fps)
  └**5=Orifice/Grate** (Orifice Controls 16.38 cfs @ 3.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



3. Best Foods Site Plan and Major Subdivision
November 1990

i. Post Development Peak Flow Conditions (Basin #1)

1) Drainage Area #1

Summary for Subcatchment PA #1: PA #1

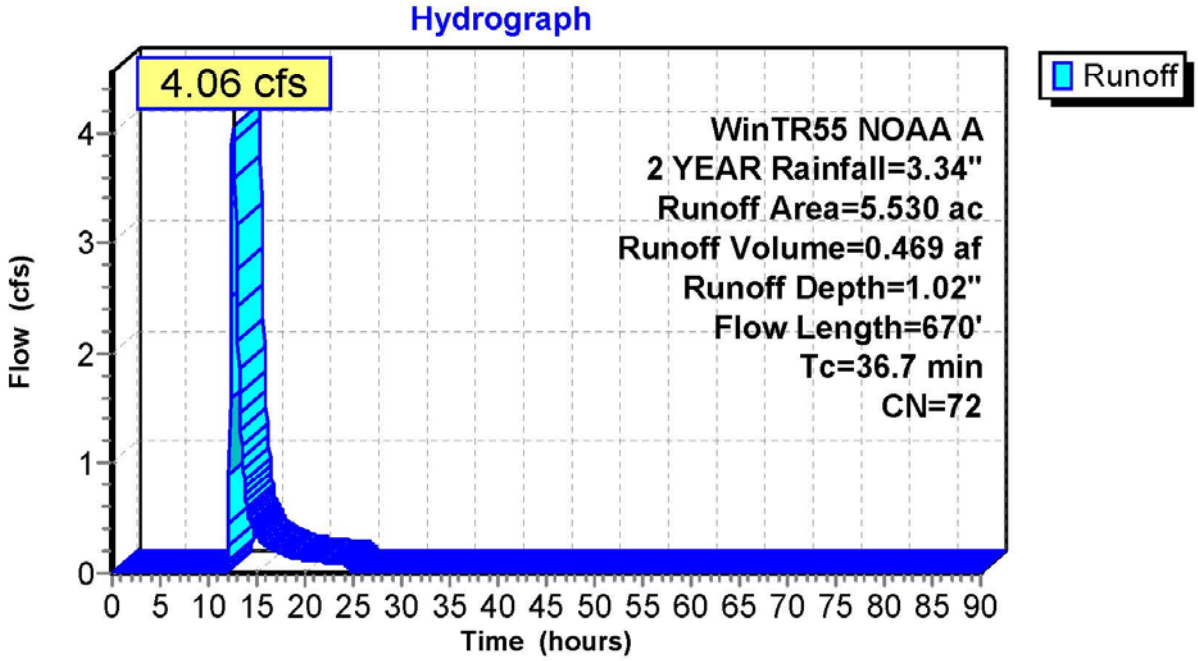
Runoff = 4.06 cfs @ 12.57 hrs, Volume= 0.469 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



Summary for Subcatchment PA #1: PA #1

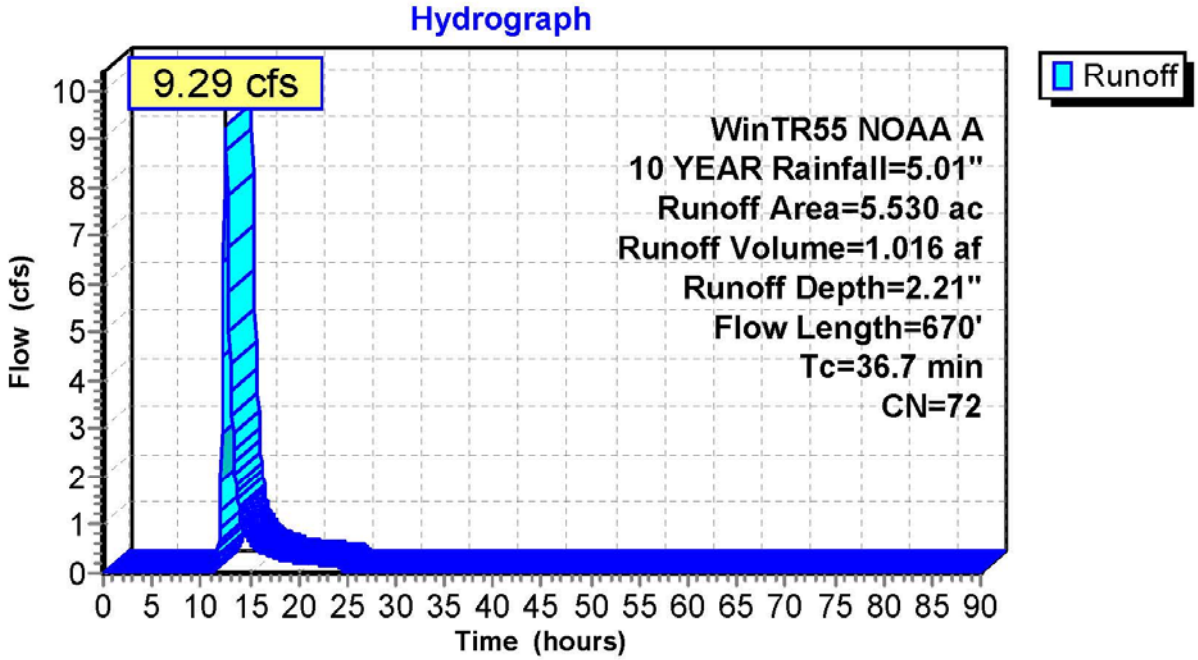
Runoff = 9.29 cfs @ 12.54 hrs, Volume= 1.016 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



Summary for Subcatchment PA #1: PA #1

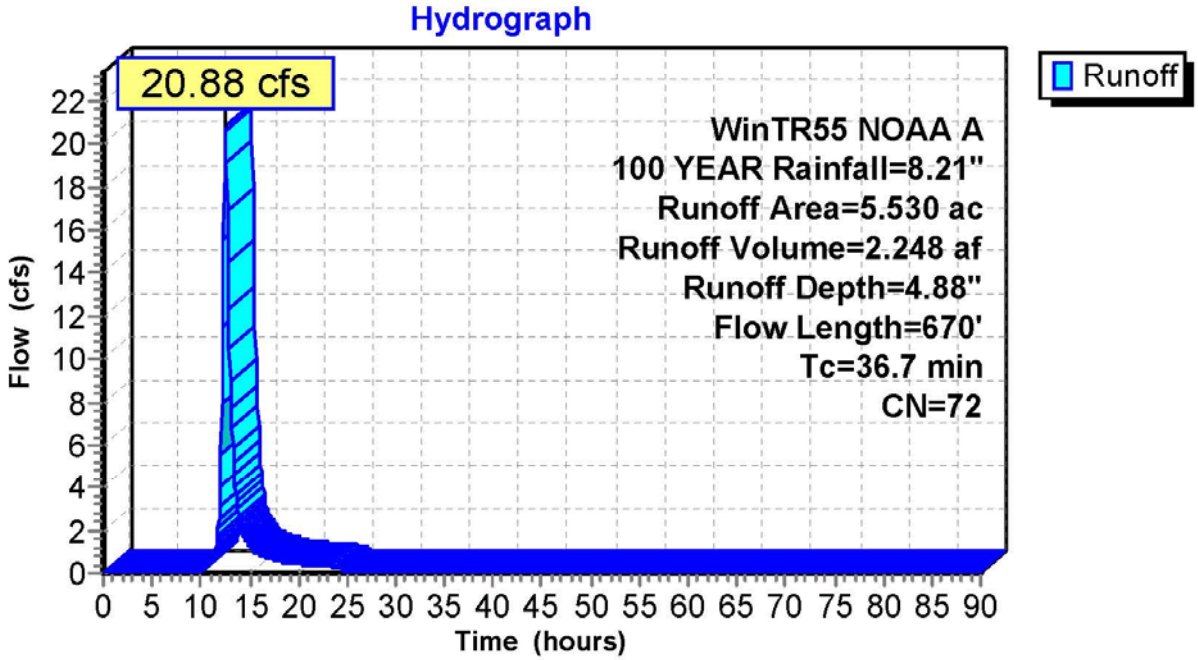
Runoff = 20.88 cfs @ 12.52 hrs, Volume= 2.248 af, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



2) Drainage Area #2

Summary for Subcatchment PA #2: PA #2

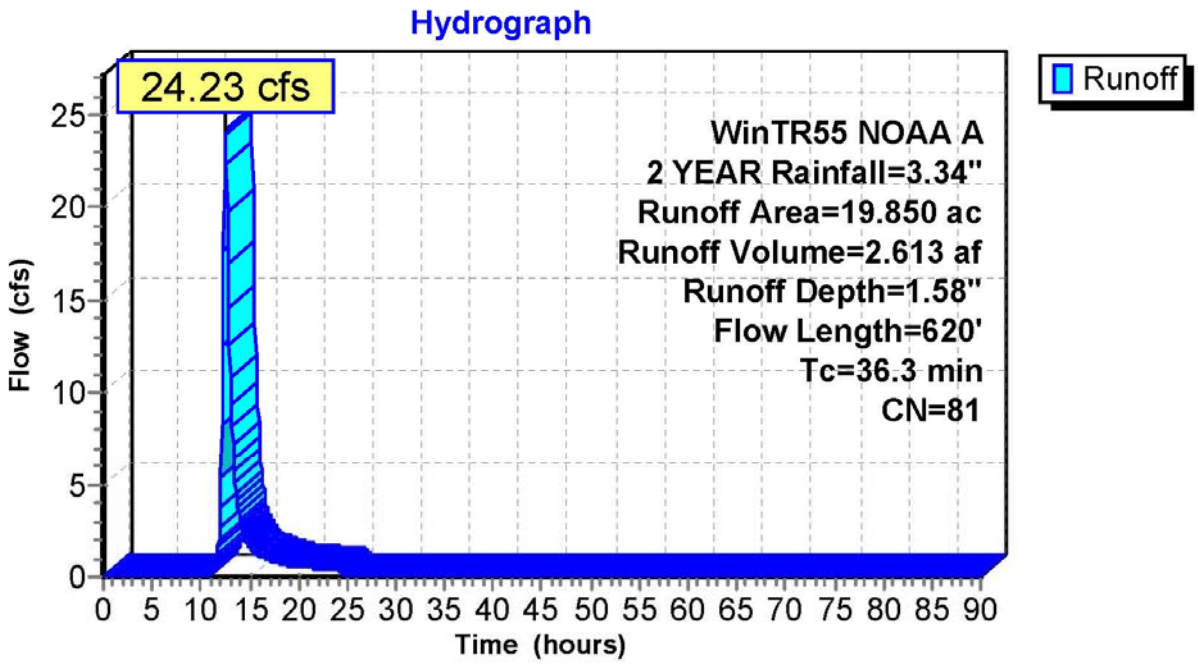
Runoff = 24.23 cfs @ 12.52 hrs, Volume= 2.613 af, Depth= 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	1.130	98	Paved parking, HSG C
*	4.930	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	81	Weighted Average
	10.023		50.49% Pervious Area
	9.827		49.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

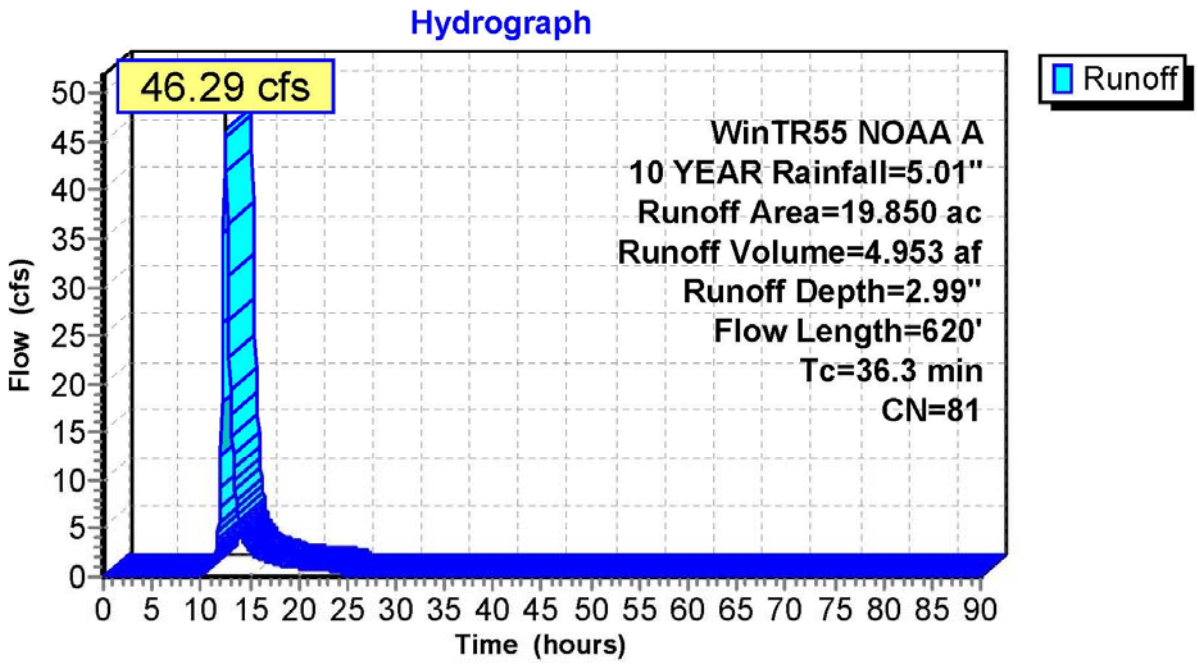
Runoff = 46.29 cfs @ 12.51 hrs, Volume= 4.953 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	1.130	98	Paved parking, HSG C
*	4.930	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	81	Weighted Average
	10.023		50.49% Pervious Area
	9.827		49.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

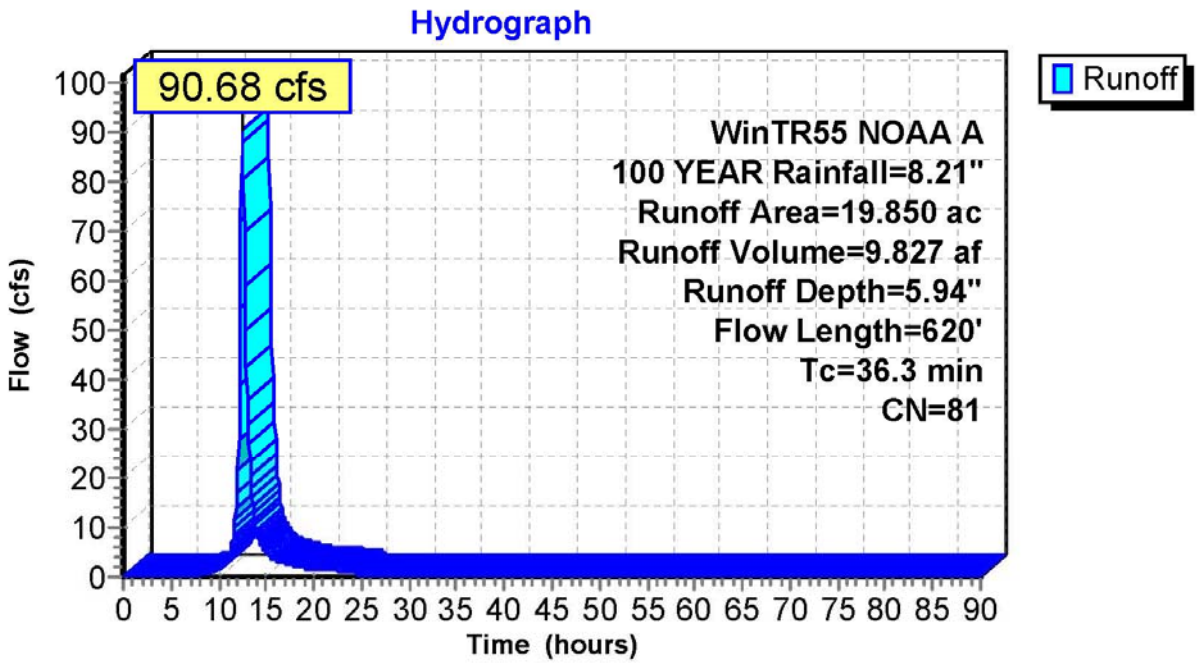
Runoff = 90.68 cfs @ 12.49 hrs, Volume= 9.827 af, Depth= 5.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	1.130	98	Paved parking, HSG C
*	4.930	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	81	Weighted Average
	10.023		50.49% Pervious Area
	9.827		49.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



