

**Exhibit H**

**Stormwater Management Report**

**(Including Drainage Analysis –**

**Review of Pre-And Post-Development Runoff At The Project Site)**

**- APPENDIX C –**

**Proposed Drainage Area Map & Hydrologic Computation**

BETHLEHEM SOLAR  
ONE & TWO, LLC  
28 POCOTOPAUG DRIVE  
EAST HAMPTON, CT 06424



NO.	DATE	REVISION
1		
2		
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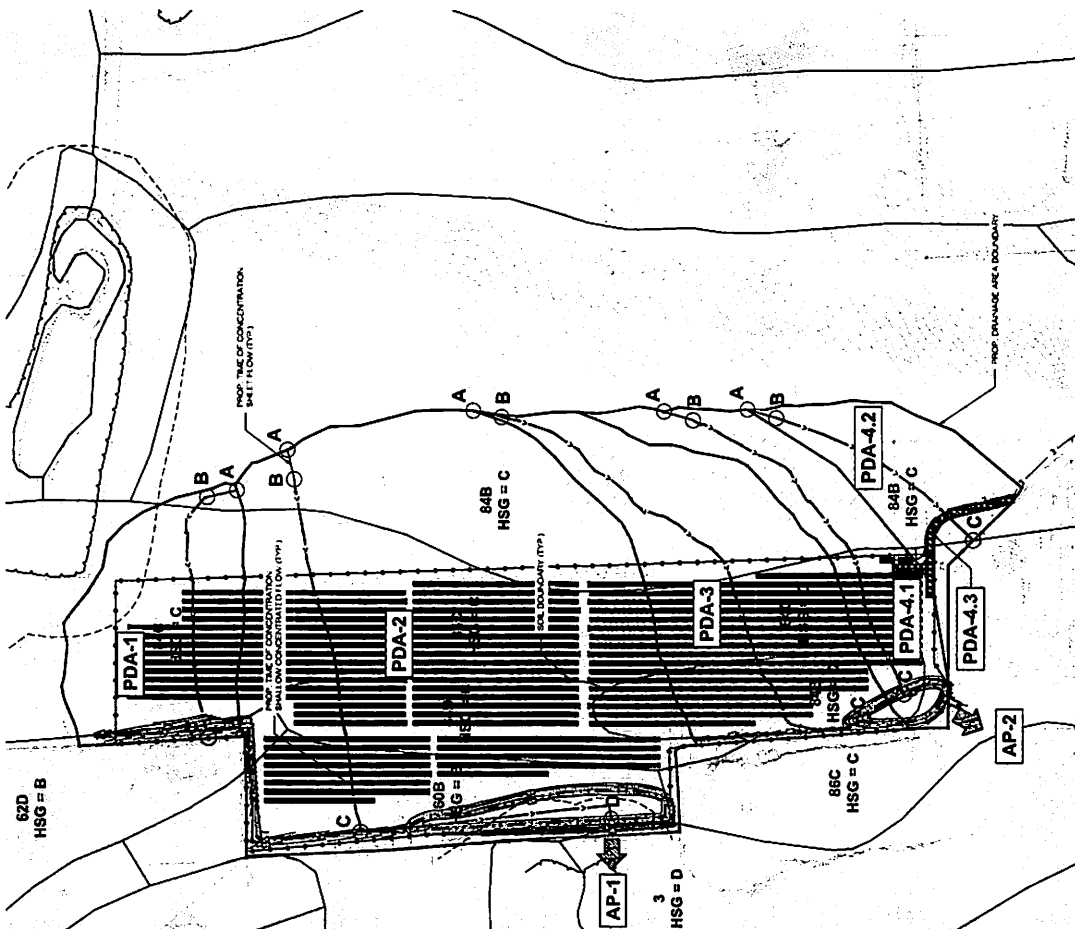
NOT FOR CONSTRUCTION

DESIGN PROFESSIONAL OF RECORD  
STATE OF CONNECTICUT  
COMP: ALL-POINTS TECHNOLOGY CORPORATION  
ADDRESS: 111 WASHINGTON STREET  
WATERFORD, CT 06495  
OWNER: LYNDAE TRUSS, CORP  
ADDRESS: 10 THOMPSON ROAD  
BETHLEHEM, CT 06021

BETHLEHEM SOLAR  
ONE & TWO, LLC  
ADDRESS: 28 THOMPSON ROAD  
BETHLEHEM, CT 06021  
DATE: 09/20/10  
DRAWN BY: MAB  
CHECKED BY: BLP

SHEET TITLE:  
PROPOSED CONDITIONS  
HYDROLOGY PLAN

SHEET NUMBER:  
**PDA-1**  
DRAFT

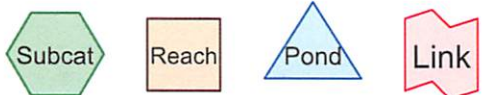
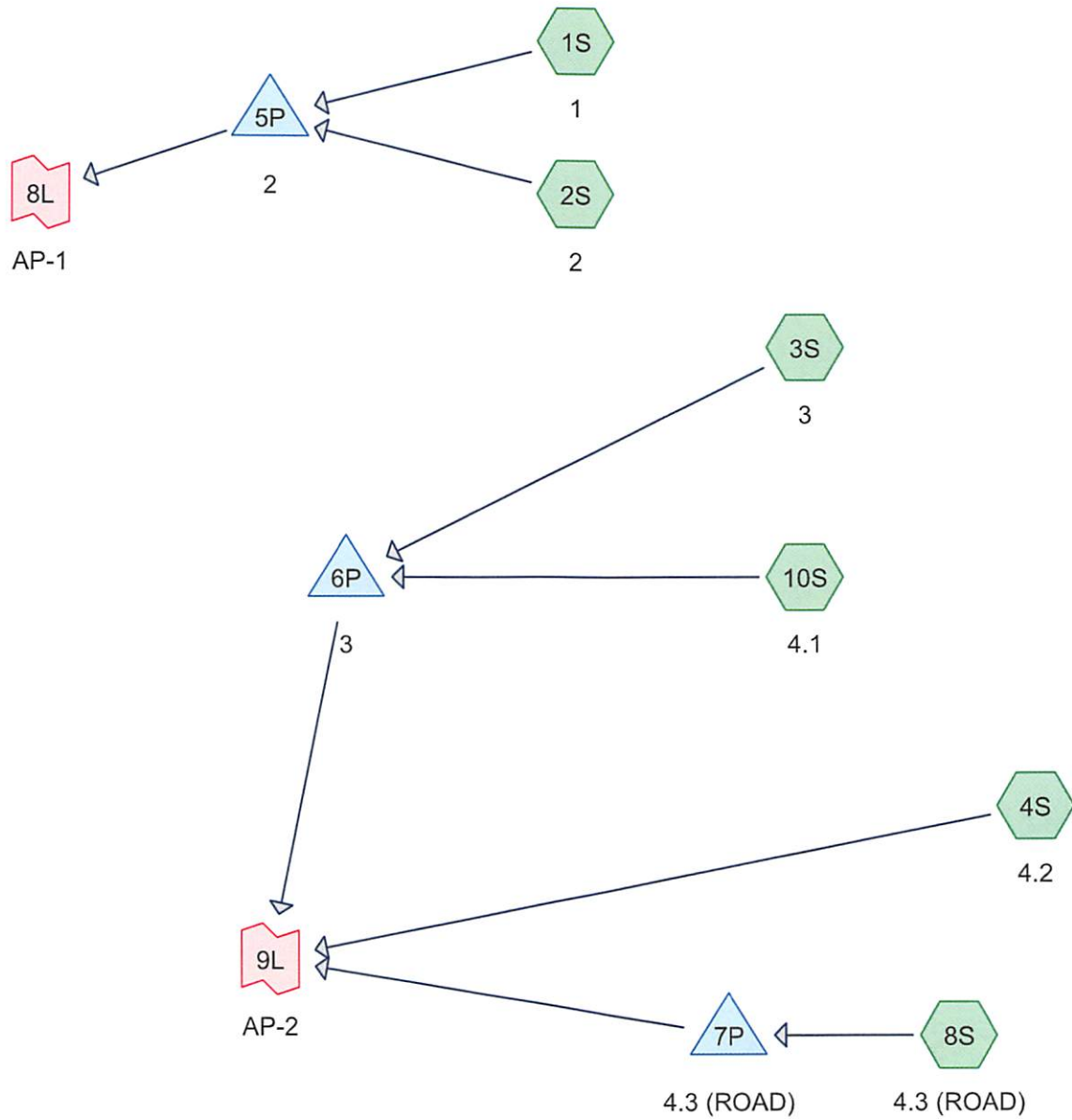


WATERBOD	10-YR AREA (AC) @ 10% COMPOSITE CN	10-YR AREA (AC) @ 10% COMPOSITE CN
PDA-1	7,404	75
PDA-2	10,555	75
PDA-3	2,777	75
PDA-4.1	2,118	75
PDA-4.2	1,045	74
PDA-4.3	0,000	96
SITE	16,989	75

DECH POINT	2-YR (CFS)	75-YR (CFS)	50-YR (CFS)	100-YR (CFS)
AP-1	2.9	35.7	42.7	57.3
AP-2	4.5	27.3	33.0	38.5
BT1	7.4	68.0	69.7	68.8
% CHANGE	-53%	-4%	-4%	-4%



PROPOSED DRAINAGE AREA PLAN  
SCALE: 1" = 100'-0"



**Routing Diagram for Bethlehem\_CT562110 - PR - 09-04-2020**  
 Prepared by All Points Technology Corp., Printed 9/8/2020  
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**Area Listing (all nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
3,866	96	Gravel surface, HSG C (8S)
117,933	71	Meadow, non-grazed, HSG C (1S, 2S, 4S, 10S)
398,031	78	Meadow, non-grazed, HSG D (1S, 2S, 3S, 10S)
4,143	61	Pasture/grassland/range, Good, HSG B (1S)
346,248	74	Pasture/grassland/range, Good, HSG C (1S, 2S, 3S, 4S, 10S)
486	98	Unconnected roofs, HSG C (10S)
<b>870,707</b>	<b>75</b>	<b>TOTAL AREA</b>

**Bethlehem\_CT562110 - PR - 09-04-2020**

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**Soil Listing (all nodes)**

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
4,143	HSG B	1S
468,533	HSG C	1S, 2S, 3S, 4S, 8S, 10S
398,031	HSG D	1S, 2S, 3S, 10S
0	Other	
<b>870,707</b>		<b>TOTAL AREA</b>

**Ground Covers (all nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	3,866	0	0	3,866	Gravel surface
0	0	117,933	398,031	0	515,964	Meadow, non-grazed
0	4,143	346,248	0	0	350,391	Pasture/grassland /range, Good
0	0	486	0	0	486	Unconnected roofs
<b>0</b>	<b>4,143</b>	<b>468,533</b>	<b>398,031</b>	<b>0</b>	<b>870,707</b>	<b>TOTAL AREA</b>

**Bethlehem\_CT562110 - PR - 09-04-2020**

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**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	5P	756.50	755.00	20.0	0.0750	0.013	12.0	0.0	0.0
2	6P	761.50	761.00	30.0	0.0167	0.013	12.0	0.0	0.0

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: 1** Runoff Area=104,729 sf 0.00% Impervious Runoff Depth=1.32"  
Flow Length=480' Slope=0.0960 '/' Tc=5.9 min CN=75 Runoff=3.55 cfs 11,485 cf

**Subcatchment 2S: 2** Runoff Area=459,823 sf 0.00% Impervious Runoff Depth=1.32"  
Flow Length=1,115' Tc=14.4 min CN=75 Runoff=12.04 cfs 50,426 cf

**Subcatchment 3S: 3** Runoff Area=164,510 sf 0.00% Impervious Runoff Depth=1.38"  
Flow Length=860' Slope=0.0750 '/' Tc=9.8 min CN=76 Runoff=5.18 cfs 18,917 cf

**Subcatchment 4S: 4.2** Runoff Area=45,492 sf 0.00% Impervious Runoff Depth=1.25"  
Flow Length=370' Slope=0.0500 '/' Tc=6.7 min CN=74 Runoff=1.43 cfs 4,753 cf

**Subcatchment 8S: 4.3 (ROAD)** Runoff Area=3,866 sf 0.00% Impervious Runoff Depth=3.07"  
Tc=5.0 min CN=96 Runoff=0.30 cfs 987 cf

**Subcatchment 10S: 4.1** Runoff Area=92,287 sf 0.53% Impervious Runoff Depth=1.32"  
Flow Length=735' Slope=0.0840 '/' Tc=8.3 min CN=75 Runoff=2.86 cfs 10,121 cf

**Pond 5P: 2** Peak Elev=757.16' Storage=28,492 cf Inflow=14.29 cfs 61,911 cf  
Outflow=2.92 cfs 42,906 cf

**Pond 6P: 3** Peak Elev=762.21' Storage=9,911 cf Inflow=8.00 cfs 29,037 cf  
Outflow=3.93 cfs 22,790 cf

**Pond 7P: 4.3 (ROAD)** Peak Elev=791.38' Storage=593 cf Inflow=0.30 cfs 987 cf  
Discarded=0.01 cfs 987 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 987 cf

**Link 8L: AP-1** Inflow=2.92 cfs 42,906 cf  
Primary=2.92 cfs 42,906 cf

**Link 9L: AP-2** Inflow=4.51 cfs 27,543 cf  
Primary=4.51 cfs 27,543 cf

**Total Runoff Area = 870,707 sf Runoff Volume = 96,689 cf Average Runoff Depth = 1.33"**  
**99.94% Pervious = 870,221 sf 0.06% Impervious = 486 sf**



**Summary for Subcatchment 1S: 1**

[49] Hint:  $T_c < 2dt$  may require smaller dt

Runoff = 3.55 cfs @ 12.10 hrs, Volume= 11,485 cf, Depth= 1.32"

