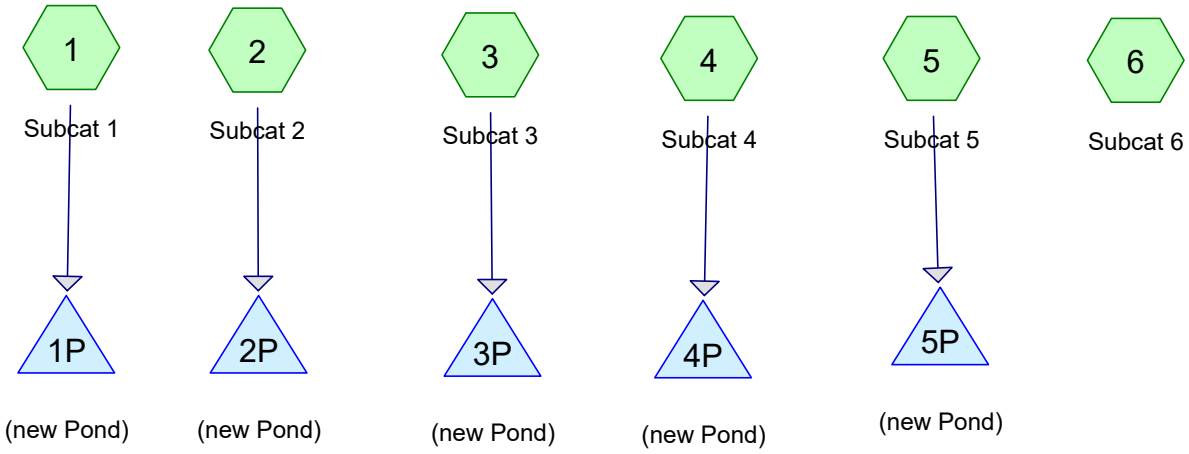


Subcat Reach Pond Link

Routing Diagram for 42707.00 - Proposed Conditions3 - half crops
Prepared by VHB, Printed 11/18/2021

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 year	Type III 24-hr		Default	24.00	1	3.54	2
2	25 year	Type III 24-hr		Default	24.00	1	6.61	2
3	50 year	Type III 24-hr		Default	24.00	1	7.49	2
4	100 year	Type III 24-hr		Default	24.00	1	8.43	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.270	74	50-75% Grass cover, Fair, HSG B-C (1, 2, 3, 4, 5, 6)
3.429	61	>75% Grass cover, Good, HSG B (1, 2, 3, 4, 5, 6)
0.228	74	>75% Grass cover, Good, HSG C (1)
0.164	80	>75% Grass cover, Good, HSG D (5)
0.060	98	Equipment pad (1, 5)
0.267	96	Gravel surface, HSG B (1, 3, 5)
2.310	81	Row crops, straight row, Good, HSG B-C (1, 2, 3, 4, 5, 6)
10.728	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
10.276	HSG B	1, 2, 3, 4, 5, 6
0.228	HSG C	1
0.164	HSG D	5
0.060	Other	1, 5
10.728		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.270	0.000	0.000	0.000	4.270	50-75% Grass cover, Fair	1, 2, 3, 4, 5, 6
0.000	3.429	0.228	0.164	0.000	3.821	>75% Grass cover, Good	1, 2, 3, 4, 5, 6
0.000	0.000	0.000	0.000	0.060	0.060	Equipment pad	1, 5
0.000	0.267	0.000	0.000	0.000	0.267	Gravel surface	1, 3, 5
0.000	2.310	0.000	0.000	0.000	2.310	Row crops, straight row, Good	1, 2, 3, 4, 5, 6
0.000	**10.276**	**0.228**	**0.164**	**0.060**	**10.728**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=3.368 ac 0.59% Impervious Runoff Depth>1.16"
Flow Length=550' Slope=0.0200 '/' Tc=13.8 min CN=74 Runoff=3.73 cfs 0.325 af

Subcatchment2: Subcat 2 Runoff Area=1.098 ac 0.00% Impervious Runoff Depth>0.83"
Flow Length=350' Slope=0.0200 '/' Tc=10.5 min CN=68 Runoff=0.91 cfs 0.076 af

Subcatchment3: Subcat 3 Runoff Area=1.683 ac 0.00% Impervious Runoff Depth>0.94"
Flow Length=320' Slope=0.0200 '/' Tc=9.9 min CN=70 Runoff=1.63 cfs 0.131 af

Subcatchment4: Subcat 4 Runoff Area=1.159 ac 0.00% Impervious Runoff Depth>1.10"
Flow Length=320' Slope=0.0400 '/' Tc=7.3 min CN=73 Runoff=1.48 cfs 0.106 af

Subcatchment5: Subcat 5 Runoff Area=2.483 ac 1.61% Impervious Runoff Depth>1.16"
Flow Length=450' Tc=10.9 min CN=74 Runoff=2.99 cfs 0.240 af

Subcatchment6: Subcat 6 Runoff Area=0.937 ac 0.00% Impervious Runoff Depth>0.78"
Flow Length=250' Slope=0.0200 '/' Tc=8.8 min CN=67 Runoff=0.75 cfs 0.061 af

Pond 1P: (new Pond) Peak Elev=153.63' Storage=0.265 af Inflow=3.73 cfs 0.325 af
Outflow=2.32 cfs 0.226 af

Pond 2P: (new Pond) Peak Elev=155.53' Storage=0.087 af Inflow=0.91 cfs 0.076 af
Outflow=0.16 cfs 0.039 af

Pond 3P: (new Pond) Peak Elev=152.06' Storage=0.094 af Inflow=1.63 cfs 0.131 af
Outflow=0.36 cfs 0.073 af

Pond 4P: (new Pond) Peak Elev=149.62' Storage=0.053 af Inflow=1.48 cfs 0.106 af
Outflow=1.00 cfs 0.080 af

Pond 5P: (new Pond) Peak Elev=148.61' Storage=0.114 af Inflow=2.99 cfs 0.240 af
Outflow=0.81 cfs 0.131 af

Total Runoff Area = 10.728 ac Runoff Volume = 0.940 af Average Runoff Depth = 1.05"
99.44% Pervious = 10.668 ac 0.56% Impervious = 0.060 ac

Summary for Subcatchment 1: Subcat 1

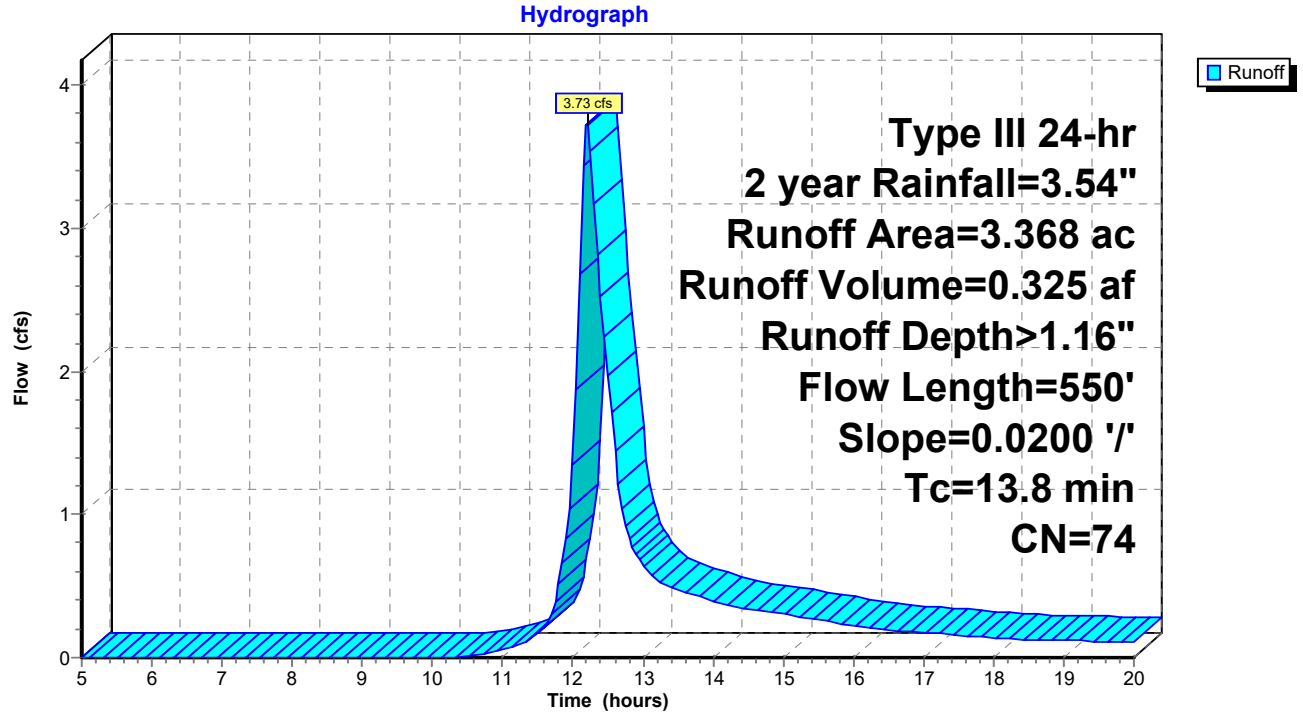
Runoff = 3.73 cfs @ 12.21 hrs, Volume= 0.325 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.54"

	Area (ac)	CN	Description
	0.478	61	>75% Grass cover, Good, HSG B
	0.228	74	>75% Grass cover, Good, HSG C
*	1.772	74	50-75% Grass cover, Fair, HSG B-C
	0.070	96	Gravel surface, HSG B
*	0.020	98	Equipment pad
*	0.800	81	Row crops, straight row, Good, HSG B-C
	3.368	74	Weighted Average
	3.348		99.41% Pervious Area
	0.020		0.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
8.4	500	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.8	550	Total			

Subcatchment 1: Subcat 1



Summary for Subcatchment 2: Subcat 2

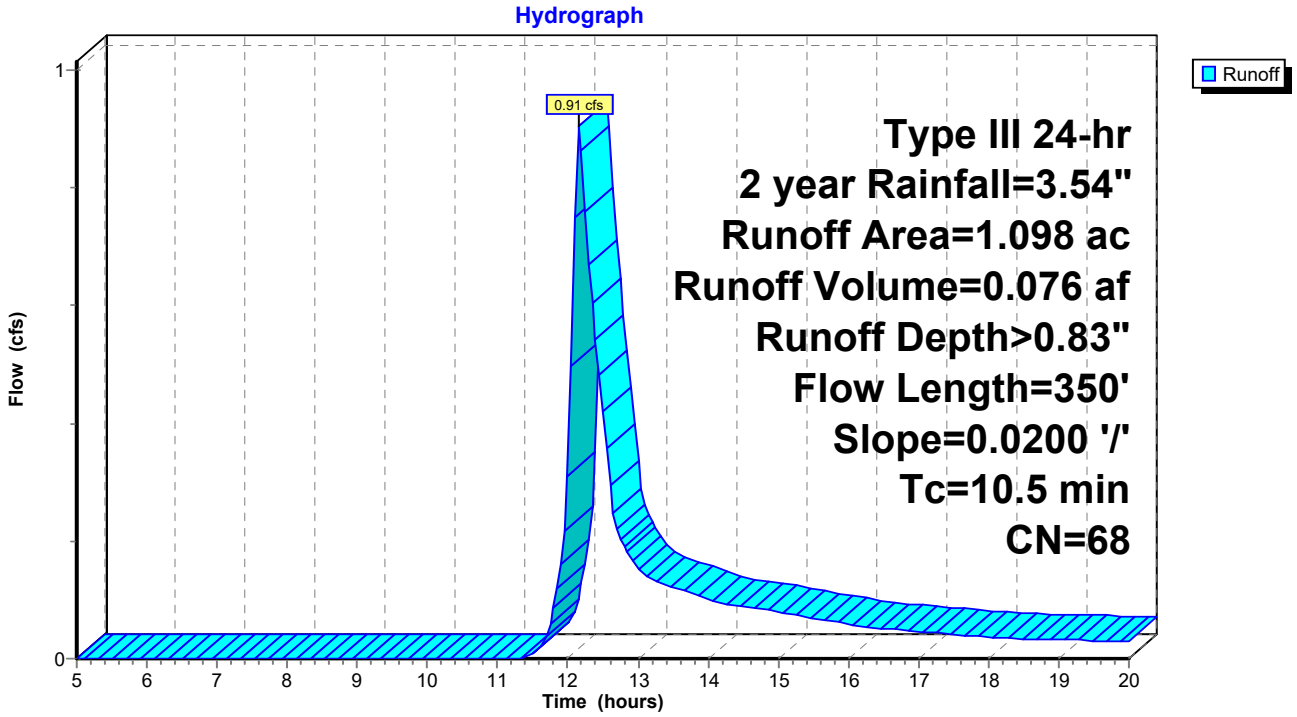
Runoff = 0.91 cfs @ 12.17 hrs, Volume= 0.076 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.54"

	Area (ac)	CN	Description
	0.605	61	>75% Grass cover, Good, HSG B
*	0.303	74	50-75% Grass cover, Fair, HSG B-C
*	0.190	81	Row crops, straight row, Good, HSG B-C
	1.098	68	Weighted Average
	1.098		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	350	Total			

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

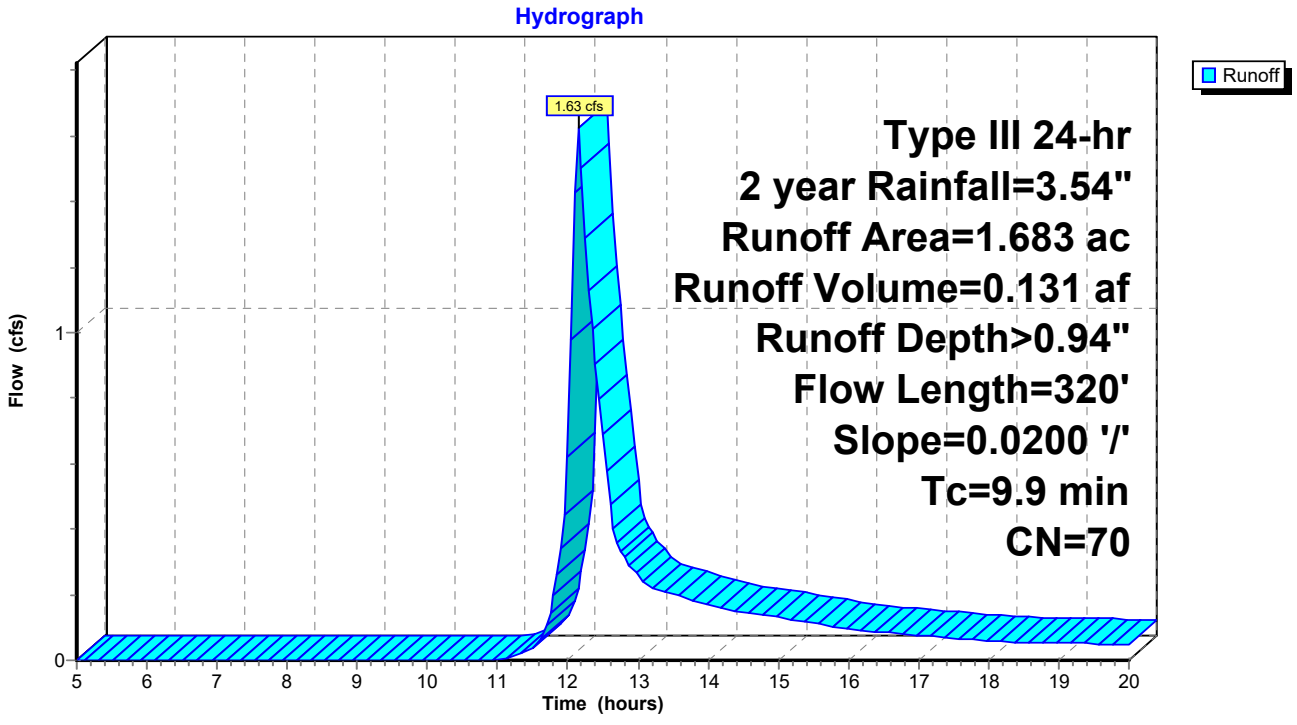
Runoff = 1.63 cfs @ 12.16 hrs, Volume= 0.131 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.54"

	Area (ac)	CN	Description
*	0.490	74	50-75% Grass cover, Fair, HSG B-C
	0.075	96	Gravel surface, HSG B
	0.798	61	>75% Grass cover, Good, HSG B
*	0.320	81	Row crops, straight row, Good, HSG B-C
	1.683	70	Weighted Average
	1.683		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
4.5	270	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.9	320	Total			

Subcatchment 3: Subcat 3



Summary for Subcatchment 4: Subcat 4

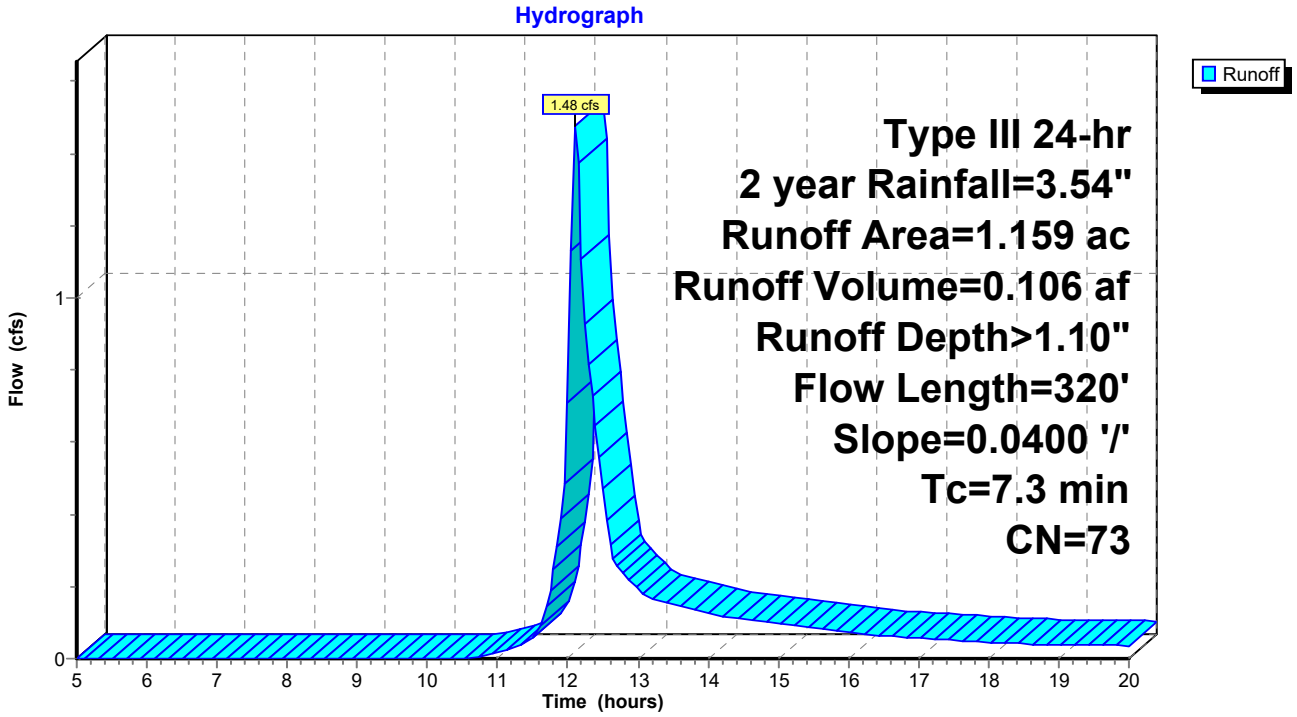
Runoff = 1.48 cfs @ 12.11 hrs, Volume= 0.106 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.54"

	Area (ac)	CN	Description
	0.263	61	>75% Grass cover, Good, HSG B
*	0.546	74	50-75% Grass cover, Fair, HSG B-C
*	0.350	81	Row crops, straight row, Good, HSG B-C
	1.159	73	Weighted Average
	1.159		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.0400	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.2	270	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	320	Total			

Subcatchment 4: Subcat 4



Summary for Subcatchment 5: Subcat 5

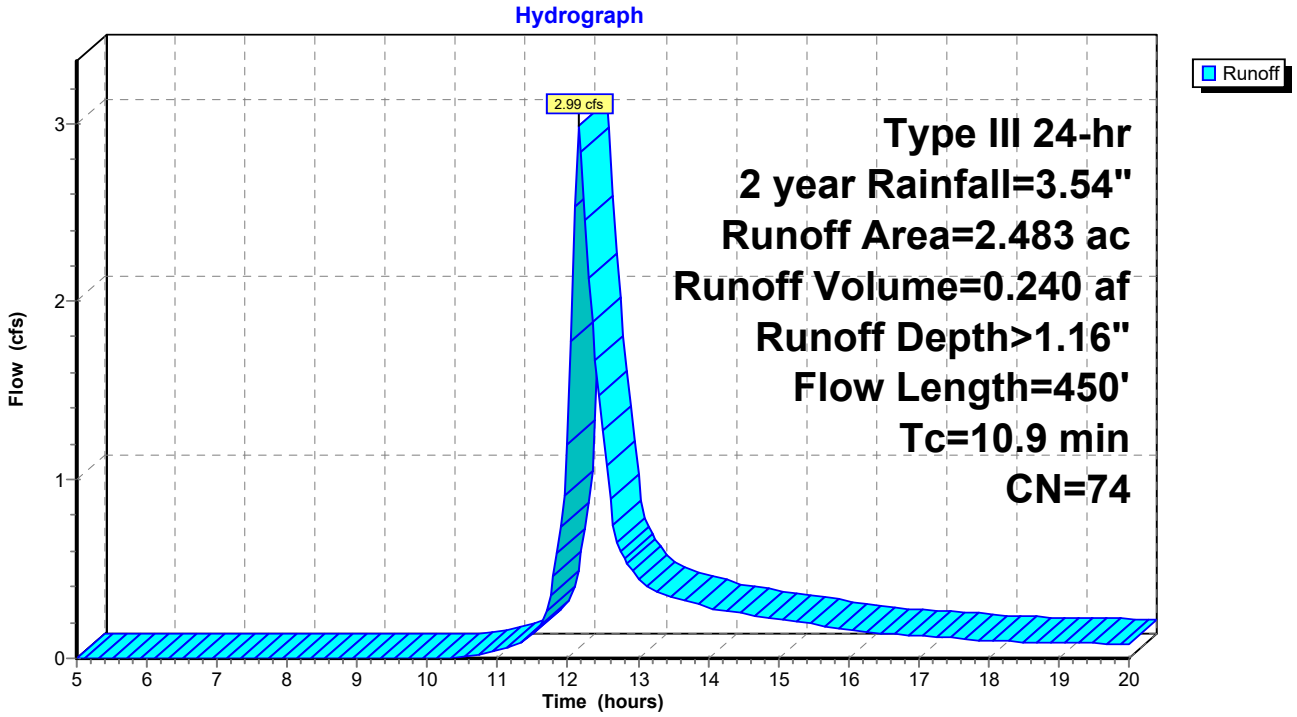
Runoff = 2.99 cfs @ 12.16 hrs, Volume= 0.240 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.54"