3) Routing for Basin #1

Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 44.37% Impervious, Inflow Depth = 1.46" for 2 YEAR event
Inflow = 28.19 cfs @ 12.53 hrs, Volume= 3.082 af
Outflow = 0.41 cfs @ 24.22 hrs, Volume= 2.114 af, Atten= 99%, Lag= 701.6 min
Primary = 0.41 cfs @ 24.22 hrs, Volume= 2.114 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 74.07' @ 24.22 hrs Surf.Area= 36,834 sf Storage= 117,670 cf

Plug-Flow detention time= 2,167.0 min calculated for 2.112 af (69% of inflow)
Center-of-Mass det. time= 2,084.6 min (2,929.8 - 845.2)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	308,042 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

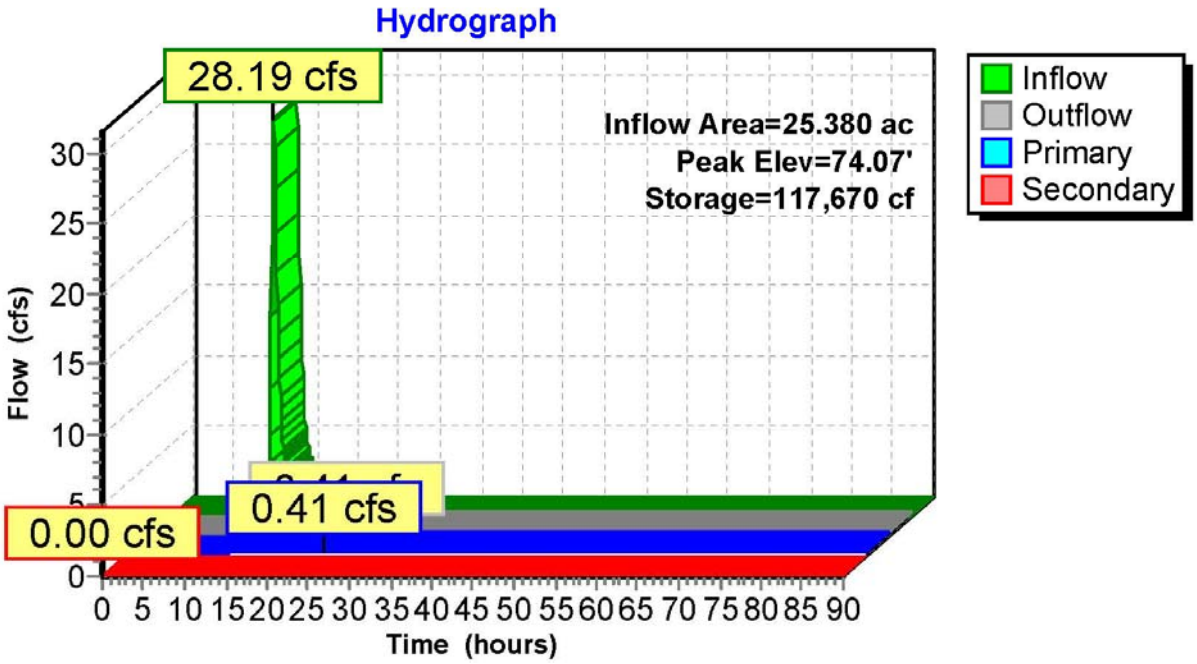
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	16,701	9,186	9,186
71.00	21,975	19,338	28,524
72.00	26,427	24,201	52,725
73.00	31,116	28,772	81,496
74.00	36,464	33,790	115,286
75.00	42,160	39,312	154,598
76.00	47,915	45,038	199,636
77.00	54,076	50,996	250,631
77.50	57,500	27,894	278,525
78.00	60,567	29,517	308,042

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.41 cfs @ 24.22 hrs HW=74.07' (Free Discharge)
└**6=Culvert** (Passes 0.41 cfs of 66.04 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.37 cfs @ 10.83 fps)
  ├**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 0.82 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 44.37% Impervious, Inflow Depth = 2.82" for 10 YEAR event
Inflow = 55.56 cfs @ 12.51 hrs, Volume= 5.969 af
Outflow = 5.08 cfs @ 14.22 hrs, Volume= 4.850 af, Atten= 91%, Lag= 102.4 min
Primary = 5.08 cfs @ 14.22 hrs, Volume= 4.850 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 75.55' @ 14.22 hrs Surf.Area= 45,343 sf Storage= 178,797 cf

Plug-Flow detention time= 1,143.3 min calculated for 4.850 af (81% of inflow)
Center-of-Mass det. time= 1,078.2 min (1,909.7 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	308,042 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

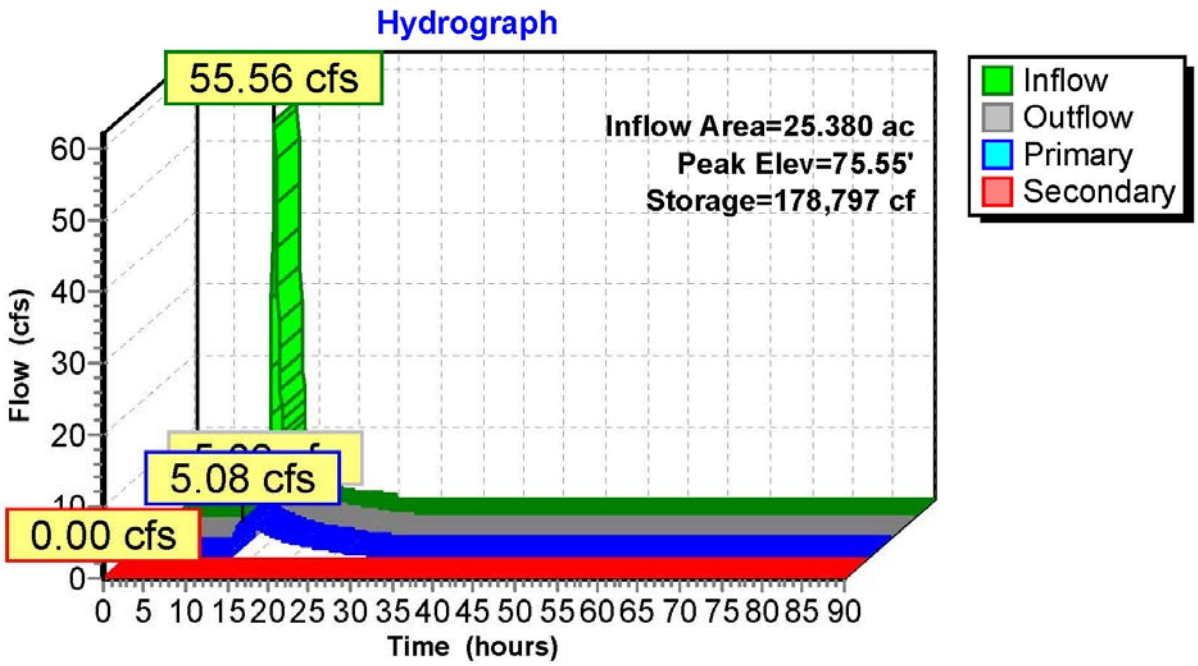
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	16,701	9,186	9,186
71.00	21,975	19,338	28,524
72.00	26,427	24,201	52,725
73.00	31,116	28,772	81,496
74.00	36,464	33,790	115,286
75.00	42,160	39,312	154,598
76.00	47,915	45,038	199,636
77.00	54,076	50,996	250,631
77.50	57,500	27,894	278,525
78.00	60,567	29,517	308,042

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.08 cfs @ 14.22 hrs HW=75.55' (Free Discharge)
└**6=Culvert** (Passes 5.08 cfs of 78.01 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 12.32 fps)
  ├**2=Orifice/Grate** (Orifice Controls 4.66 cfs @ 4.00 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 44.37% Impervious, Inflow Depth = 5.71" for 100 YEAR event
Inflow = 111.50 cfs @ 12.50 hrs, Volume= 12.075 af
Outflow = 58.59 cfs @ 12.92 hrs, Volume= 10.915 af, Atten= 47%, Lag= 25.2 min
Primary = 58.59 cfs @ 12.92 hrs, Volume= 10.915 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 77.05' @ 12.92 hrs Surf.Area= 54,416 sf Storage= 253,327 cf

Plug-Flow detention time= 568.7 min calculated for 10.905 af (90% of inflow)
Center-of-Mass det. time= 528.7 min (1,345.9 - 817.2)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	308,042 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

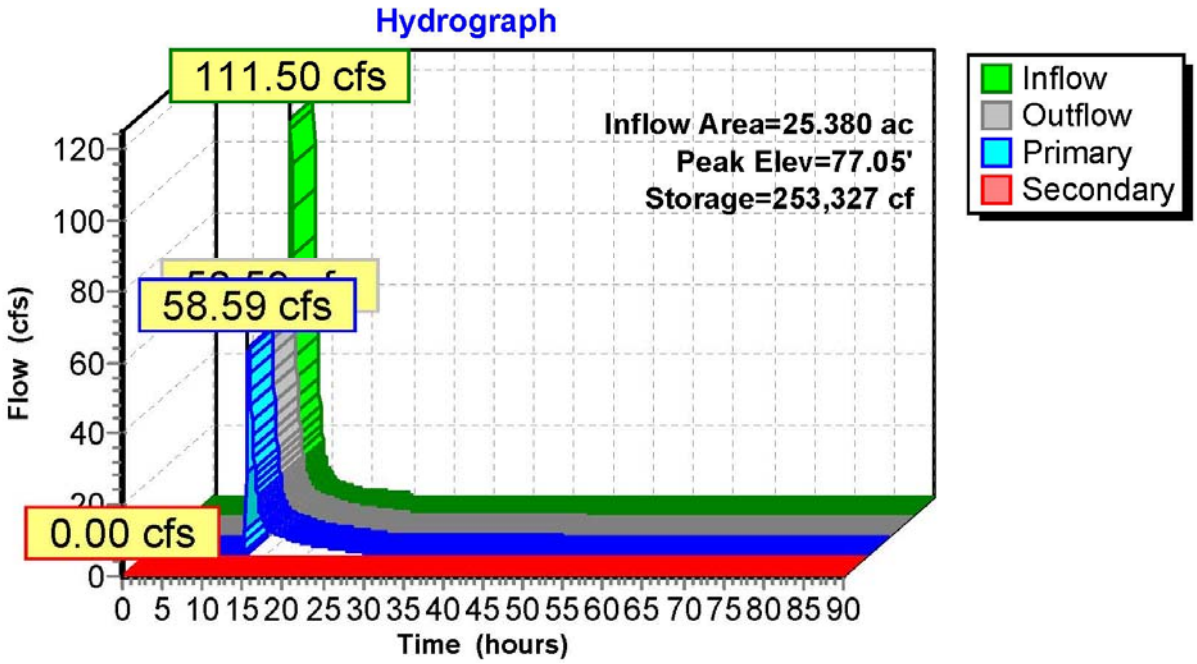
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	16,701	9,186	9,186
71.00	21,975	19,338	28,524
72.00	26,427	24,201	52,725
73.00	31,116	28,772	81,496
74.00	36,464	33,790	115,286
75.00	42,160	39,312	154,598
76.00	47,915	45,038	199,636
77.00	54,076	50,996	250,631
77.50	57,500	27,894	278,525
78.00	60,567	29,517	308,042

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=58.07 cfs @ 12.92 hrs HW=77.04' (Free Discharge)
└─**6=Culvert** (Passes 58.07 cfs of 88.37 cfs potential flow)
  ├─**1=Orifice/Grate** (Orifice Controls 0.47 cfs @ 13.65 fps)
  ├─**2=Orifice/Grate** (Orifice Controls 10.21 cfs @ 6.81 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 16.93 cfs @ 3.39 fps)
  ├─**4=Orifice/Grate** (Orifice Controls 15.23 cfs @ 3.39 fps)
  └─**5=Orifice/Grate** (Orifice Controls 15.23 cfs @ 3.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
└─**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



ii. Post Development Peak Flow Conditions (Basin #3)

1) Drainage Area #3

Summary for Subcatchment PA #3: PA #3

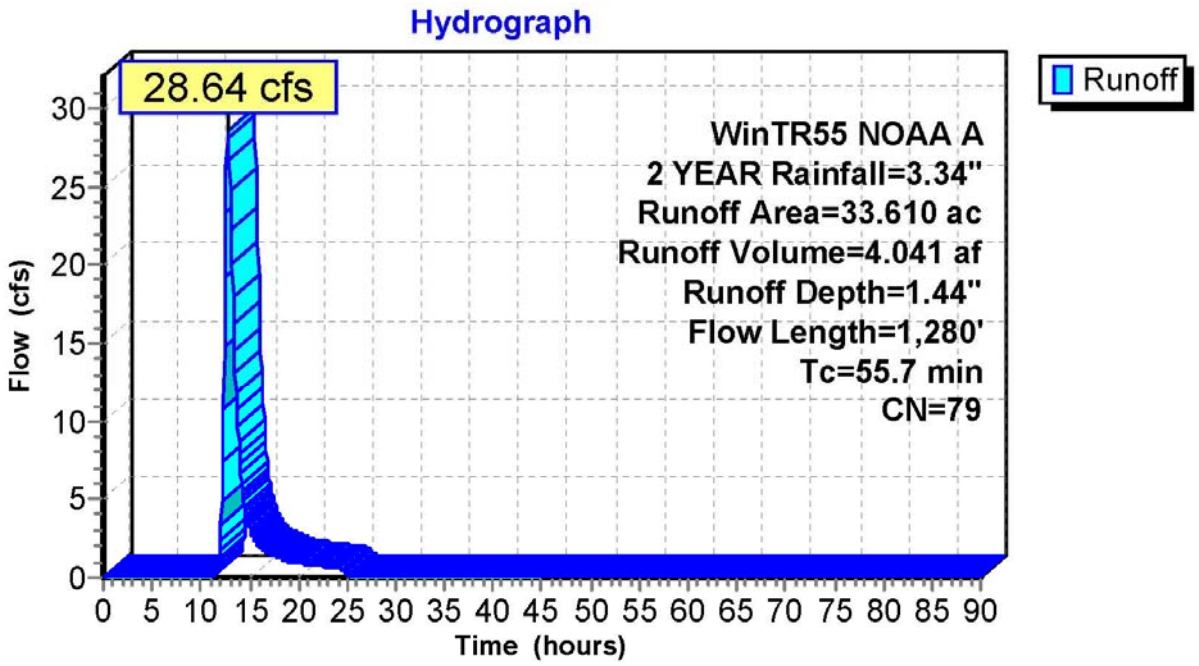
Runoff = 28.64 cfs @ 12.80 hrs, Volume= 4.041 af, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	5.100	98	Paved parking, HSG C
*	5.280	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	79	Weighted Average
	17.802		52.97% Pervious Area
	15.808		47.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