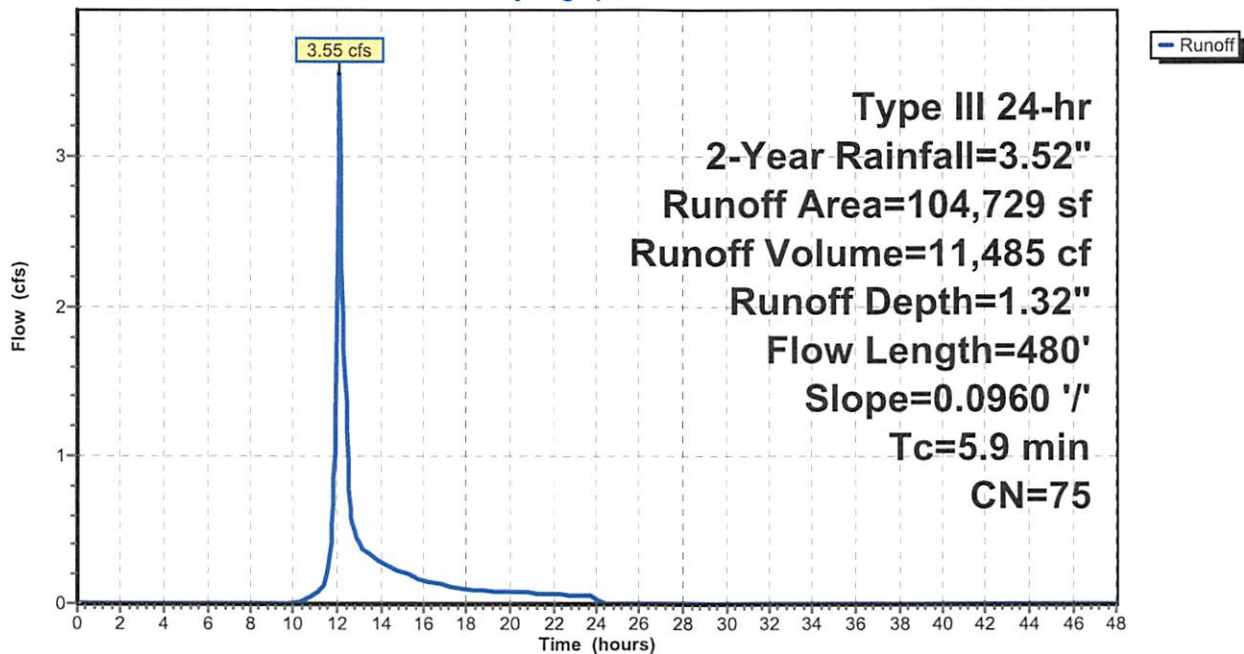
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2-Year Rainfall=3.52"

Area (sf)	CN	Description
49,057	78	Meadow, non-grazed, HSG D
1,212	71	Meadow, non-grazed, HSG C
50,317	74	Pasture/grassland/range, Good, HSG C
4,143	61	Pasture/grassland/range, Good, HSG B
104,729	75	Weighted Average
104,729		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	50	0.0960	0.33		Sheet Flow, Range n= 0.130 P2= 3.52"
3.3	430	0.0960	2.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
5.9	480	Total			

**Subcatchment 1S: 1**

Hydrograph



**Summary for Subcatchment 2S: 2**

Runoff = 12.04 cfs @ 12.21 hrs, Volume= 50,426 cf, Depth= 1.32"

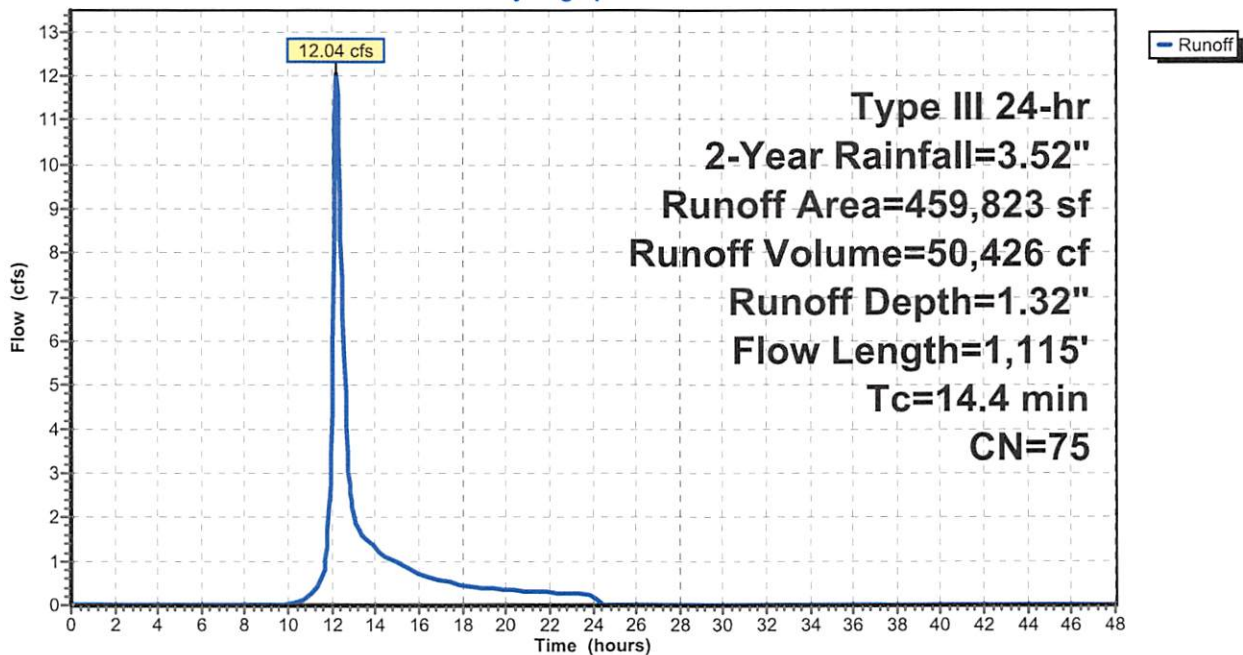
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2-Year Rainfall=3.52"

Area (sf)	CN	Description
137,232	74	Pasture/grassland/range, Good, HSG C
217,637	78	Meadow, non-grazed, HSG D
104,954	71	Meadow, non-grazed, HSG C
459,823	75	Weighted Average
459,823		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1110	0.35		Sheet Flow, Range n= 0.130 P2= 3.52"
4.3	605	0.1110	2.33		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.7	460	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
14.4	1,115	Total			

**Subcatchment 2S: 2**

Hydrograph



**Summary for Subcatchment 3S: 3**

Runoff = 5.18 cfs @ 12.15 hrs, Volume= 18,917 cf, Depth= 1.38"

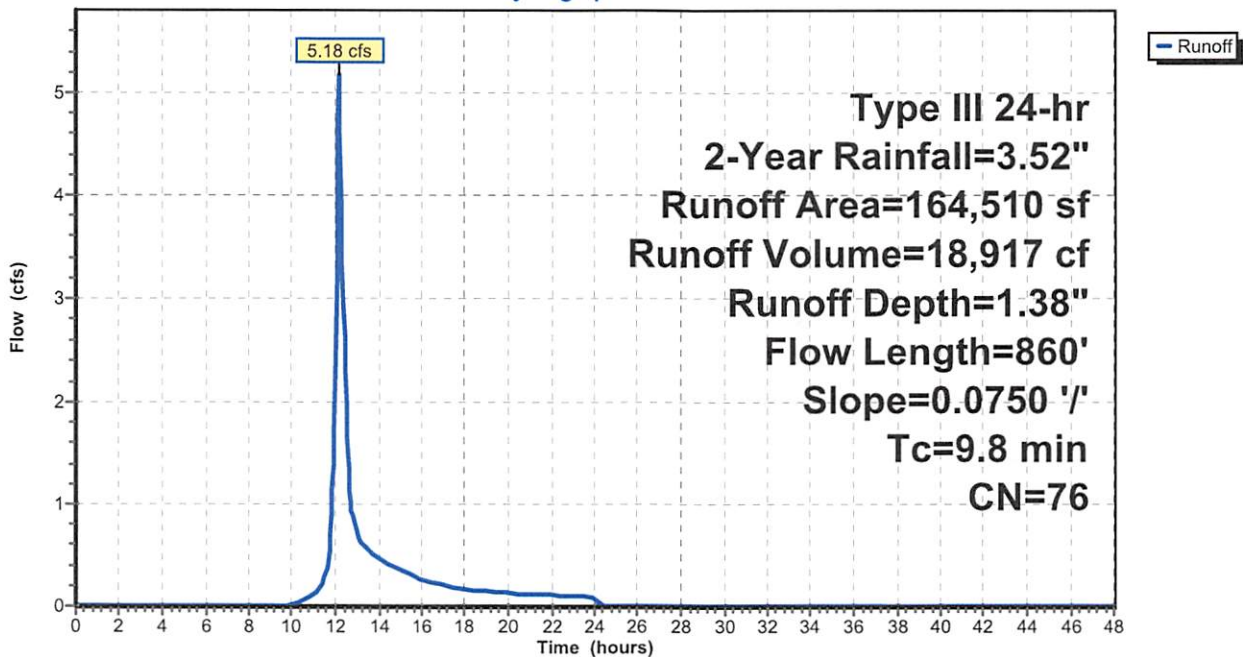
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2-Year Rainfall=3.52"

Area (sf)	CN	Description
65,559	74	Pasture/grassland/range, Good, HSG C
98,951	78	Meadow, non-grazed, HSG D
164,510	76	Weighted Average
164,510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.0750	0.30		Sheet Flow, Range n= 0.130 P2= 3.52"
7.0	810	0.0750	1.92		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.8	860	Total			

**Subcatchment 3S: 3**

Hydrograph



**Summary for Subcatchment 4S: 4.2**

Runoff = 1.43 cfs @ 12.11 hrs, Volume= 4,753 cf, Depth= 1.25"

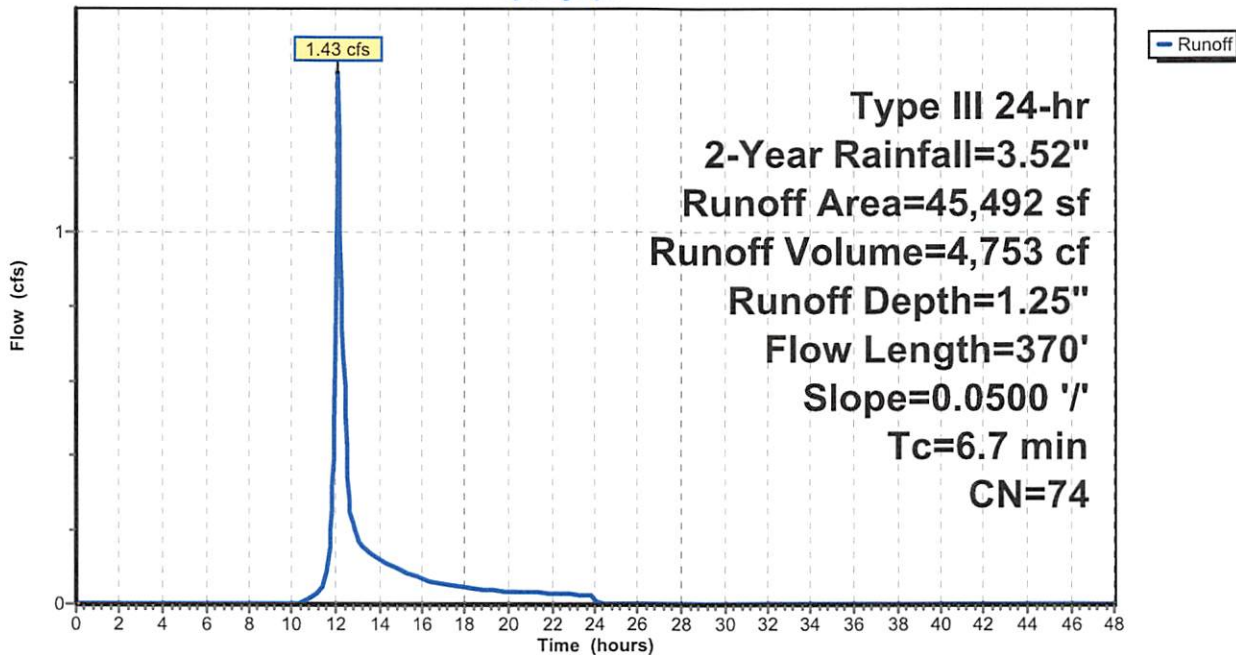
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2-Year Rainfall=3.52"

Area (sf)	CN	Description
5,290	71	Meadow, non-grazed, HSG C
40,202	74	Pasture/grassland/range, Good, HSG C
45,492	74	Weighted Average
45,492		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0500	0.25		<b>Sheet Flow,</b> Range n= 0.130 P2= 3.52"
3.4	320	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.7	370	Total			

**Subcatchment 4S: 4.2**

Hydrograph



**Summary for Subcatchment 8S: 4.3 (ROAD)**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 987 cf, Depth= 3.07"

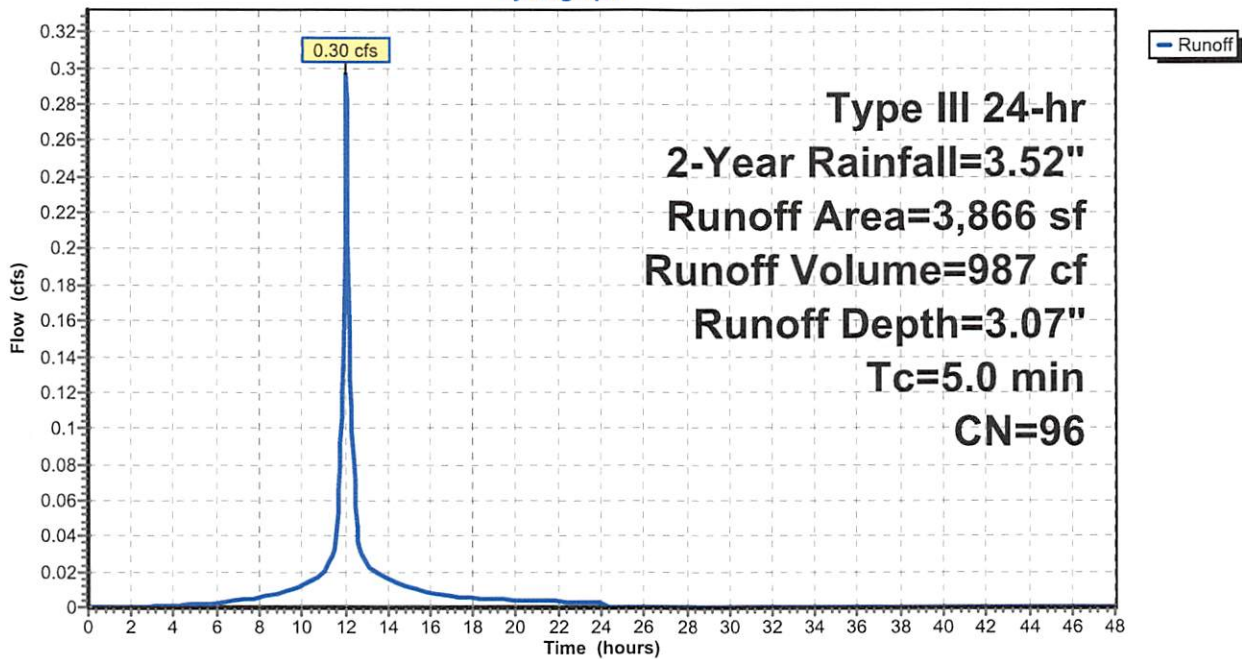
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs,  $dt = 0.05$  hrs  
 Type III 24-hr 2-Year Rainfall=3.52"