	Area (ac)	CN	Description
	0.713	61	>75% Grass cover, Good, HSG B
	0.122	96	Gravel surface, HSG B
*	0.040	98	Equipment pad
*	0.924	74	50-75% Grass cover, Fair, HSG B-C
	0.164	80	>75% Grass cover, Good, HSG D
*	0.520	81	Row crops, straight row, Good, HSG B-C
	2.483	74	Weighted Average
	2.443		98.39% Pervious Area
	0.040		1.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	200	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.9	450	Total			

Subcatchment 5: Subcat 5



Summary for Subcatchment 6: Subcat 6

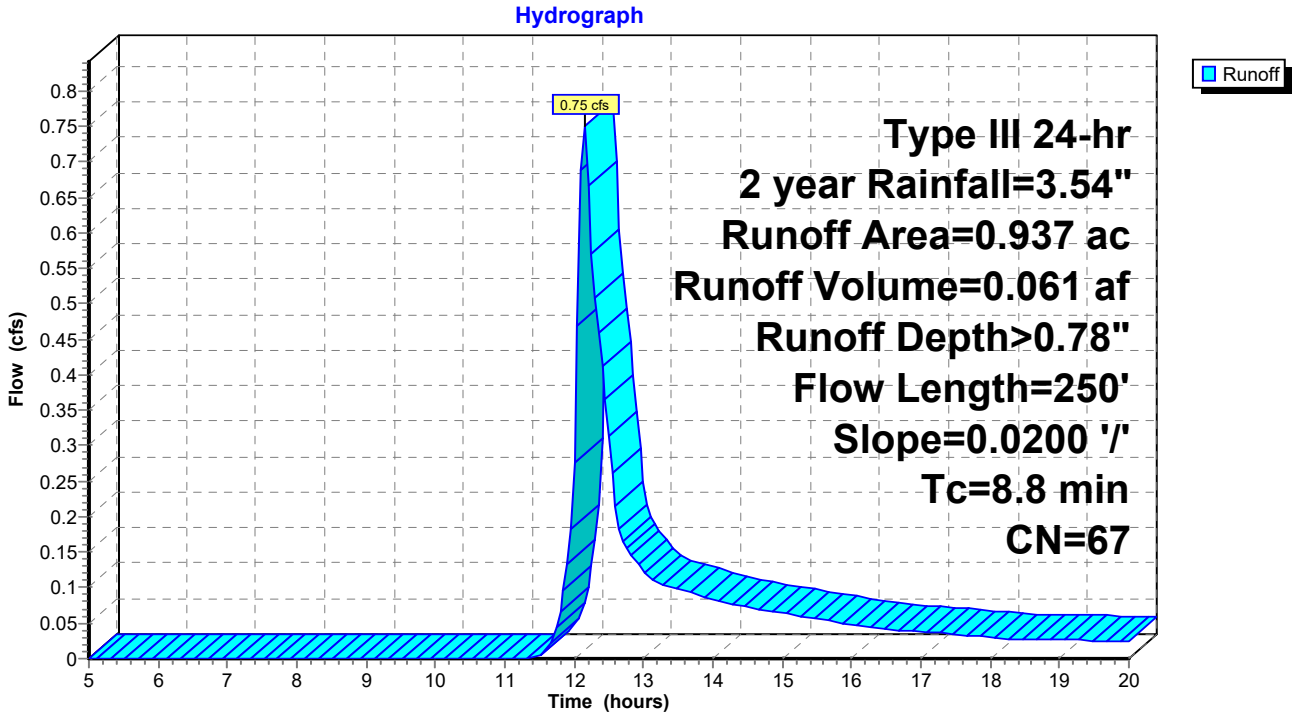
Runoff = 0.75 cfs @ 12.15 hrs, Volume= 0.061 af, Depth> 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.54"

	Area (ac)	CN	Description
*	0.235	74	50-75% Grass cover, Fair, HSG B-C
	0.572	61	>75% Grass cover, Good, HSG B
*	0.130	81	Row crops, straight row, Good, HSG B-C
	0.937	67	Weighted Average
	0.937		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	250	Total			

Subcatchment 6: Subcat 6



Summary for Pond 1P: (new Pond)

Inflow Area = 3.368 ac, 0.59% Impervious, Inflow Depth > 1.16" for 2 year event
Inflow = 3.73 cfs @ 12.21 hrs, Volume= 0.325 af
Outflow = 2.32 cfs @ 12.45 hrs, Volume= 0.226 af, Atten= 38%, Lag= 14.5 min
Primary = 2.32 cfs @ 12.45 hrs, Volume= 0.226 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 152.50' Surf.Area= 0.086 ac Storage= 0.153 af
Peak Elev= 153.63' @ 12.45 hrs Surf.Area= 0.111 ac Storage= 0.265 af (0.112 af above start)

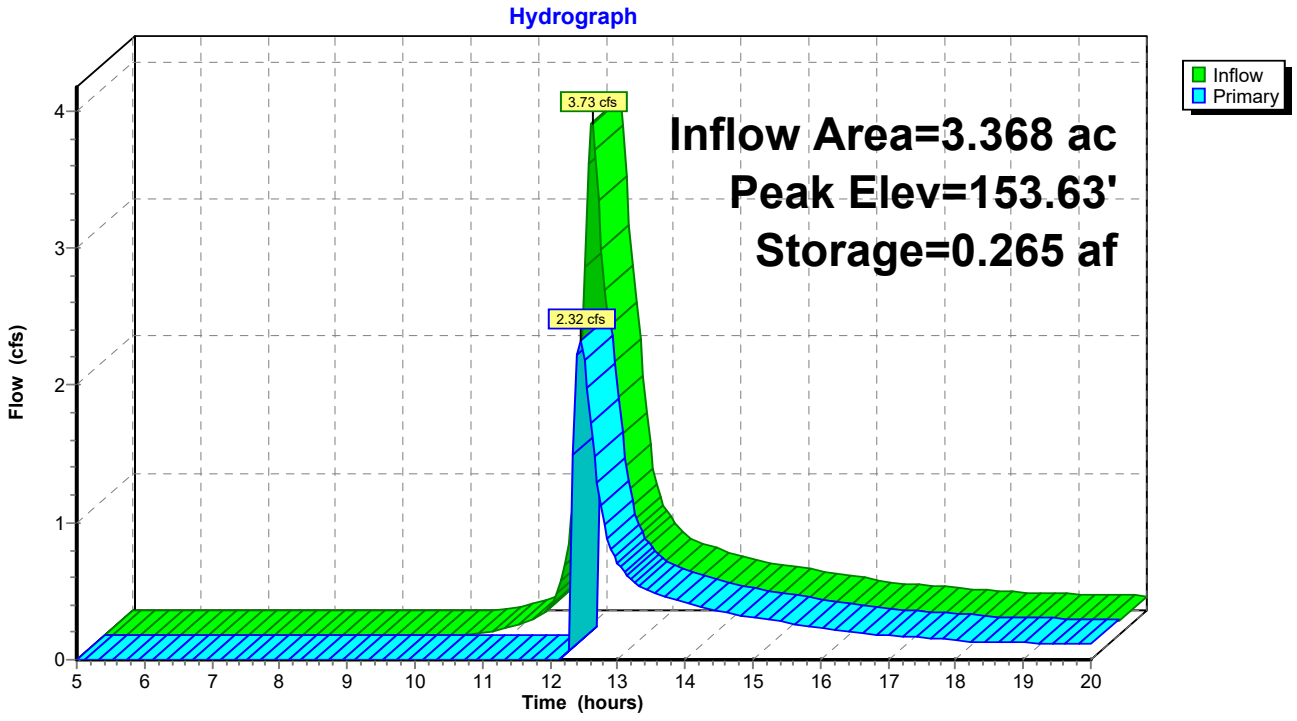
Plug-Flow detention time= 304.4 min calculated for 0.073 af (22% of inflow)
Center-of-Mass det. time= 46.4 min (866.1 - 819.7)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	0.307 af	**15.00'W x 110.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	153.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.31 cfs @ 12.45 hrs HW=153.63' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.31 cfs @ 0.86 fps)

Pond 1P: (new Pond)



Summary for Pond 2P: (new Pond)

Inflow Area = 1.098 ac, 0.00% Impervious, Inflow Depth > 0.83" for 2 year event
Inflow = 0.91 cfs @ 12.17 hrs, Volume= 0.076 af
Outflow = 0.16 cfs @ 13.01 hrs, Volume= 0.039 af, Atten= 83%, Lag= 50.8 min
Primary = 0.16 cfs @ 13.01 hrs, Volume= 0.039 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 154.50' Surf.Area= 0.031 ac Storage= 0.050 af
Peak Elev= 155.53' @ 13.01 hrs Surf.Area= 0.043 ac Storage= 0.087 af (0.038 af above start)

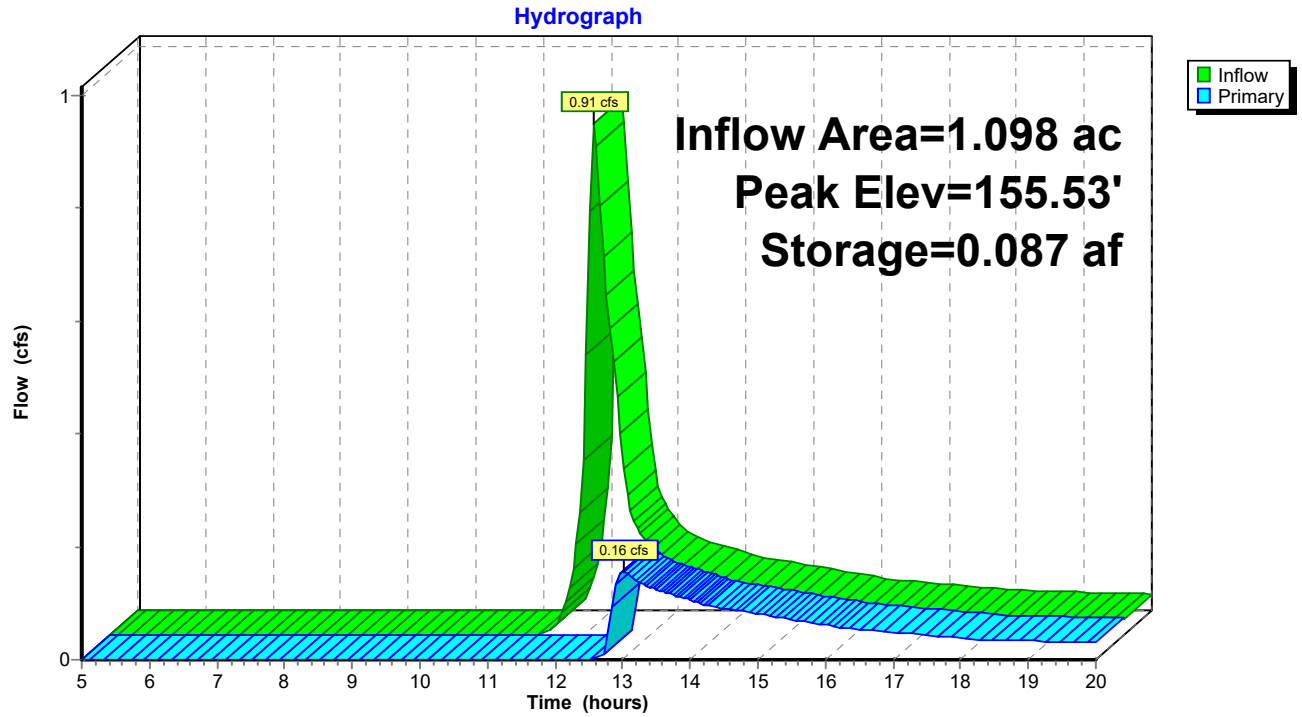
Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 92.9 min (924.2 - 831.3)

Volume	Invert	Avail.Storage	Storage Description
#1	152.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.14 cfs @ 13.01 hrs HW=155.53' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.14 cfs @ 0.42 fps)

Pond 2P: (new Pond)



Summary for Pond 3P: (new Pond)

Inflow Area = 1.683 ac, 0.00% Impervious, Inflow Depth > 0.94" for 2 year event
Inflow = 1.63 cfs @ 12.16 hrs, Volume= 0.131 af
Outflow = 0.36 cfs @ 12.71 hrs, Volume= 0.073 af, Atten= 78%, Lag= 33.2 min
Primary = 0.36 cfs @ 12.71 hrs, Volume= 0.073 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 150.50' Surf.Area= 0.030 ac Storage= 0.033 af
Peak Elev= 152.06' @ 12.71 hrs Surf.Area= 0.049 ac Storage= 0.094 af (0.061 af above start)

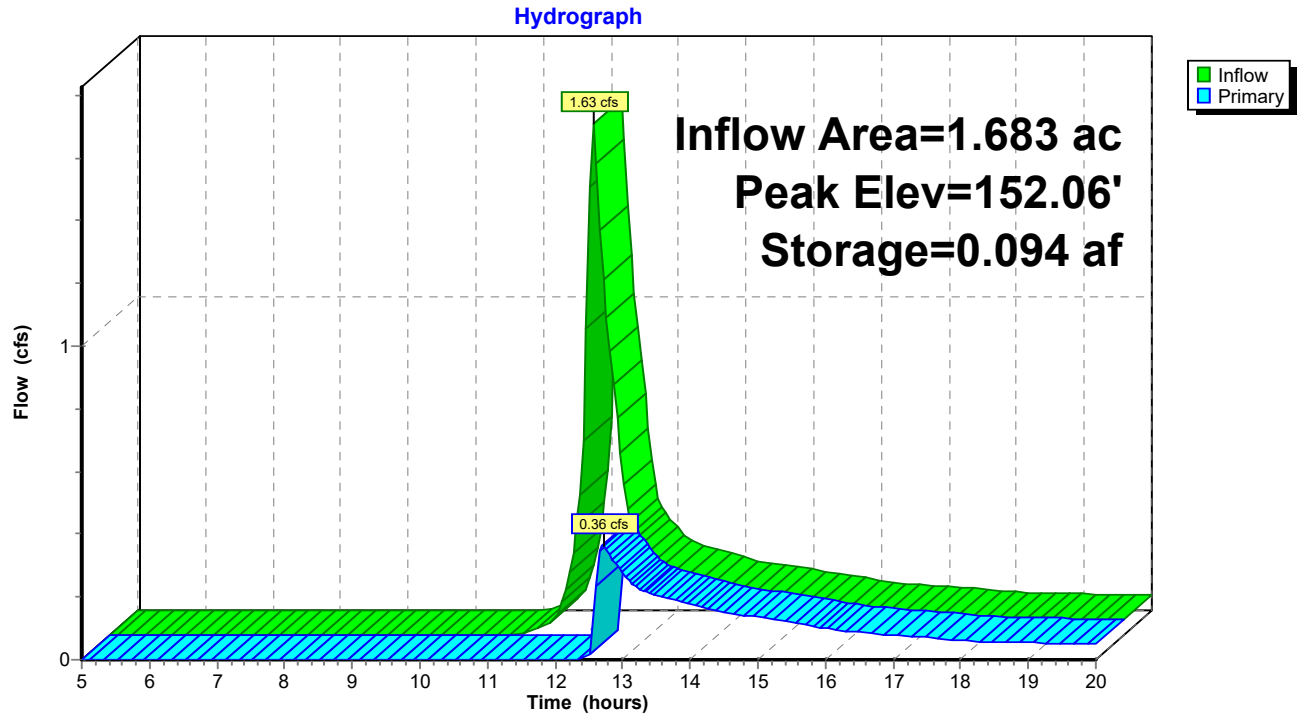
Plug-Flow detention time= 270.2 min calculated for 0.040 af (30% of inflow)
Center-of-Mass det. time= 79.7 min (905.7 - 826.0)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	0.146 af	**15.00'W x 45.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.35 cfs @ 12.71 hrs HW=152.06' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.35 cfs @ 0.58 fps)

Pond 3P: (new Pond)



Summary for Pond 4P: (new Pond)

Inflow Area = 1.159 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2 year event
Inflow = 1.48 cfs @ 12.11 hrs, Volume= 0.106 af
Outflow = 1.00 cfs @ 12.25 hrs, Volume= 0.080 af, Atten= 32%, Lag= 7.9 min
Primary = 1.00 cfs @ 12.25 hrs, Volume= 0.080 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 148.50' Surf.Area= 0.021 ac Storage= 0.023 af
Peak Elev= 149.62' @ 12.25 hrs Surf.Area= 0.032 ac Storage= 0.053 af (0.030 af above start)

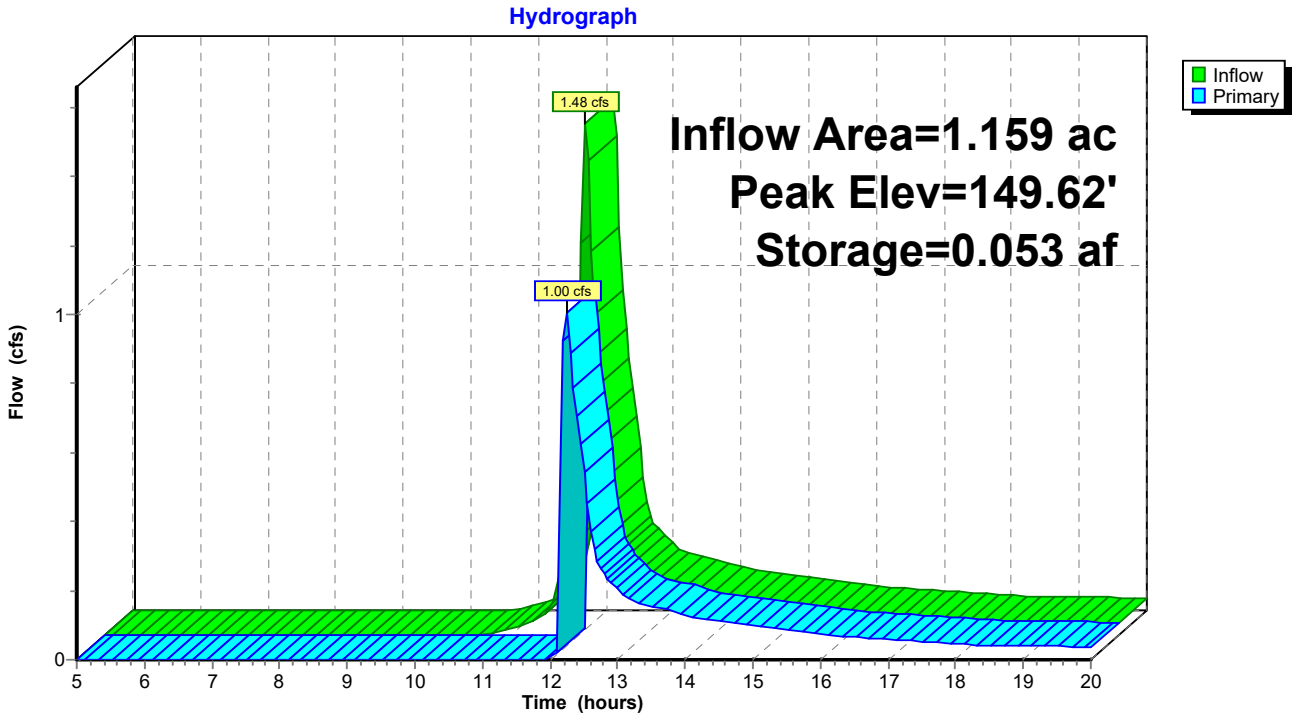
Plug-Flow detention time= 170.0 min calculated for 0.056 af (53% of inflow)
Center-of-Mass det. time= 36.1 min (853.2 - 817.0)

Volume	Invert	Avail.Storage	Storage Description
#1	147.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	149.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.99 cfs @ 12.25 hrs HW=149.62' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.99 cfs @ 0.81 fps)

Pond 4P: (new Pond)



Summary for Pond 5P: (new Pond)

Inflow Area = 2.483 ac, 1.61% Impervious, Inflow Depth > 1.16" for 2 year event
Inflow = 2.99 cfs @ 12.16 hrs, Volume= 0.240 af
Outflow = 0.81 cfs @ 12.64 hrs, Volume= 0.131 af, Atten= 73%, Lag= 28.4 min
Primary = 0.81 cfs @ 12.64 hrs, Volume= 0.131 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 148.61' @ 12.64 hrs Surf.Area= 0.064 ac Storage= 0.114 af