Summary for Subcatchment PA #3: PA #3

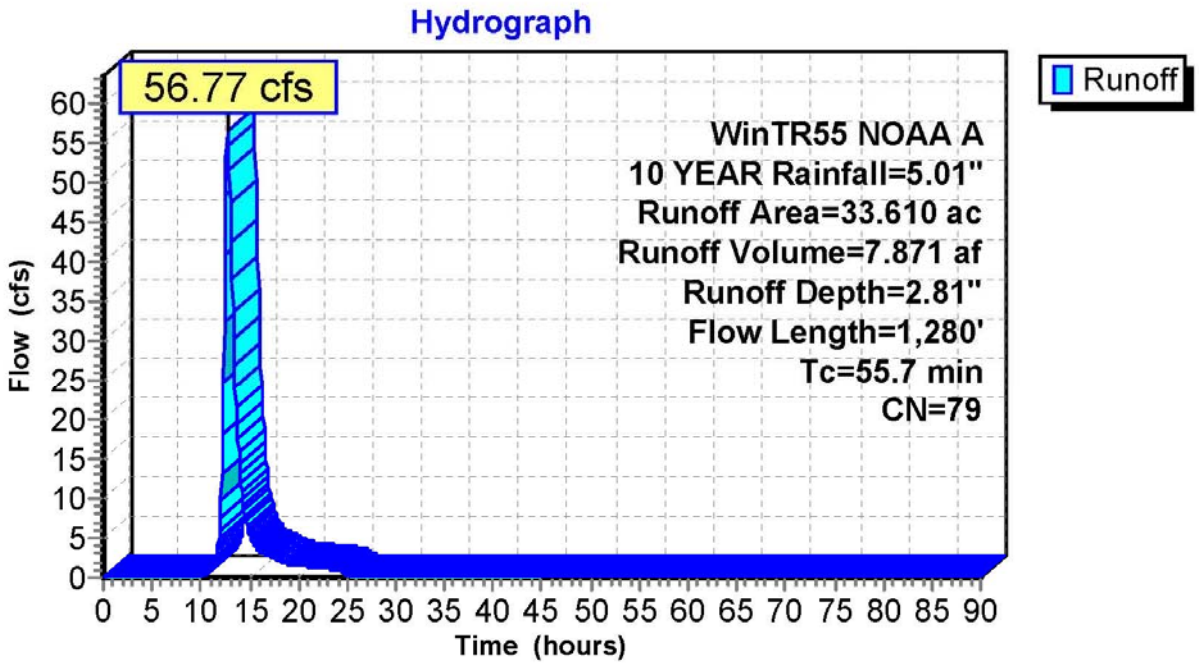
Runoff = 56.77 cfs @ 12.77 hrs, Volume= 7.871 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	5.100	98	Paved parking, HSG C
*	5.280	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	79	Weighted Average
	17.802		52.97% Pervious Area
	15.808		47.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



Summary for Subcatchment PA #3: PA #3

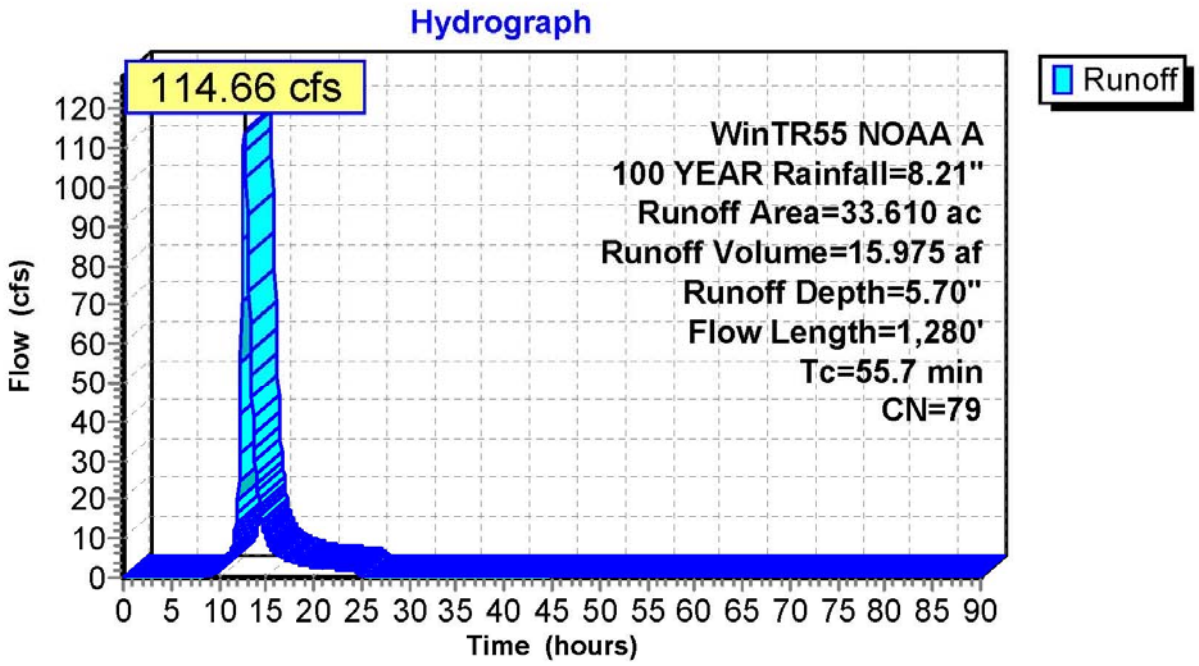
Runoff = 114.66 cfs @ 12.75 hrs, Volume= 15.975 af, Depth= 5.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	5.100	98	Paved parking, HSG C
*	5.280	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	79	Weighted Average
	17.802		52.97% Pervious Area
	15.808		47.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



2) Routing for Basin #3

Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 47.03% Impervious, Inflow Depth = 1.41" for 2 YEAR event
Inflow = 22.41 cfs @ 12.79 hrs, Volume= 3.956 af
Outflow = 1.37 cfs @ 18.84 hrs, Volume= 3.249 af, Atten= 94%, Lag= 363.4 min
Primary = 1.37 cfs @ 18.84 hrs, Volume= 3.249 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 72.78' @ 18.84 hrs Surf.Area= 2.176 ac Storage= 2.981 af

Plug-Flow detention time= 1,719.4 min calculated for 3.246 af (82% of inflow)
Center-of-Mass det. time= 1,647.2 min (2,537.7 - 890.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

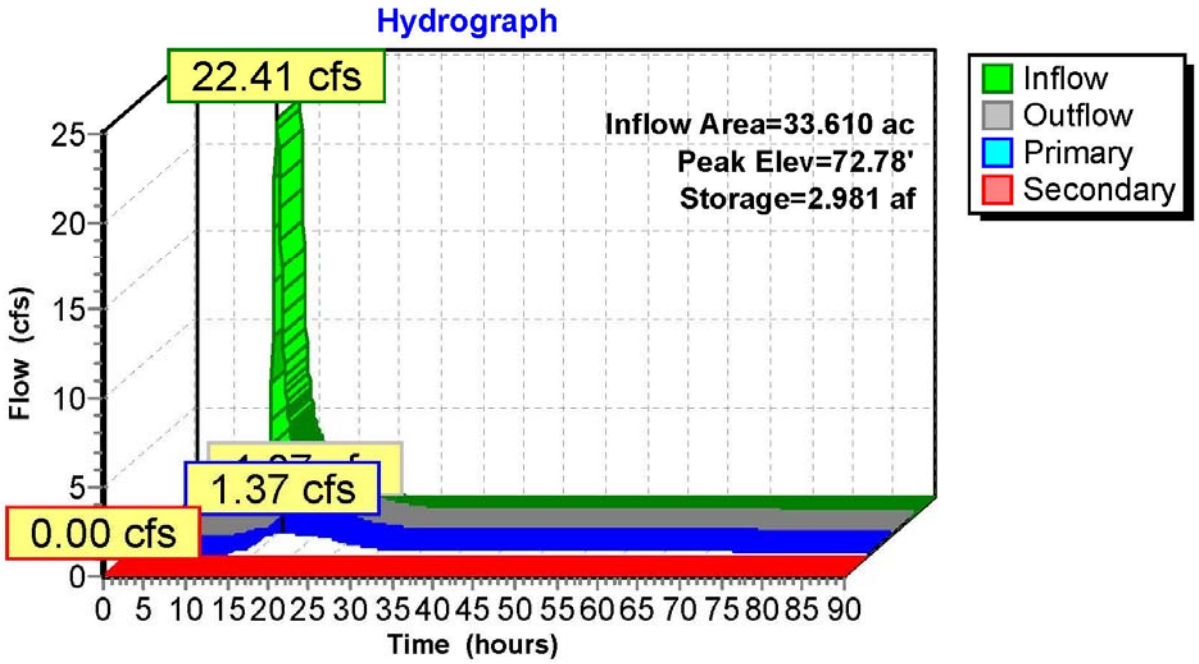
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 6	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	72.50'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.37 cfs @ 18.84 hrs HW=72.78' (Free Discharge)
└**6=Culvert** (Passes 1.37 cfs of 46.66 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.55 fps)
  ├**2=Orifice/Grate** (Orifice Controls 0.95 cfs @ 1.70 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 47.03% Impervious, Inflow Depth = 2.97" for 10 YEAR event
Inflow = 48.10 cfs @ 12.76 hrs, Volume= 8.331 af
Outflow = 7.91 cfs @ 14.79 hrs, Volume= 7.525 af, Atten= 84%, Lag= 121.8 min
Primary = 7.91 cfs @ 14.79 hrs, Volume= 7.525 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 73.60' @ 14.79 hrs Surf.Area= 2.364 ac Storage= 4.884 af

Plug-Flow detention time= 901.3 min calculated for 7.518 af (90% of inflow)
Center-of-Mass det. time= 856.7 min (1,725.5 - 868.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

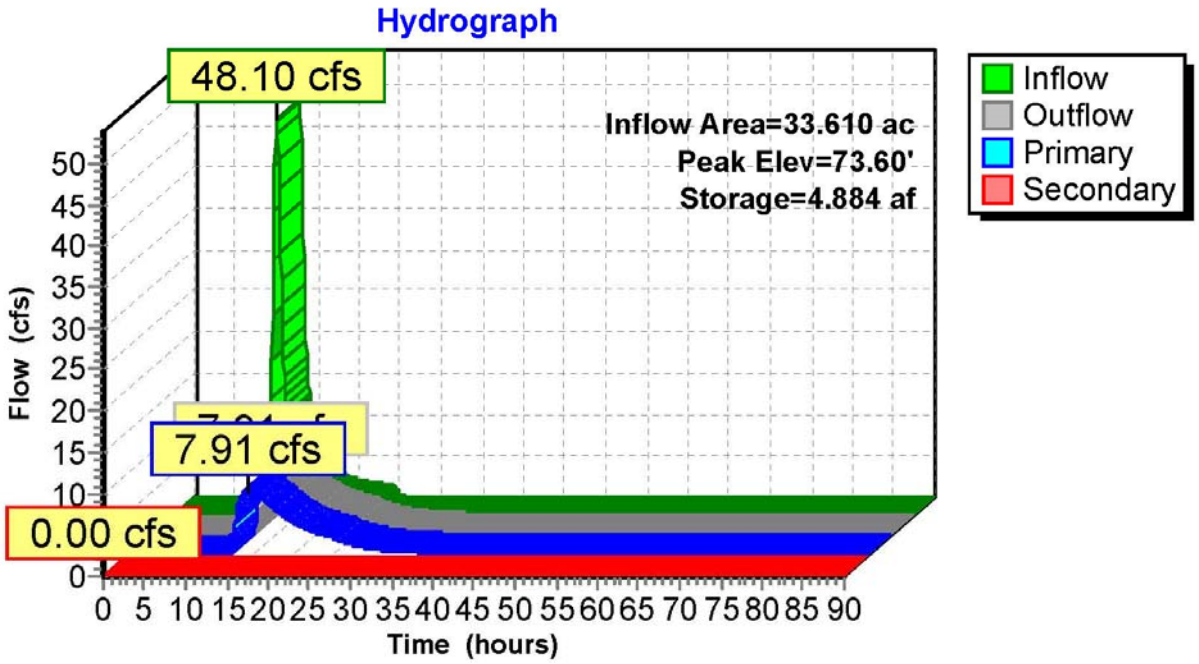
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 6	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	72.50'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.91 cfs @ 14.79 hrs HW=73.60' (Free Discharge)
└**6=Culvert** (Passes 7.91 cfs of 55.95 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.47 cfs @ 9.60 fps)
  ├**2=Orifice/Grate** (Orifice Controls 7.44 cfs @ 3.37 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  ├**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 47.03% Impervious, Inflow Depth = 5.04" for 100 YEAR event
Inflow = 81.16 cfs @ 12.75 hrs, Volume= 14.128 af
Outflow = 31.24 cfs @ 13.58 hrs, Volume= 13.282 af, Atten= 62%, Lag= 50.3 min
Primary = 31.24 cfs @ 13.58 hrs, Volume= 13.282 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 74.46' @ 13.58 hrs Surf.Area= 2.446 ac Storage= 6.948 af

Plug-Flow detention time= 581.6 min calculated for 13.282 af (94% of inflow)
Center-of-Mass det. time= 549.2 min (1,403.0 - 853.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

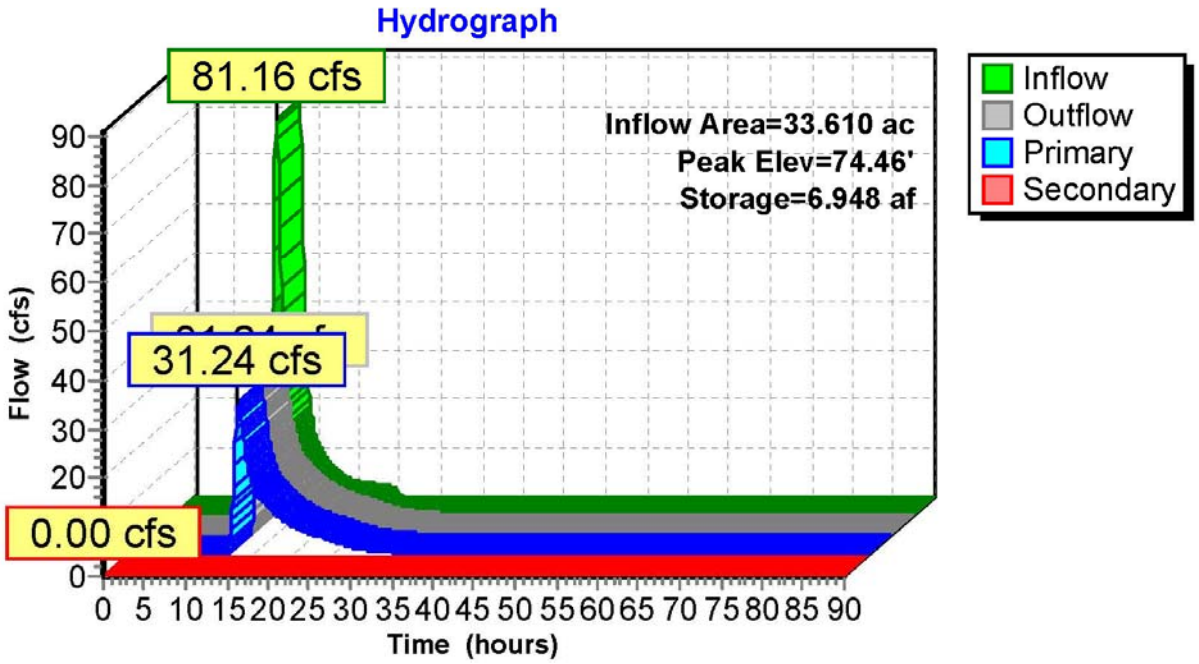
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 6	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 6	72.50'	**24.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	74.00'	**60.0" W x 18.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=31.20 cfs @ 13.58 hrs HW=74.46' (Free Discharge)
└**6=Culvert** (Passes 31.20 cfs of 64.22 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.52 cfs @ 10.59 fps)
  ├**2=Orifice/Grate** (Orifice Controls 15.62 cfs @ 5.21 fps)
  ├**3=Orifice/Grate** (Orifice Controls 5.02 cfs @ 2.18 fps)
  ├**4=Orifice/Grate** (Orifice Controls 5.02 cfs @ 2.18 fps)
  └**5=Orifice/Grate** (Orifice Controls 5.02 cfs @ 2.18 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



4. 150 Pierce Street, LLC (Thomas Edison School Site Plan)
July 2016

i. Post Development Peak Flow Conditions (Basin #1)