Area (sf)	CN	Description
3,866	96	Gravel surface, HSG C
3,866		100.00% Pervious Area

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

**Subcatchment 8S: 4.3 (ROAD)**

Hydrograph



**Summary for Subcatchment 10S: 4.1**

Runoff = 2.86 cfs @ 12.13 hrs, Volume= 10,121 cf, Depth= 1.32"

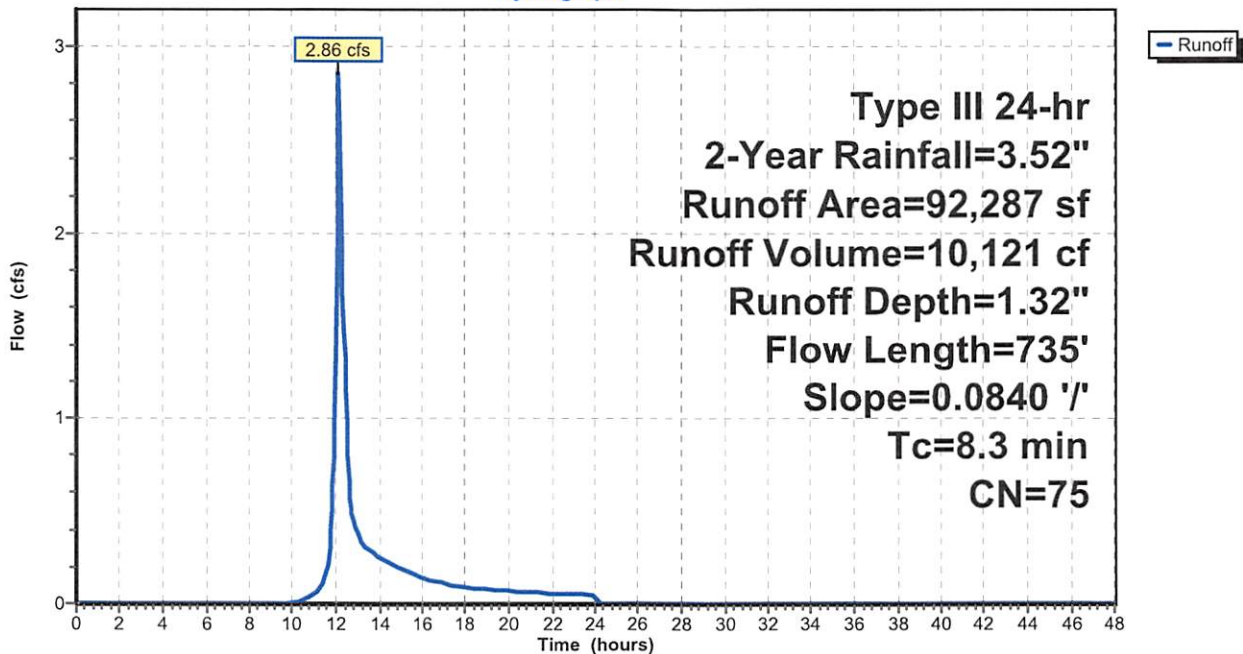
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2-Year Rainfall=3.52"

Area (sf)	CN	Description
486	98	Unconnected roofs, HSG C
32,386	78	Meadow, non-grazed, HSG D
6,477	71	Meadow, non-grazed, HSG C
52,938	74	Pasture/grassland/range, Good, HSG C
92,287	75	Weighted Average
91,801		99.47% Pervious Area
486		0.53% Impervious Area
486		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0840	0.31		Sheet Flow, Range n= 0.130 P2= 3.52"
5.6	685	0.0840	2.03		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
8.3	735	Total			

**Subcatchment 10S: 4.1**

Hydrograph



**Summary for Pond 5P: 2**

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth = 1.32" for 2-Year event  
 Inflow = 14.29 cfs @ 12.19 hrs, Volume= 61,911 cf  
 Outflow = 2.92 cfs @ 12.88 hrs, Volume= 42,906 cf, Atten= 80%, Lag= 41.0 min  
 Primary = 2.92 cfs @ 12.88 hrs, Volume= 42,906 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 757.16' @ 12.88 hrs Surf.Area= 16,051 sf Storage= 28,492 cf

Plug-Flow detention time= 295.5 min calculated for 42,906 cf (69% of inflow)  
 Center-of-Mass det. time= 192.0 min ( 1,051.5 - 859.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	755.00'	62,665 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
755.00	10,380	0	0
756.00	12,975	11,678	11,678
757.00	15,620	14,298	25,975
758.00	18,330	16,975	42,950
759.00	21,100	19,715	62,665

Device	Routing	Invert	Outlet Devices
#1	Primary	756.50'	<b>12.0" Round Culvert</b> L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 756.50' / 755.00' S= 0.0750 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	757.00'	<b>10.0' long x 10.0' breadth Broad-Crested Rectangular Weir</b> 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

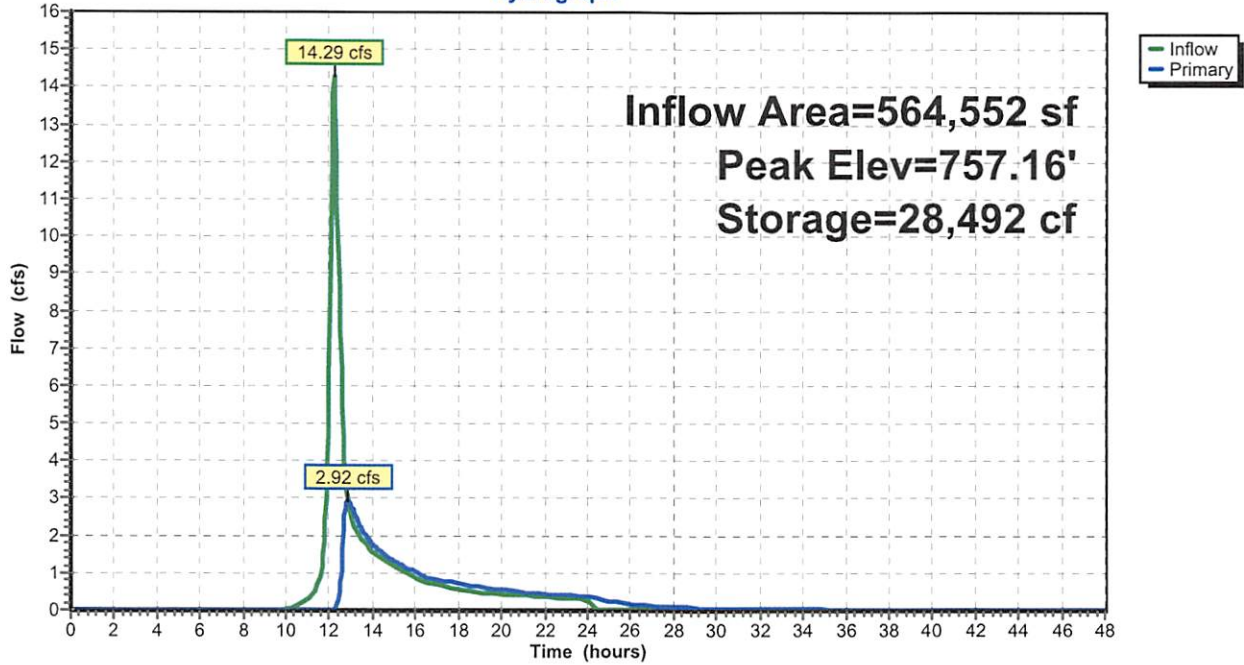
**Primary OutFlow** Max=2.91 cfs @ 12.88 hrs HW=757.16' (Free Discharge)

1=Culvert (Inlet Controls 1.34 cfs @ 2.44 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 1.57 cfs @ 0.99 fps)

### Pond 5P: 2

#### Hydrograph





**Summary for Pond 6P: 3**

Inflow Area = 256,797 sf, 0.19% Impervious, Inflow Depth = 1.36" for 2-Year event  
 Inflow = 8.00 cfs @ 12.14 hrs, Volume= 29,037 cf  
 Outflow = 3.93 cfs @ 12.41 hrs, Volume= 22,790 cf, Atten= 51%, Lag= 16.2 min  
 Primary = 3.93 cfs @ 12.41 hrs, Volume= 22,790 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 762.21' @ 12.41 hrs Surf.Area= 5,580 sf Storage= 9,911 cf

Plug-Flow detention time= 181.8 min calculated for 22,790 cf (78% of inflow)  
 Center-of-Mass det. time= 97.5 min ( 951.8 - 854.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	760.00'	21,640 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
760.00	3,440	0	0
761.00	4,350	3,895	3,895
762.00	5,350	4,850	8,745
763.00	6,430	5,890	14,635
764.00	7,580	7,005	21,640

Device	Routing	Invert	Outlet Devices
#1	Primary	761.50'	<b>12.0" Round Culvert</b> L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 761.50' / 761.00' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	762.00'	<b>10.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

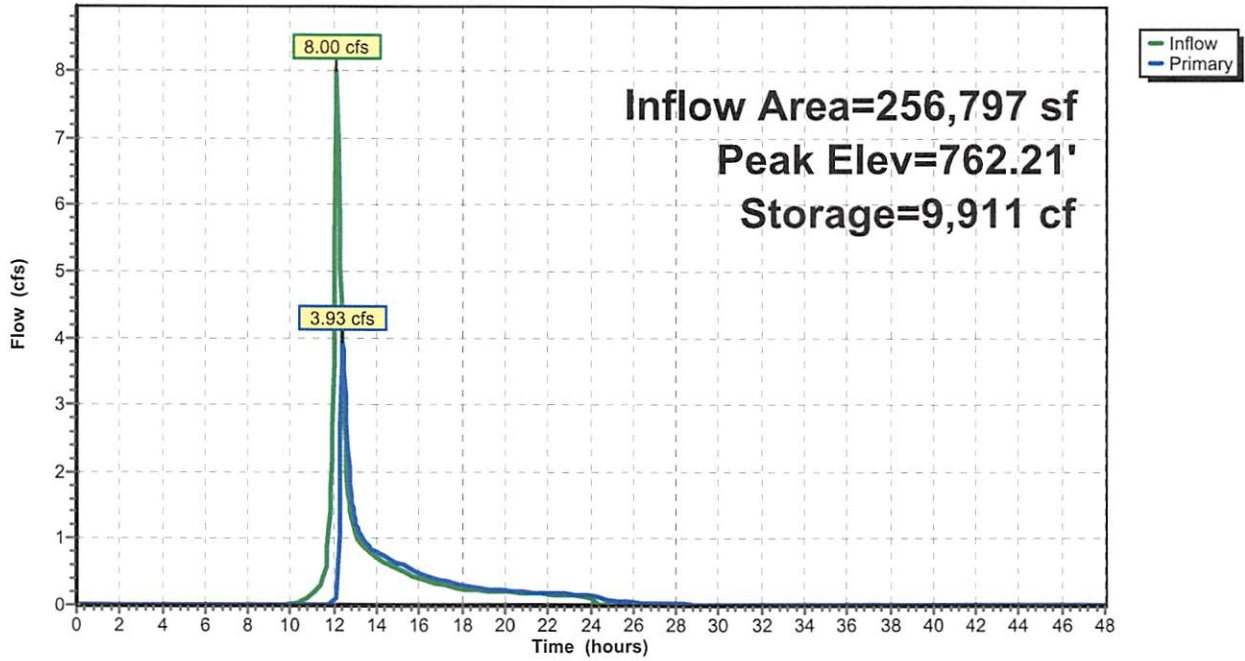
**Primary OutFlow Max=3.89 cfs @ 12.41 hrs HW=762.21' (Free Discharge)**

1=Culvert (Inlet Controls 1.52 cfs @ 2.53 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 2.37 cfs @ 1.12 fps)

**Pond 6P: 3**

Hydrograph



**Summary for Pond 7P: 4.3 (ROAD)**

Inflow Area = 3,866 sf, 0.00% Impervious, Inflow Depth = 3.07" for 2-Year event  
 Inflow = 0.30 cfs @ 12.07 hrs, Volume= 987 cf  
 Outflow = 0.01 cfs @ 15.67 hrs, Volume= 987 cf, Atten= 97%, Lag= 215.9 min  
 Discarded = 0.01 cfs @ 15.67 hrs, Volume= 987 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 791.38' @ 15.67 hrs Surf.Area= 3,866 sf Storage= 593 cf

Plug-Flow detention time= 594.3 min calculated for 987 cf (100% of inflow)  
 Center-of-Mass det. time= 594.2 min ( 1,364.7 - 770.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	791.00'	4,639 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 11,598 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
791.00	3,866	0	0
792.00	3,866	3,866	3,866
793.00	3,866	3,866	7,732
794.00	3,866	3,866	11,598