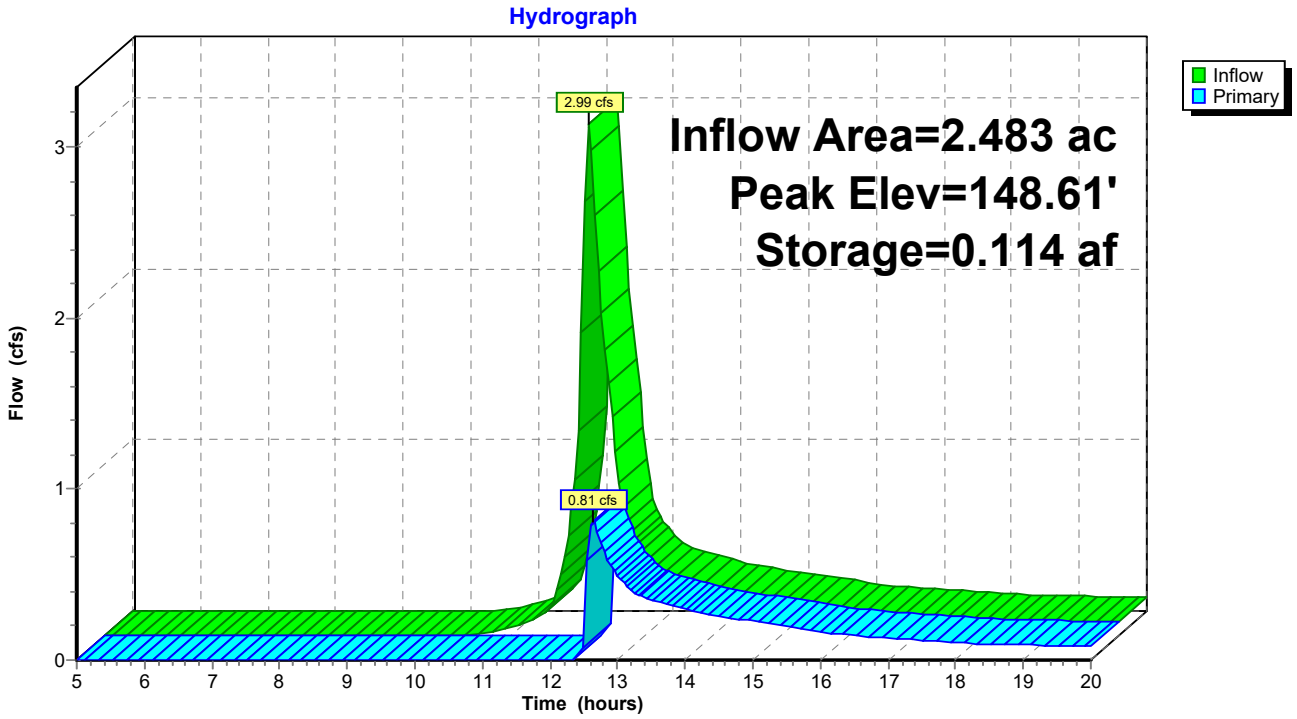
Plug-Flow detention time= 163.1 min calculated for 0.130 af (54% of inflow)
Center-of-Mass det. time= 79.0 min (896.5 - 817.5)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	0.220 af	**15.00'W x 75.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	148.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.80 cfs @ 12.64 hrs HW=148.61' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.80 cfs @ 0.76 fps)

Pond 5P: (new Pond)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=3.368 ac 0.59% Impervious Runoff Depth>3.45"
Flow Length=550' Slope=0.0200 '/' Tc=13.8 min CN=74 Runoff=11.34 cfs 0.967 af

Subcatchment2: Subcat 2 Runoff Area=1.098 ac 0.00% Impervious Runoff Depth>2.86"
Flow Length=350' Slope=0.0200 '/' Tc=10.5 min CN=68 Runoff=3.38 cfs 0.262 af

Subcatchment3: Subcat 3 Runoff Area=1.683 ac 0.00% Impervious Runoff Depth>3.06"
Flow Length=320' Slope=0.0200 '/' Tc=9.9 min CN=70 Runoff=5.62 cfs 0.429 af

Subcatchment4: Subcat 4 Runoff Area=1.159 ac 0.00% Impervious Runoff Depth>3.35"
Flow Length=320' Slope=0.0400 '/' Tc=7.3 min CN=73 Runoff=4.62 cfs 0.324 af

Subcatchment5: Subcat 5 Runoff Area=2.483 ac 1.61% Impervious Runoff Depth>3.45"
Flow Length=450' Tc=10.9 min CN=74 Runoff=9.09 cfs 0.714 af

Subcatchment6: Subcat 6 Runoff Area=0.937 ac 0.00% Impervious Runoff Depth>2.77"
Flow Length=250' Slope=0.0200 '/' Tc=8.8 min CN=67 Runoff=2.91 cfs 0.216 af

Pond 1P: (new Pond) Peak Elev=153.87' Storage=0.291 af Inflow=11.34 cfs 0.967 af
Outflow=11.11 cfs 0.867 af

Pond 2P: (new Pond) Peak Elev=155.76' Storage=0.097 af Inflow=3.38 cfs 0.262 af
Outflow=3.25 cfs 0.225 af

Pond 3P: (new Pond) Peak Elev=152.37' Storage=0.109 af Inflow=5.62 cfs 0.429 af
Outflow=5.46 cfs 0.370 af

Pond 4P: (new Pond) Peak Elev=149.82' Storage=0.060 af Inflow=4.62 cfs 0.324 af
Outflow=4.46 cfs 0.297 af

Pond 5P: (new Pond) Peak Elev=148.99' Storage=0.140 af Inflow=9.09 cfs 0.714 af
Outflow=8.77 cfs 0.604 af

Total Runoff Area = 10.728 ac Runoff Volume = 2.912 af Average Runoff Depth = 3.26"
99.44% Pervious = 10.668 ac 0.56% Impervious = 0.060 ac

Summary for Subcatchment 1: Subcat 1

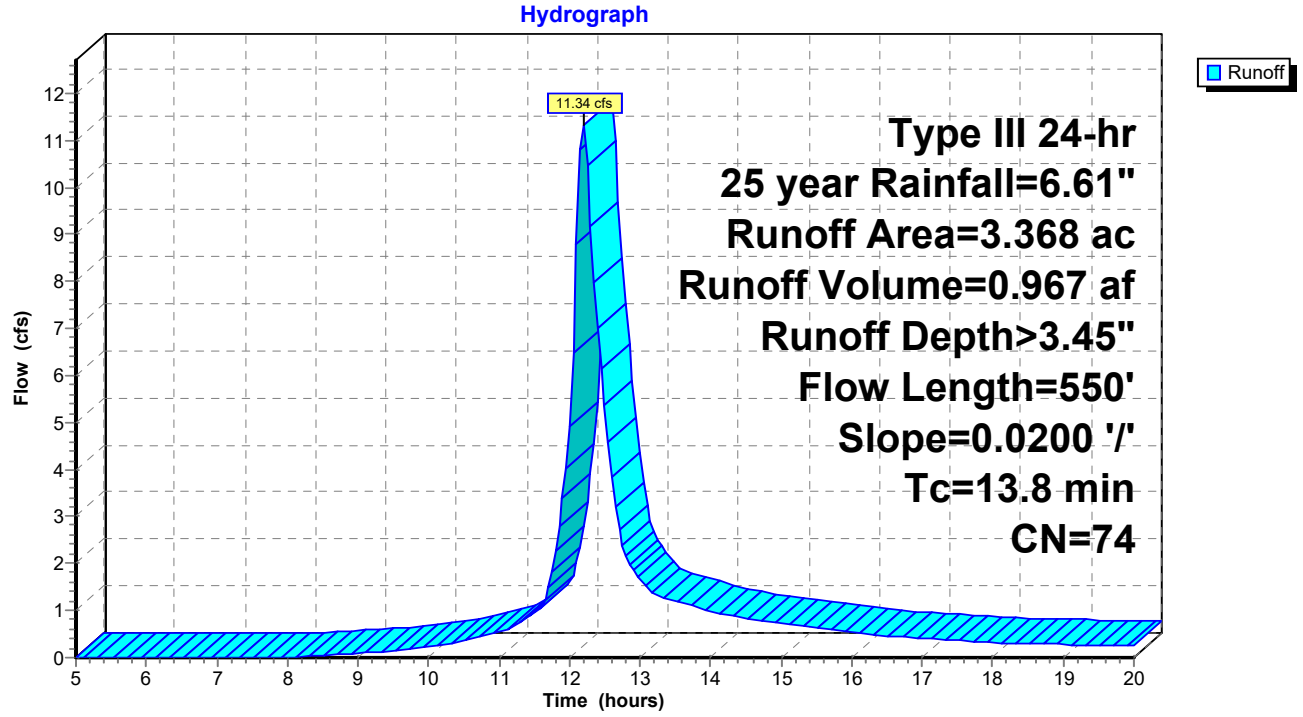
Runoff = 11.34 cfs @ 12.19 hrs, Volume= 0.967 af, Depth> 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.61"

	Area (ac)	CN	Description
	0.478	61	>75% Grass cover, Good, HSG B
	0.228	74	>75% Grass cover, Good, HSG C
*	1.772	74	50-75% Grass cover, Fair, HSG B-C
	0.070	96	Gravel surface, HSG B
*	0.020	98	Equipment pad
*	0.800	81	Row crops, straight row, Good, HSG B-C
	3.368	74	Weighted Average
	3.348		99.41% Pervious Area
	0.020		0.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
8.4	500	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.8	550	Total			

Subcatchment 1: Subcat 1



Summary for Subcatchment 2: Subcat 2

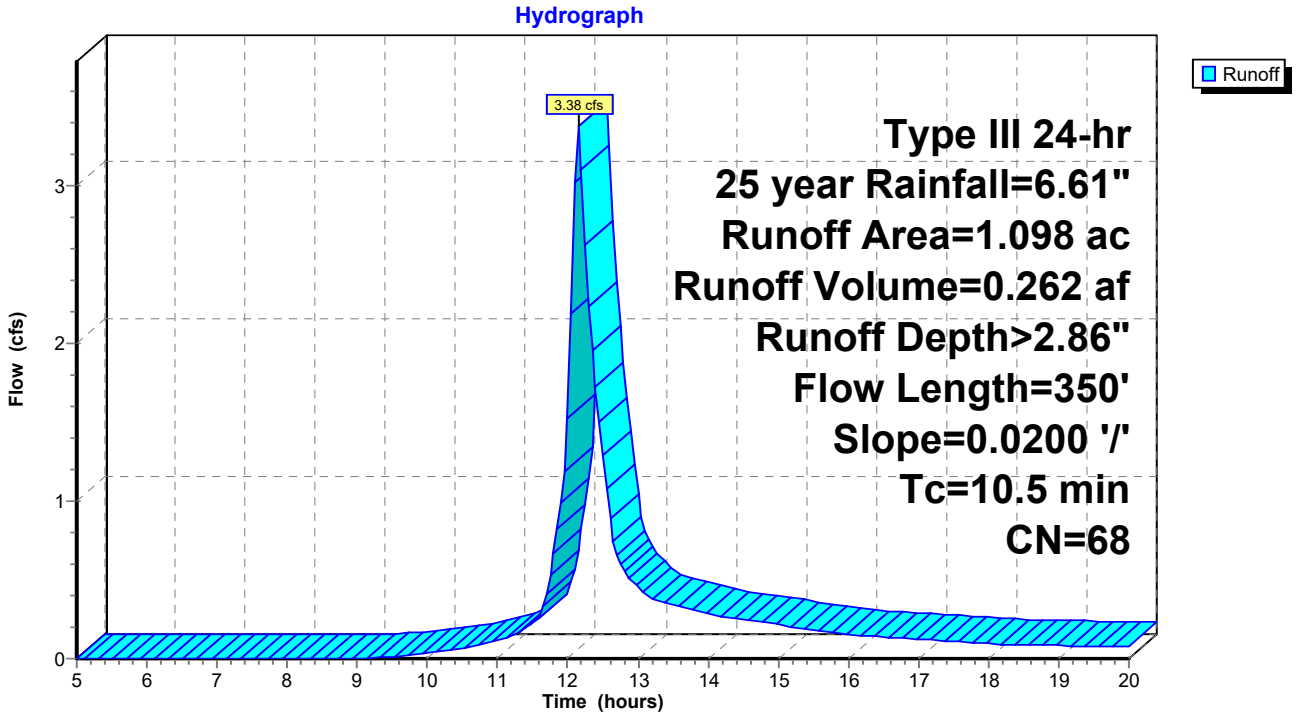
Runoff = 3.38 cfs @ 12.15 hrs, Volume= 0.262 af, Depth> 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.61"

	Area (ac)	CN	Description
	0.605	61	>75% Grass cover, Good, HSG B
*	0.303	74	50-75% Grass cover, Fair, HSG B-C
*	0.190	81	Row crops, straight row, Good, HSG B-C
	1.098	68	Weighted Average
	1.098		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	350	Total			

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

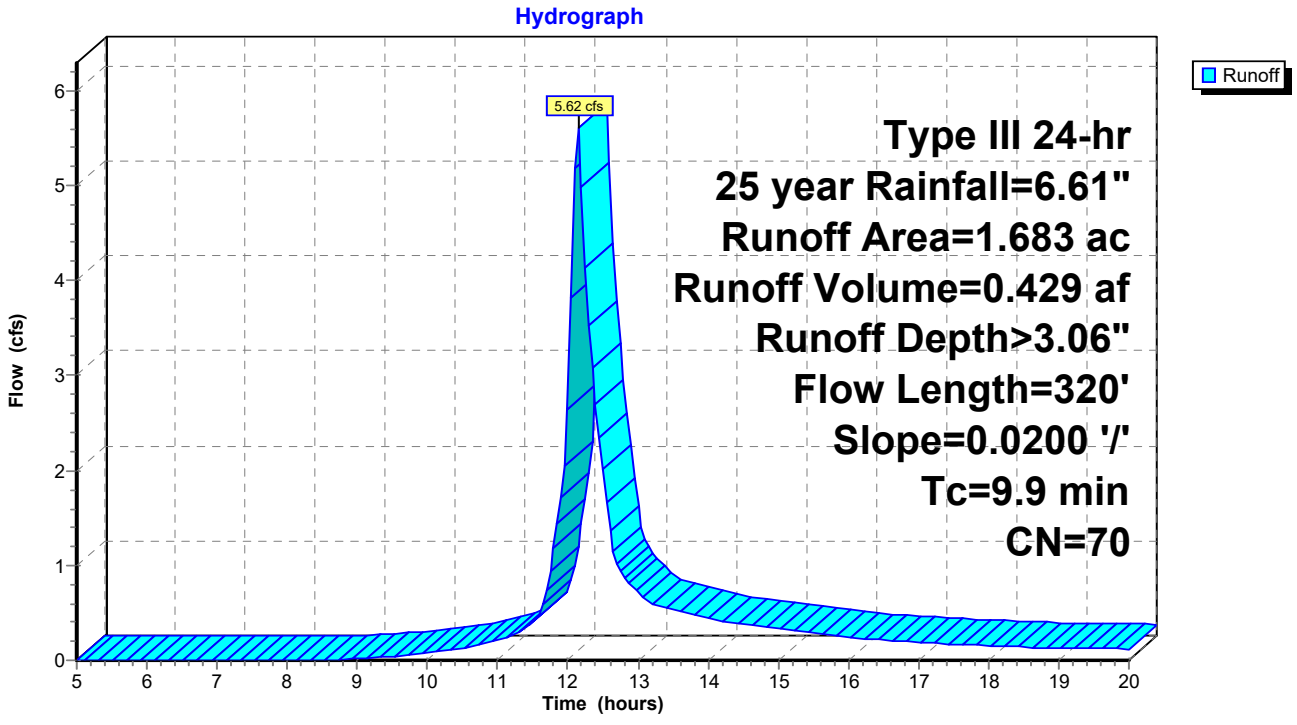
Runoff = 5.62 cfs @ 12.15 hrs, Volume= 0.429 af, Depth> 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.61"

	Area (ac)	CN	Description
*	0.490	74	50-75% Grass cover, Fair, HSG B-C
	0.075	96	Gravel surface, HSG B
	0.798	61	>75% Grass cover, Good, HSG B
*	0.320	81	Row crops, straight row, Good, HSG B-C
	1.683	70	Weighted Average
	1.683		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
4.5	270	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.9	320	Total			

Subcatchment 3: Subcat 3



Summary for Subcatchment 4: Subcat 4

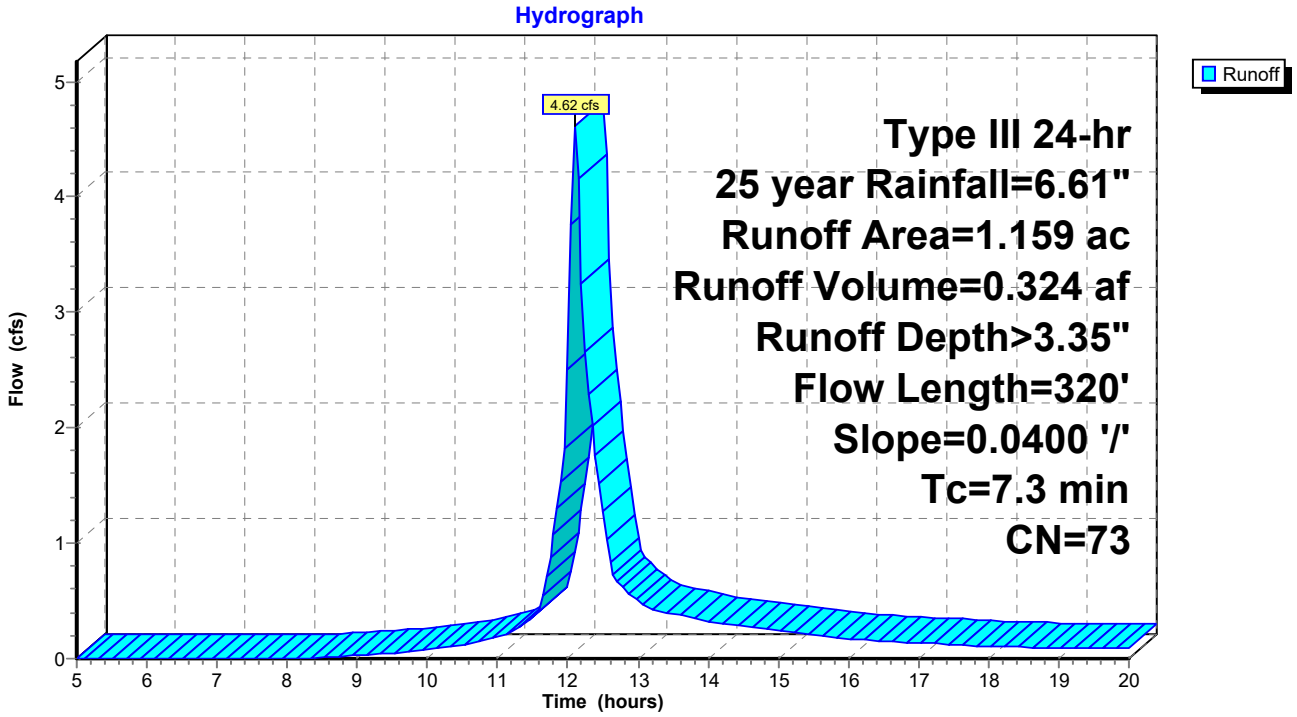
Runoff = 4.62 cfs @ 12.11 hrs, Volume= 0.324 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.61"

	Area (ac)	CN	Description
	0.263	61	>75% Grass cover, Good, HSG B
*	0.546	74	50-75% Grass cover, Fair, HSG B-C
*	0.350	81	Row crops, straight row, Good, HSG B-C
	1.159	73	Weighted Average
	1.159		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.0400	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.2	270	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	320	Total			

Subcatchment 4: Subcat 4



Summary for Subcatchment 5: Subcat 5

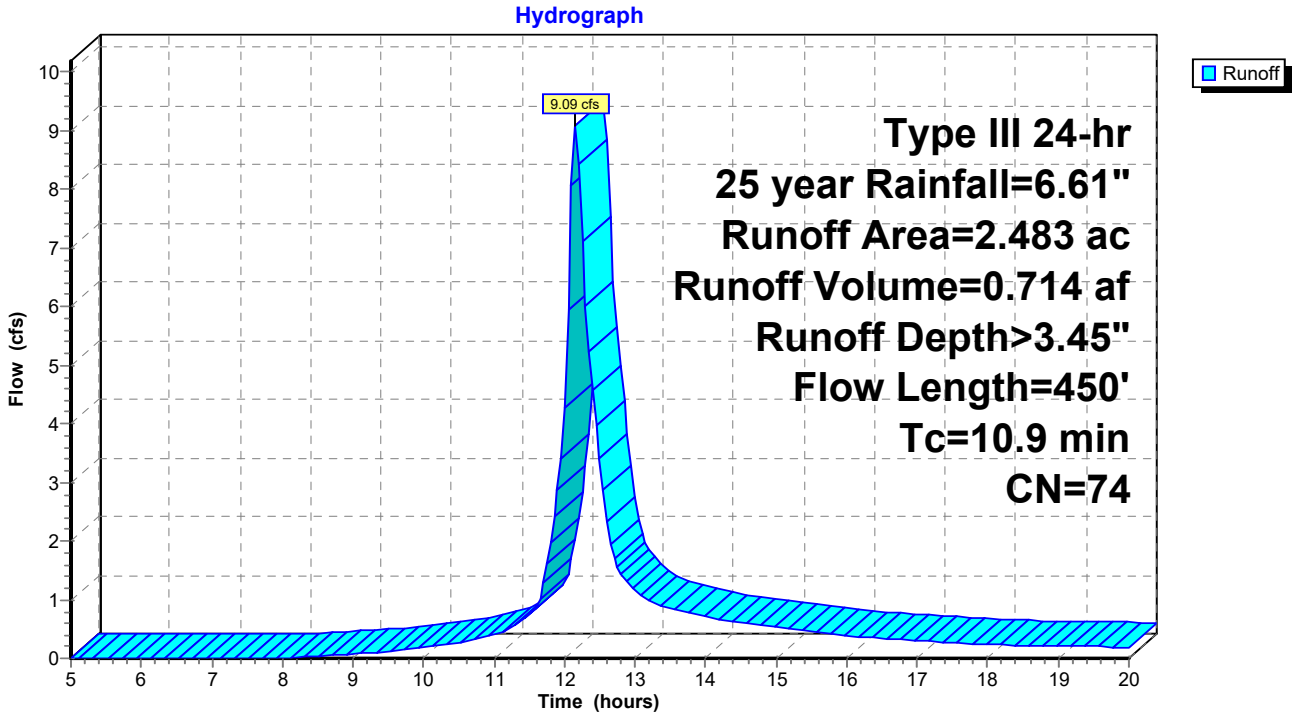
Runoff = 9.09 cfs @ 12.16 hrs, Volume= 0.714 af, Depth> 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.61"