1) Drainage Area #1

Summary for Subcatchment PA #1: PA #1

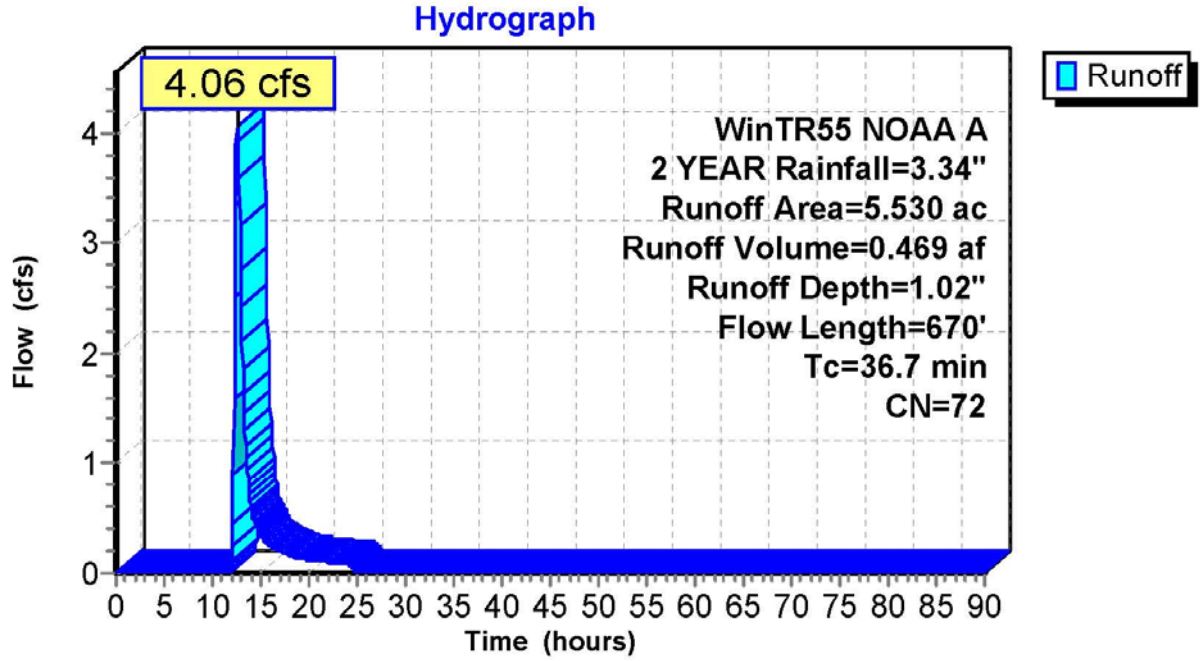
Runoff = 4.06 cfs @ 12.57 hrs, Volume= 0.469 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



Summary for Subcatchment PA #1: PA #1

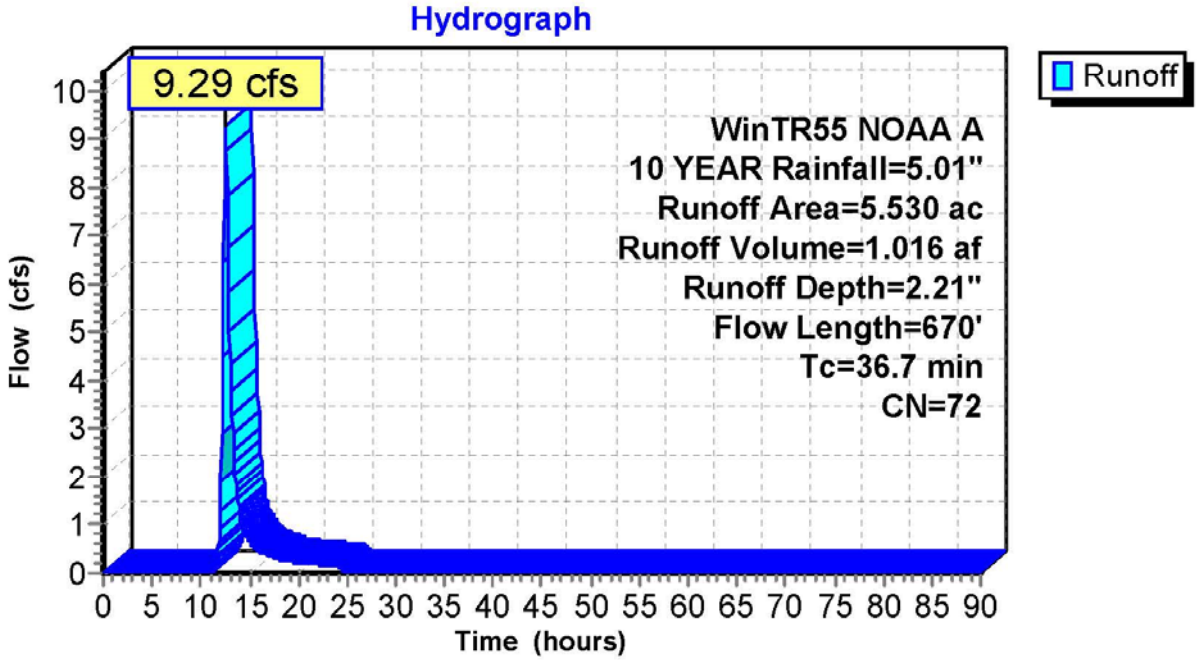
Runoff = 9.29 cfs @ 12.54 hrs, Volume= 1.016 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



Summary for Subcatchment PA #1: PA #1

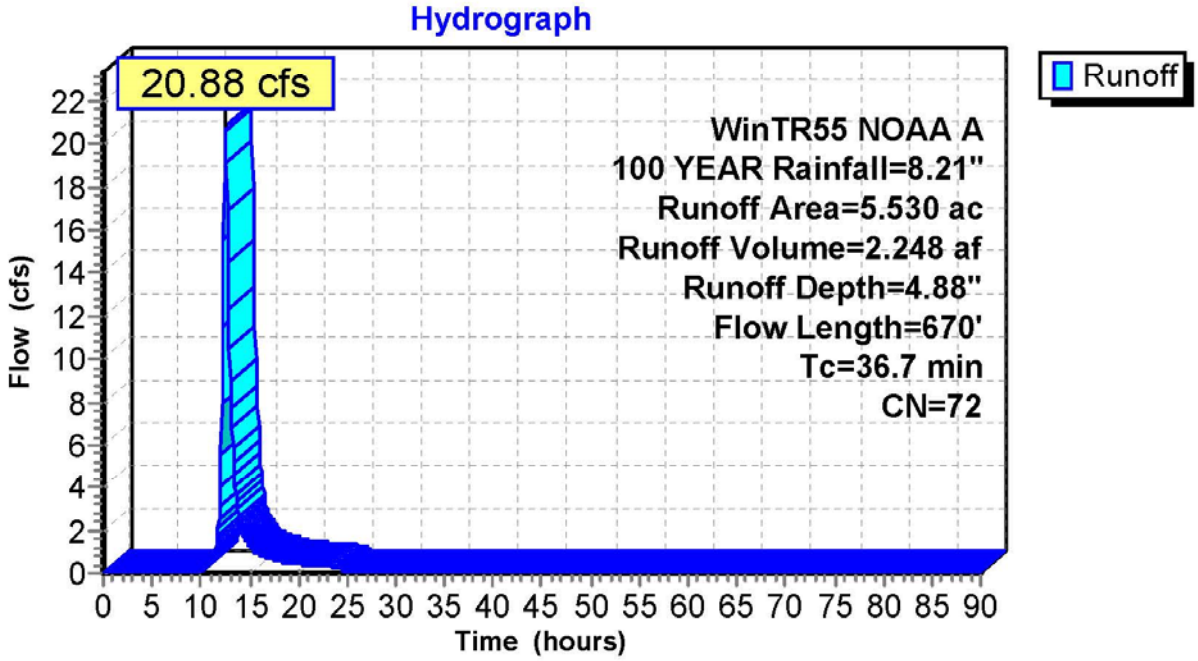
Runoff = 20.88 cfs @ 12.52 hrs, Volume= 2.248 af, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



2) Drainage Area #2

Summary for Subcatchment PA #2: PA #2

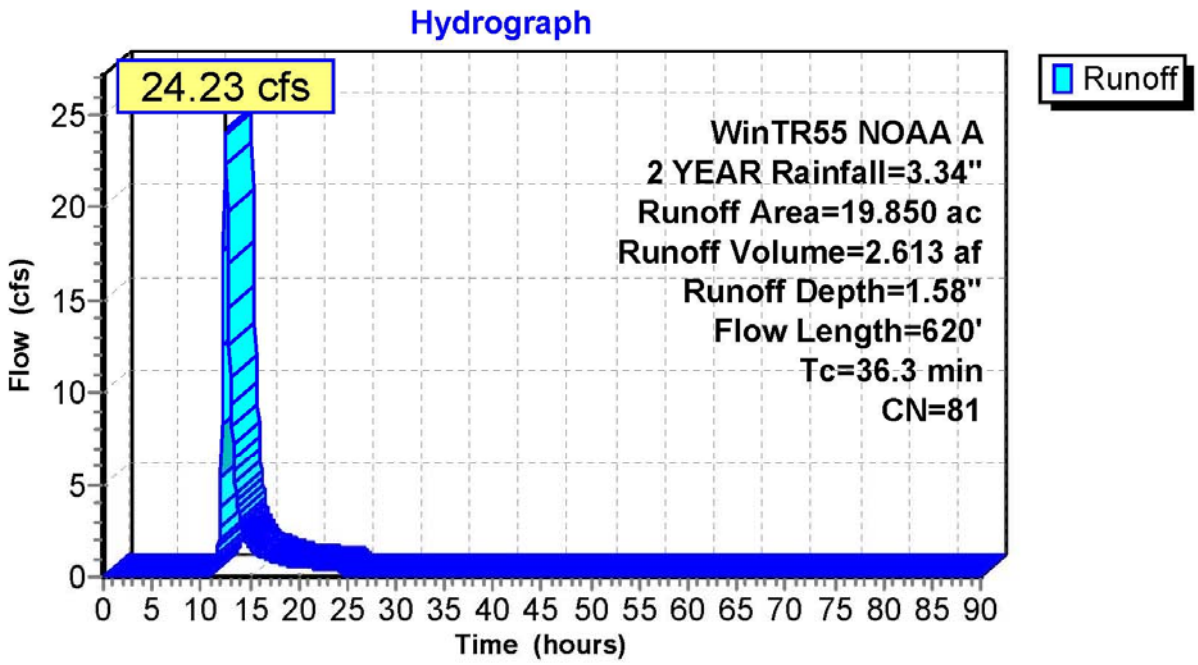
Runoff = 24.23 cfs @ 12.52 hrs, Volume= 2.613 af, Depth= 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	1.130	98	Paved parking, HSG C
*	4.930	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	81	Weighted Average
	10.023		50.49% Pervious Area
	9.827		49.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

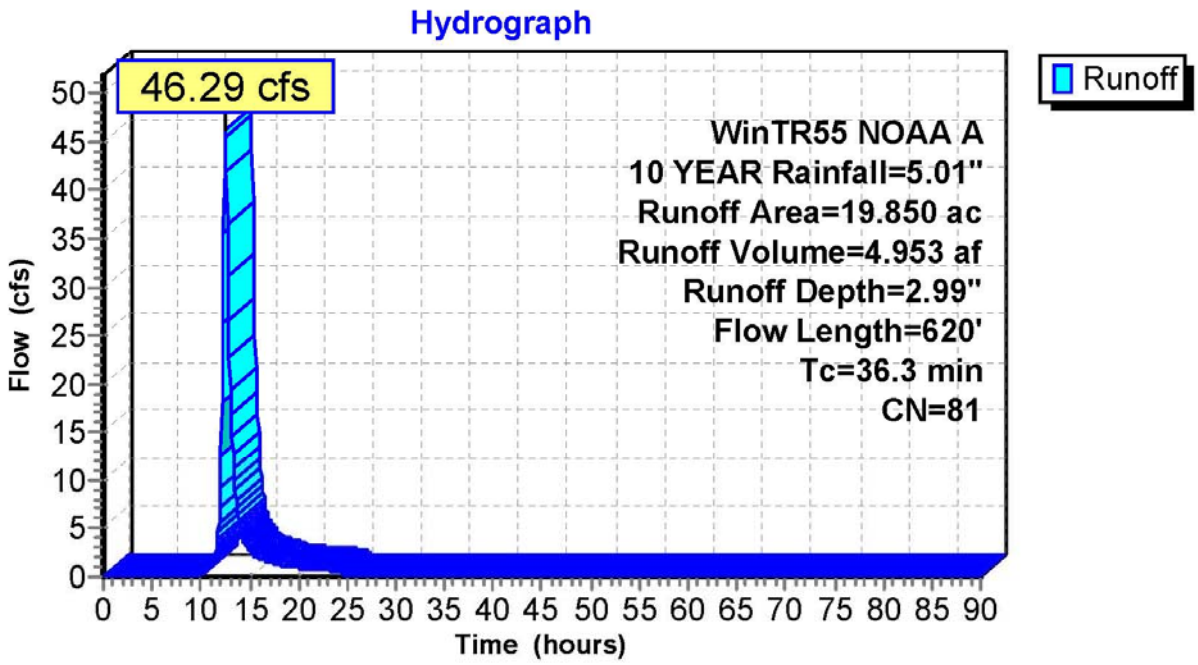
Runoff = 46.29 cfs @ 12.51 hrs, Volume= 4.953 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	1.130	98	Paved parking, HSG C
*	4.930	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	81	Weighted Average
	10.023		50.49% Pervious Area
	9.827		49.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

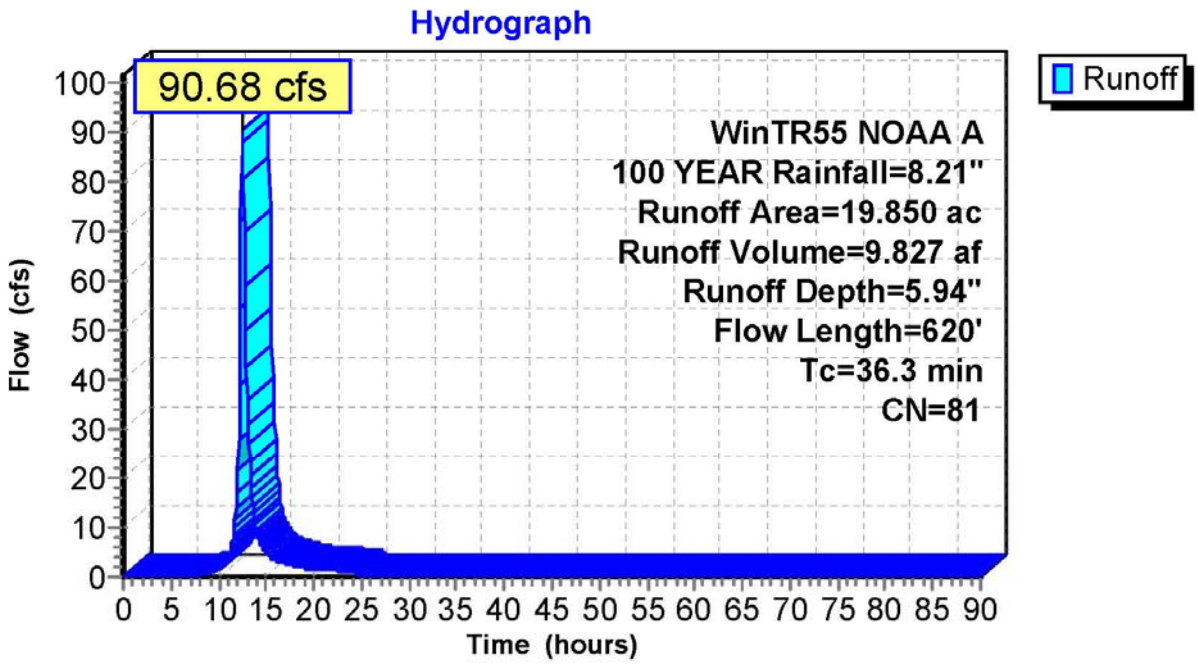
Runoff = 90.68 cfs @ 12.49 hrs, Volume= 9.827 af, Depth= 5.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	1.130	98	Paved parking, HSG C
*	4.930	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	81	Weighted Average
	10.023		50.49% Pervious Area
	9.827		49.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