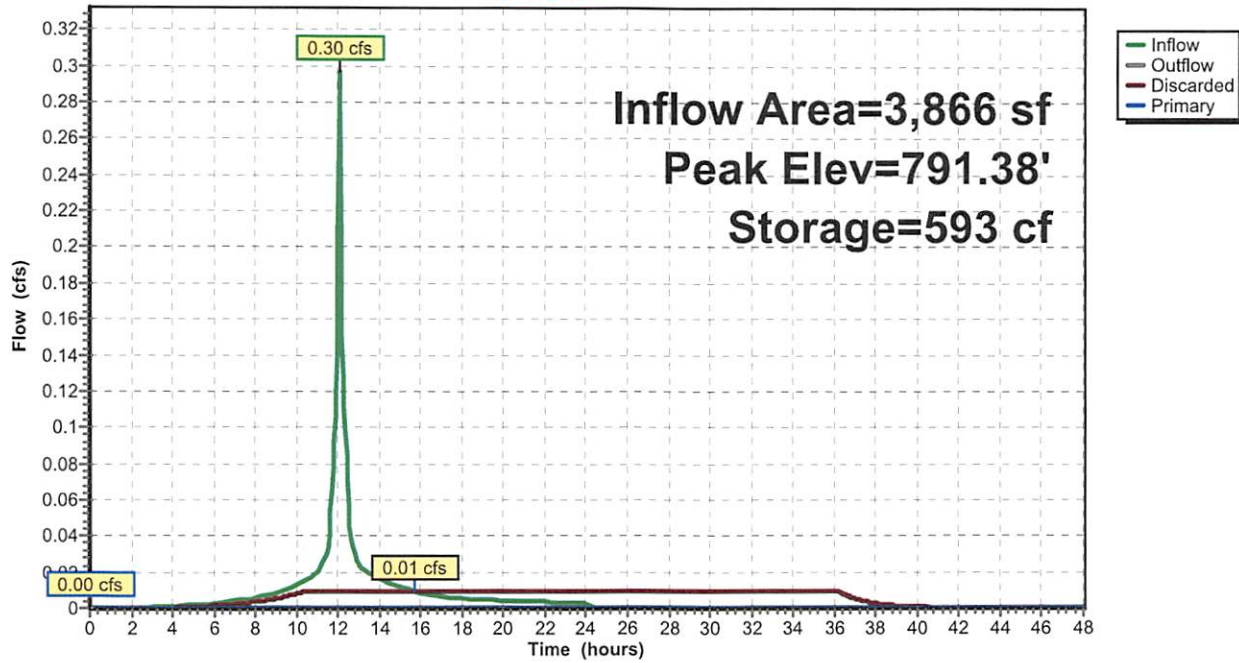
Device	Routing	Invert	Outlet Devices
#1	Discarded	791.00'	<b>0.100 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 785.00'
#2	Primary	793.00'	<b>12.0' long x 5.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 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

**Discarded OutFlow** Max=0.01 cfs @ 15.67 hrs HW=791.38' (Free Discharge)  
 ↰1=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=791.00' (Free Discharge)  
 ↰2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond 7P: 4.3 (ROAD)

#### Hydrograph



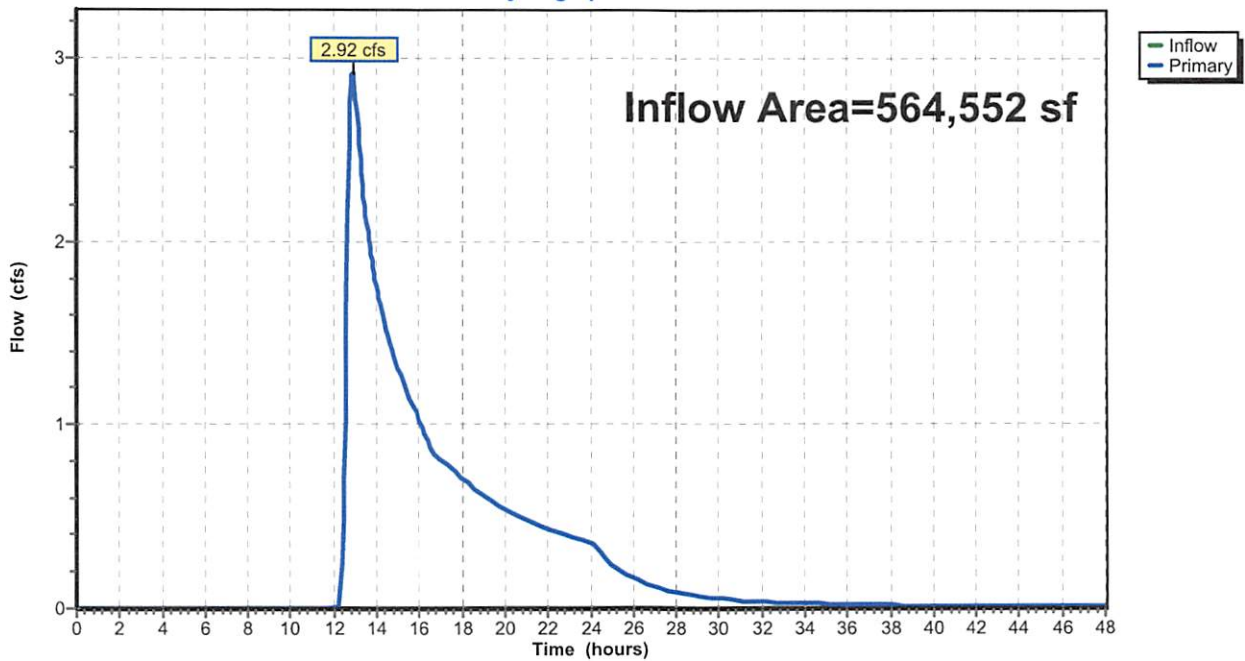
### Summary for Link 8L: AP-1

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth > 0.91" for 2-Year event  
Inflow = 2.92 cfs @ 12.88 hrs, Volume= 42,906 cf  
Primary = 2.92 cfs @ 12.88 hrs, Volume= 42,906 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 8L: AP-1

Hydrograph



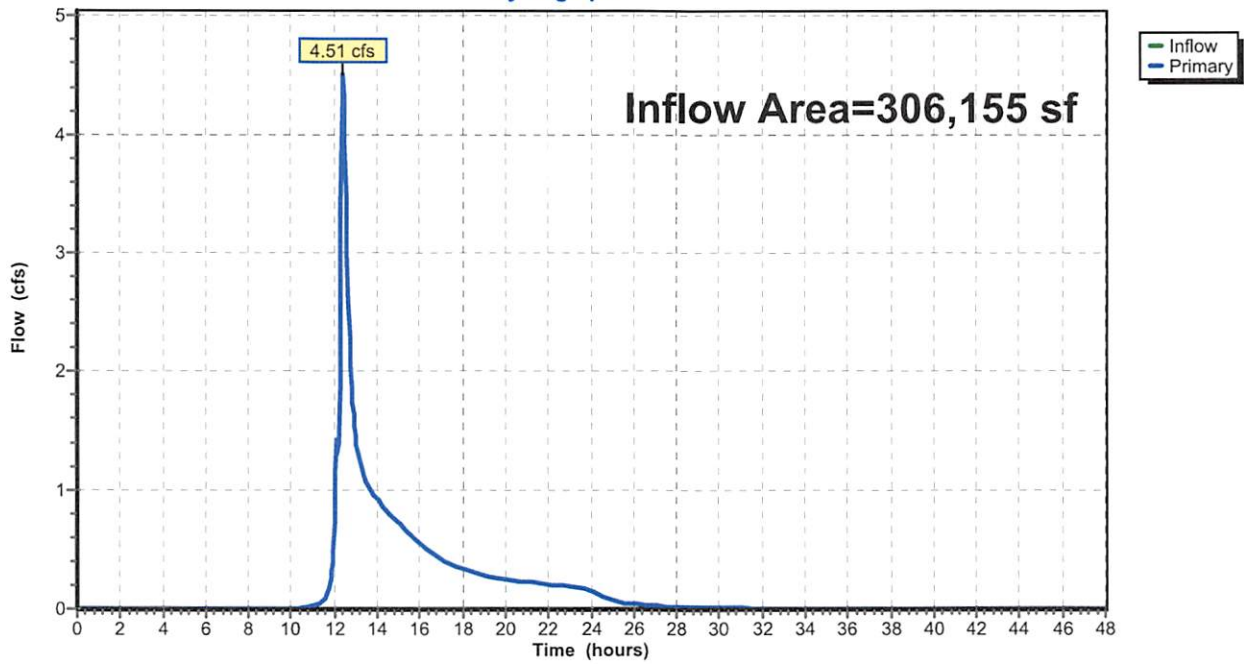
### Summary for Link 9L: AP-2

Inflow Area = 306,155 sf, 0.16% Impervious, Inflow Depth > 1.08" for 2-Year event  
Inflow = 4.51 cfs @ 12.40 hrs, Volume= 27,543 cf  
Primary = 4.51 cfs @ 12.40 hrs, Volume= 27,543 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 9L: AP-2

Hydrograph



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: 1** Runoff Area=104,729 sf 0.00% Impervious Runoff Depth=4.12"  
Flow Length=480' Slope=0.0960 '/' Tc=5.9 min CN=75 Runoff=11.40 cfs 35,983 cf

**Subcatchment2S: 2** Runoff Area=459,823 sf 0.00% Impervious Runoff Depth=4.12"  
Flow Length=1,115' Tc=14.4 min CN=75 Runoff=39.01 cfs 157,988 cf

**Subcatchment3S: 3** Runoff Area=164,510 sf 0.00% Impervious Runoff Depth=4.23"  
Flow Length=860' Slope=0.0750 '/' Tc=9.8 min CN=76 Runoff=16.22 cfs 57,999 cf

**Subcatchment4S: 4.2** Runoff Area=45,492 sf 0.00% Impervious Runoff Depth=4.02"  
Flow Length=370' Slope=0.0500 '/' Tc=6.7 min CN=74 Runoff=4.73 cfs 15,224 cf

**Subcatchment8S: 4.3 (ROAD)** Runoff Area=3,866 sf 0.00% Impervious Runoff Depth=6.49"  
Tc=5.0 min CN=96 Runoff=0.61 cfs 2,092 cf

**Subcatchment10S: 4.1** Runoff Area=92,287 sf 0.53% Impervious Runoff Depth=4.12"  
Flow Length=735' Slope=0.0840 '/' Tc=8.3 min CN=75 Runoff=9.33 cfs 31,708 cf

**Pond 5P: 2** Peak Elev=758.19' Storage=46,545 cf Inflow=46.23 cfs 193,971 cf  
Outflow=38.71 cfs 174,932 cf

**Pond 6P: 3** Peak Elev=762.83' Storage=13,572 cf Inflow=25.33 cfs 89,707 cf  
Outflow=23.45 cfs 83,457 cf

**Pond 7P: 4.3 (ROAD)** Peak Elev=791.96' Storage=1,485 cf Inflow=0.61 cfs 2,092 cf  
Discarded=0.01 cfs 1,524 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 1,524 cf

**Link 8L: AP-1** Inflow=38.71 cfs 174,932 cf  
Primary=38.71 cfs 174,932 cf

**Link 9L: AP-2** Inflow=27.30 cfs 98,682 cf  
Primary=27.30 cfs 98,682 cf

**Total Runoff Area = 870,707 sf Runoff Volume = 300,994 cf Average Runoff Depth = 4.15"**  
**99.94% Pervious = 870,221 sf 0.06% Impervious = 486 sf**

**Summary for Subcatchment 1S: 1**

[49] Hint:  $T_c < 2dt$  may require smaller dt

Runoff = 11.40 cfs @ 12.09 hrs, Volume= 35,983 cf, Depth= 4.12"

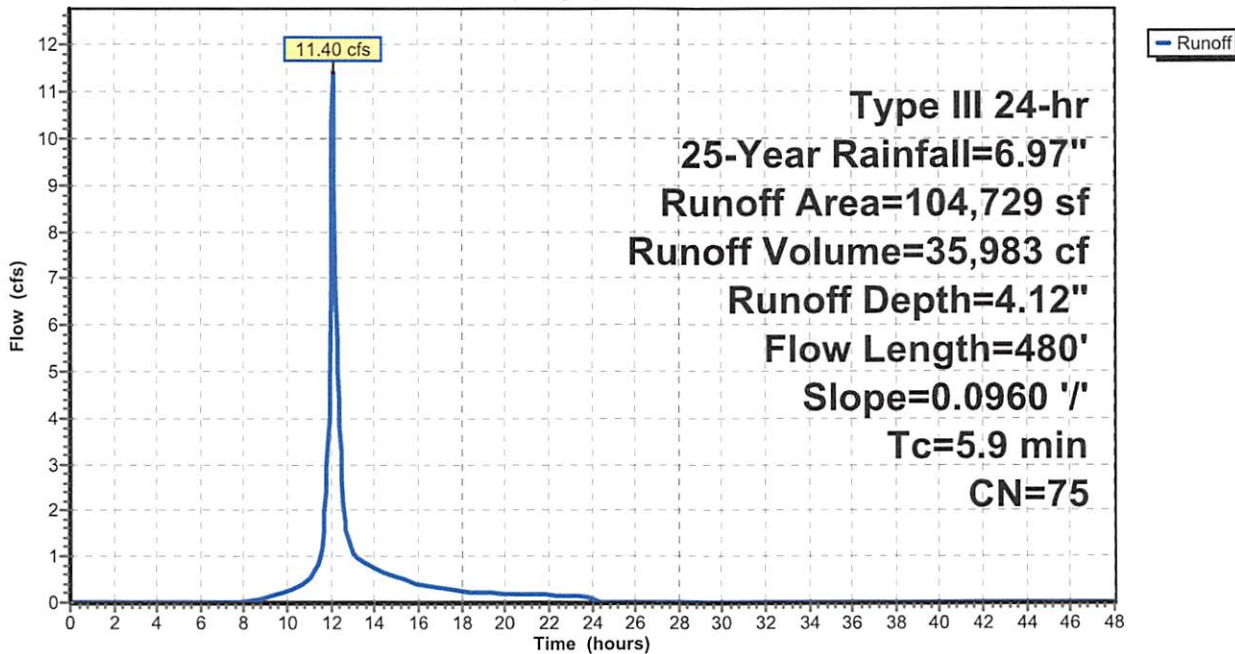
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=6.97"