	Area (ac)	CN	Description
	0.713	61	>75% Grass cover, Good, HSG B
	0.122	96	Gravel surface, HSG B
*	0.040	98	Equipment pad
*	0.924	74	50-75% Grass cover, Fair, HSG B-C
	0.164	80	>75% Grass cover, Good, HSG D
*	0.520	81	Row crops, straight row, Good, HSG B-C
	2.483	74	Weighted Average
	2.443		98.39% Pervious Area
	0.040		1.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	200	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.9	450	Total			

Subcatchment 5: Subcat 5



Summary for Subcatchment 6: Subcat 6

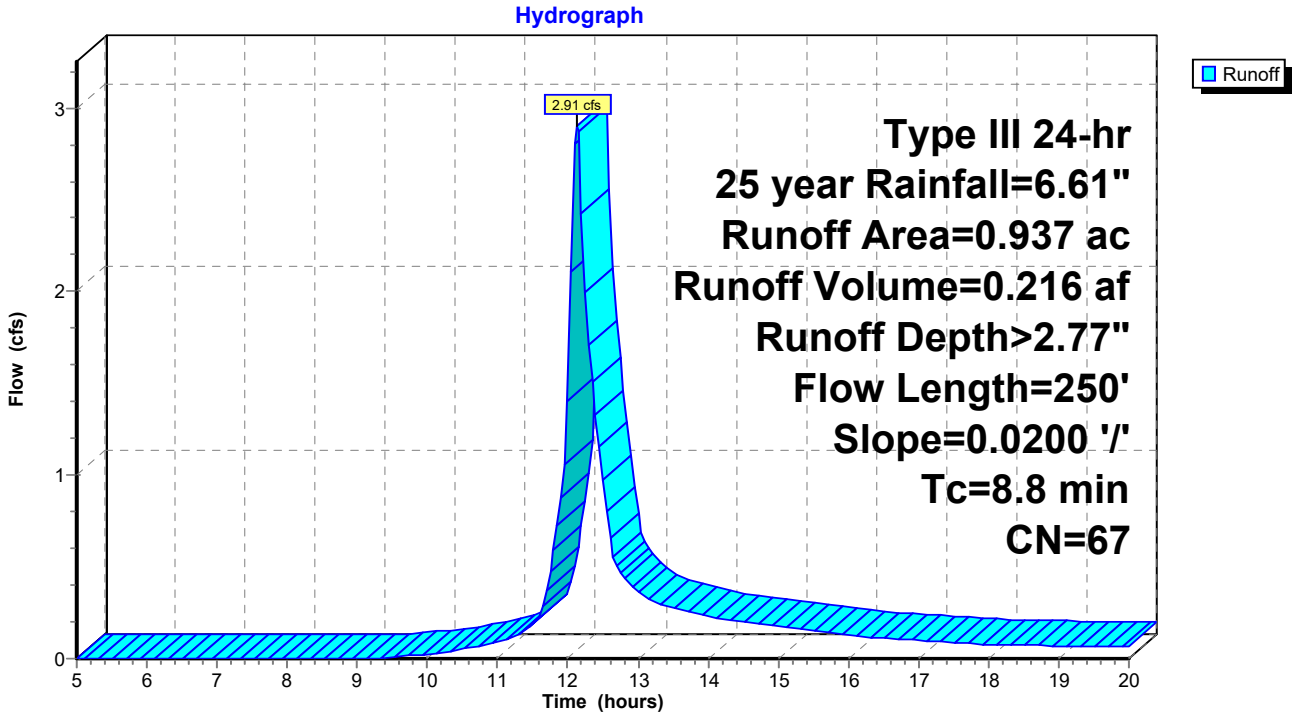
Runoff = 2.91 cfs @ 12.13 hrs, Volume= 0.216 af, Depth> 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.61"

	Area (ac)	CN	Description
*	0.235	74	50-75% Grass cover, Fair, HSG B-C
	0.572	61	>75% Grass cover, Good, HSG B
*	0.130	81	Row crops, straight row, Good, HSG B-C
	0.937	67	Weighted Average
	0.937		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	250	Total			

Subcatchment 6: Subcat 6



Summary for Pond 1P: (new Pond)

Inflow Area = 3.368 ac, 0.59% Impervious, Inflow Depth > 3.45" for 25 year event
Inflow = 11.34 cfs @ 12.19 hrs, Volume= 0.967 af
Outflow = 11.11 cfs @ 12.22 hrs, Volume= 0.867 af, Atten= 2%, Lag= 1.8 min
Primary = 11.11 cfs @ 12.22 hrs, Volume= 0.867 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 152.50' Surf.Area= 0.086 ac Storage= 0.153 af
Peak Elev= 153.87' @ 12.22 hrs Surf.Area= 0.117 ac Storage= 0.291 af (0.139 af above start)

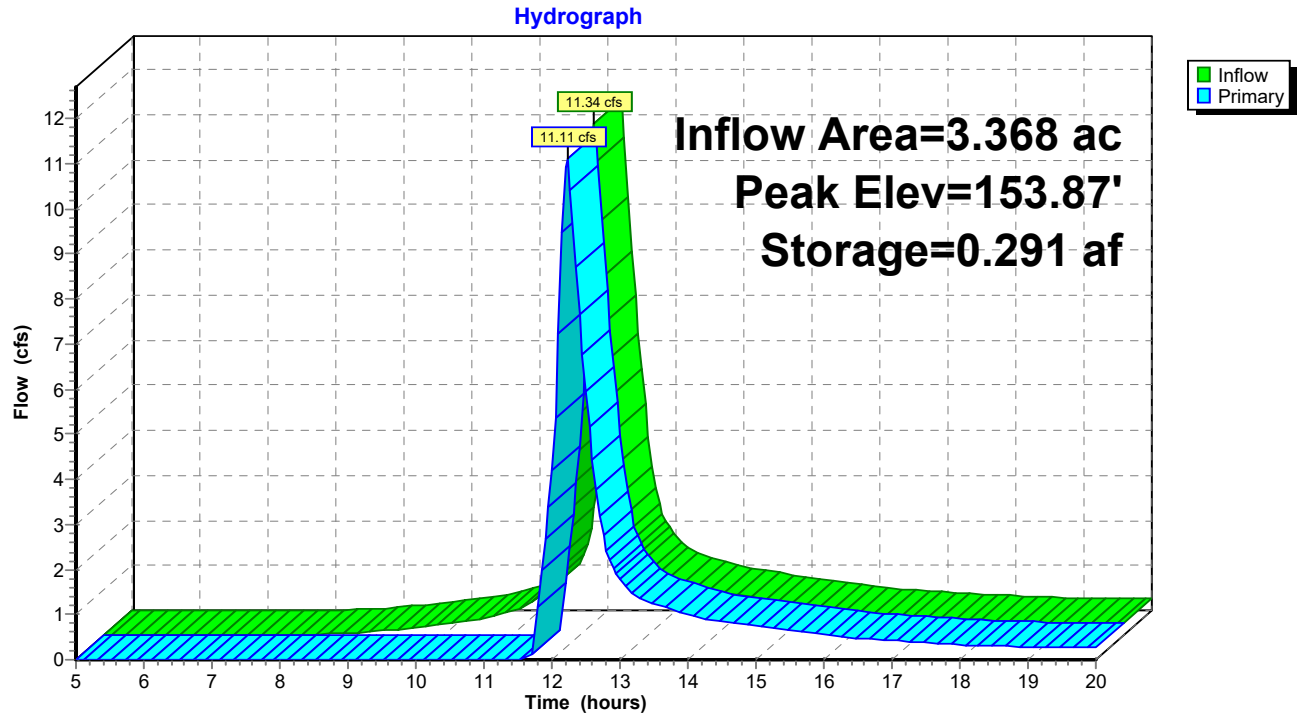
Plug-Flow detention time= 101.6 min calculated for 0.714 af (74% of inflow)
Center-of-Mass det. time= 19.7 min (815.0 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	0.307 af	**15.00'W x 110.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	153.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=10.90 cfs @ 12.22 hrs HW=153.87' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 10.90 cfs @ 1.49 fps)

Pond 1P: (new Pond)



Summary for Pond 2P: (new Pond)

Inflow Area = 1.098 ac, 0.00% Impervious, Inflow Depth > 2.86" for 25 year event
Inflow = 3.38 cfs @ 12.15 hrs, Volume= 0.262 af
Outflow = 3.25 cfs @ 12.19 hrs, Volume= 0.225 af, Atten= 4%, Lag= 2.0 min
Primary = 3.25 cfs @ 12.19 hrs, Volume= 0.225 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 154.50' Surf.Area= 0.031 ac Storage= 0.050 af
Peak Elev= 155.76' @ 12.19 hrs Surf.Area= 0.045 ac Storage= 0.097 af (0.048 af above start)

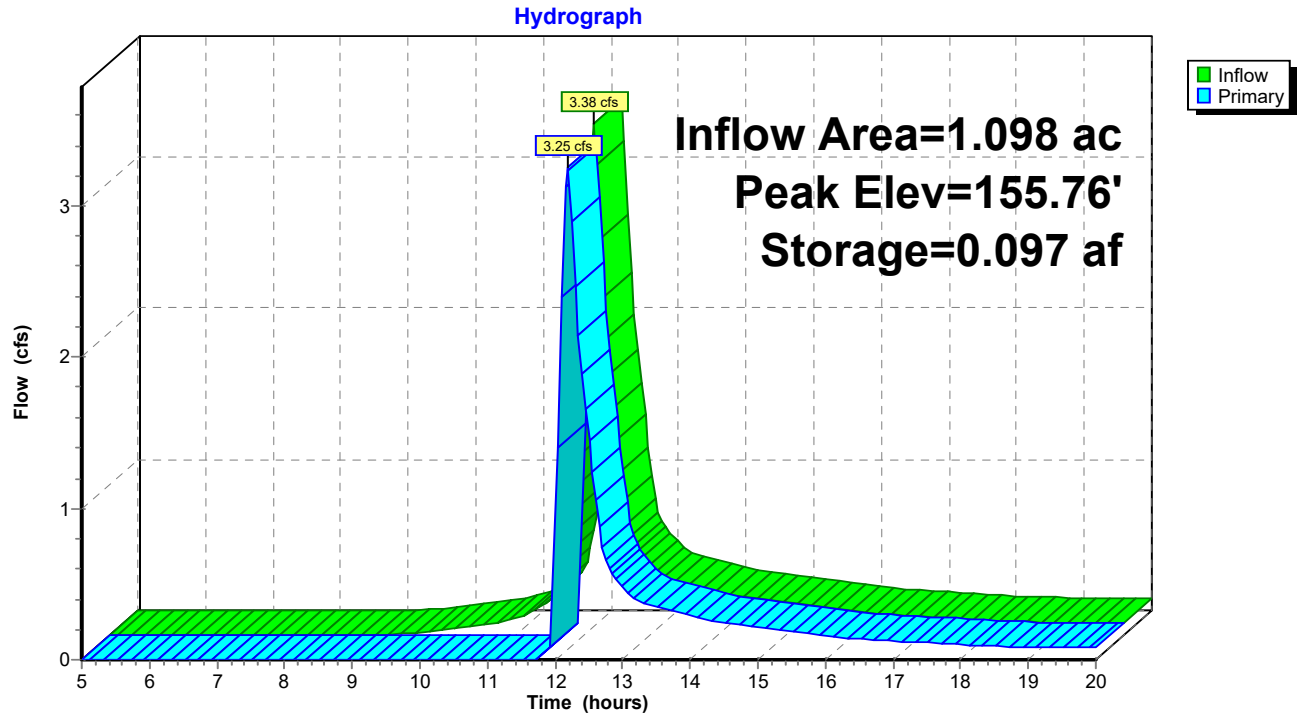
Plug-Flow detention time= 121.0 min calculated for 0.175 af (67% of inflow)
Center-of-Mass det. time= 21.9 min (825.4 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	152.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.20 cfs @ 12.19 hrs HW=155.76' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 3.20 cfs @ 1.22 fps)

Pond 2P: (new Pond)



Summary for Pond 3P: (new Pond)

Inflow Area = 1.683 ac, 0.00% Impervious, Inflow Depth > 3.06" for 25 year event
Inflow = 5.62 cfs @ 12.15 hrs, Volume= 0.429 af
Outflow = 5.46 cfs @ 12.17 hrs, Volume= 0.370 af, Atten= 3%, Lag= 1.6 min
Primary = 5.46 cfs @ 12.17 hrs, Volume= 0.370 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 150.50' Surf.Area= 0.030 ac Storage= 0.033 af
Peak Elev= 152.37' @ 12.17 hrs Surf.Area= 0.053 ac Storage= 0.109 af (0.076 af above start)

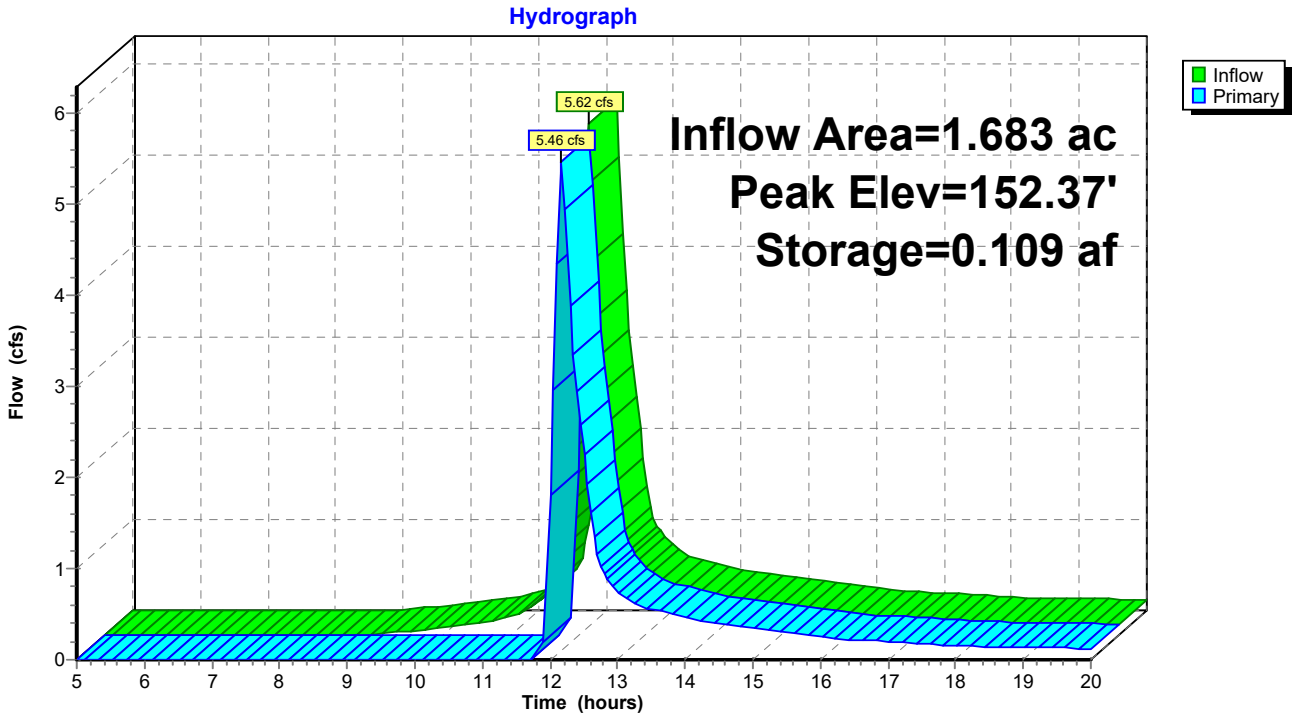
Plug-Flow detention time= 87.2 min calculated for 0.335 af (78% of inflow)
Center-of-Mass det. time= 22.0 min (821.5 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	0.146 af	**15.00'W x 45.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=5.32 cfs @ 12.17 hrs HW=152.36' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 5.32 cfs @ 1.48 fps)

Pond 3P: (new Pond)



Summary for Pond 4P: (new Pond)

Inflow Area = 1.159 ac, 0.00% Impervious, Inflow Depth > 3.35" for 25 year event
Inflow = 4.62 cfs @ 12.11 hrs, Volume= 0.324 af
Outflow = 4.46 cfs @ 12.13 hrs, Volume= 0.297 af, Atten= 3%, Lag= 1.4 min
Primary = 4.46 cfs @ 12.13 hrs, Volume= 0.297 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 148.50' Surf.Area= 0.021 ac Storage= 0.023 af
Peak Elev= 149.82' @ 12.13 hrs Surf.Area= 0.034 ac Storage= 0.060 af (0.037 af above start)

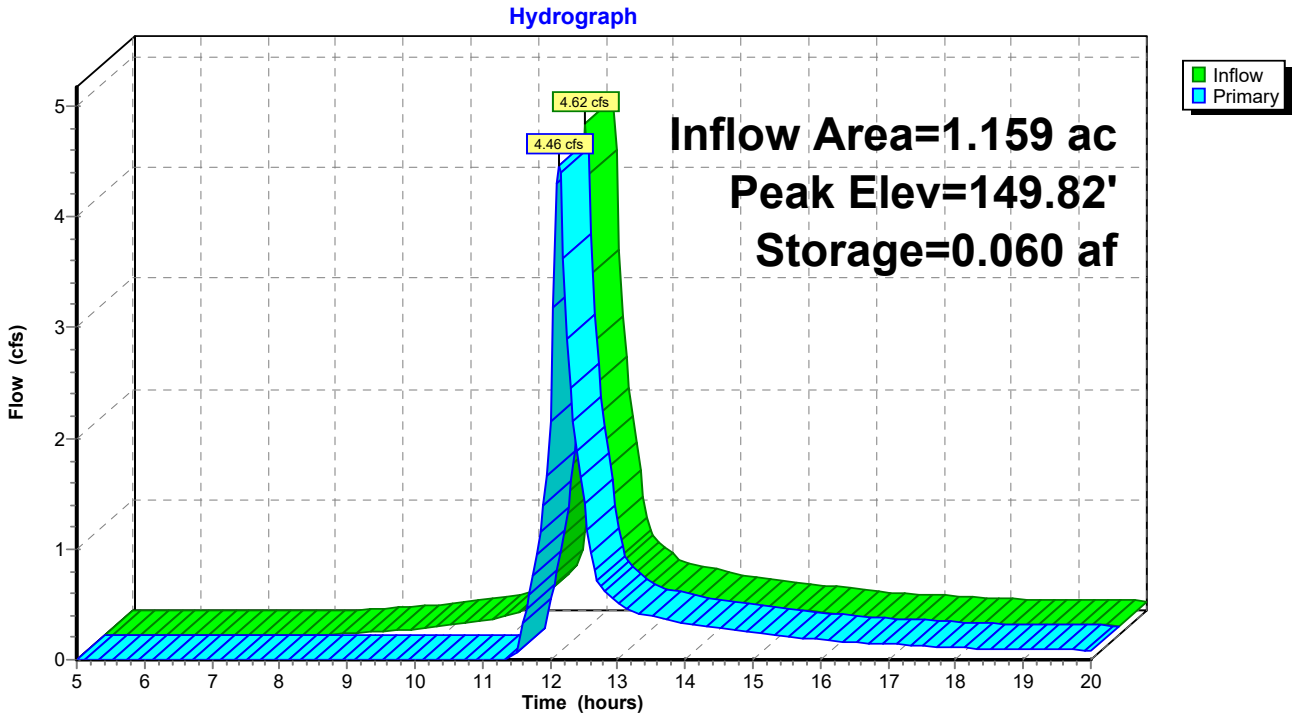
Plug-Flow detention time= 68.9 min calculated for 0.273 af (84% of inflow)
Center-of-Mass det. time= 15.7 min (807.8 - 792.1)

Volume	Invert	Avail.Storage	Storage Description
#1	147.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	149.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=4.35 cfs @ 12.13 hrs HW=149.82' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 4.35 cfs @ 1.37 fps)

Pond 4P: (new Pond)



Summary for Pond 5P: (new Pond)

Inflow Area = 2.483 ac, 1.61% Impervious, Inflow Depth > 3.45" for 25 year event
Inflow = 9.09 cfs @ 12.16 hrs, Volume= 0.714 af
Outflow = 8.77 cfs @ 12.19 hrs, Volume= 0.604 af, Atten= 4%, Lag= 2.0 min
Primary = 8.77 cfs @ 12.19 hrs, Volume= 0.604 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 148.99' @ 12.19 hrs Surf.Area= 0.070 ac Storage= 0.140 af