3) Routing for Basin #1

Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 44.37% Impervious, Inflow Depth = 1.46" for 2 YEAR event
Inflow = 28.19 cfs @ 12.53 hrs, Volume= 3.082 af
Outflow = 0.54 cfs @ 22.19 hrs, Volume= 2.251 af, Atten= 98%, Lag= 579.7 min
Primary = 0.54 cfs @ 22.19 hrs, Volume= 2.251 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 74.17' @ 22.19 hrs Surf.Area= 43,627 sf Storage= 114,289 cf

Plug-Flow detention time= 2,091.5 min calculated for 2.249 af (73% of inflow)
Center-of-Mass det. time= 2,013.5 min (2,858.7 - 845.2)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	382,696 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

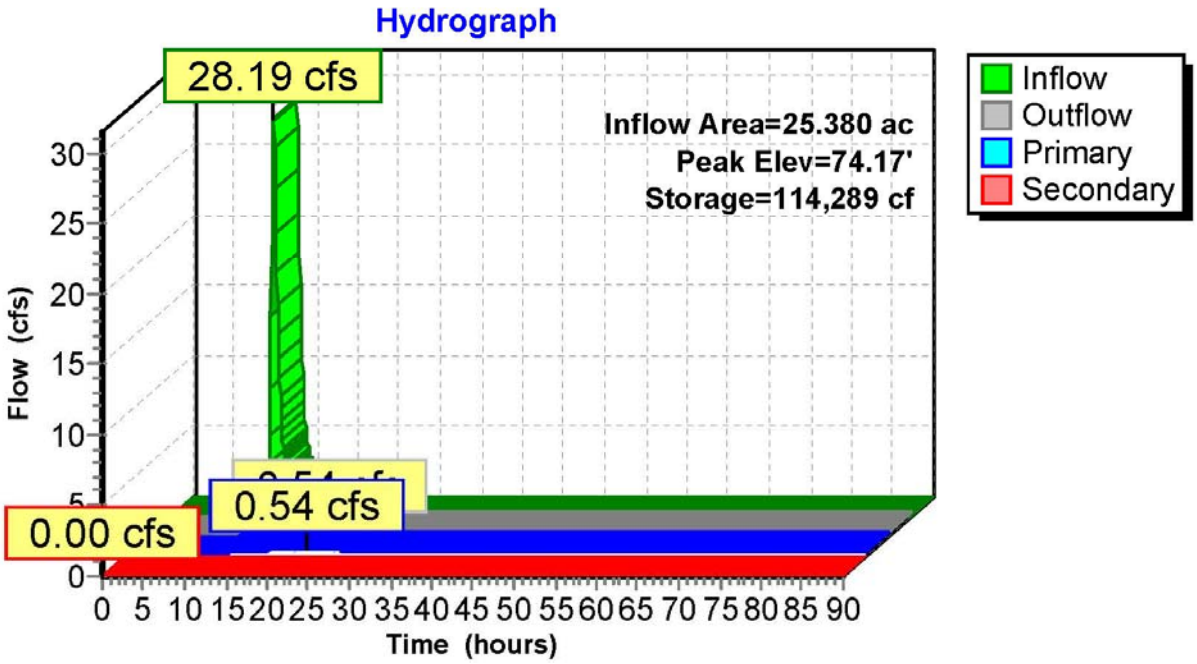
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	9,148	5,031	5,031
71.00	21,344	15,246	20,277
72.00	25,700	23,522	43,799
73.00	30,492	28,096	71,895
74.00	40,075	35,284	107,179
75.00	60,984	50,530	157,708
76.00	70,132	65,558	223,266
77.00	79,715	74,924	298,190
78.00	89,298	84,507	382,696

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.54 cfs @ 22.19 hrs HW=74.17' (Free Discharge)
↑—**6=Culvert** (Passes 0.54 cfs of 66.95 cfs potential flow)
↑—**1=Orifice/Grate** (Orifice Controls 0.37 cfs @ 10.94 fps)
—**2=Orifice/Grate** (Orifice Controls 0.17 cfs @ 1.32 fps)
—**3=Orifice/Grate** (Controls 0.00 cfs)
—**4=Orifice/Grate** (Controls 0.00 cfs)
—**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
↑—**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 44.37% Impervious, Inflow Depth = 2.82" for 10 YEAR event
Inflow = 55.56 cfs @ 12.51 hrs, Volume= 5.969 af
Outflow = 4.32 cfs @ 14.51 hrs, Volume= 4.986 af, Atten= 92%, Lag= 119.9 min
Primary = 4.32 cfs @ 14.51 hrs, Volume= 4.986 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 75.38' @ 14.51 hrs Surf.Area= 64,463 sf Storage= 181,564 cf

Plug-Flow detention time= 1,153.1 min calculated for 4.982 af (83% of inflow)
Center-of-Mass det. time= 1,094.8 min (1,926.3 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	382,696 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

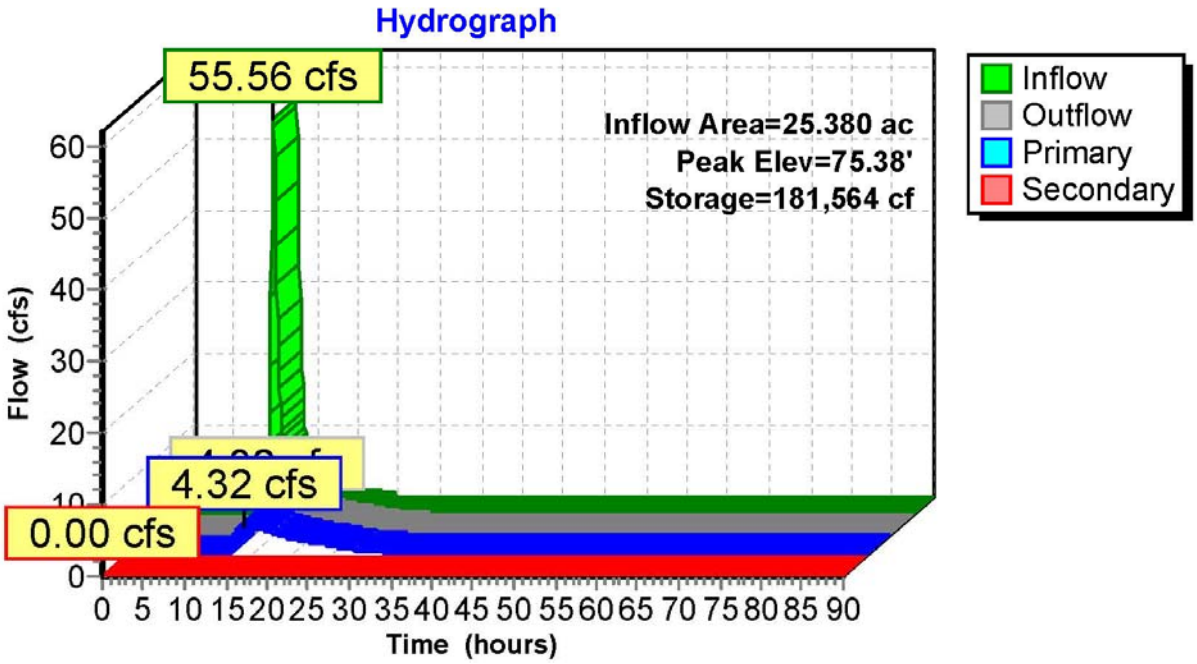
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	9,148	5,031	5,031
71.00	21,344	15,246	20,277
72.00	25,700	23,522	43,799
73.00	30,492	28,096	71,895
74.00	40,075	35,284	107,179
75.00	60,984	50,530	157,708
76.00	70,132	65,558	223,266
77.00	79,715	74,924	298,190
78.00	89,298	84,507	382,696

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.32 cfs @ 14.51 hrs HW=75.38' (Free Discharge)
↑—**6=Culvert** (Passes 4.32 cfs of 76.71 cfs potential flow)
↑—**1=Orifice/Grate** (Orifice Controls 0.41 cfs @ 12.16 fps)
—**2=Orifice/Grate** (Orifice Controls 3.90 cfs @ 3.77 fps)
—**3=Orifice/Grate** (Controls 0.00 cfs)
—**4=Orifice/Grate** (Controls 0.00 cfs)
—**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
↑—**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 44.37% Impervious, Inflow Depth = 5.71" for 100 YEAR event
Inflow = 111.50 cfs @ 12.50 hrs, Volume= 12.075 af
Outflow = 42.73 cfs @ 13.08 hrs, Volume= 11.033 af, Atten= 62%, Lag= 34.6 min
Primary = 42.73 cfs @ 13.08 hrs, Volume= 11.033 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 76.81' @ 13.08 hrs Surf.Area= 77,883 sf Storage= 283,124 cf

Plug-Flow detention time= 610.2 min calculated for 11.023 af (91% of inflow)
Center-of-Mass det. time= 573.1 min (1,390.3 - 817.2)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	382,696 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

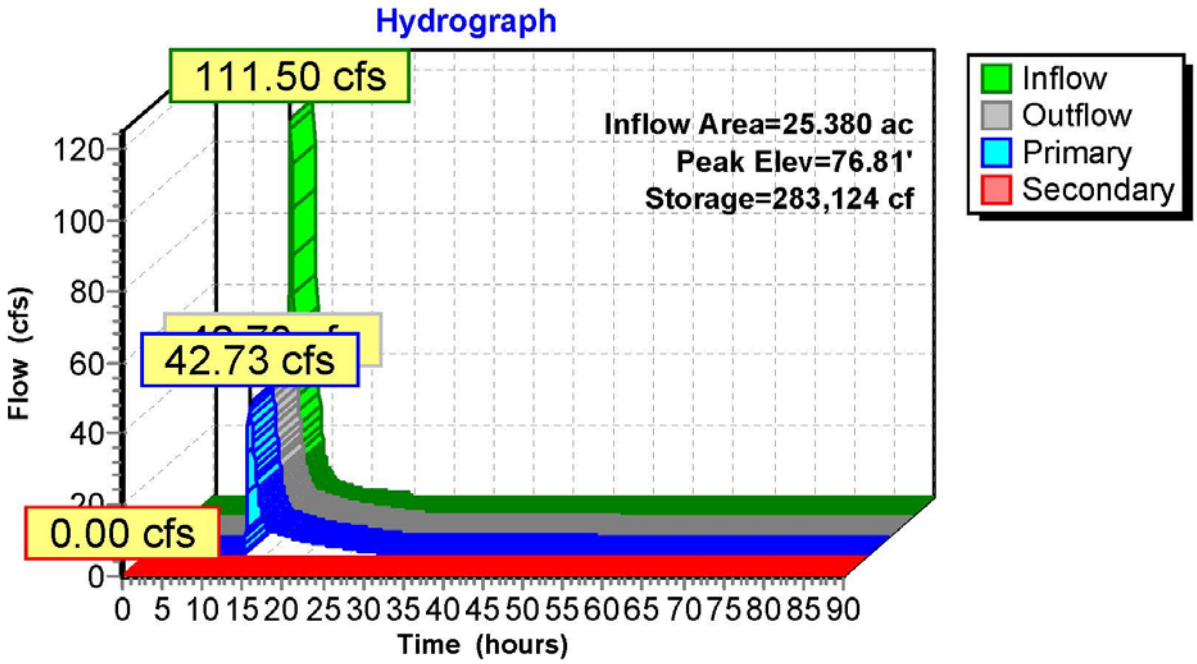
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	9,148	5,031	5,031
71.00	21,344	15,246	20,277
72.00	25,700	23,522	43,799
73.00	30,492	28,096	71,895
74.00	40,075	35,284	107,179
75.00	60,984	50,530	157,708
76.00	70,132	65,558	223,266
77.00	79,715	74,924	298,190
78.00	89,298	84,507	382,696

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=42.50 cfs @ 13.08 hrs HW=76.81' (Free Discharge)
- **6=Culvert** (Passes 42.50 cfs of 86.81 cfs potential flow)
  - **1=Orifice/Grate** (Orifice Controls 0.46 cfs @ 13.45 fps)
  - **2=Orifice/Grate** (Orifice Controls 9.57 cfs @ 6.38 fps)
  - **3=Orifice/Grate** (Orifice Controls 11.60 cfs @ 2.88 fps)
  - **4=Orifice/Grate** (Orifice Controls 10.44 cfs @ 2.88 fps)
  - **5=Orifice/Grate** (Orifice Controls 10.44 cfs @ 2.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
- **7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



ii. Post Development Peak Flow Conditions (Basin #3)

1) Drainage Area #3

Summary for Subcatchment PA #3: PA #3

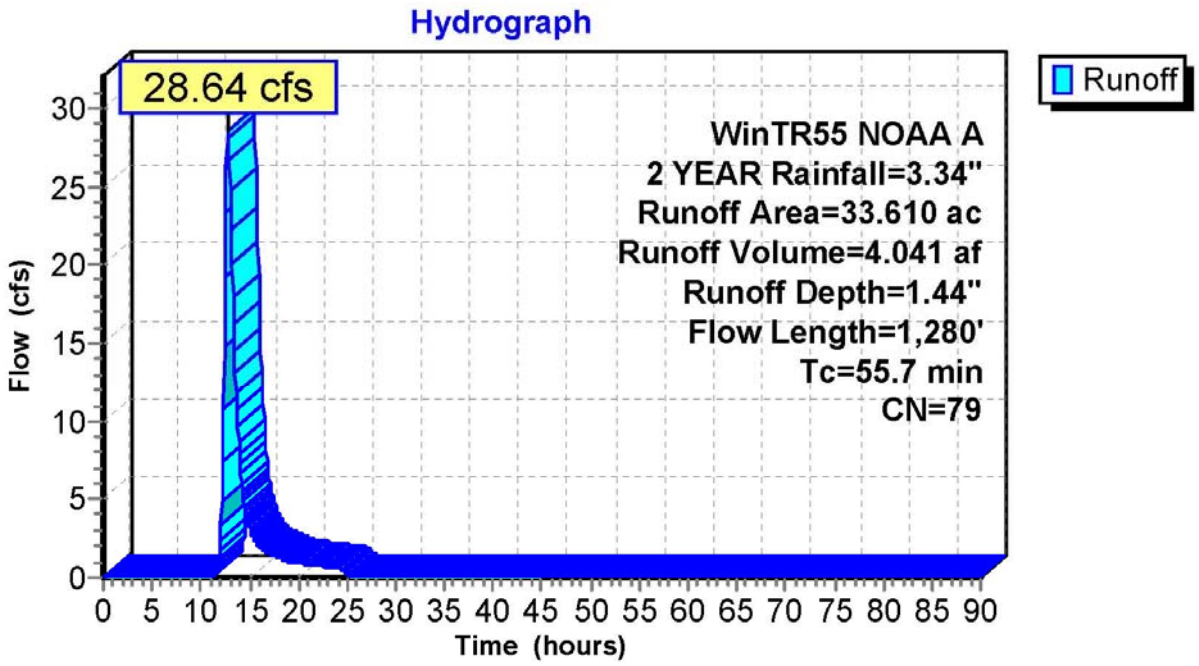
Runoff = 28.64 cfs @ 12.80 hrs, Volume= 4.041 af, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	5.100	98	Paved parking, HSG C
*	5.280	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	79	Weighted Average
	17.802		52.97% Pervious Area
	15.808		47.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