Area (sf)	CN	Description
49,057	78	Meadow, non-grazed, HSG D
1,212	71	Meadow, non-grazed, HSG C
50,317	74	Pasture/grassland/range, Good, HSG C
4,143	61	Pasture/grassland/range, Good, HSG B
104,729	75	Weighted Average
104,729		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	50	0.0960	0.33		Sheet Flow, Range n= 0.130 P2= 3.52"
3.3	430	0.0960	2.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
5.9	480	Total			

**Subcatchment 1S: 1**

Hydrograph





**Summary for Subcatchment 2S: 2**

Runoff = 39.01 cfs @ 12.20 hrs, Volume= 157,988 cf, Depth= 4.12"

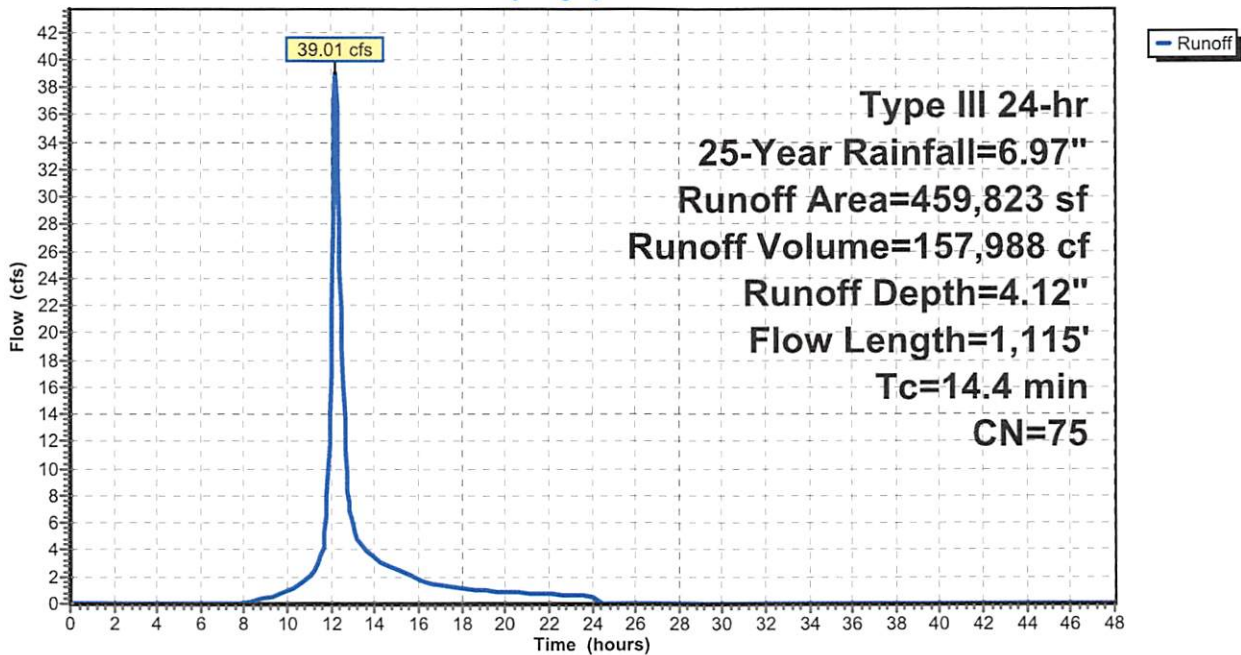
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=6.97"

Area (sf)	CN	Description
137,232	74	Pasture/grassland/range, Good, HSG C
217,637	78	Meadow, non-grazed, HSG D
104,954	71	Meadow, non-grazed, HSG C
459,823	75	Weighted Average
459,823		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1110	0.35		Sheet Flow, Range n= 0.130 P2= 3.52"
4.3	605	0.1110	2.33		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.7	460	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
14.4	1,115	Total			

**Subcatchment 2S: 2**

Hydrograph



### Summary for Subcatchment 3S: 3

Runoff = 16.22 cfs @ 12.14 hrs, Volume= 57,999 cf, Depth= 4.23"

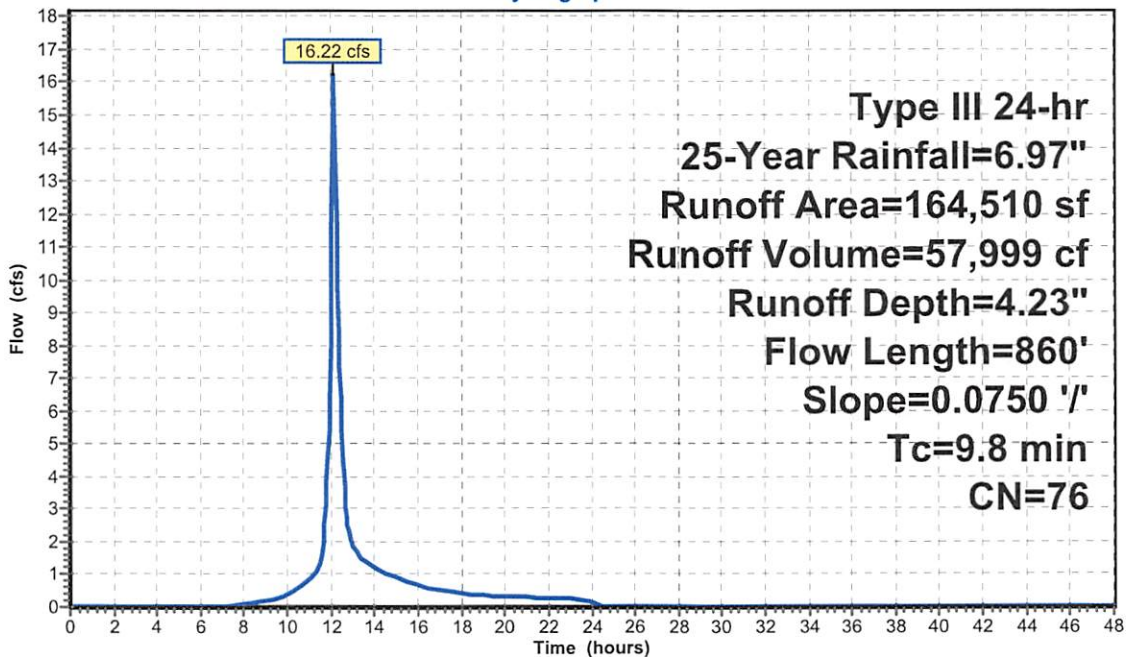
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=6.97"

Area (sf)	CN	Description
65,559	74	Pasture/grassland/range, Good, HSG C
98,951	78	Meadow, non-grazed, HSG D
164,510	76	Weighted Average
164,510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.0750	0.30		<b>Sheet Flow,</b> Range n= 0.130 P2= 3.52"
7.0	810	0.0750	1.92		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
9.8	860	Total			

### Subcatchment 3S: 3

Hydrograph



**Summary for Subcatchment 4S: 4.2**

Runoff = 4.73 cfs @ 12.10 hrs, Volume= 15,224 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=6.97"

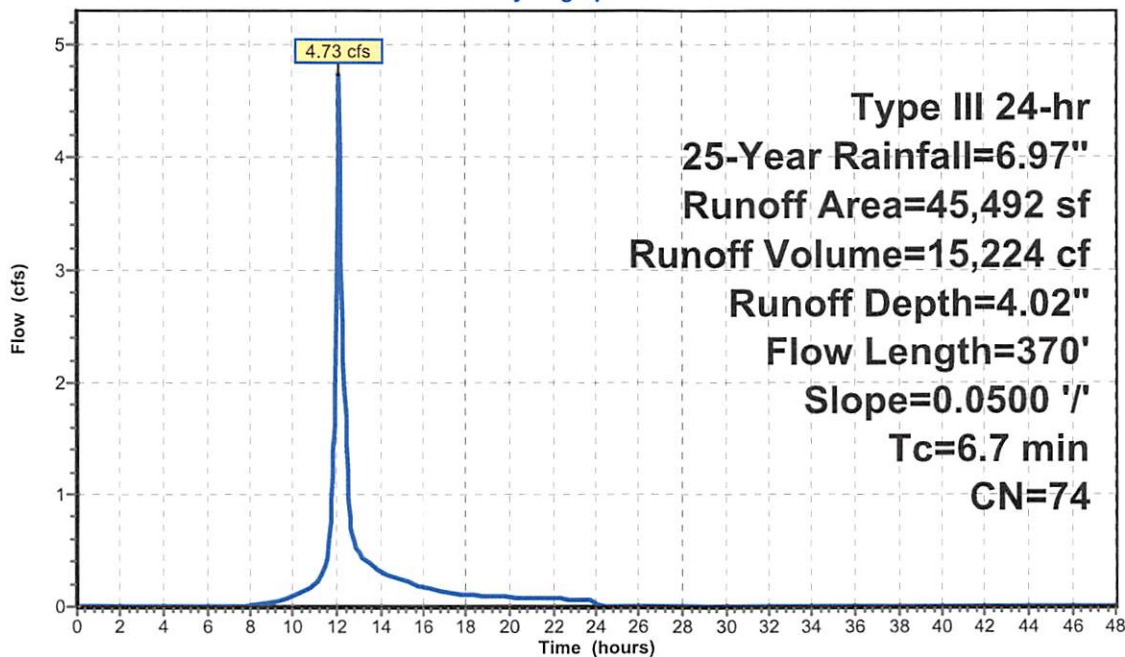
Area (sf)	CN	Description
5,290	71	Meadow, non-grazed, HSG C
40,202	74	Pasture/grassland/range, Good, HSG C
45,492	74	Weighted Average
45,492		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0500	0.25		<b>Sheet Flow,</b> Range n= 0.130 P2= 3.52"
3.4	320	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.7	370	Total			

**Subcatchment 4S: 4.2**

Hydrograph



**Summary for Subcatchment 8S: 4.3 (ROAD)**

[49] Hint:  $T_c < 2dt$  may require smaller dt

Runoff = 0.61 cfs @ 12.07 hrs, Volume= 2,092 cf, Depth= 6.49"

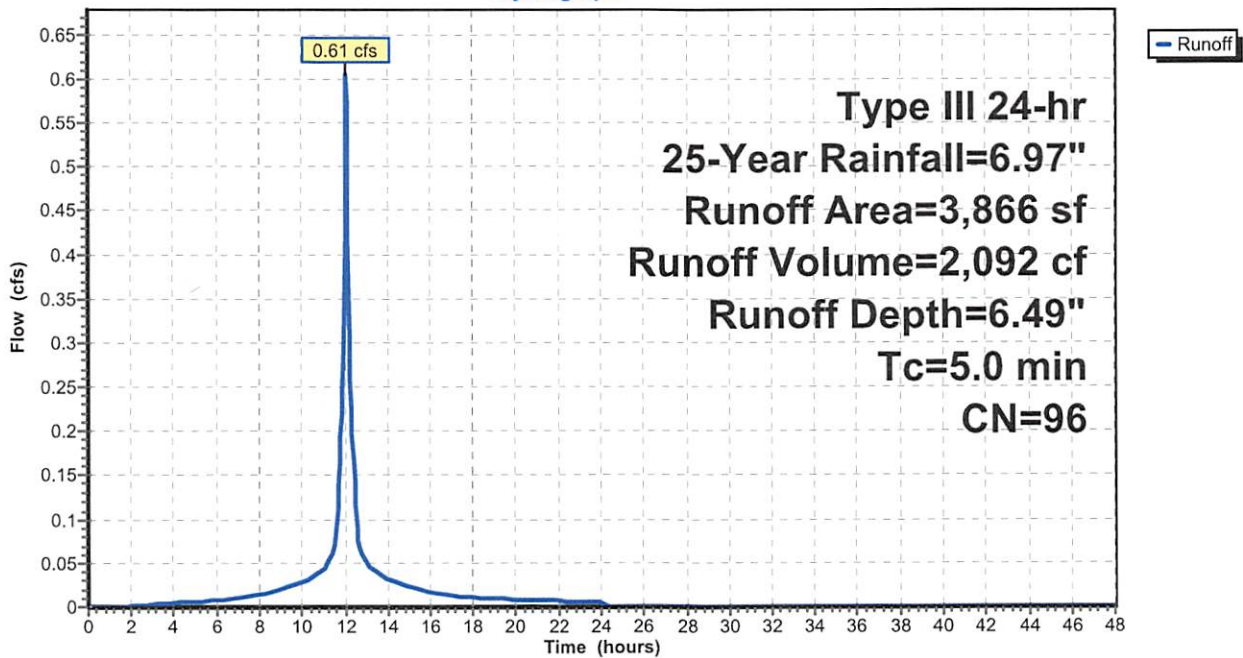
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=6.97"

Area (sf)	CN	Description
3,866	96	Gravel surface, HSG C
3,866		100.00% Pervious Area

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

**Subcatchment 8S: 4.3 (ROAD)**

Hydrograph



**Summary for Subcatchment 10S: 4.1**

Runoff = 9.33 cfs @ 12.12 hrs, Volume= 31,708 cf, Depth= 4.12"