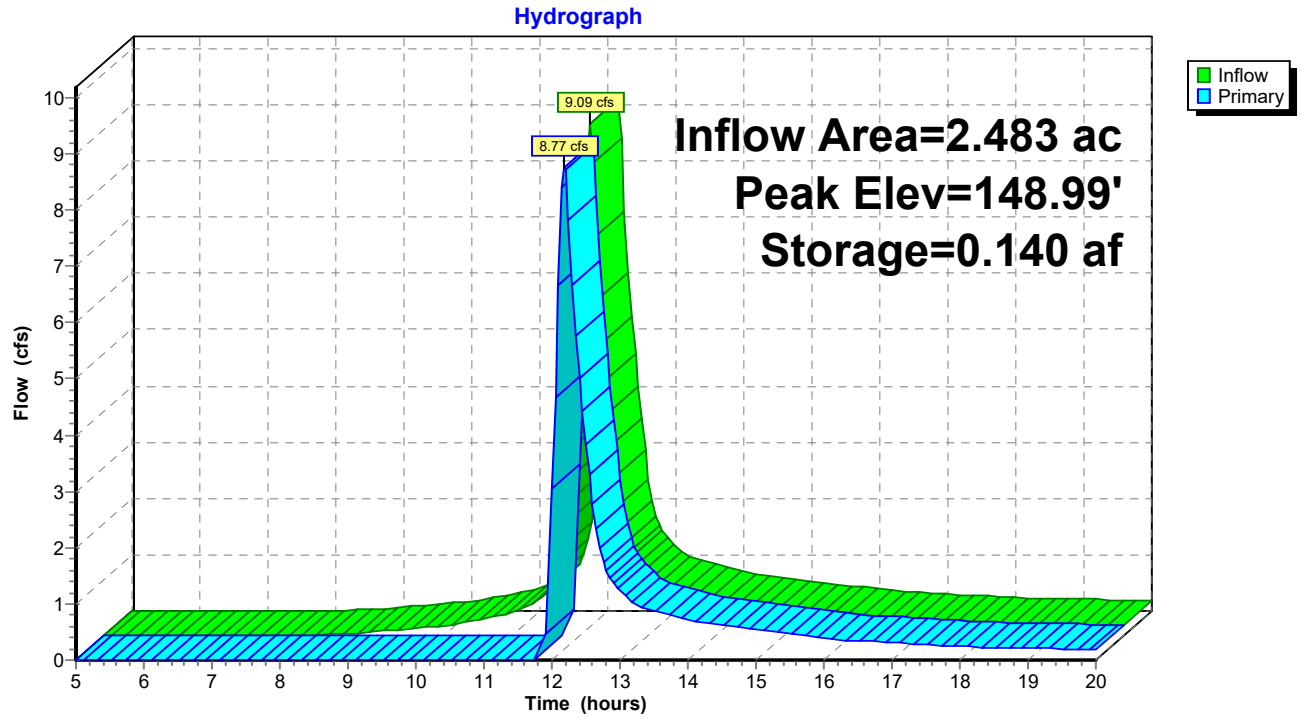
Plug-Flow detention time= 69.8 min calculated for 0.604 af (85% of inflow)
Center-of-Mass det. time= 25.7 min (818.8 - 793.1)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	0.220 af	**15.00'W x 75.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	148.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=8.64 cfs @ 12.19 hrs HW=148.98' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 8.64 cfs @ 1.79 fps)

Pond 5P: (new Pond)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=3.368 ac 0.59% Impervious Runoff Depth>4.17"
Flow Length=550' Slope=0.0200 '/' Tc=13.8 min CN=74 Runoff=13.69 cfs 1.171 af

Subcatchment2: Subcat 2 Runoff Area=1.098 ac 0.00% Impervious Runoff Depth>3.54"
Flow Length=350' Slope=0.0200 '/' Tc=10.5 min CN=68 Runoff=4.17 cfs 0.323 af

Subcatchment3: Subcat 3 Runoff Area=1.683 ac 0.00% Impervious Runoff Depth>3.75"
Flow Length=320' Slope=0.0200 '/' Tc=9.9 min CN=70 Runoff=6.88 cfs 0.526 af

Subcatchment4: Subcat 4 Runoff Area=1.159 ac 0.00% Impervious Runoff Depth>4.07"
Flow Length=320' Slope=0.0400 '/' Tc=7.3 min CN=73 Runoff=5.59 cfs 0.393 af

Subcatchment5: Subcat 5 Runoff Area=2.483 ac 1.61% Impervious Runoff Depth>4.18"
Flow Length=450' Tc=10.9 min CN=74 Runoff=10.97 cfs 0.864 af

Subcatchment6: Subcat 6 Runoff Area=0.937 ac 0.00% Impervious Runoff Depth>3.43"
Flow Length=250' Slope=0.0200 '/' Tc=8.8 min CN=67 Runoff=3.61 cfs 0.268 af

Pond 1P: (new Pond) Peak Elev=153.91' Storage=0.297 af Inflow=13.69 cfs 1.171 af
Outflow=13.46 cfs 1.071 af

Pond 2P: (new Pond) Peak Elev=155.80' Storage=0.099 af Inflow=4.17 cfs 0.323 af
Outflow=4.03 cfs 0.286 af

Pond 3P: (new Pond) Peak Elev=152.41' Storage=0.112 af Inflow=6.88 cfs 0.526 af
Outflow=6.72 cfs 0.467 af

Pond 4P: (new Pond) Peak Elev=149.86' Storage=0.061 af Inflow=5.59 cfs 0.393 af
Outflow=5.41 cfs 0.367 af

Pond 5P: (new Pond) Peak Elev=149.04' Storage=0.144 af Inflow=10.97 cfs 0.864 af
Outflow=10.61 cfs 0.754 af

Total Runoff Area = 10.728 ac Runoff Volume = 3.546 af Average Runoff Depth = 3.97"
99.44% Pervious = 10.668 ac 0.56% Impervious = 0.060 ac

Summary for Subcatchment 1: Subcat 1

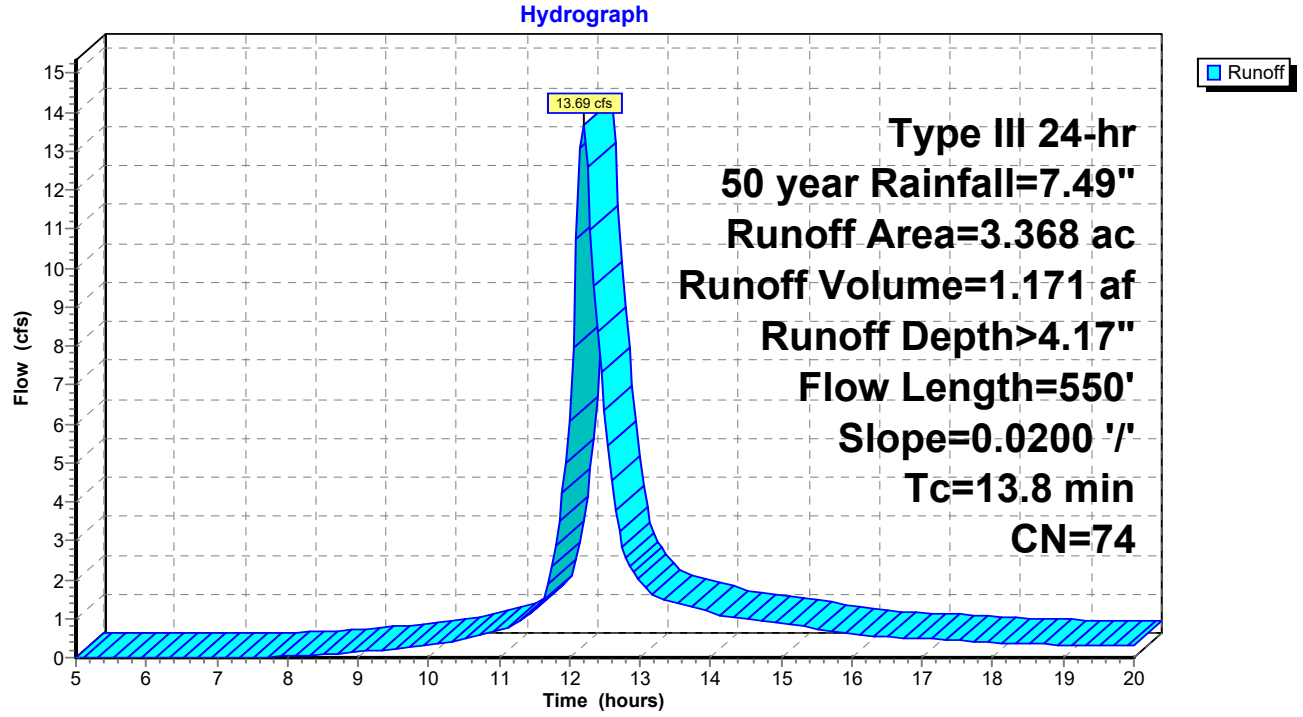
Runoff = 13.69 cfs @ 12.19 hrs, Volume= 1.171 af, Depth> 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 year Rainfall=7.49"

	Area (ac)	CN	Description
	0.478	61	>75% Grass cover, Good, HSG B
	0.228	74	>75% Grass cover, Good, HSG C
*	1.772	74	50-75% Grass cover, Fair, HSG B-C
	0.070	96	Gravel surface, HSG B
*	0.020	98	Equipment pad
*	0.800	81	Row crops, straight row, Good, HSG B-C
	3.368	74	Weighted Average
	3.348		99.41% Pervious Area
	0.020		0.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
8.4	500	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.8	550	Total			

Subcatchment 1: Subcat 1



Summary for Subcatchment 2: Subcat 2

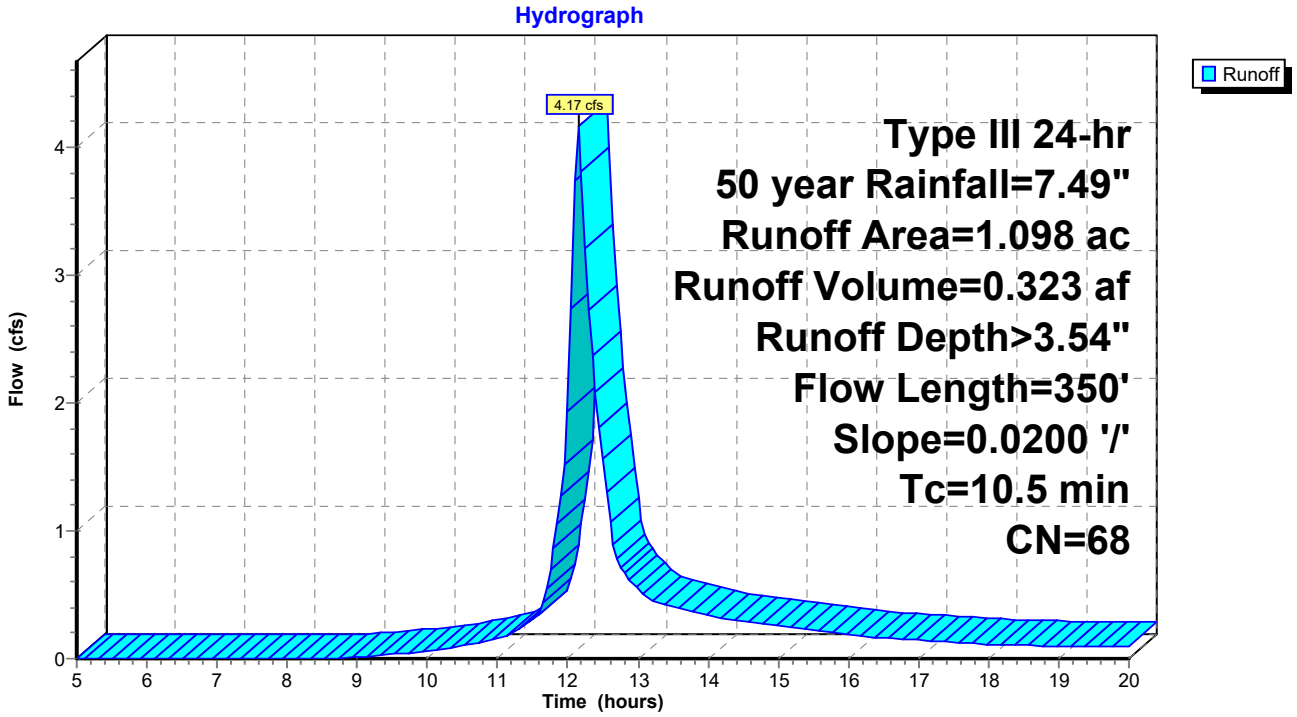
Runoff = 4.17 cfs @ 12.15 hrs, Volume= 0.323 af, Depth> 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 year Rainfall=7.49"

	Area (ac)	CN	Description
	0.605	61	>75% Grass cover, Good, HSG B
*	0.303	74	50-75% Grass cover, Fair, HSG B-C
*	0.190	81	Row crops, straight row, Good, HSG B-C
	1.098	68	Weighted Average
	1.098		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	350	Total			

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

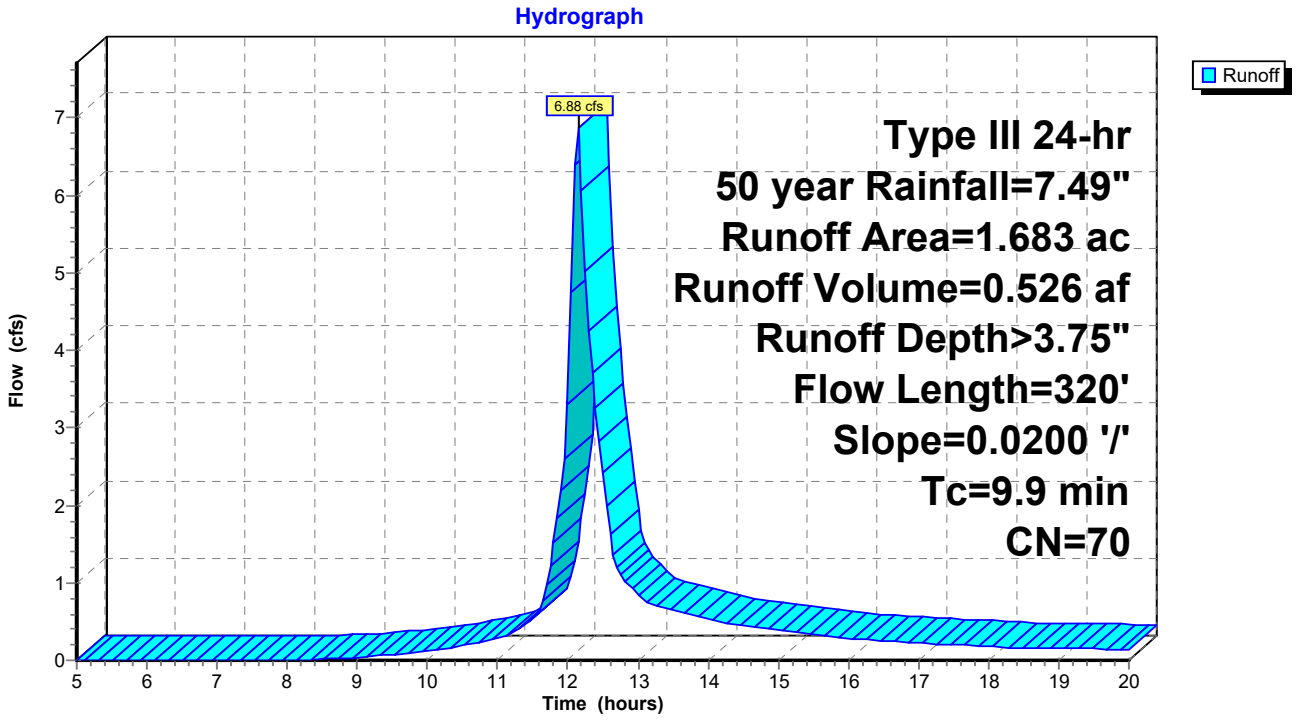
Runoff = 6.88 cfs @ 12.14 hrs, Volume= 0.526 af, Depth> 3.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 year Rainfall=7.49"

	Area (ac)	CN	Description
*	0.490	74	50-75% Grass cover, Fair, HSG B-C
	0.075	96	Gravel surface, HSG B
	0.798	61	>75% Grass cover, Good, HSG B
*	0.320	81	Row crops, straight row, Good, HSG B-C
	1.683	70	Weighted Average
	1.683		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
4.5	270	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.9	320	Total			

Subcatchment 3: Subcat 3



Summary for Subcatchment 4: Subcat 4

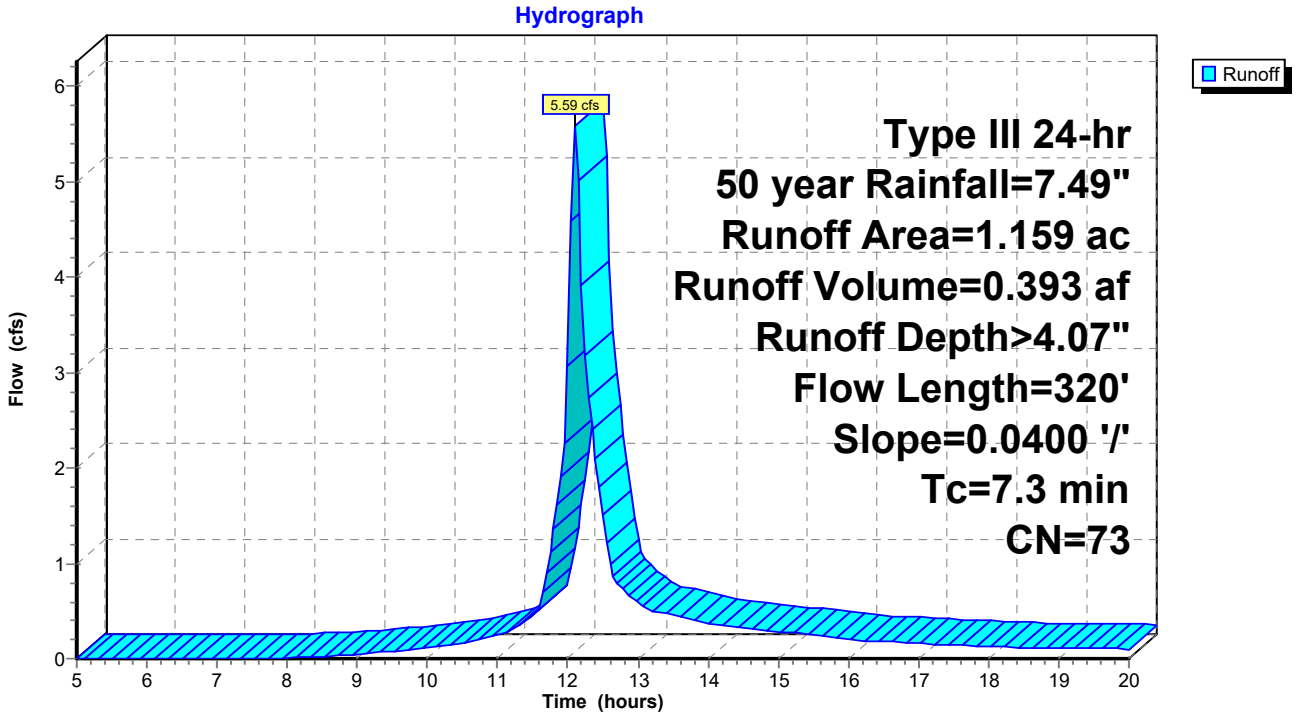
Runoff = 5.59 cfs @ 12.11 hrs, Volume= 0.393 af, Depth> 4.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 year Rainfall=7.49"

	Area (ac)	CN	Description
	0.263	61	>75% Grass cover, Good, HSG B
*	0.546	74	50-75% Grass cover, Fair, HSG B-C
*	0.350	81	Row crops, straight row, Good, HSG B-C
	1.159	73	Weighted Average
	1.159		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.0400	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.2	270	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	320	Total			

Subcatchment 4: Subcat 4



Summary for Subcatchment 5: Subcat 5

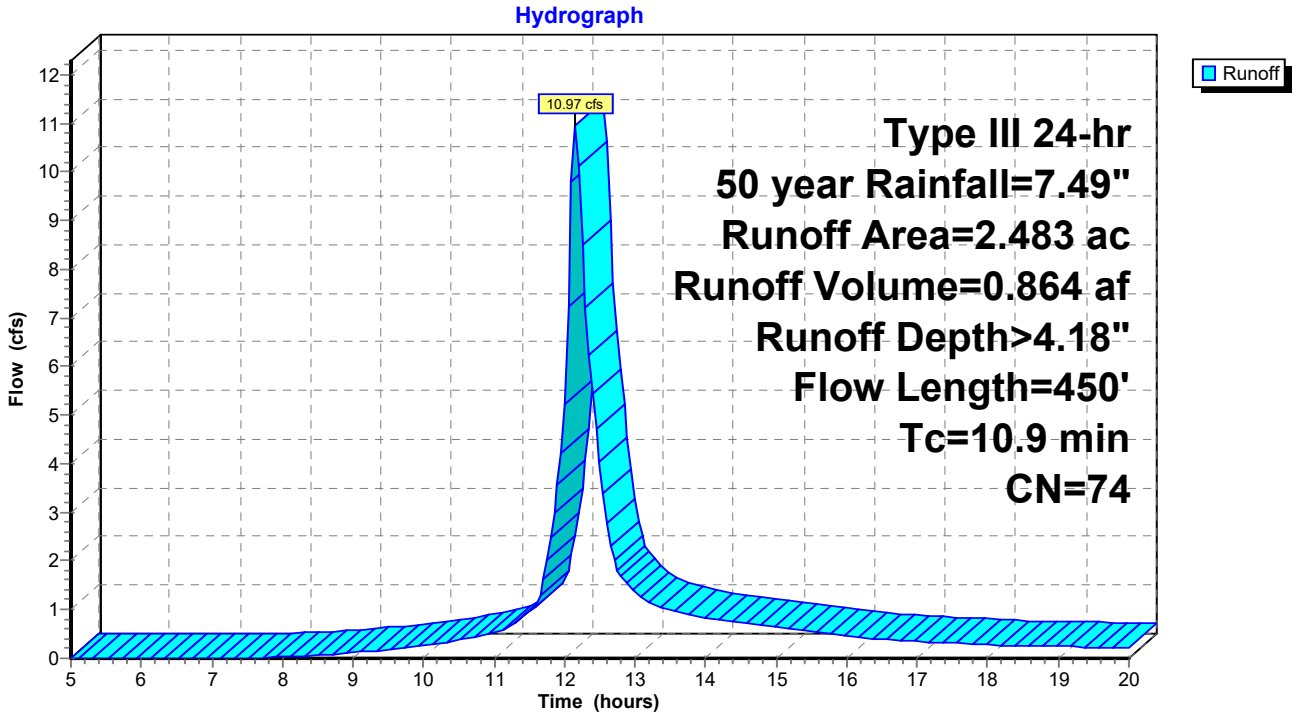
Runoff = 10.97 cfs @ 12.15 hrs, Volume= 0.864 af, Depth> 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 year Rainfall=7.49"