Summary for Subcatchment PA #3: PA #3

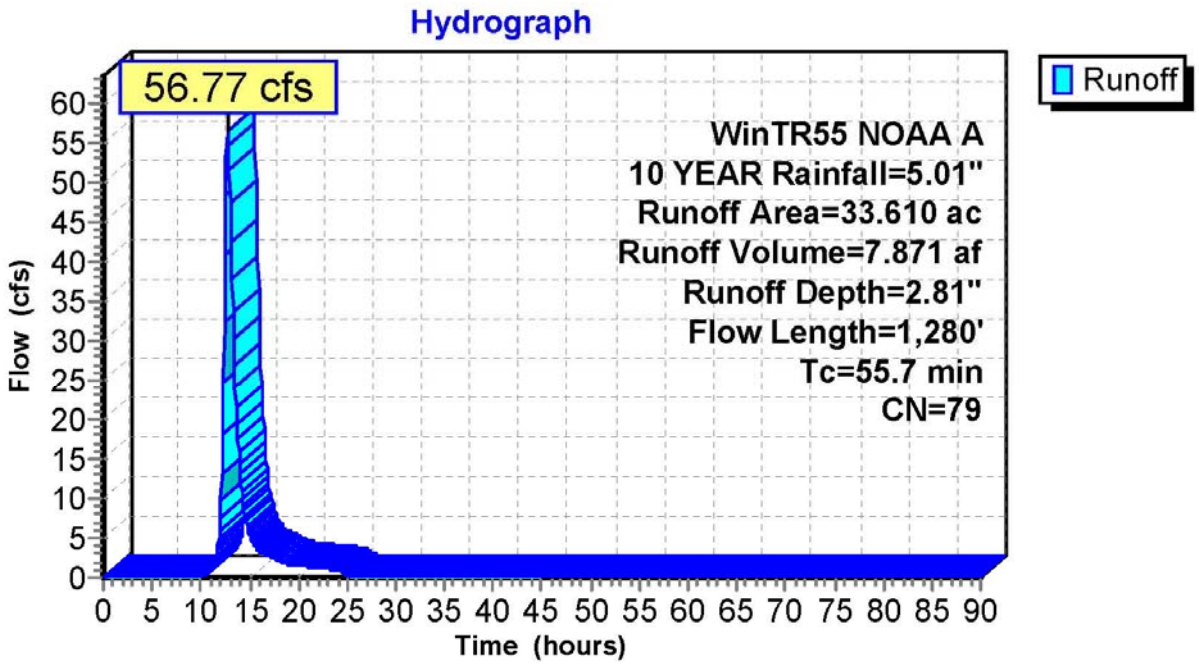
Runoff = 56.77 cfs @ 12.77 hrs, Volume= 7.871 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	5.100	98	Paved parking, HSG C
*	5.280	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	79	Weighted Average
	17.802		52.97% Pervious Area
	15.808		47.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



Summary for Subcatchment PA #3: PA #3

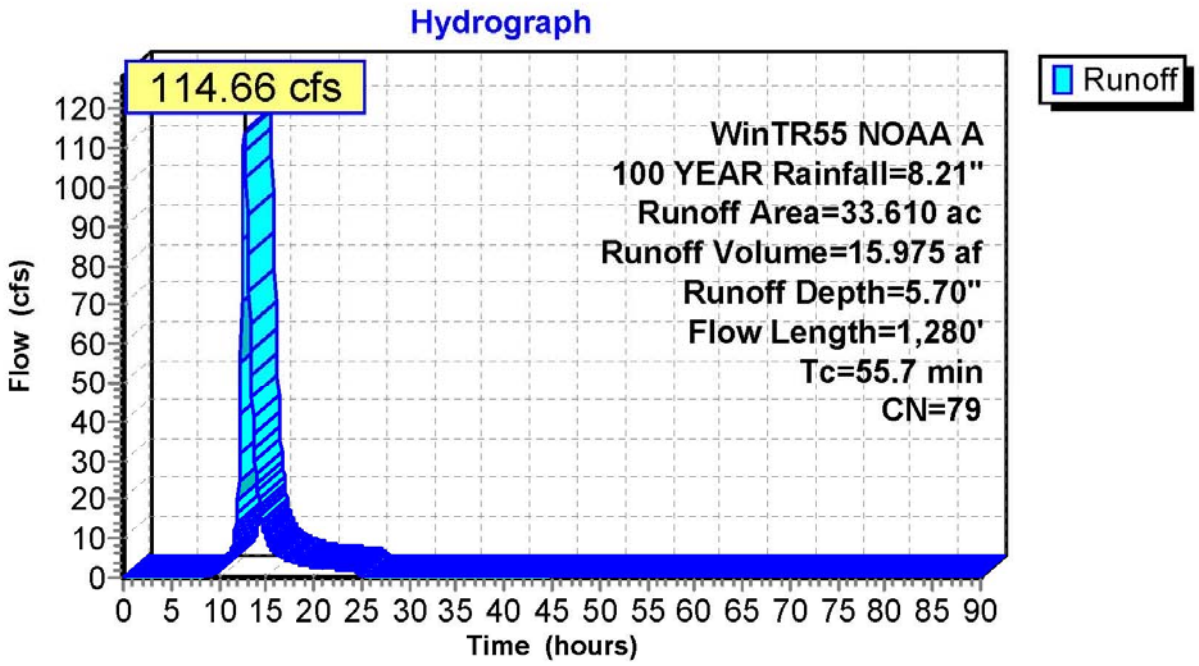
Runoff = 114.66 cfs @ 12.75 hrs, Volume= 15.975 af, Depth= 5.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	13.350	86	Urban industrial, 65% imp, HSG C
	5.100	98	Paved parking, HSG C
*	5.280	64	>75% Grass cover, Good, HSG C
	2.030	98	Paved roads w/curbs & sewers, HSG C
*	0.670	61	>75% Grass cover, Good, HSG C
*	4.240	61	>75% Grass cover, Good, HSG C
*	2.940	61	>75% Grass cover, Good, HSG C
	33.610	79	Weighted Average
	17.802		52.97% Pervious Area
	15.808		47.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.9	240	0.0063	0.09		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
10.8	1,040	0.0100	1.61		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
55.7	1,280	Total			

Subcatchment PA #3: PA #3



2) Routing for Basin #3

Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 47.03% Impervious, Inflow Depth = 1.44" for 2 YEAR event
Inflow = 28.64 cfs @ 12.80 hrs, Volume= 4.041 af
Outflow = 1.45 cfs @ 17.39 hrs, Volume= 3.321 af, Atten= 95%, Lag= 275.4 min
Primary = 1.45 cfs @ 17.39 hrs, Volume= 3.321 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 72.83' @ 17.39 hrs Surf.Area= 2.207 ac Storage= 3.095 af

Plug-Flow detention time= 1,700.7 min calculated for 3.318 af (82% of inflow)
Center-of-Mass det. time= 1,636.0 min (2,500.6 - 864.6)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

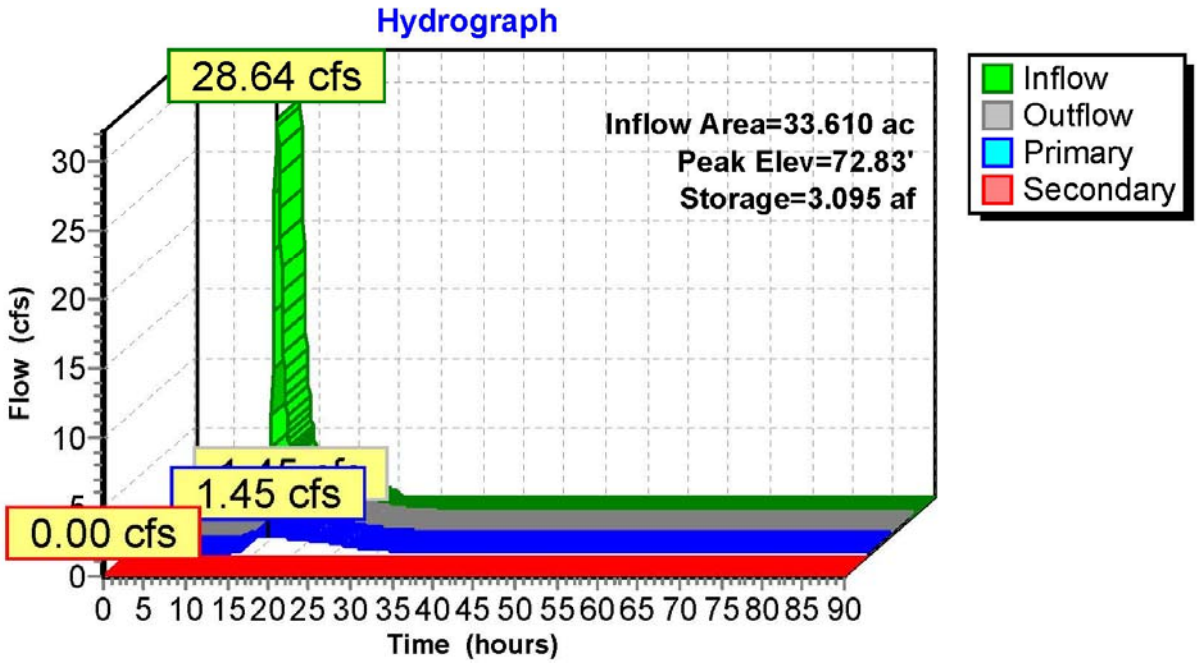
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 3	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	72.50'	**20.0" W x 17.0" H Vert. Orifice/Grate** C= 0.600
#3	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#4	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.45 cfs @ 17.39 hrs HW=72.83' (Free Discharge)
└**3=Culvert** (Passes 1.45 cfs of 47.31 cfs potential flow)
  └**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.62 fps)
  └**2=Orifice/Grate** (Orifice Controls 1.02 cfs @ 1.85 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 47.03% Impervious, Inflow Depth = 2.81" for 10 YEAR event
Inflow = 56.77 cfs @ 12.77 hrs, Volume= 7.871 af
Outflow = 7.79 cfs @ 14.51 hrs, Volume= 7.038 af, Atten= 86%, Lag= 104.2 min
Primary = 7.79 cfs @ 14.51 hrs, Volume= 7.038 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 73.73' @ 14.51 hrs Surf.Area= 2.376 ac Storage= 5.188 af

Plug-Flow detention time= 965.7 min calculated for 7.038 af (89% of inflow)
Center-of-Mass det. time= 918.3 min (1,768.8 - 850.5)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

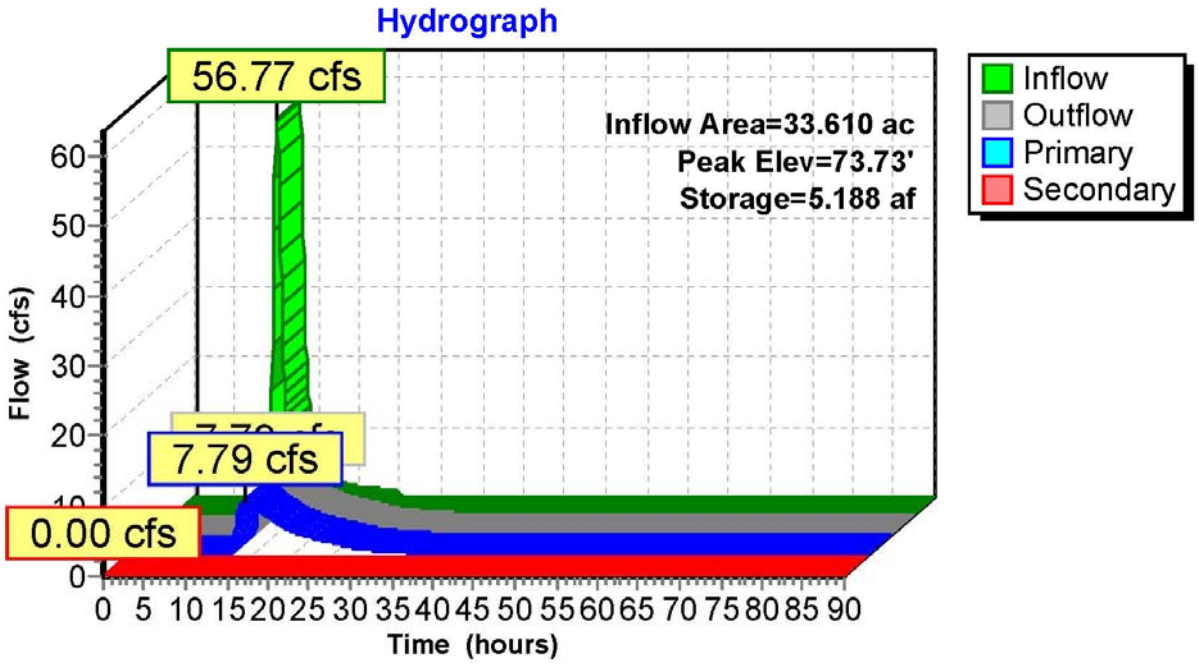
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 3	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	72.50'	**20.0" W x 17.0" H Vert. Orifice/Grate** C= 0.600
#3	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#4	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.79 cfs @ 14.51 hrs HW=73.73' (Free Discharge)
└**3=Culvert** (Passes 7.79 cfs of 57.27 cfs potential flow)
  └**1=Orifice/Grate** (Orifice Controls 0.48 cfs @ 9.76 fps)
  └**2=Orifice/Grate** (Orifice Controls 7.31 cfs @ 3.56 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



Summary for Pond Basin #3: Pond #3

Inflow Area = 33.610 ac, 47.03% Impervious, Inflow Depth = 5.70" for 100 YEAR event
Inflow = 114.66 cfs @ 12.75 hrs, Volume= 15.975 af
Outflow = 18.54 cfs @ 14.24 hrs, Volume= 15.057 af, Atten= 84%, Lag= 88.9 min
Primary = 18.54 cfs @ 14.24 hrs, Volume= 15.057 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 75.72' @ 14.24 hrs Surf.Area= 2.586 ac Storage= 10.111 af

Plug-Flow detention time= 599.8 min calculated for 15.044 af (94% of inflow)
Center-of-Mass det. time= 572.9 min (1,408.9 - 835.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	13.505 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

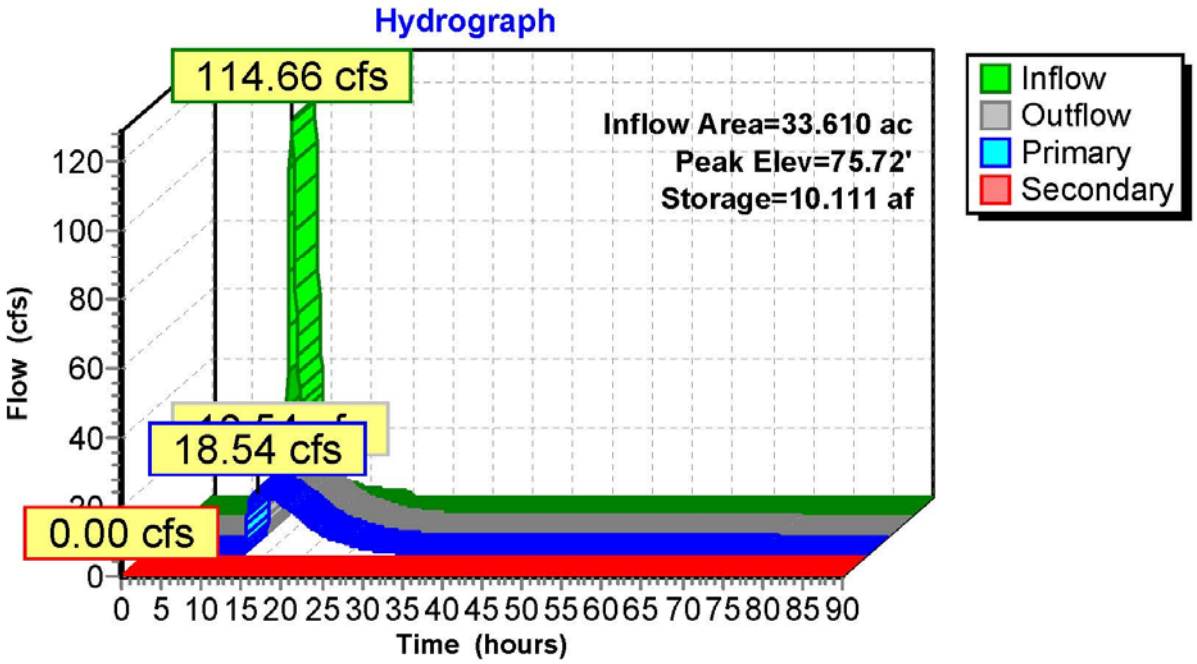
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
69.50	0.000	0.000	0.000
70.00	0.160	0.040	0.040
71.00	0.500	0.330	0.370
72.00	1.700	1.100	1.470
73.00	2.310	2.005	3.475
74.00	2.400	2.355	5.830
75.00	2.500	2.450	8.280
76.00	2.620	2.560	10.840
77.00	2.710	2.665	13.505