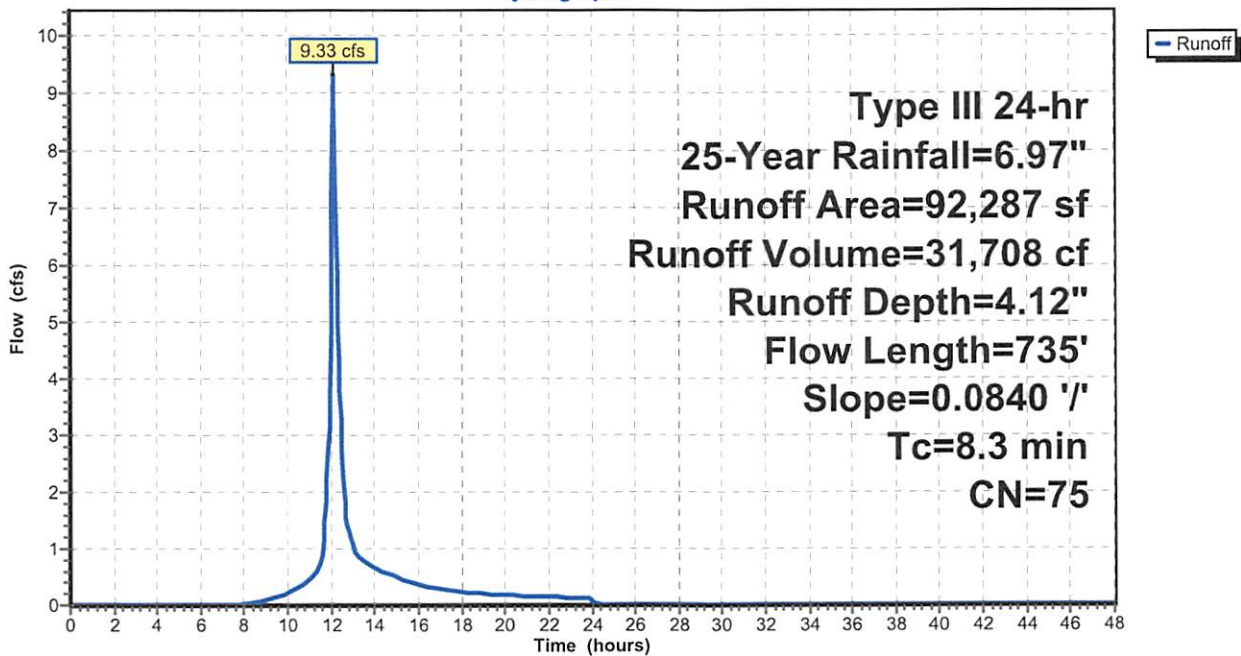
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=6.97"

Area (sf)	CN	Description
486	98	Unconnected roofs, HSG C
32,386	78	Meadow, non-grazed, HSG D
6,477	71	Meadow, non-grazed, HSG C
52,938	74	Pasture/grassland/range, Good, HSG C
92,287	75	Weighted Average
91,801		99.47% Pervious Area
486		0.53% Impervious Area
486		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0840	0.31		Sheet Flow, Range n= 0.130 P2= 3.52"
5.6	685	0.0840	2.03		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
8.3	735	Total			

**Subcatchment 10S: 4.1**

Hydrograph



**Summary for Pond 5P: 2**

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth = 4.12" for 25-Year event  
 Inflow = 46.23 cfs @ 12.18 hrs, Volume= 193,971 cf  
 Outflow = 38.71 cfs @ 12.29 hrs, Volume= 174,932 cf, Atten= 16%, Lag= 6.9 min  
 Primary = 38.71 cfs @ 12.29 hrs, Volume= 174,932 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 758.19' @ 12.29 hrs Surf.Area= 18,865 sf Storage= 46,545 cf

Plug-Flow detention time= 116.9 min calculated for 174,932 cf (90% of inflow)  
 Center-of-Mass det. time= 69.0 min ( 895.2 - 826.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	755.00'	62,665 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
755.00	10,380	0	0
756.00	12,975	11,678	11,678
757.00	15,620	14,298	25,975
758.00	18,330	16,975	42,950
759.00	21,100	19,715	62,665

Device	Routing	Invert	Outlet Devices
#1	Primary	756.50'	<b>12.0" Round Culvert</b> L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 756.50' / 755.00' S= 0.0750 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	757.00'	<b>10.0' long x 10.0' breadth Broad-Crested Rectangular Weir</b> 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

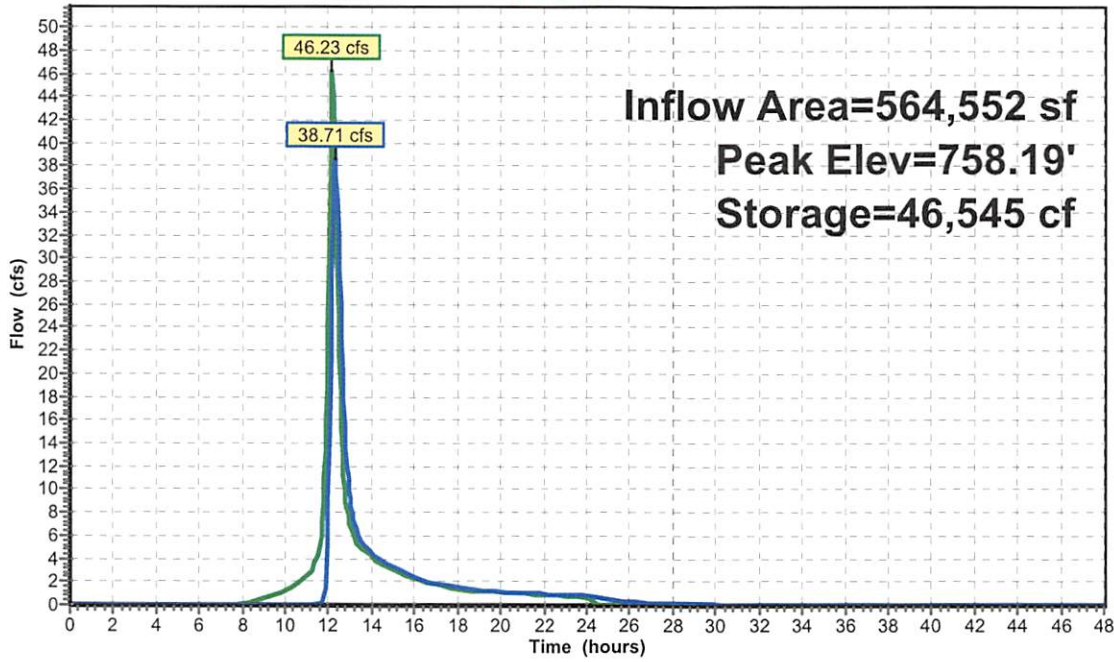
**Primary OutFlow** Max=38.57 cfs @ 12.29 hrs HW=758.19' (Free Discharge)

1=Culvert (Inlet Controls 3.64 cfs @ 4.64 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 34.93 cfs @ 2.93 fps)

### Pond 5P: 2

#### Hydrograph



**Summary for Pond 6P: 3**

Inflow Area = 256,797 sf, 0.19% Impervious, Inflow Depth = 4.19" for 25-Year event  
 Inflow = 25.33 cfs @ 12.13 hrs, Volume= 89,707 cf  
 Outflow = 23.45 cfs @ 12.18 hrs, Volume= 83,457 cf, Atten= 7%, Lag= 2.6 min  
 Primary = 23.45 cfs @ 12.18 hrs, Volume= 83,457 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 762.83' @ 12.18 hrs Surf.Area= 6,249 sf Storage= 13,572 cf

Plug-Flow detention time= 76.7 min calculated for 83,370 cf (93% of inflow)  
 Center-of-Mass det. time= 41.4 min ( 862.8 - 821.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	760.00'	21,640 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
760.00	3,440	0	0
761.00	4,350	3,895	3,895
762.00	5,350	4,850	8,745
763.00	6,430	5,890	14,635
764.00	7,580	7,005	21,640

Device	Routing	Invert	Outlet Devices
#1	Primary	761.50'	<b>12.0" Round Culvert</b> L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 761.50' / 761.00' S= 0.0167 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	762.00'	<b>10.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

**Primary OutFlow Max=23.11 cfs @ 12.18 hrs HW=762.82' (Free Discharge)**

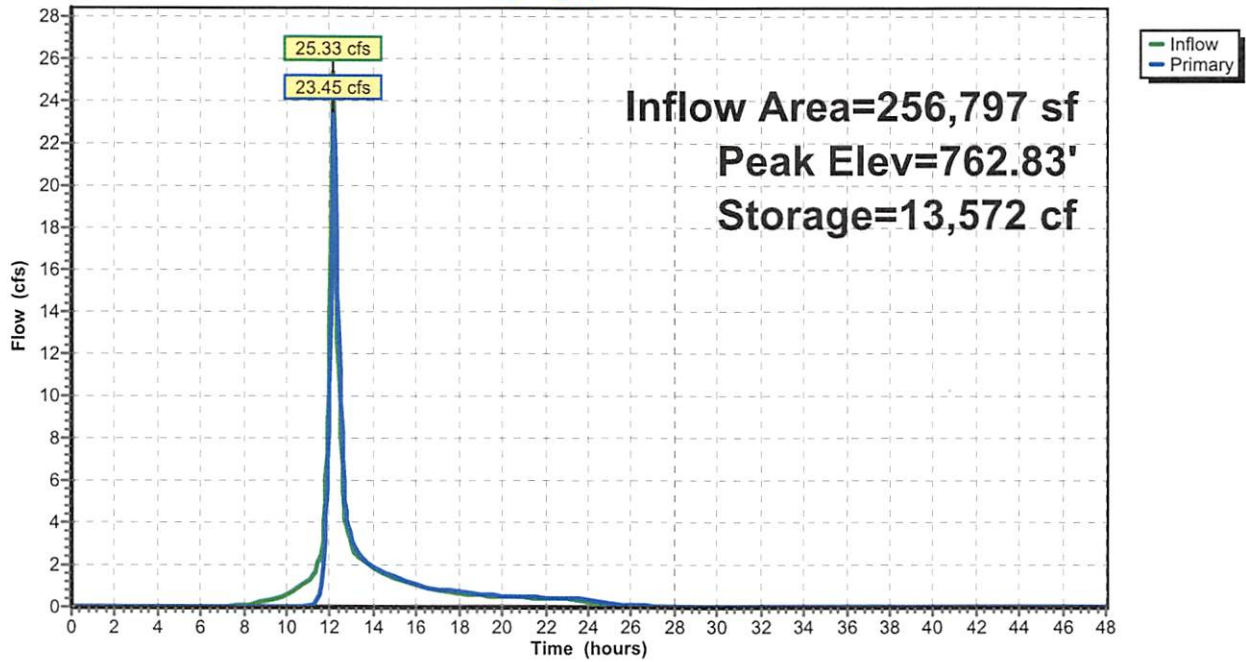
1=Culvert (Inlet Controls 3.03 cfs @ 3.85 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 20.08 cfs @ 2.44 fps)



### Pond 6P: 3

#### Hydrograph



**Summary for Pond 7P: 4.3 (ROAD)**

Inflow Area = 3,866 sf, 0.00% Impervious, Inflow Depth = 6.49" for 25-Year event  
 Inflow = 0.61 cfs @ 12.07 hrs, Volume= 2,092 cf  
 Outflow = 0.01 cfs @ 17.94 hrs, Volume= 1,524 cf, Atten= 98%, Lag= 351.9 min  
 Discarded = 0.01 cfs @ 17.94 hrs, Volume= 1,524 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 791.96' @ 17.94 hrs Surf.Area= 3,866 sf Storage= 1,485 cf

Plug-Flow detention time= 933.2 min calculated for 1,522 cf (73% of inflow)  
 Center-of-Mass det. time= 844.7 min ( 1,598.8 - 754.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	791.00'	4,639 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 11,598 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
791.00	3,866	0	0
792.00	3,866	3,866	3,866
793.00	3,866	3,866	7,732
794.00	3,866	3,866	11,598

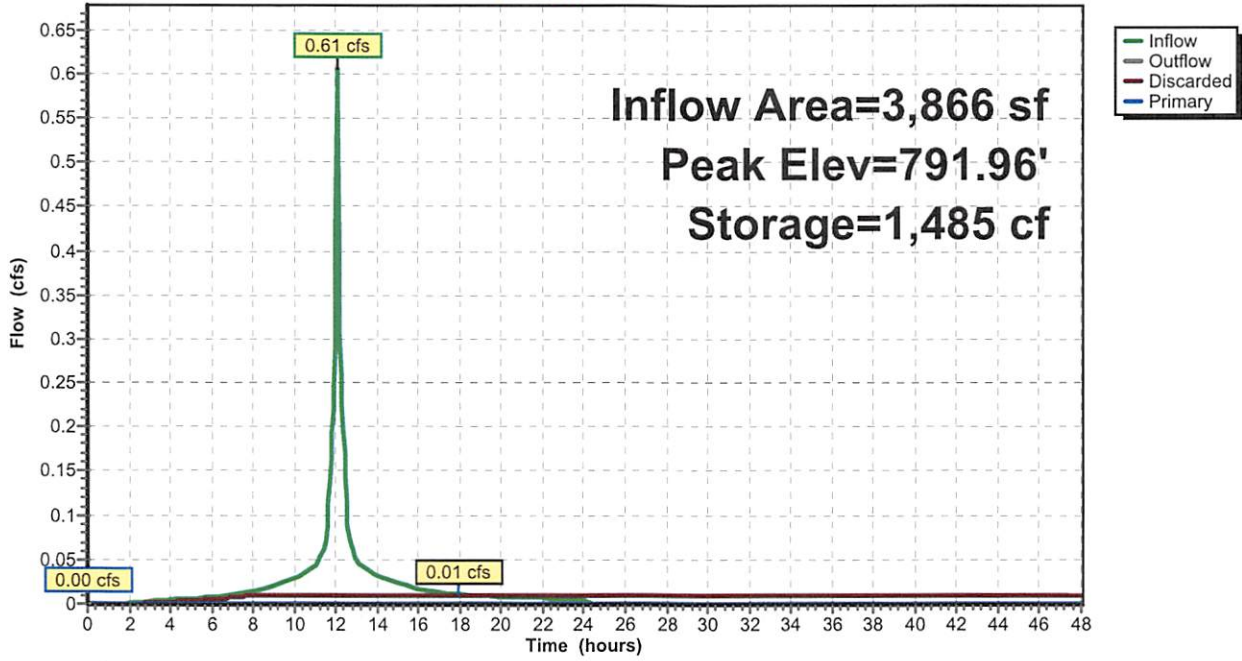
Device	Routing	Invert	Outlet Devices
#1	Discarded	791.00'	<b>0.100 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 785.00'
#2	Primary	793.00'	<b>12.0' long x 5.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 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

**Discarded OutFlow** Max=0.01 cfs @ 17.94 hrs HW=791.96' (Free Discharge)  
 ↖1=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=791.00' (Free Discharge)  
 ↖2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond 7P: 4.3 (ROAD)