	Area (ac)	CN	Description
	0.713	61	>75% Grass cover, Good, HSG B
	0.122	96	Gravel surface, HSG B
*	0.040	98	Equipment pad
*	0.924	74	50-75% Grass cover, Fair, HSG B-C
	0.164	80	>75% Grass cover, Good, HSG D
*	0.520	81	Row crops, straight row, Good, HSG B-C
	2.483	74	Weighted Average
	2.443		98.39% Pervious Area
	0.040		1.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	200	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.9	450	Total			

Subcatchment 5: Subcat 5



Summary for Subcatchment 6: Subcat 6

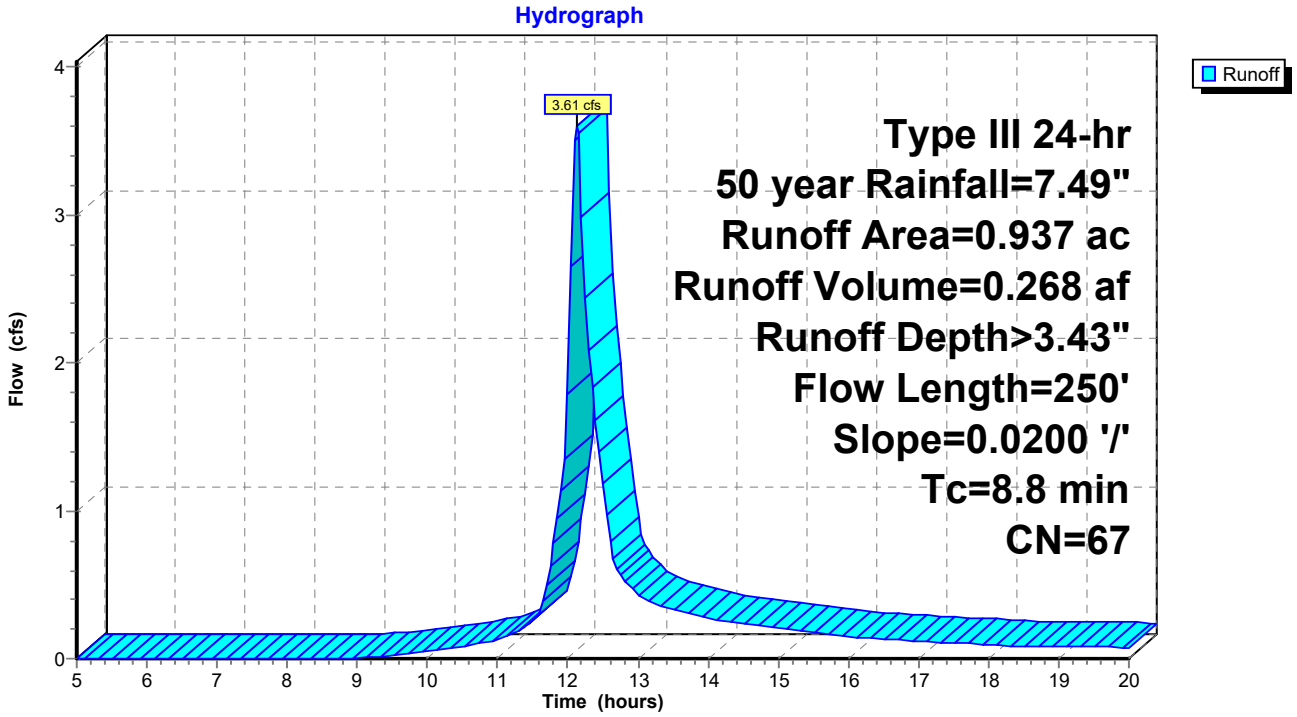
Runoff = 3.61 cfs @ 12.13 hrs, Volume= 0.268 af, Depth> 3.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 year Rainfall=7.49"

	Area (ac)	CN	Description
*	0.235	74	50-75% Grass cover, Fair, HSG B-C
	0.572	61	>75% Grass cover, Good, HSG B
*	0.130	81	Row crops, straight row, Good, HSG B-C
	0.937	67	Weighted Average
	0.937		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	250	Total			

Subcatchment 6: Subcat 6



Summary for Pond 1P: (new Pond)

Inflow Area = 3.368 ac, 0.59% Impervious, Inflow Depth > 4.17" for 50 year event
Inflow = 13.69 cfs @ 12.19 hrs, Volume= 1.171 af
Outflow = 13.46 cfs @ 12.22 hrs, Volume= 1.071 af, Atten= 2%, Lag= 1.7 min
Primary = 13.46 cfs @ 12.22 hrs, Volume= 1.071 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 152.50' Surf.Area= 0.086 ac Storage= 0.153 af
Peak Elev= 153.91' @ 12.22 hrs Surf.Area= 0.118 ac Storage= 0.297 af (0.144 af above start)

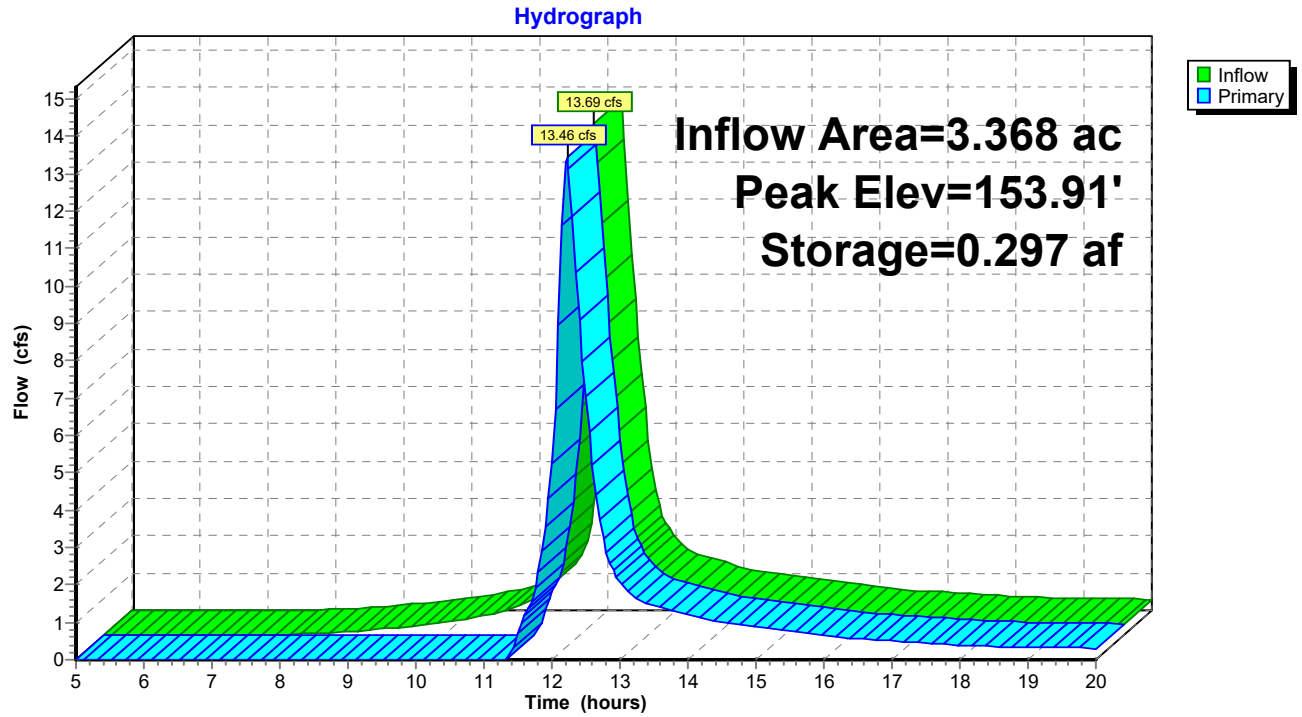
Plug-Flow detention time= 89.7 min calculated for 0.918 af (78% of inflow)
Center-of-Mass det. time= 18.4 min (809.4 - 791.0)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	0.307 af	**15.00'W x 110.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	153.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=13.22 cfs @ 12.22 hrs HW=153.91' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 13.22 cfs @ 1.61 fps)

Pond 1P: (new Pond)



Summary for Pond 2P: (new Pond)

Inflow Area = 1.098 ac, 0.00% Impervious, Inflow Depth > 3.54" for 50 year event
Inflow = 4.17 cfs @ 12.15 hrs, Volume= 0.323 af
Outflow = 4.03 cfs @ 12.18 hrs, Volume= 0.286 af, Atten= 4%, Lag= 1.7 min
Primary = 4.03 cfs @ 12.18 hrs, Volume= 0.286 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 154.50' Surf.Area= 0.031 ac Storage= 0.050 af
Peak Elev= 155.80' @ 12.18 hrs Surf.Area= 0.046 ac Storage= 0.099 af (0.050 af above start)

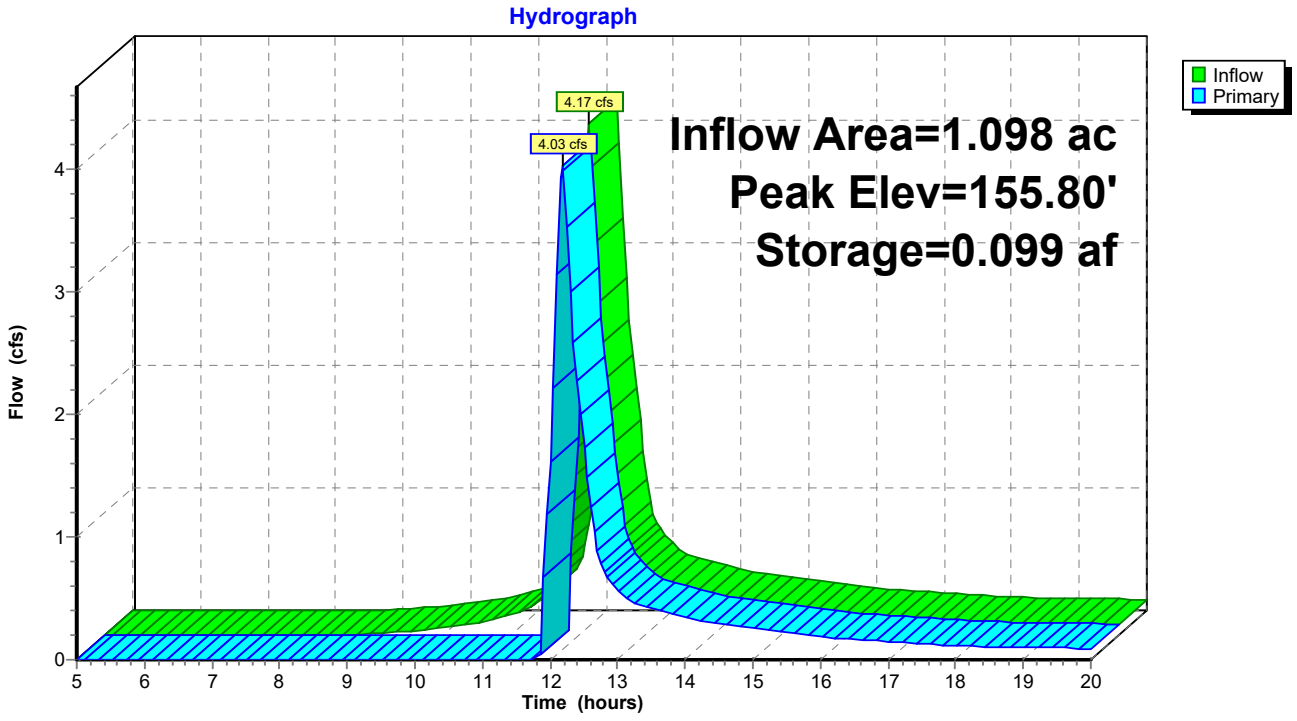
Plug-Flow detention time= 103.1 min calculated for 0.237 af (73% of inflow)
Center-of-Mass det. time= 19.4 min (818.2 - 798.8)

Volume	Invert	Avail.Storage	Storage Description
#1	152.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.96 cfs @ 12.18 hrs HW=155.80' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 3.96 cfs @ 1.32 fps)

Pond 2P: (new Pond)



Summary for Pond 3P: (new Pond)

Inflow Area = 1.683 ac, 0.00% Impervious, Inflow Depth > 3.75" for 50 year event
Inflow = 6.88 cfs @ 12.14 hrs, Volume= 0.526 af
Outflow = 6.72 cfs @ 12.17 hrs, Volume= 0.467 af, Atten= 2%, Lag= 1.5 min
Primary = 6.72 cfs @ 12.17 hrs, Volume= 0.467 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 150.50' Surf.Area= 0.030 ac Storage= 0.033 af
Peak Elev= 152.41' @ 12.17 hrs Surf.Area= 0.053 ac Storage= 0.112 af (0.079 af above start)

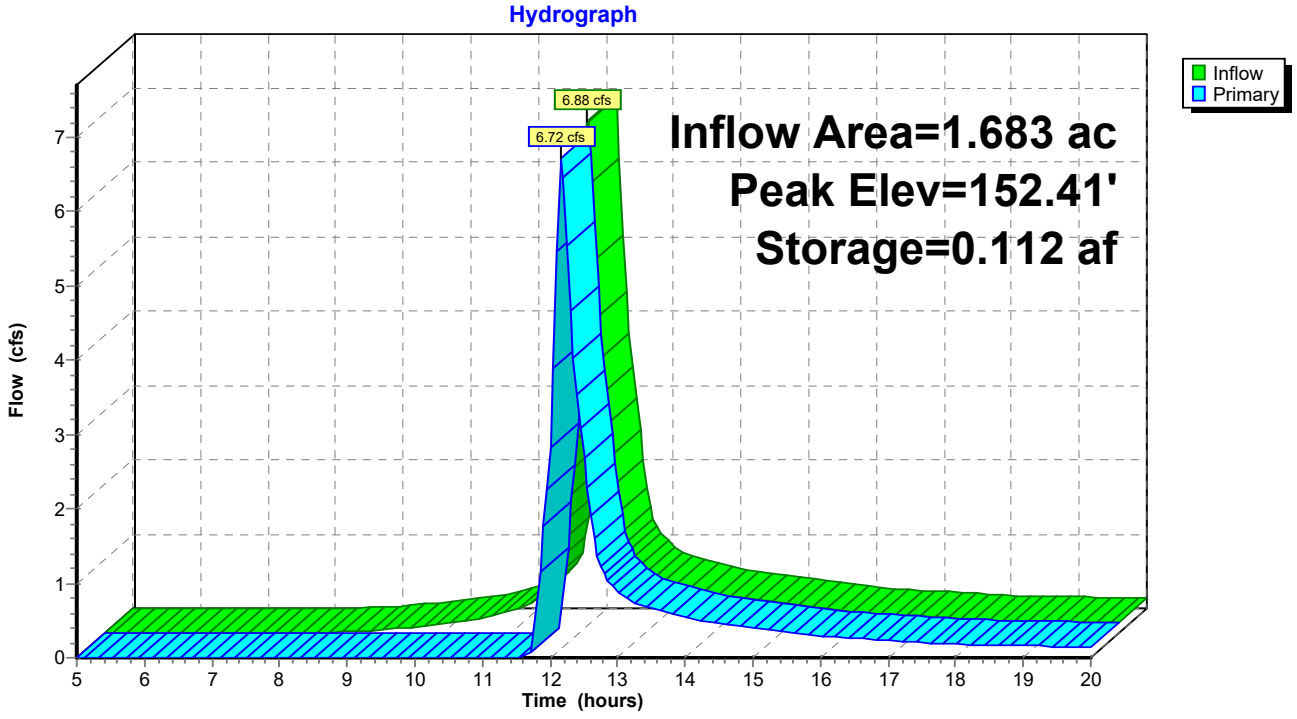
Plug-Flow detention time= 75.8 min calculated for 0.432 af (82% of inflow)
Center-of-Mass det. time= 19.8 min (814.7 - 794.9)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	0.146 af	**15.00'W x 45.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.56 cfs @ 12.17 hrs HW=152.41' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 6.56 cfs @ 1.60 fps)

Pond 3P: (new Pond)



Summary for Pond 4P: (new Pond)

Inflow Area = 1.159 ac, 0.00% Impervious, Inflow Depth > 4.07" for 50 year event
Inflow = 5.59 cfs @ 12.11 hrs, Volume= 0.393 af
Outflow = 5.41 cfs @ 12.13 hrs, Volume= 0.367 af, Atten= 3%, Lag= 1.2 min
Primary = 5.41 cfs @ 12.13 hrs, Volume= 0.367 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 148.50' Surf.Area= 0.021 ac Storage= 0.023 af
Peak Elev= 149.86' @ 12.13 hrs Surf.Area= 0.035 ac Storage= 0.061 af (0.038 af above start)

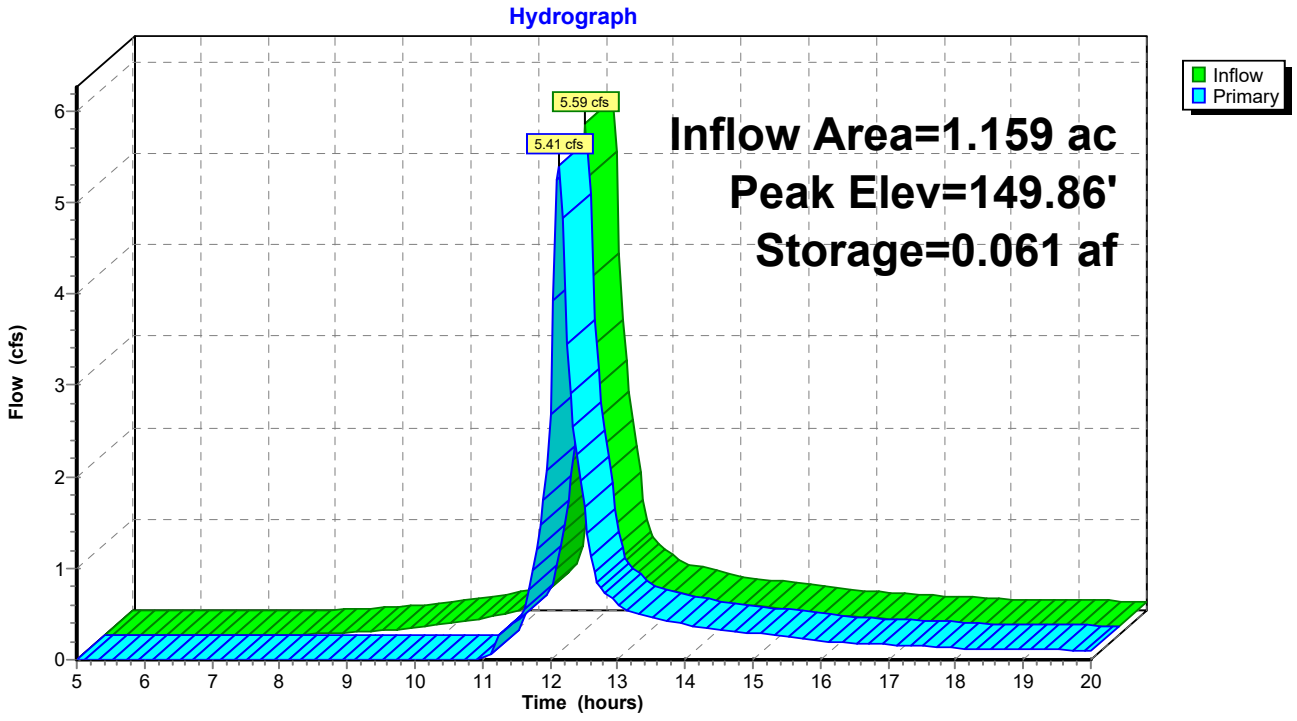
Plug-Flow detention time= 60.9 min calculated for 0.342 af (87% of inflow)
Center-of-Mass det. time= 14.7 min (802.3 - 787.6)

Volume	Invert	Avail.Storage	Storage Description
#1	147.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	149.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=5.28 cfs @ 12.13 hrs HW=149.86' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 5.28 cfs @ 1.47 fps)

Pond 4P: (new Pond)



Summary for Pond 5P: (new Pond)

Inflow Area = 2.483 ac, 1.61% Impervious, Inflow Depth > 4.18" for 50 year event
Inflow = 10.97 cfs @ 12.15 hrs, Volume= 0.864 af
Outflow = 10.61 cfs @ 12.18 hrs, Volume= 0.754 af, Atten= 3%, Lag= 1.8 min
Primary = 10.61 cfs @ 12.18 hrs, Volume= 0.754 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 149.04' @ 12.18 hrs Surf.Area= 0.071 ac Storage= 0.144 af