Device	Routing	Invert	Outlet Devices
#1	Device 3	69.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	72.50'	**20.0" W x 17.0" H Vert. Orifice/Grate** C= 0.600
#3	Primary	69.40'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 67.50' S= 0.0221 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#4	Secondary	76.00'	**120.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=18.54 cfs @ 14.24 hrs HW=75.72' (Free Discharge)
└**3=Culvert** (Passes 18.54 cfs of 74.72 cfs potential flow)
  └**1=Orifice/Grate** (Orifice Controls 0.58 cfs @ 11.89 fps)
  └**2=Orifice/Grate** (Orifice Controls 17.96 cfs @ 7.61 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=69.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #3: Pond #3



5. 150 Pierce Street, LLC (Pharmscript Site Plan)
March 2016

i. Post Development Peak Flow Conditions (Basin #1)

1) Drainage Area #1

Summary for Subcatchment PA #1: PA #1

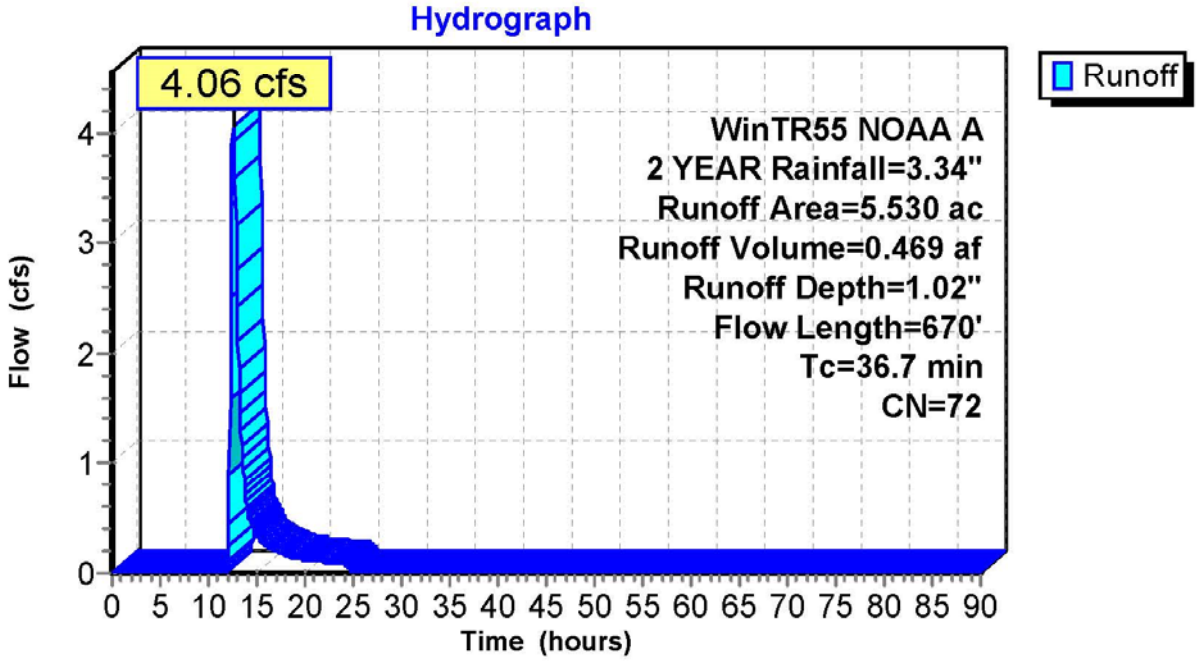
Runoff = 4.06 cfs @ 12.57 hrs, Volume= 0.469 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



Summary for Subcatchment PA #1: PA #1

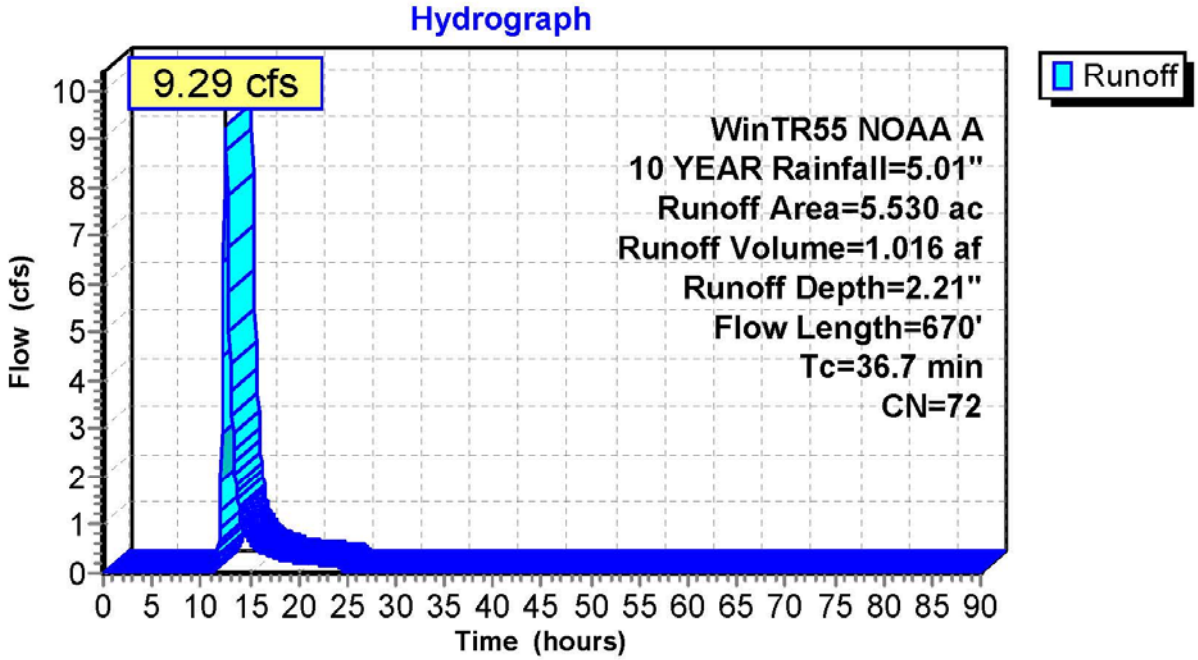
Runoff = 9.29 cfs @ 12.54 hrs, Volume= 1.016 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



Summary for Subcatchment PA #1: PA #1

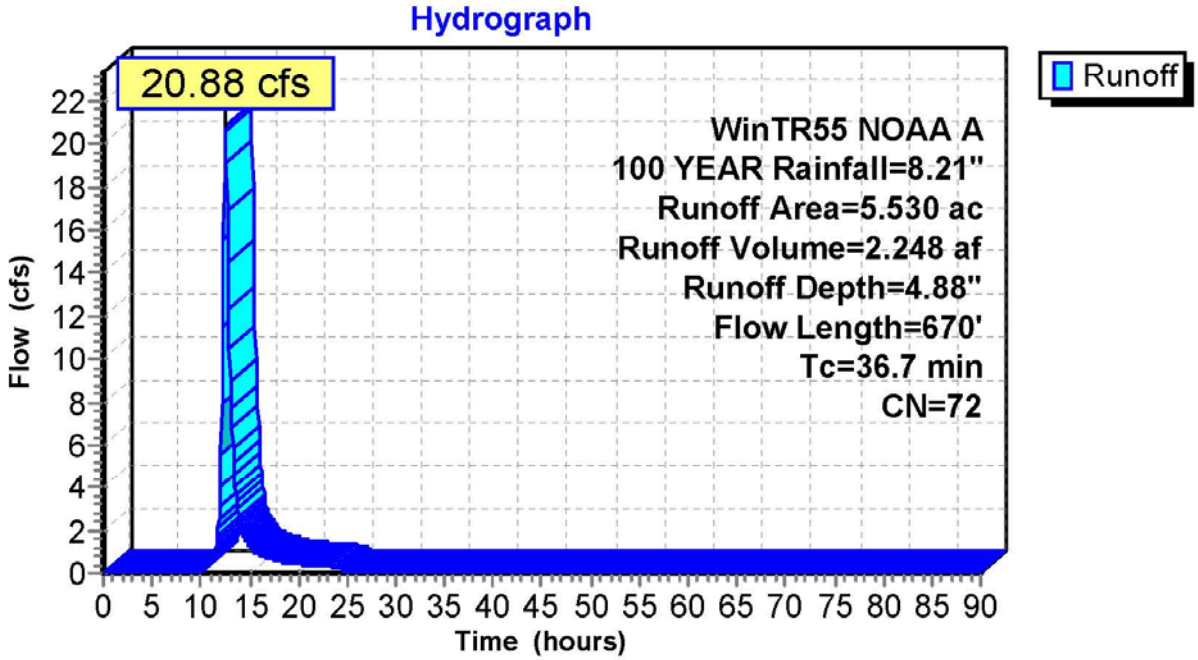
Runoff = 20.88 cfs @ 12.52 hrs, Volume= 2.248 af, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
	3.600	72	1/3 acre lots, 30% imp, HSG B
*	0.710	90	Paved roads w/open ditches, 50% imp, HSG C
*	1.220	60	Brush, Good, HSG C
	5.530	72	Weighted Average
	4.095		74.05% Pervious Area
	1.435		25.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.9	370	0.0170	2.10		**Shallow Concentrated Flow, Segment #2** Unpaved Kv= 16.1 fps
36.7	670	Total			

Subcatchment PA #1: PA #1



2) Drainage Area #2

Summary for Subcatchment PA #2: PA #2

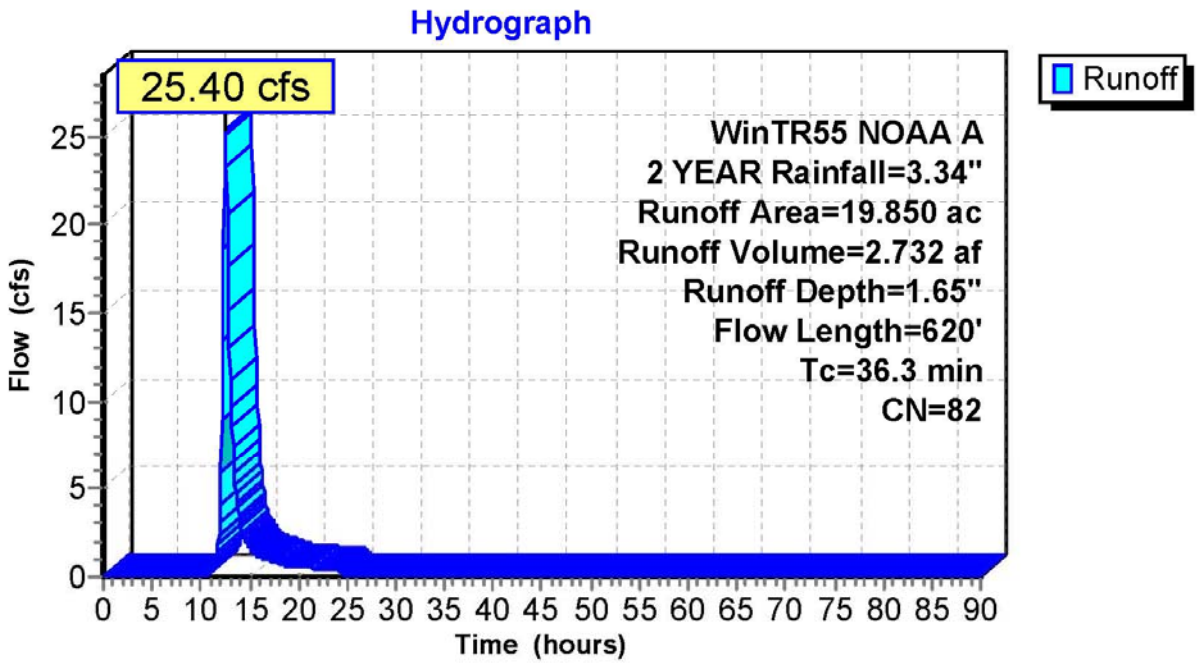
Runoff = 25.40 cfs @ 12.52 hrs, Volume= 2.732 af, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 2 YEAR Rainfall=3.34"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	2.000	98	Paved parking, HSG C
*	4.060	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	82	Weighted Average
	9.153		46.11% Pervious Area
	10.697		53.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

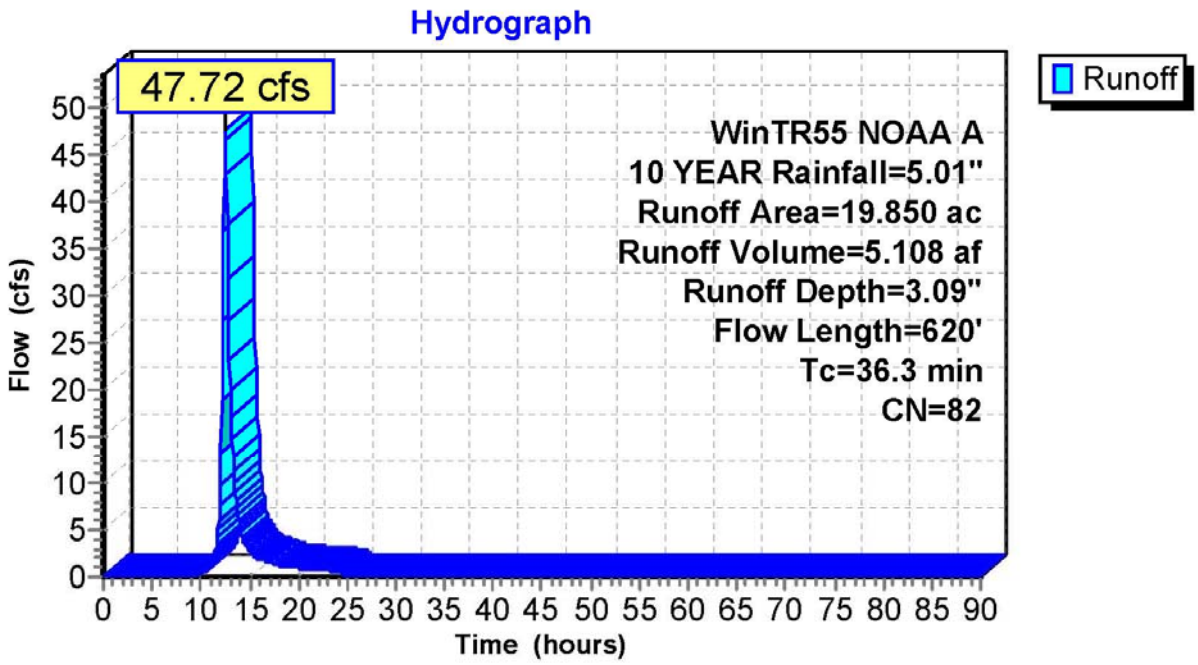
Runoff = 47.72 cfs @ 12.50 hrs, Volume= 5.108 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 10 YEAR Rainfall=5.01"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	2.000	98	Paved parking, HSG C
*	4.060	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	82	Weighted Average
	9.153		46.11% Pervious Area
	10.697		53.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