#### Hydrograph



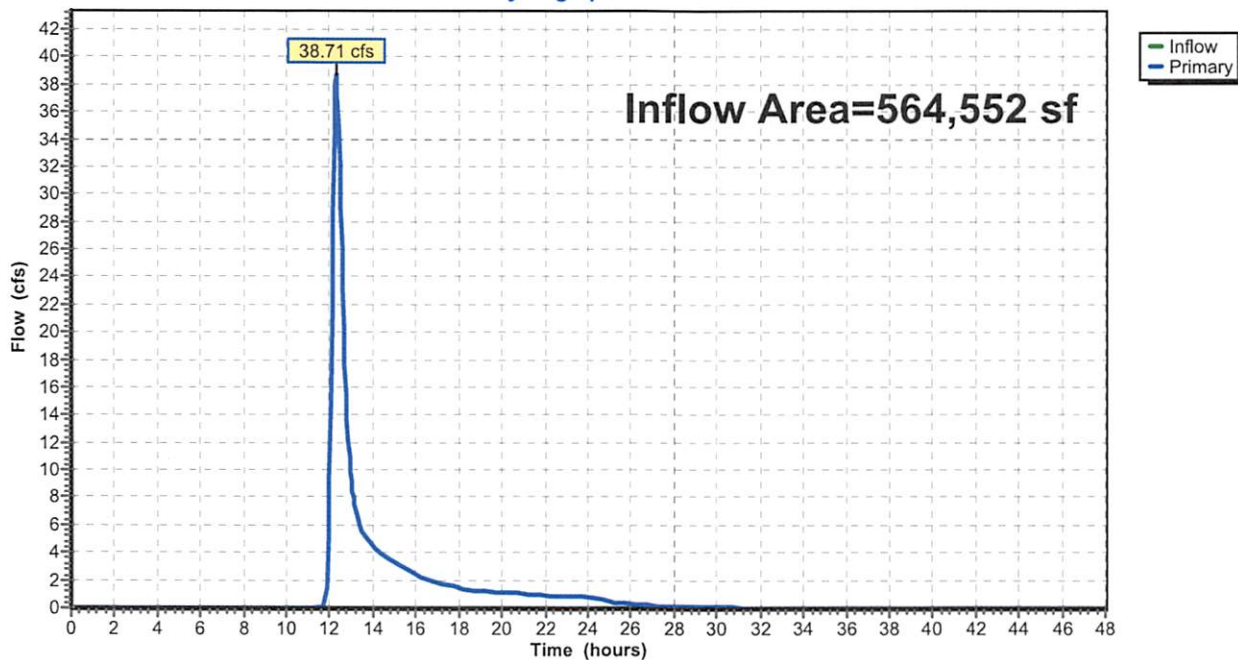
### Summary for Link 8L: AP-1

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth > 3.72" for 25-Year event  
Inflow = 38.71 cfs @ 12.29 hrs, Volume= 174,932 cf  
Primary = 38.71 cfs @ 12.29 hrs, Volume= 174,932 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 8L: AP-1

Hydrograph



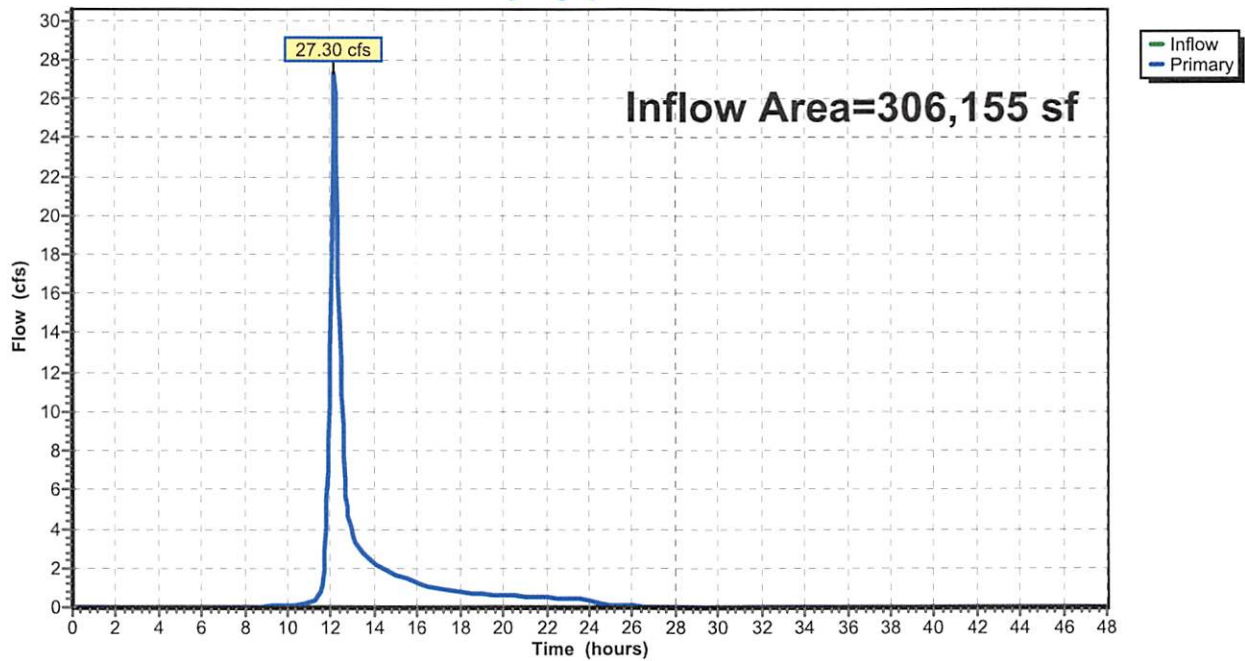
### Summary for Link 9L: AP-2

Inflow Area = 306,155 sf, 0.16% Impervious, Inflow Depth = 3.87" for 25-Year event  
Inflow = 27.30 cfs @ 12.16 hrs, Volume= 98,682 cf  
Primary = 27.30 cfs @ 12.16 hrs, Volume= 98,682 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 9L: AP-2

Hydrograph



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: 1** Runoff Area=104,729 sf 0.00% Impervious Runoff Depth=4.99"  
Flow Length=480' Slope=0.0960 '/' Tc=5.9 min CN=75 Runoff=13.74 cfs 43,529 cf

**Subcatchment 2S: 2** Runoff Area=459,823 sf 0.00% Impervious Runoff Depth=4.99"  
Flow Length=1,115' Tc=14.4 min CN=75 Runoff=47.08 cfs 191,116 cf

**Subcatchment 3S: 3** Runoff Area=164,510 sf 0.00% Impervious Runoff Depth=5.10"  
Flow Length=860' Slope=0.0750 '/' Tc=9.8 min CN=76 Runoff=19.50 cfs 69,962 cf

**Subcatchment 4S: 4.2** Runoff Area=45,492 sf 0.00% Impervious Runoff Depth=4.87"  
Flow Length=370' Slope=0.0500 '/' Tc=6.7 min CN=74 Runoff=5.72 cfs 18,470 cf

**Subcatchment 8S: 4.3 (ROAD)** Runoff Area=3,866 sf 0.00% Impervious Runoff Depth=7.46"  
Tc=5.0 min CN=96 Runoff=0.69 cfs 2,404 cf

**Subcatchment 10S: 4.1** Runoff Area=92,287 sf 0.53% Impervious Runoff Depth=4.99"  
Flow Length=735' Slope=0.0840 '/' Tc=8.3 min CN=75 Runoff=11.25 cfs 38,357 cf

**Pond 5P: 2** Peak Elev=758.39' Storage=50,292 cf Inflow=55.80 cfs 234,645 cf  
Outflow=47.67 cfs 215,602 cf

**Pond 6P: 3** Peak Elev=762.96' Storage=14,385 cf Inflow=30.48 cfs 108,320 cf  
Outflow=28.52 cfs 102,070 cf

**Pond 7P: 4.3 (ROAD)** Peak Elev=792.13' Storage=1,751 cf Inflow=0.69 cfs 2,404 cf  
Discarded=0.01 cfs 1,575 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 1,575 cf

**Link 8L: AP-1** Inflow=47.67 cfs 215,602 cf  
Primary=47.67 cfs 215,602 cf

**Link 9L: AP-2** Inflow=33.04 cfs 120,539 cf  
Primary=33.04 cfs 120,539 cf

**Total Runoff Area = 870,707 sf Runoff Volume = 363,838 cf Average Runoff Depth = 5.01"**  
**99.94% Pervious = 870,221 sf 0.06% Impervious = 486 sf**

**Summary for Subcatchment 1S: 1**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 13.74 cfs @ 12.09 hrs, Volume= 43,529 cf, Depth= 4.99"

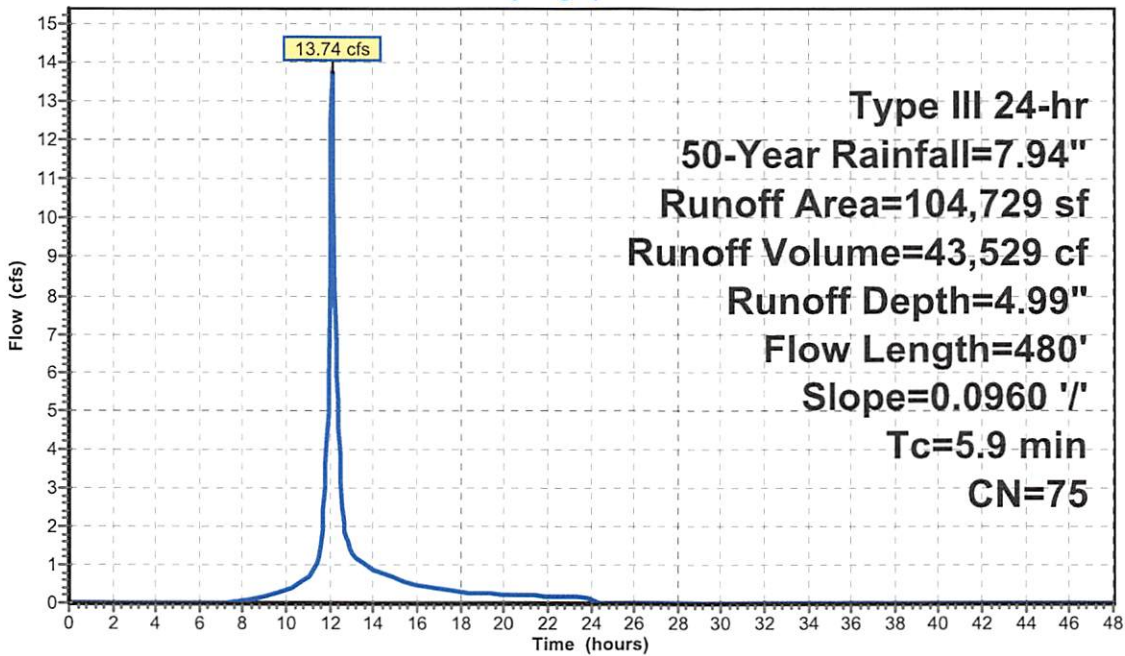
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 50-Year Rainfall=7.94"

Area (sf)	CN	Description
49,057	78	Meadow, non-grazed, HSG D
1,212	71	Meadow, non-grazed, HSG C
50,317	74	Pasture/grassland/range, Good, HSG C
4,143	61	Pasture/grassland/range, Good, HSG B
104,729	75	Weighted Average
104,729		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	50	0.0960	0.33		Sheet Flow, Range $n= 0.130$ $P2= 3.52"$
3.3	430	0.0960	2.17		Shallow Concentrated Flow, Short Grass Pasture $K_v= 7.0$ fps
5.9	480	Total			

**Subcatchment 1S: 1**

Hydrograph



**Summary for Subcatchment 2S: 2**

Runoff = 47.08 cfs @ 12.20 hrs, Volume= 191,116 cf, Depth= 4.99"

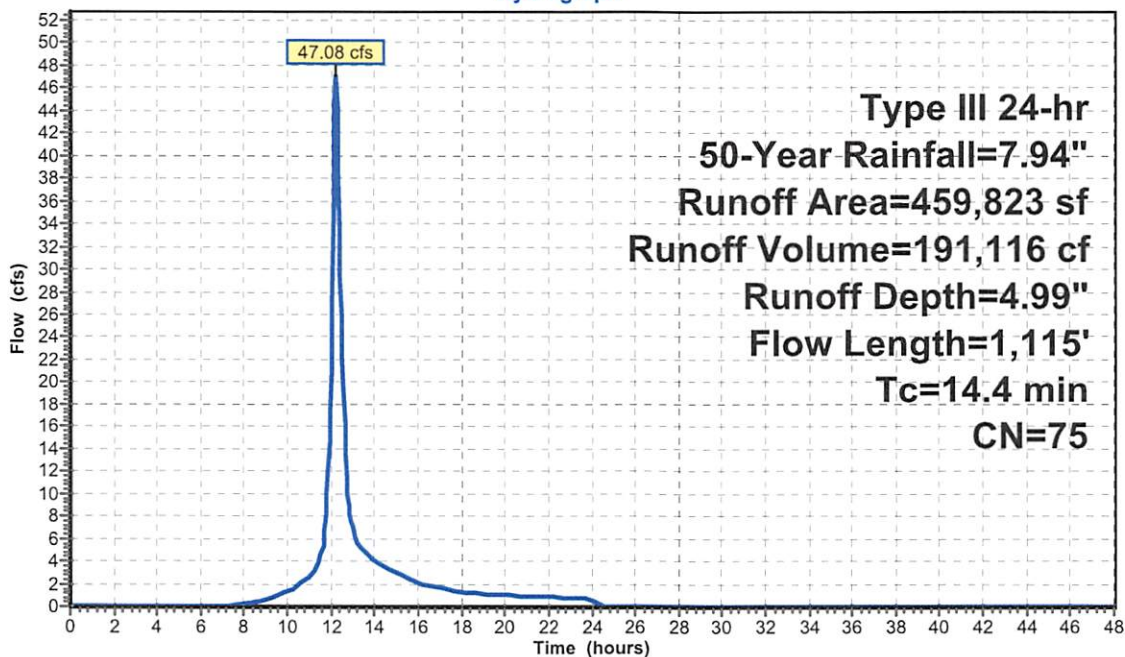
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
Type III 24-hr 50-Year Rainfall=7.94"