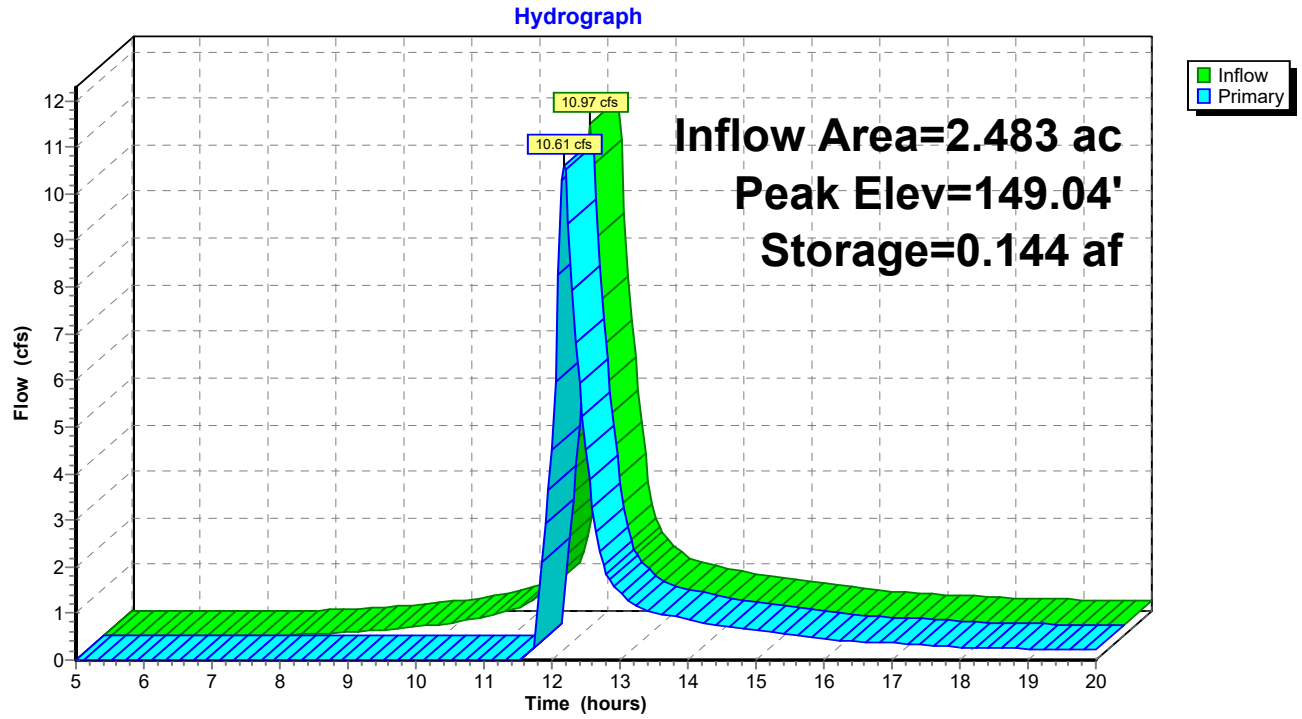
Plug-Flow detention time= 61.4 min calculated for 0.751 af (87% of inflow)
Center-of-Mass det. time= 23.6 min (812.2 - 788.7)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	0.220 af	**15.00'W x 75.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	148.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=10.45 cfs @ 12.18 hrs HW=149.04' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 10.45 cfs @ 1.94 fps)

Pond 5P: (new Pond)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=3.368 ac 0.59% Impervious Runoff Depth>4.97"
Flow Length=550' Slope=0.0200 '/' Tc=13.8 min CN=74 Runoff=16.22 cfs 1.394 af

Subcatchment2: Subcat 2 Runoff Area=1.098 ac 0.00% Impervious Runoff Depth>4.28"
Flow Length=350' Slope=0.0200 '/' Tc=10.5 min CN=68 Runoff=5.05 cfs 0.392 af

Subcatchment3: Subcat 3 Runoff Area=1.683 ac 0.00% Impervious Runoff Depth>4.51"
Flow Length=320' Slope=0.0200 '/' Tc=9.9 min CN=70 Runoff=8.26 cfs 0.633 af

Subcatchment4: Subcat 4 Runoff Area=1.159 ac 0.00% Impervious Runoff Depth>4.86"
Flow Length=320' Slope=0.0400 '/' Tc=7.3 min CN=73 Runoff=6.65 cfs 0.470 af

Subcatchment5: Subcat 5 Runoff Area=2.483 ac 1.61% Impervious Runoff Depth>4.97"
Flow Length=450' Tc=10.9 min CN=74 Runoff=12.99 cfs 1.029 af

Subcatchment6: Subcat 6 Runoff Area=0.937 ac 0.00% Impervious Runoff Depth>4.17"
Flow Length=250' Slope=0.0200 '/' Tc=8.8 min CN=67 Runoff=4.38 cfs 0.325 af

Pond 1P: (new Pond) Peak Elev=153.96' Storage=0.302 af Inflow=16.22 cfs 1.394 af
Outflow=15.99 cfs 1.293 af

Pond 2P: (new Pond) Peak Elev=155.84' Storage=0.101 af Inflow=5.05 cfs 0.392 af
Outflow=4.88 cfs 0.354 af

Pond 3P: (new Pond) Peak Elev=152.46' Storage=0.115 af Inflow=8.26 cfs 0.633 af
Outflow=8.10 cfs 0.573 af

Pond 4P: (new Pond) Peak Elev=149.91' Storage=0.063 af Inflow=6.65 cfs 0.470 af
Outflow=6.48 cfs 0.443 af

Pond 5P: (new Pond) Peak Elev=149.10' Storage=0.148 af Inflow=12.99 cfs 1.029 af
Outflow=12.59 cfs 0.918 af

Total Runoff Area = 10.728 ac Runoff Volume = 4.242 af Average Runoff Depth = 4.74"
99.44% Pervious = 10.668 ac 0.56% Impervious = 0.060 ac

Summary for Subcatchment 1: Subcat 1

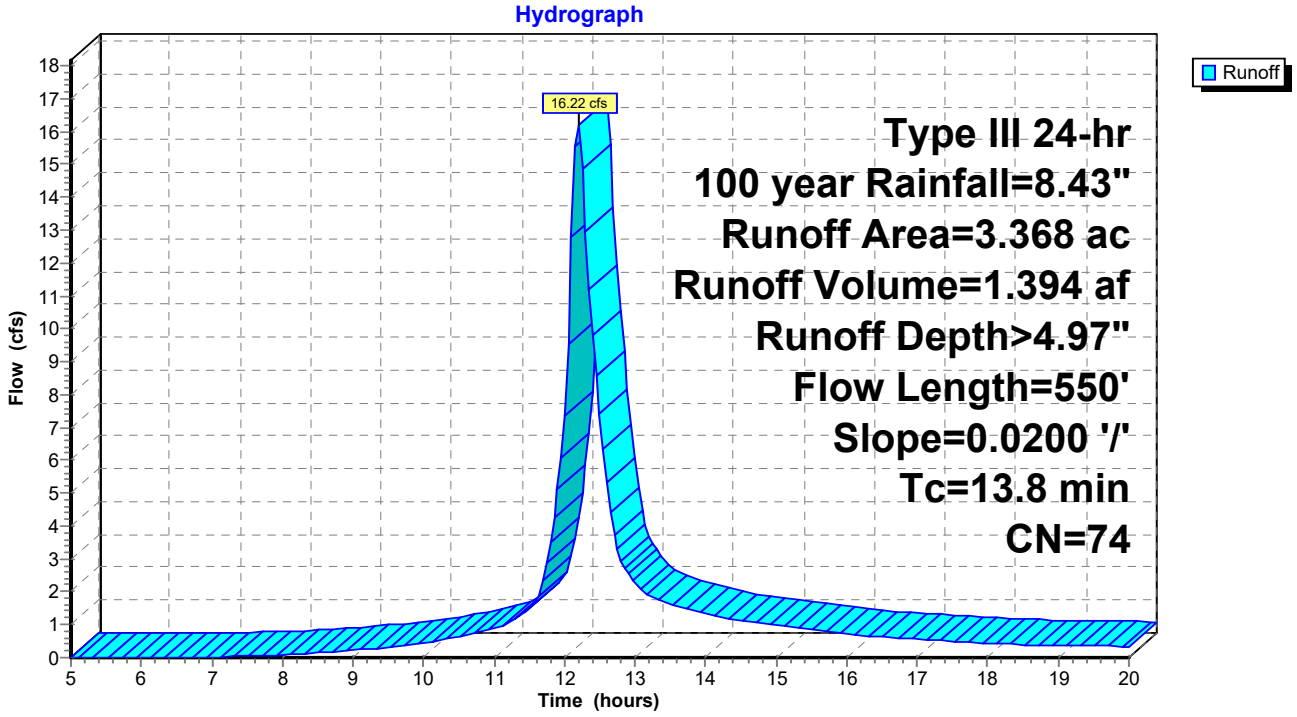
Runoff = 16.22 cfs @ 12.19 hrs, Volume= 1.394 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.43"

	Area (ac)	CN	Description
	0.478	61	>75% Grass cover, Good, HSG B
	0.228	74	>75% Grass cover, Good, HSG C
*	1.772	74	50-75% Grass cover, Fair, HSG B-C
	0.070	96	Gravel surface, HSG B
*	0.020	98	Equipment pad
*	0.800	81	Row crops, straight row, Good, HSG B-C
	3.368	74	Weighted Average
	3.348		99.41% Pervious Area
	0.020		0.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
8.4	500	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.8	550	Total			

Subcatchment 1: Subcat 1



Summary for Subcatchment 2: Subcat 2

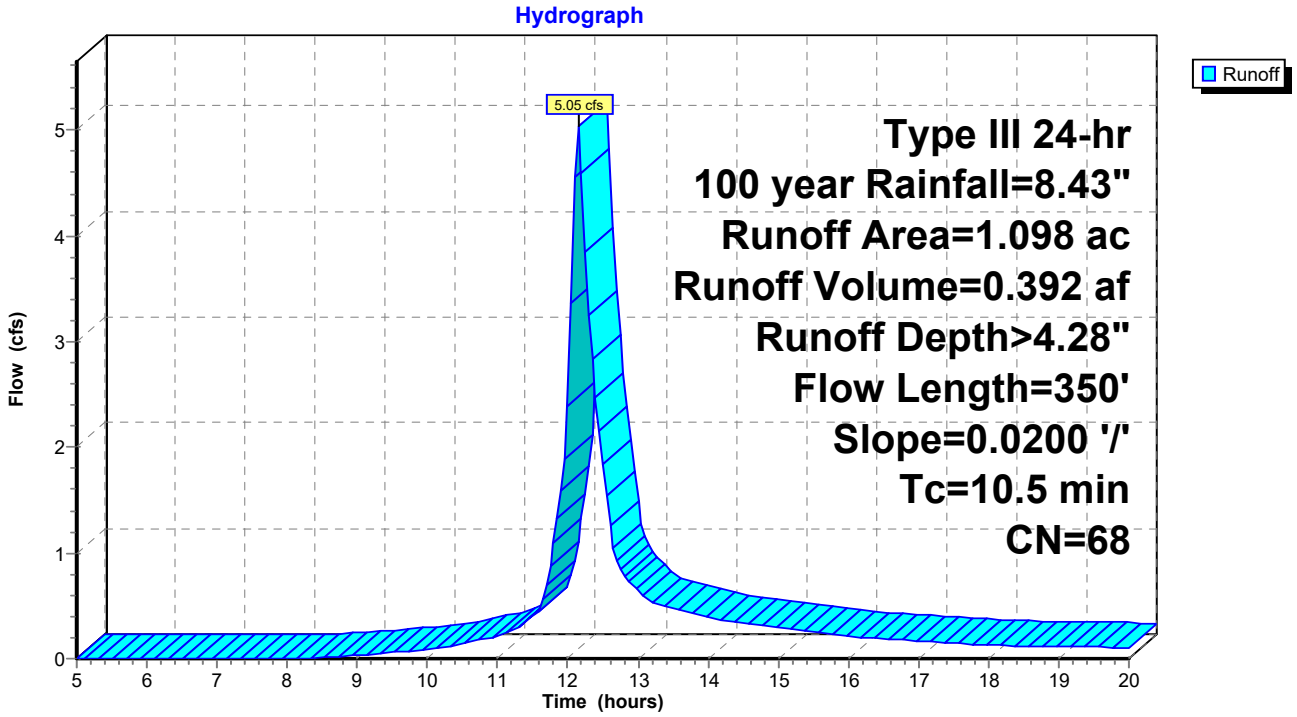
Runoff = 5.05 cfs @ 12.15 hrs, Volume= 0.392 af, Depth> 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.43"

	Area (ac)	CN	Description
	0.605	61	>75% Grass cover, Good, HSG B
*	0.303	74	50-75% Grass cover, Fair, HSG B-C
*	0.190	81	Row crops, straight row, Good, HSG B-C
	1.098	68	Weighted Average
	1.098		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.5	350	Total			

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

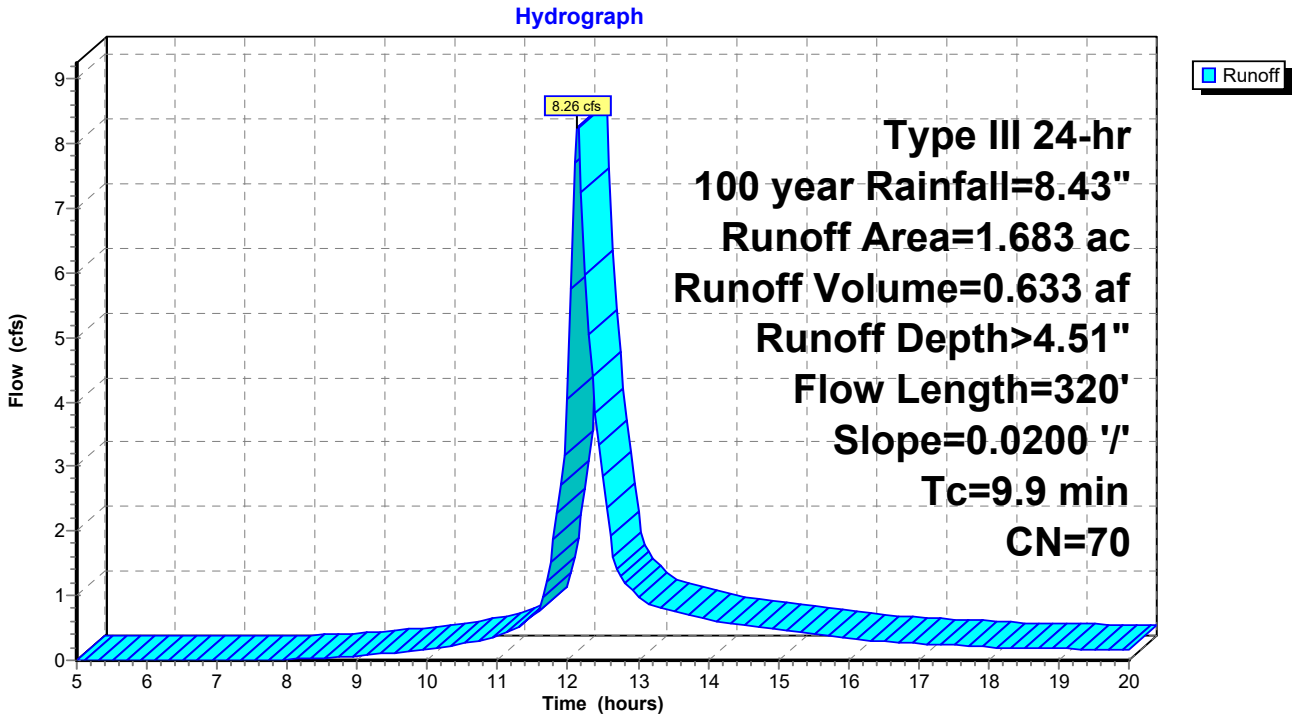
Runoff = 8.26 cfs @ 12.14 hrs, Volume= 0.633 af, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.43"

	Area (ac)	CN	Description
*	0.490	74	50-75% Grass cover, Fair, HSG B-C
	0.075	96	Gravel surface, HSG B
	0.798	61	>75% Grass cover, Good, HSG B
*	0.320	81	Row crops, straight row, Good, HSG B-C
	1.683	70	Weighted Average
	1.683		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
4.5	270	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.9	320	Total			

Subcatchment 3: Subcat 3



Summary for Subcatchment 4: Subcat 4

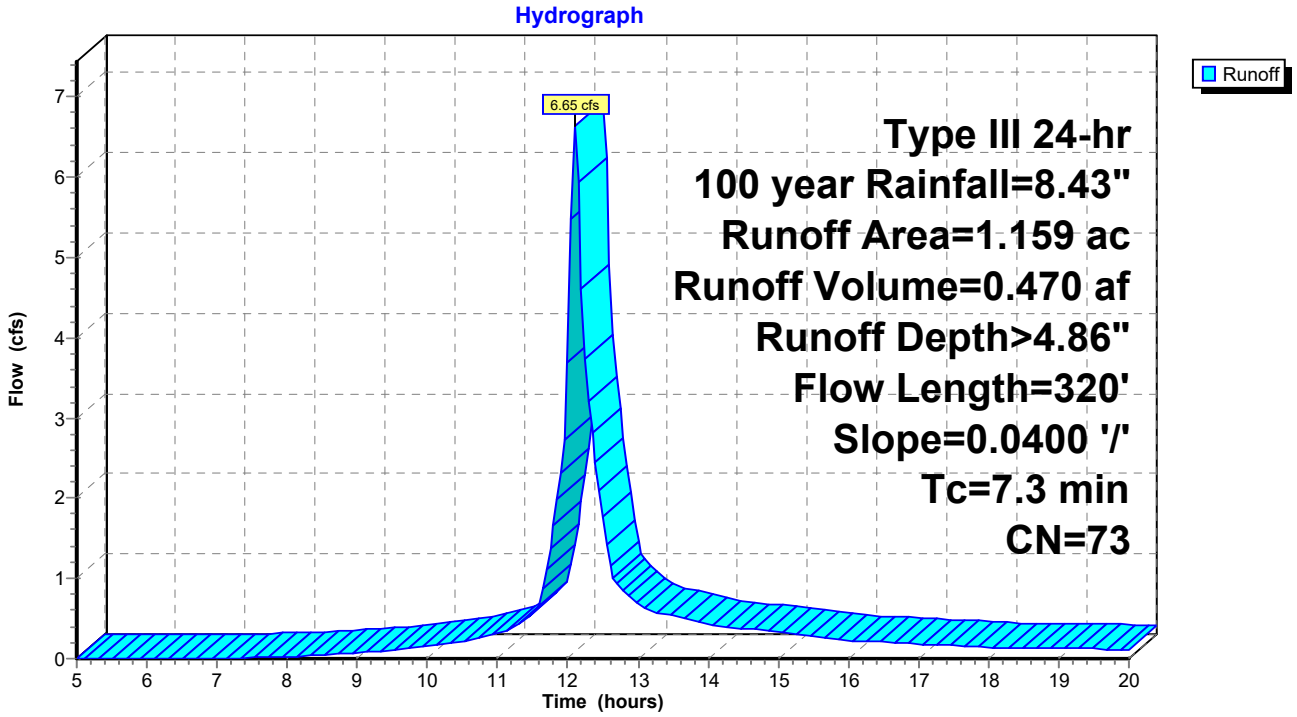
Runoff = 6.65 cfs @ 12.11 hrs, Volume= 0.470 af, Depth> 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.43"

	Area (ac)	CN	Description
	0.263	61	>75% Grass cover, Good, HSG B
*	0.546	74	50-75% Grass cover, Fair, HSG B-C
*	0.350	81	Row crops, straight row, Good, HSG B-C
	1.159	73	Weighted Average
	1.159		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.0400	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.2	270	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	320	Total			

Subcatchment 4: Subcat 4



Summary for Subcatchment 5: Subcat 5

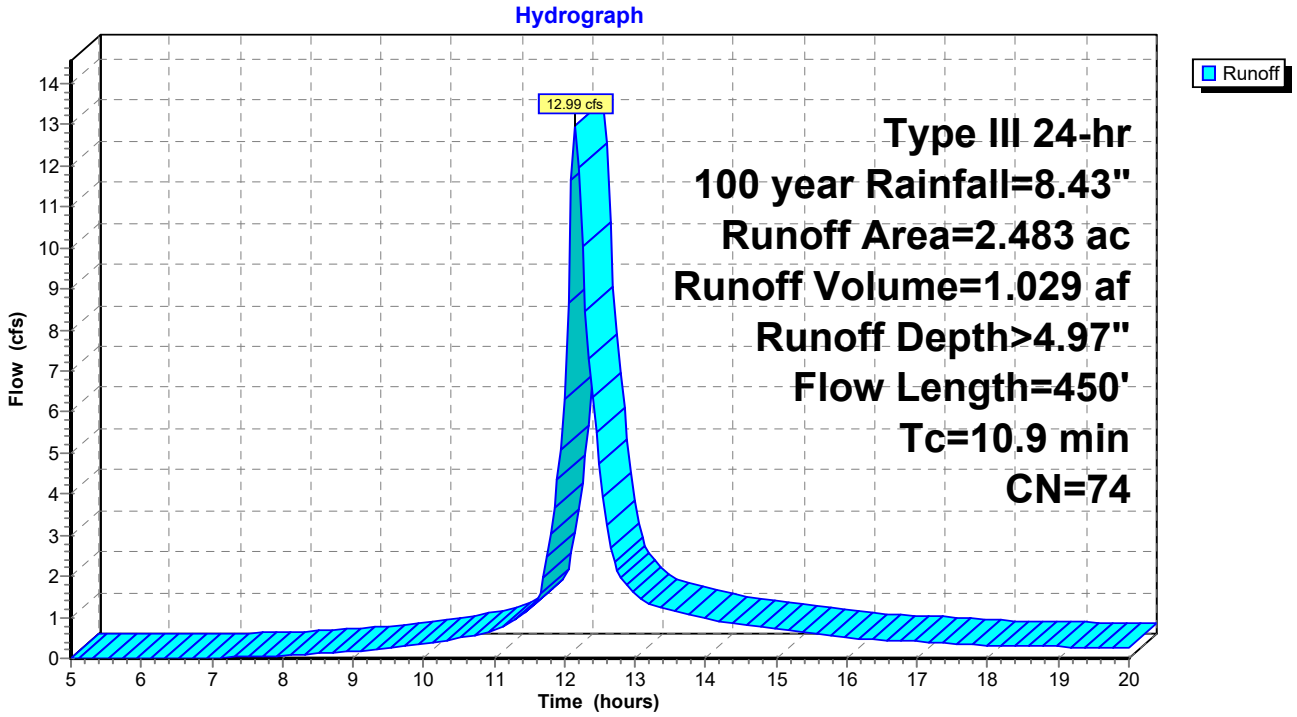
Runoff = 12.99 cfs @ 12.15 hrs, Volume= 1.029 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.43"