Summary for Subcatchment PA #2: PA #2

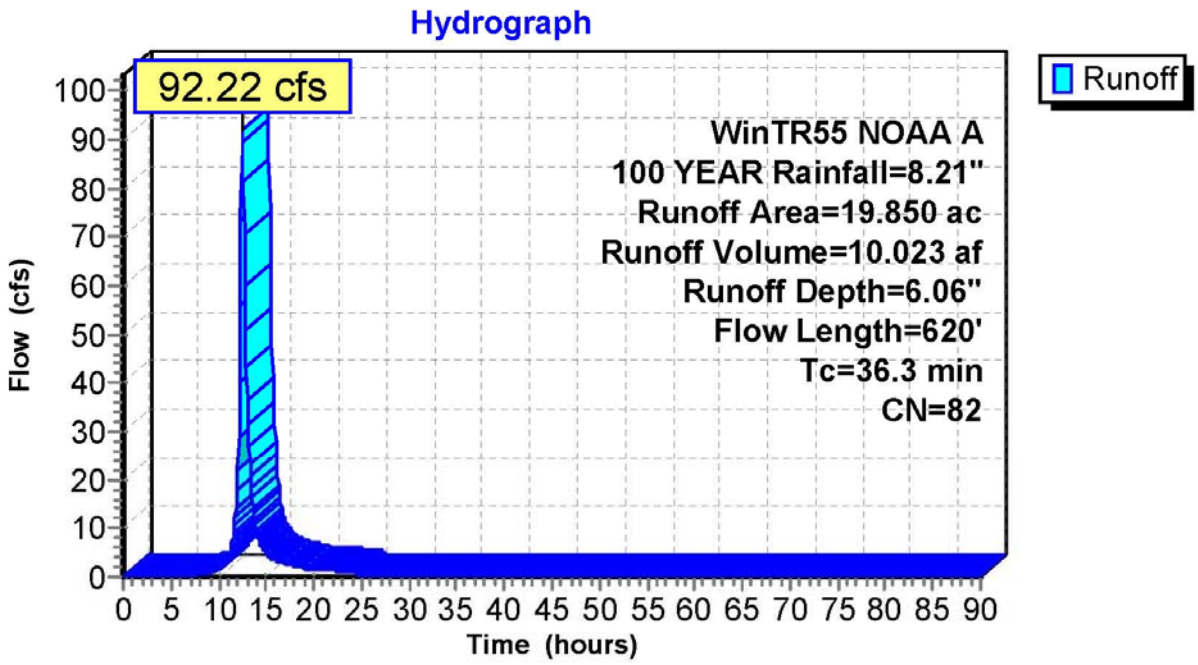
Runoff = 92.22 cfs @ 12.49 hrs, Volume= 10.023 af, Depth= 6.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
WinTR55 NOAA A 100 YEAR Rainfall=8.21"

	Area (ac)	CN	Description
*	13.380	86	Urban industrial, 65% imp, HSG C
	2.000	98	Paved parking, HSG C
*	4.060	64	>75% Grass cover, Good, HSG C
*	0.410	61	Brush, Good, HSG C
	19.850	82	Weighted Average
	9.153		46.11% Pervious Area
	10.697		53.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.8	300	0.0200	0.15		**Sheet Flow, Segment #1** Grass: Dense n= 0.240 P2= 3.30"
2.5	320	0.0112	2.15		**Shallow Concentrated Flow, Segment #2** Paved Kv= 20.3 fps
36.3	620	Total			

Subcatchment PA #2: PA #2



3) Routing for Basin #1

Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 47.80% Impervious, Inflow Depth = 1.51" for 2 YEAR event
Inflow = 29.35 cfs @ 12.52 hrs, Volume= 3.201 af
Outflow = 0.64 cfs @ 20.75 hrs, Volume= 2.349 af, Atten= 98%, Lag= 493.4 min
Primary = 0.64 cfs @ 20.75 hrs, Volume= 2.349 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 74.23' @ 20.75 hrs Surf.Area= 44,818 sf Storage= 116,808 cf

Plug-Flow detention time= 2,031.3 min calculated for 2.347 af (73% of inflow)
Center-of-Mass det. time= 1,954.5 min (2,797.6 - 843.1)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	382,696 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

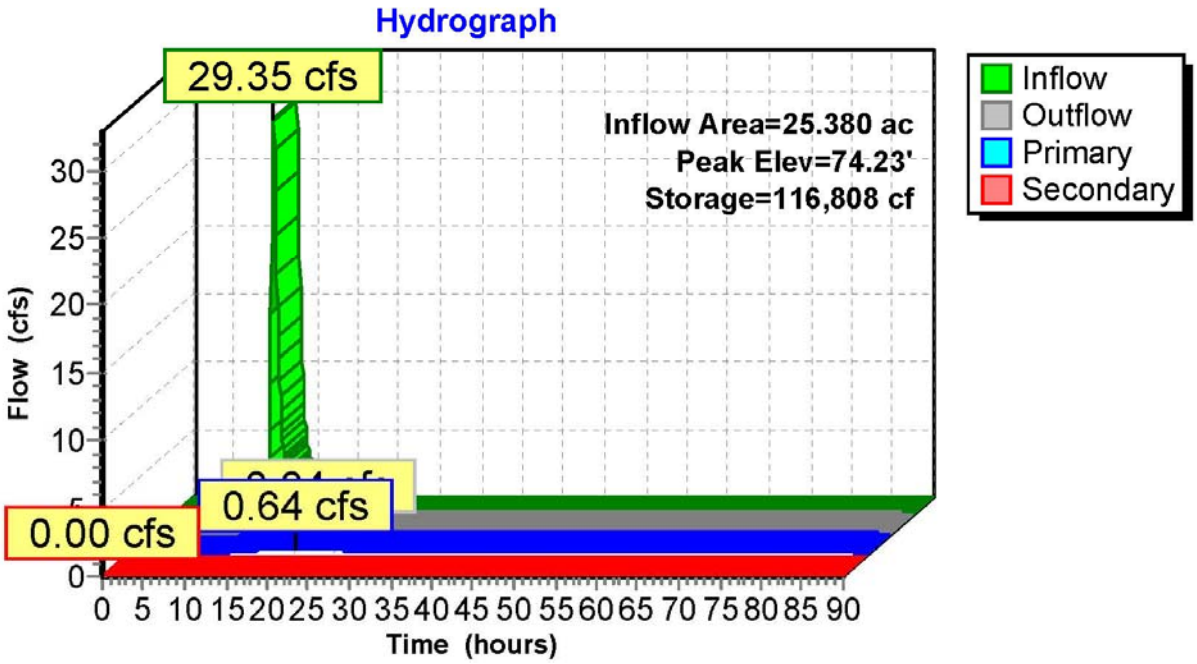
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	9,148	5,031	5,031
71.00	21,344	15,246	20,277
72.00	25,700	23,522	43,799
73.00	30,492	28,096	71,895
74.00	40,075	35,284	107,179
75.00	60,984	50,530	157,708
76.00	70,132	65,558	223,266
77.00	79,715	74,924	298,190
78.00	89,298	84,507	382,696

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.64 cfs @ 20.75 hrs HW=74.23' (Free Discharge)
↑—**6=Culvert** (Passes 0.64 cfs of 67.44 cfs potential flow)
↑—**1=Orifice/Grate** (Orifice Controls 0.38 cfs @ 11.00 fps)
—**2=Orifice/Grate** (Orifice Controls 0.26 cfs @ 1.53 fps)
—**3=Orifice/Grate** (Controls 0.00 cfs)
—**4=Orifice/Grate** (Controls 0.00 cfs)
—**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
↑—**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 47.80% Impervious, Inflow Depth = 2.90" for 10 YEAR event
Inflow = 56.98 cfs @ 12.51 hrs, Volume= 6.124 af
Outflow = 4.60 cfs @ 14.41 hrs, Volume= 5.139 af, Atten= 92%, Lag= 114.0 min
Primary = 4.60 cfs @ 14.41 hrs, Volume= 5.139 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 75.44' @ 14.41 hrs Surf.Area= 65,050 sf Storage= 185,716 cf

Plug-Flow detention time= 1,127.7 min calculated for 5.134 af (84% of inflow)
Center-of-Mass det. time= 1,070.5 min (1,900.3 - 829.7)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	382,696 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

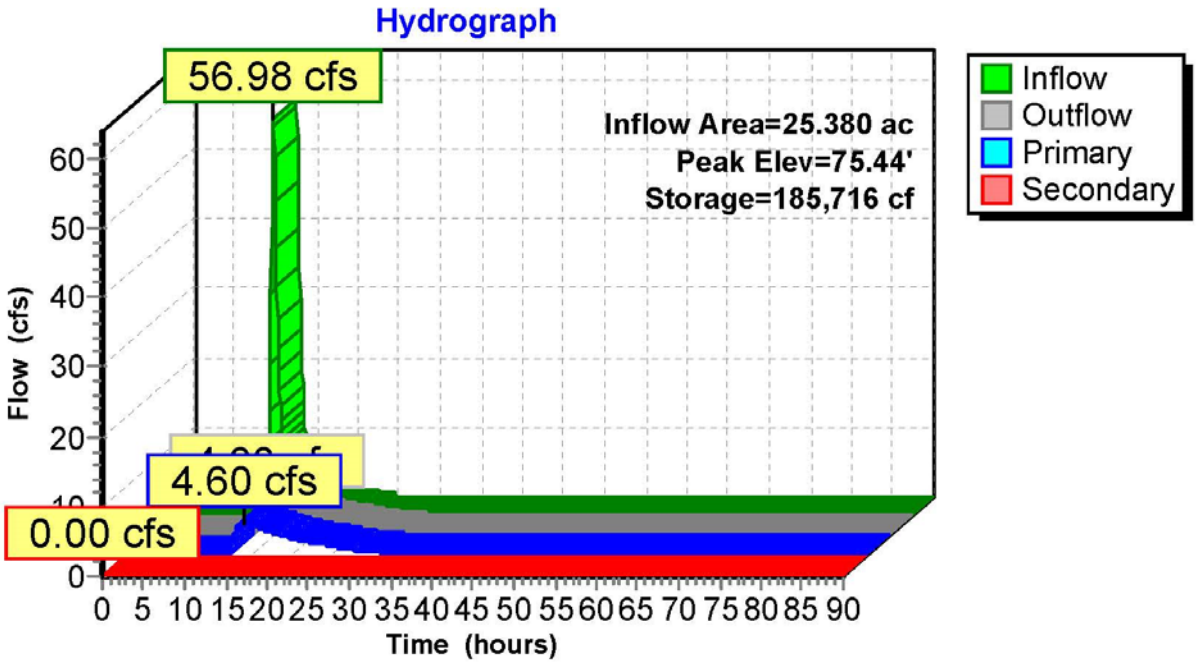
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	9,148	5,031	5,031
71.00	21,344	15,246	20,277
72.00	25,700	23,522	43,799
73.00	30,492	28,096	71,895
74.00	40,075	35,284	107,179
75.00	60,984	50,530	157,708
76.00	70,132	65,558	223,266
77.00	79,715	74,924	298,190
78.00	89,298	84,507	382,696

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.60 cfs @ 14.41 hrs HW=75.44' (Free Discharge)
↑—**6=Culvert** (Passes 4.60 cfs of 77.20 cfs potential flow)
↑—**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 12.22 fps)
—**2=Orifice/Grate** (Orifice Controls 4.18 cfs @ 3.86 fps)
—**3=Orifice/Grate** (Controls 0.00 cfs)
—**4=Orifice/Grate** (Controls 0.00 cfs)
—**5=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
↑—**7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



Summary for Pond Basin #1: Pond #1

Inflow Area = 25.380 ac, 47.80% Impervious, Inflow Depth = 5.80" for 100 YEAR event
Inflow = 113.04 cfs @ 12.50 hrs, Volume= 12.272 af
Outflow = 44.72 cfs @ 13.06 hrs, Volume= 11.229 af, Atten= 60%, Lag= 33.7 min
Primary = 44.72 cfs @ 13.06 hrs, Volume= 11.229 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.08 hrs
Peak Elev= 76.84' @ 13.06 hrs Surf.Area= 78,181 sf Storage= 285,556 cf

Plug-Flow detention time= 604.4 min calculated for 11.229 af (92% of inflow)
Center-of-Mass det. time= 564.5 min (1,380.2 - 815.7)

Volume	Invert	Avail.Storage	Storage Description
#1	68.90'	382,696 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

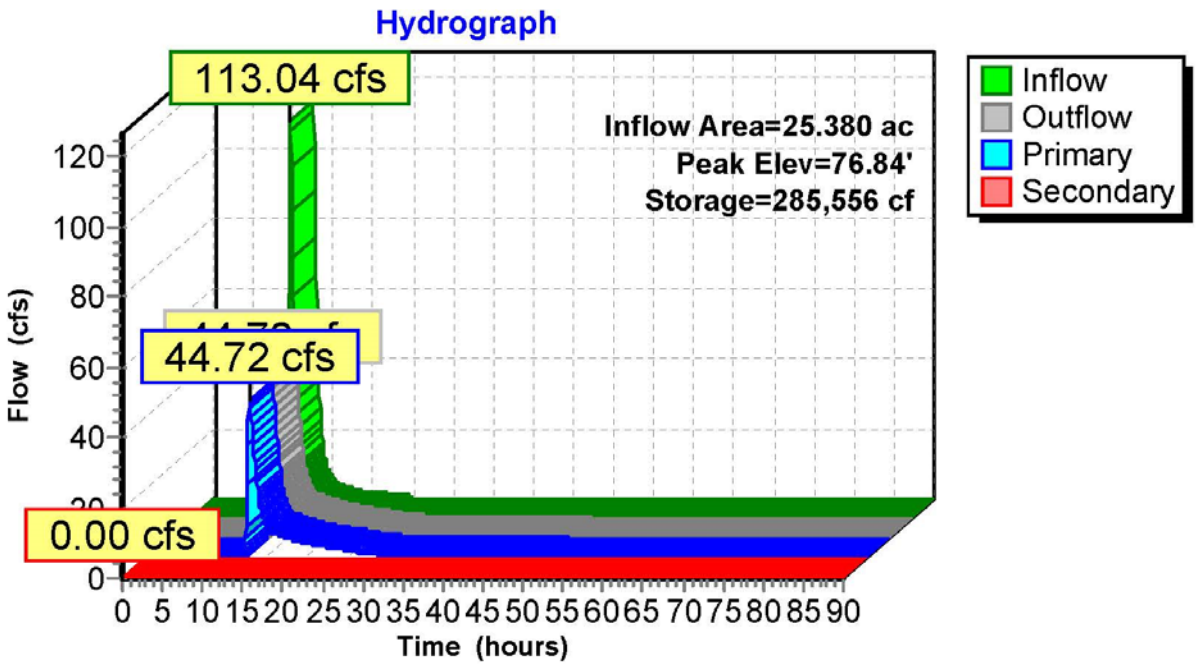
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.90	0	0	0
70.00	9,148	5,031	5,031
71.00	21,344	15,246	20,277
72.00	25,700	23,522	43,799
73.00	30,492	28,096	71,895
74.00	40,075	35,284	107,179
75.00	60,984	50,530	157,708
76.00	70,132	65,558	223,266
77.00	79,715	74,924	298,190
78.00	89,298	84,507	382,696

Device	Routing	Invert	Outlet Devices
#1	Device 6	68.90'	**2.5" Vert. Orifice/Grate** C= 0.600
#2	Device 6	74.00'	**9.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 6	76.00'	**60.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 6	76.00'	**54.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#6	Primary	68.80'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.80' / 66.53' S= 0.0264 '/' Cc= 0.900 n= 0.011, Flow Area= 7.07 sf
#7	Secondary	77.50'	**75.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=44.56 cfs @ 13.06 hrs HW=76.84' (Free Discharge)
- **6=Culvert** (Passes 44.56 cfs of 87.02 cfs potential flow)
  - **1=Orifice/Grate** (Orifice Controls 0.46 cfs @ 13.48 fps)
  - **2=Orifice/Grate** (Orifice Controls 9.66 cfs @ 6.44 fps)
  - **3=Orifice/Grate** (Orifice Controls 12.30 cfs @ 2.94 fps)
  - **4=Orifice/Grate** (Orifice Controls 11.07 cfs @ 2.94 fps)
  - **5=Orifice/Grate** (Orifice Controls 11.07 cfs @ 2.94 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=68.90' (Free Discharge)
- **7=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Basin #1: Pond #1



ii. Post Development Peak Flow Conditions (Basin #3)