	Area (ac)	CN	Description
	0.713	61	>75% Grass cover, Good, HSG B
	0.122	96	Gravel surface, HSG B
*	0.040	98	Equipment pad
*	0.924	74	50-75% Grass cover, Fair, HSG B-C
	0.164	80	>75% Grass cover, Good, HSG D
*	0.520	81	Row crops, straight row, Good, HSG B-C
	2.483	74	Weighted Average
	2.443		98.39% Pervious Area
	0.040		1.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	200	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.9	450	Total			

Subcatchment 5: Subcat 5



Summary for Subcatchment 6: Subcat 6

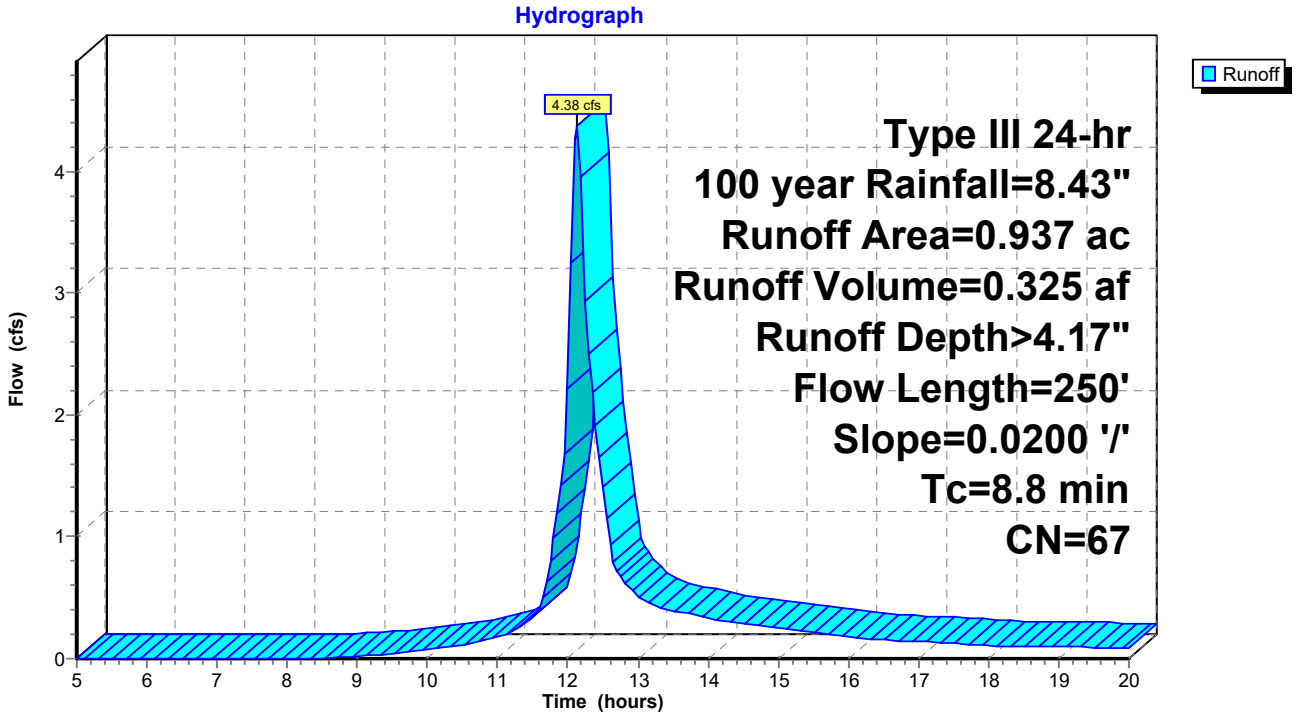
Runoff = 4.38 cfs @ 12.13 hrs, Volume= 0.325 af, Depth> 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.43"

	Area (ac)	CN	Description
*	0.235	74	50-75% Grass cover, Fair, HSG B-C
	0.572	61	>75% Grass cover, Good, HSG B
*	0.130	81	Row crops, straight row, Good, HSG B-C
	0.937	67	Weighted Average
	0.937		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.54"
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	250	Total			

Subcatchment 6: Subcat 6



Summary for Pond 1P: (new Pond)

Inflow Area = 3.368 ac, 0.59% Impervious, Inflow Depth > 4.97" for 100 year event
Inflow = 16.22 cfs @ 12.19 hrs, Volume= 1.394 af
Outflow = 15.99 cfs @ 12.22 hrs, Volume= 1.293 af, Atten= 1%, Lag= 1.6 min
Primary = 15.99 cfs @ 12.22 hrs, Volume= 1.293 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 152.50' Surf.Area= 0.086 ac Storage= 0.153 af
Peak Elev= 153.96' @ 12.22 hrs Surf.Area= 0.119 ac Storage= 0.302 af (0.149 af above start)

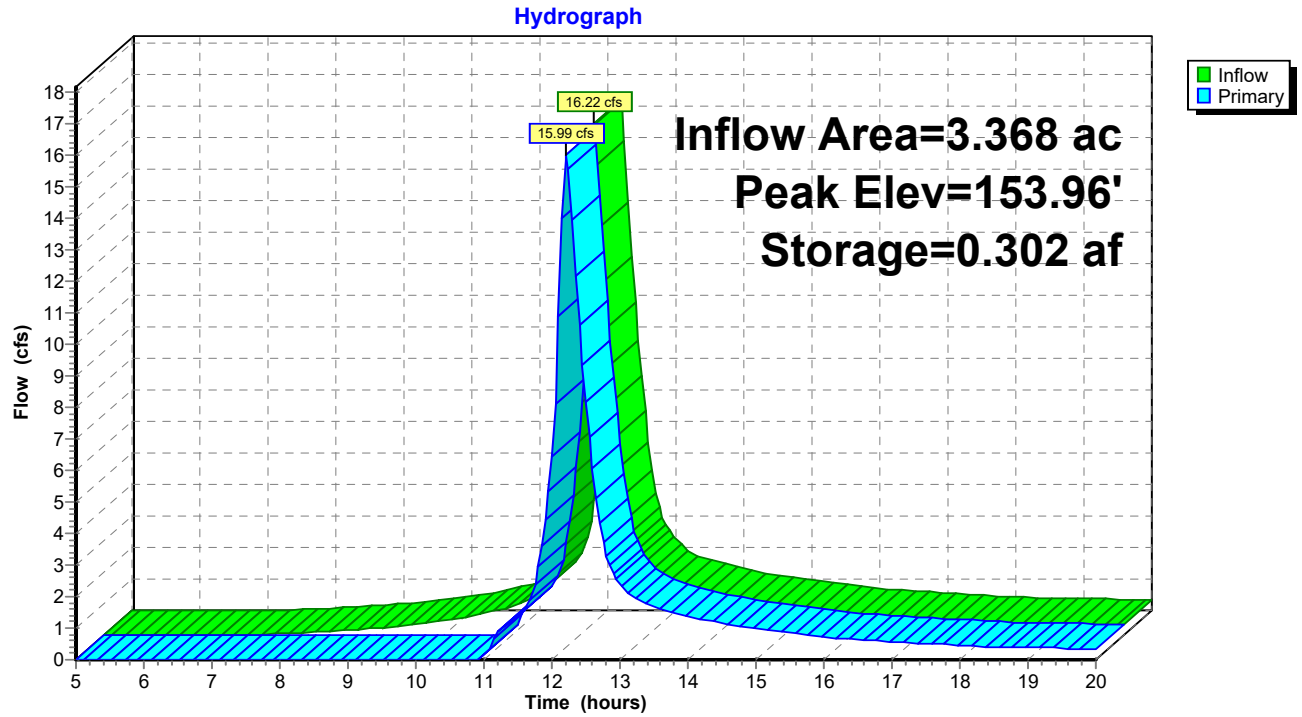
Plug-Flow detention time= 80.7 min calculated for 1.140 af (82% of inflow)
Center-of-Mass det. time= 17.4 min (804.3 - 786.9)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	0.307 af	**15.00'W x 110.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	153.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=15.74 cfs @ 12.22 hrs HW=153.96' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 15.74 cfs @ 1.73 fps)

Pond 1P: (new Pond)



Summary for Pond 2P: (new Pond)

Inflow Area = 1.098 ac, 0.00% Impervious, Inflow Depth > 4.28" for 100 year event
Inflow = 5.05 cfs @ 12.15 hrs, Volume= 0.392 af
Outflow = 4.88 cfs @ 12.18 hrs, Volume= 0.354 af, Atten= 3%, Lag= 1.6 min
Primary = 4.88 cfs @ 12.18 hrs, Volume= 0.354 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 154.50' Surf.Area= 0.031 ac Storage= 0.050 af
Peak Elev= 155.84' @ 12.18 hrs Surf.Area= 0.046 ac Storage= 0.101 af (0.052 af above start)

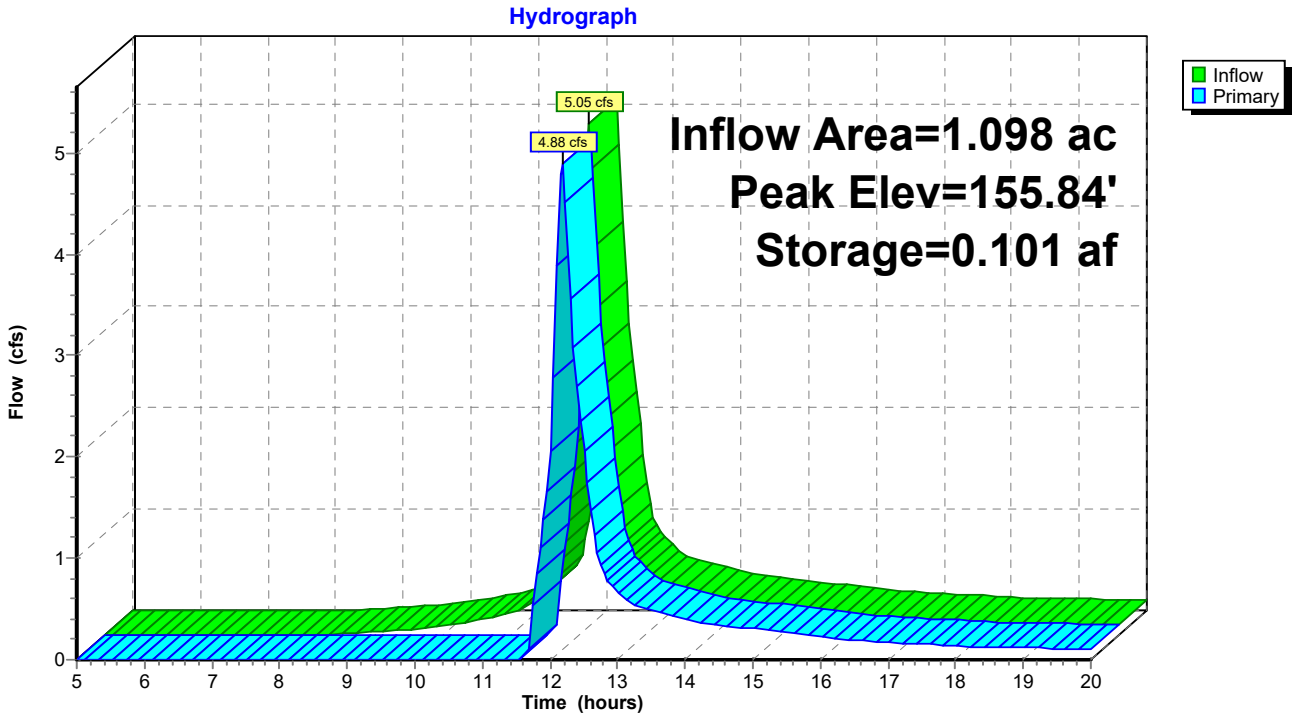
Plug-Flow detention time= 90.2 min calculated for 0.305 af (78% of inflow)
Center-of-Mass det. time= 17.9 min (812.4 - 794.5)

Volume	Invert	Avail.Storage	Storage Description
#1	152.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=4.80 cfs @ 12.18 hrs HW=155.84' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 4.80 cfs @ 1.42 fps)

Pond 2P: (new Pond)



Summary for Pond 3P: (new Pond)

Inflow Area = 1.683 ac, 0.00% Impervious, Inflow Depth > 4.51" for 100 year event
Inflow = 8.26 cfs @ 12.14 hrs, Volume= 0.633 af
Outflow = 8.10 cfs @ 12.17 hrs, Volume= 0.573 af, Atten= 2%, Lag= 1.4 min
Primary = 8.10 cfs @ 12.17 hrs, Volume= 0.573 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 150.50' Surf.Area= 0.030 ac Storage= 0.033 af
Peak Elev= 152.46' @ 12.17 hrs Surf.Area= 0.054 ac Storage= 0.115 af (0.081 af above start)

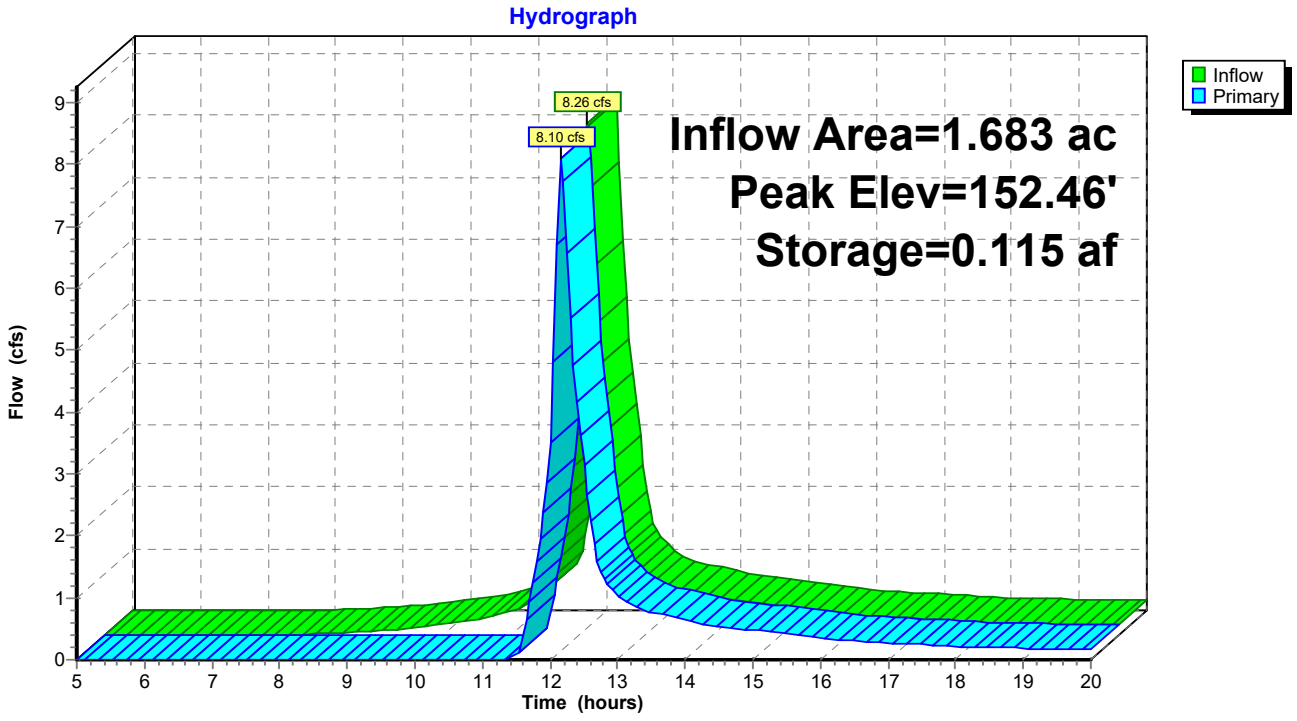
Plug-Flow detention time= 67.3 min calculated for 0.538 af (85% of inflow)
Center-of-Mass det. time= 18.4 min (809.0 - 790.7)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	0.146 af	**15.00'W x 45.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=7.92 cfs @ 12.17 hrs HW=152.46' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 7.92 cfs @ 1.73 fps)

Pond 3P: (new Pond)



Summary for Pond 4P: (new Pond)

Inflow Area = 1.159 ac, 0.00% Impervious, Inflow Depth > 4.86" for 100 year event
Inflow = 6.65 cfs @ 12.11 hrs, Volume= 0.470 af
Outflow = 6.48 cfs @ 12.12 hrs, Volume= 0.443 af, Atten= 2%, Lag= 1.1 min
Primary = 6.48 cfs @ 12.12 hrs, Volume= 0.443 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 148.50' Surf.Area= 0.021 ac Storage= 0.023 af
Peak Elev= 149.91' @ 12.12 hrs Surf.Area= 0.035 ac Storage= 0.063 af (0.040 af above start)

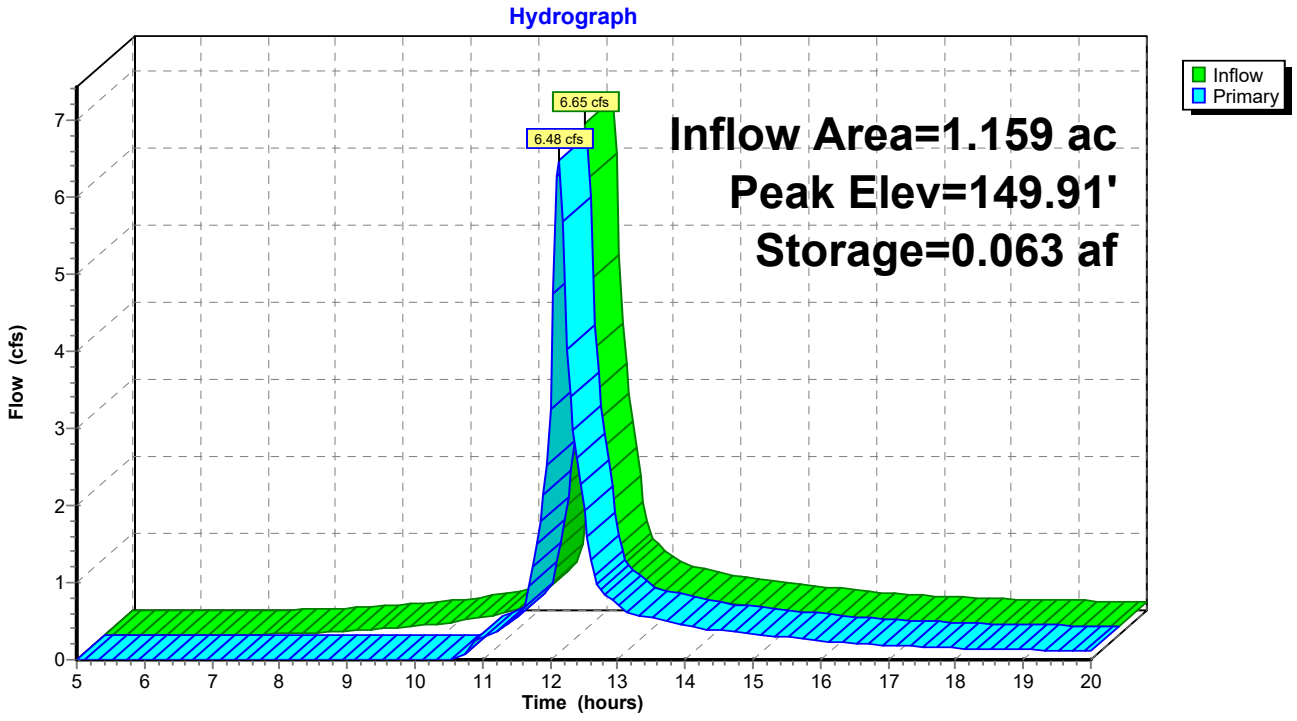
Plug-Flow detention time= 54.8 min calculated for 0.418 af (89% of inflow)
Center-of-Mass det. time= 13.8 min (797.3 - 783.5)

Volume	Invert	Avail.Storage	Storage Description
#1	147.00'	0.109 af	**15.00'W x 30.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	149.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.28 cfs @ 12.12 hrs HW=149.90' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 6.28 cfs @ 1.58 fps)

Pond 4P: (new Pond)



Summary for Pond 5P: (new Pond)

Inflow Area = 2.483 ac, 1.61% Impervious, Inflow Depth > 4.97" for 100 year event
Inflow = 12.99 cfs @ 12.15 hrs, Volume= 1.029 af
Outflow = 12.59 cfs @ 12.18 hrs, Volume= 0.918 af, Atten= 3%, Lag= 1.6 min
Primary = 12.59 cfs @ 12.18 hrs, Volume= 0.918 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 149.10' @ 12.18 hrs Surf.Area= 0.072 ac Storage= 0.148 af

Plug-Flow detention time= 55.4 min calculated for 0.915 af (89% of inflow)
Center-of-Mass det. time= 22.2 min (806.8 - 784.6)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	0.220 af	**15.00'W x 75.00'L x 4.00'H Prismatoid Z=3.0**

Device	Routing	Invert	Outlet Devices
#1	Primary	148.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=12.43 cfs @ 12.18 hrs HW=149.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 12.43 cfs @ 2.08 fps)

Pond 5P: (new Pond)