Area (sf)	CN	Description
137,232	74	Pasture/grassland/range, Good, HSG C
217,637	78	Meadow, non-grazed, HSG D
104,954	71	Meadow, non-grazed, HSG C
459,823	75	Weighted Average
459,823		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1110	0.35		Sheet Flow, Range n= 0.130 P2= 3.52"
4.3	605	0.1110	2.33		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.7	460	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
14.4	1,115	Total			

**Subcatchment 2S: 2**

Hydrograph





**Summary for Subcatchment 3S: 3**

Runoff = 19.50 cfs @ 12.14 hrs, Volume= 69,962 cf, Depth= 5.10"

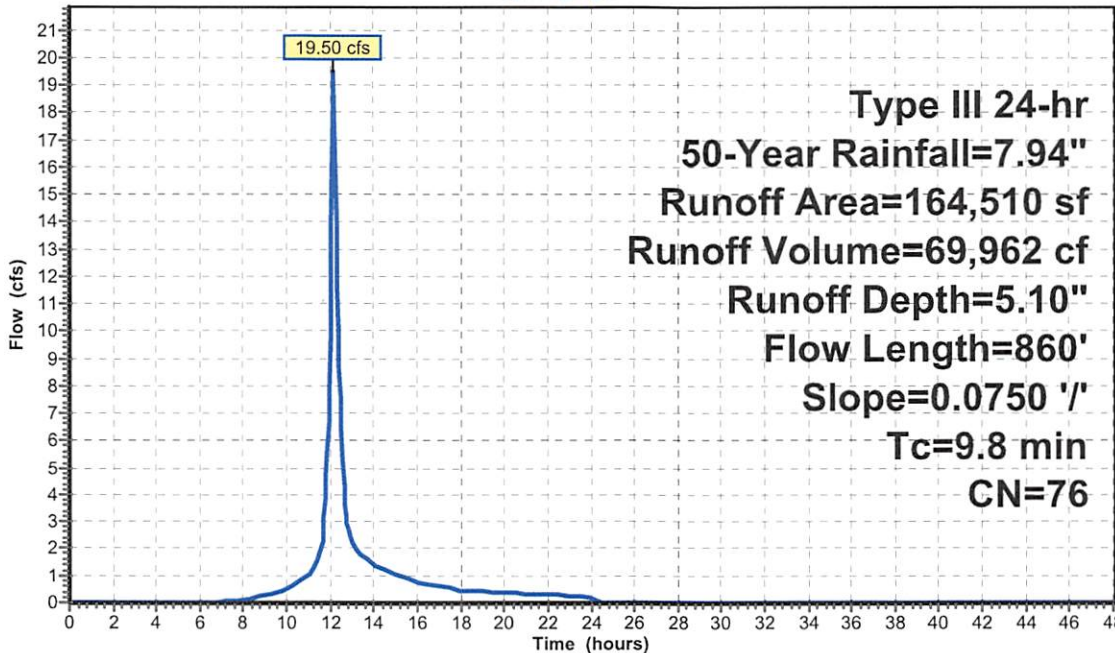
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 50-Year Rainfall=7.94"

Area (sf)	CN	Description
65,559	74	Pasture/grassland/range, Good, HSG C
98,951	78	Meadow, non-grazed, HSG D
164,510	76	Weighted Average
164,510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.0750	0.30		Sheet Flow, Range n= 0.130 P2= 3.52"
7.0	810	0.0750	1.92		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.8	860	Total			

**Subcatchment 3S: 3**

Hydrograph



### Summary for Subcatchment 4S: 4.2

Runoff = 5.72 cfs @ 12.10 hrs, Volume= 18,470 cf, Depth= 4.87"

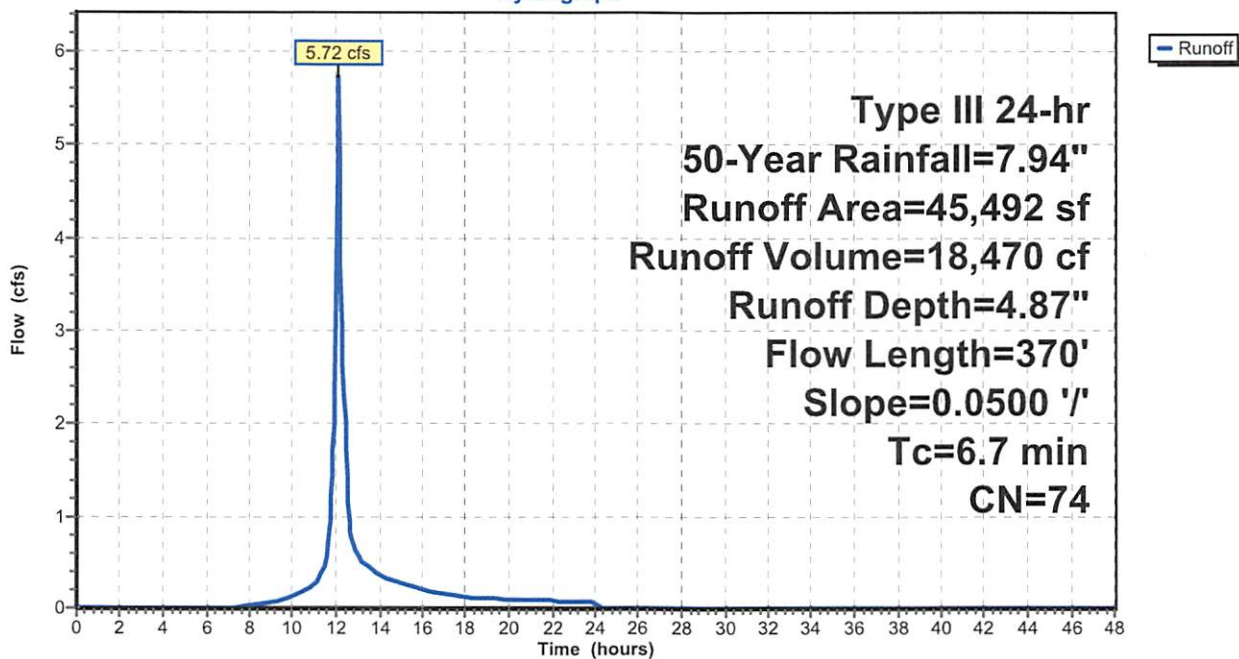
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 50-Year Rainfall=7.94"

Area (sf)	CN	Description
5,290	71	Meadow, non-grazed, HSG C
40,202	74	Pasture/grassland/range, Good, HSG C
45,492	74	Weighted Average
45,492		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0500	0.25		Sheet Flow, Range n= 0.130 P2= 3.52"
3.4	320	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.7	370	Total			

### Subcatchment 4S: 4.2

Hydrograph



**Summary for Subcatchment 8S: 4.3 (ROAD)**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 0.69 cfs @ 12.07 hrs, Volume= 2,404 cf, Depth= 7.46"

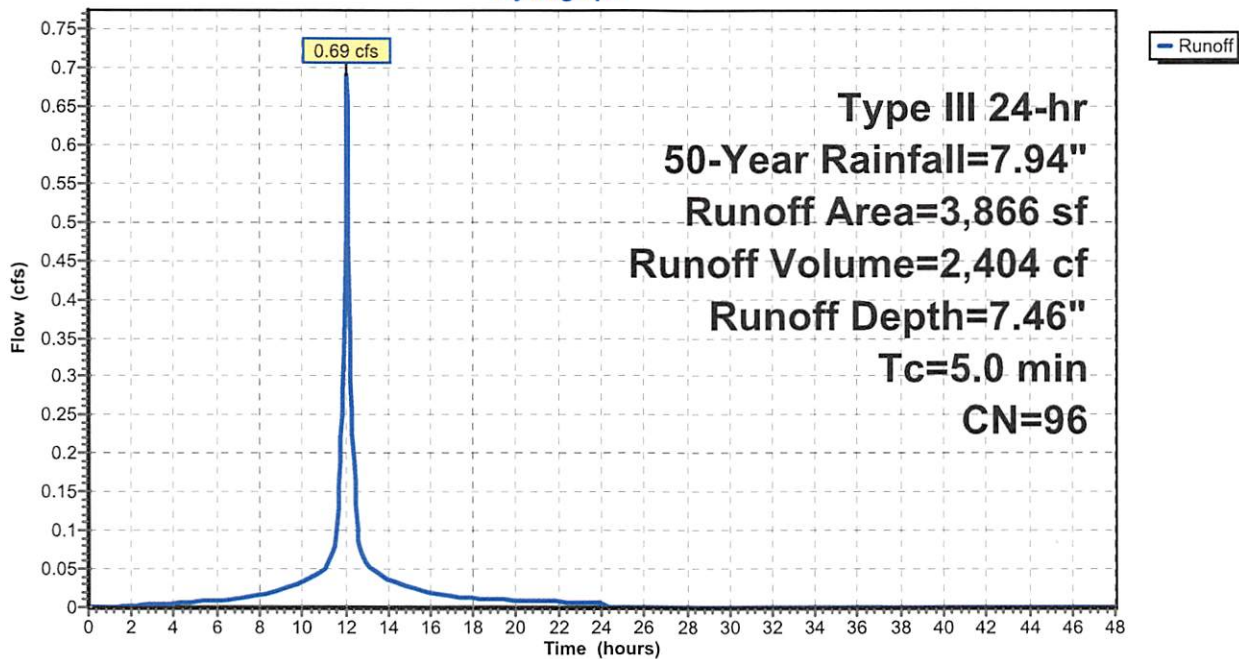
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 50-Year Rainfall=7.94"

Area (sf)	CN	Description
3,866	96	Gravel surface, HSG C
3,866		100.00% Pervious Area

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

**Subcatchment 8S: 4.3 (ROAD)**

Hydrograph



**Summary for Subcatchment 10S: 4.1**

Runoff = 11.25 cfs @ 12.12 hrs, Volume= 38,357 cf, Depth= 4.99"

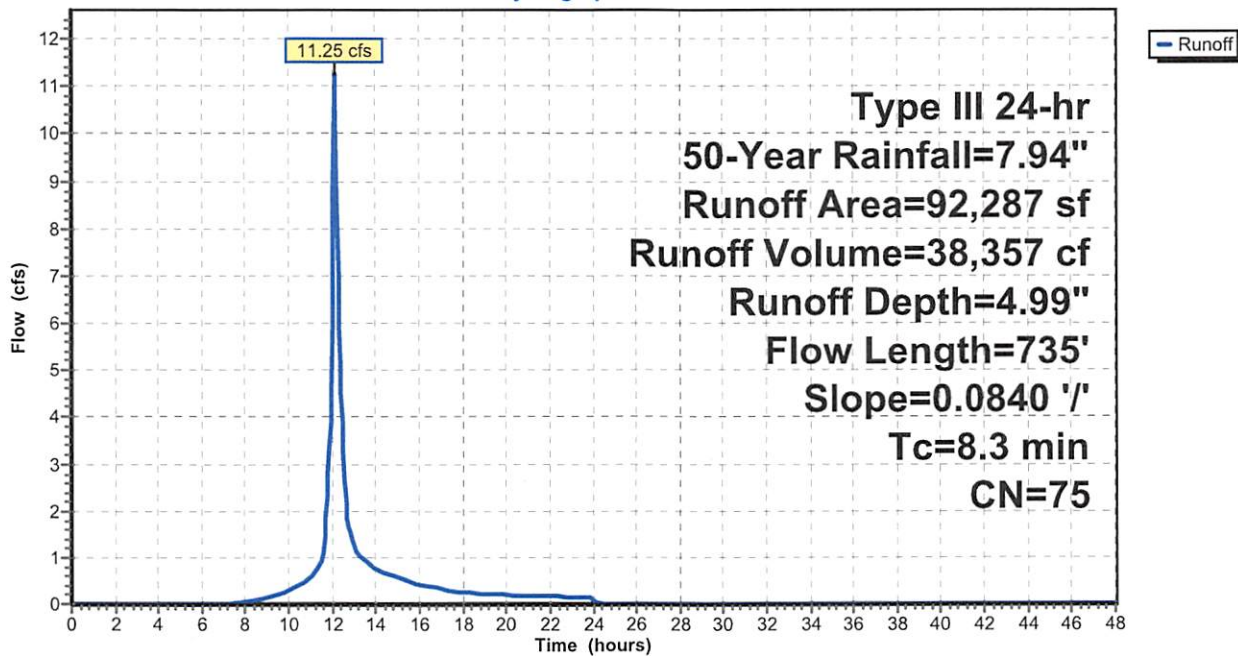
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 50-Year Rainfall=7.94"

Area (sf)	CN	Description
486	98	Unconnected roofs, HSG C
32,386	78	Meadow, non-grazed, HSG D
6,477	71	Meadow, non-grazed, HSG C
52,938	74	Pasture/grassland/range, Good, HSG C
92,287	75	Weighted Average
91,801		99.47% Pervious Area
486		0.53% Impervious Area
486		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0840	0.31		Sheet Flow, Range n= 0.130 P2= 3.52"
5.6	685	0.0840	2.03		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
8.3	735	Total			

**Subcatchment 10S: 4.1**

Hydrograph



**Summary for Pond 5P: 2**

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth = 4.99" for 50-Year event  
 Inflow = 55.80 cfs @ 12.18 hrs, Volume= 234,645 cf  
 Outflow = 47.67 cfs @ 12.28 hrs, Volume= 215,602 cf, Atten= 15%, Lag= 6.3 min  
 Primary = 47.67 cfs @ 12.28 hrs, Volume= 215,602 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 758.39' @ 12.28 hrs Surf.Area= 19,408 sf Storage= 50,292 cf

Plug-Flow detention time= 102.1 min calculated for 215,602 cf (92% of inflow)  
 Center-of-Mass det. time= 60.9 min ( 881.6 - 820.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	755.00'	62,665 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
755.00	10,380	0	0
756.00	12,975	11,678	11,678
757.00	15,620	14,298	25,975
758.00	18,330	16,975	42,950
759.00	21,100	19,715	62,665

Device	Routing	Invert	Outlet Devices
#1	Primary	756.50'	<b>12.0" Round Culvert</b> L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 756.50' / 755.00' S= 0.0750 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	757.00'	<b>10.0' long x 10.0' breadth Broad-Crested Rectangular Weir</b> 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

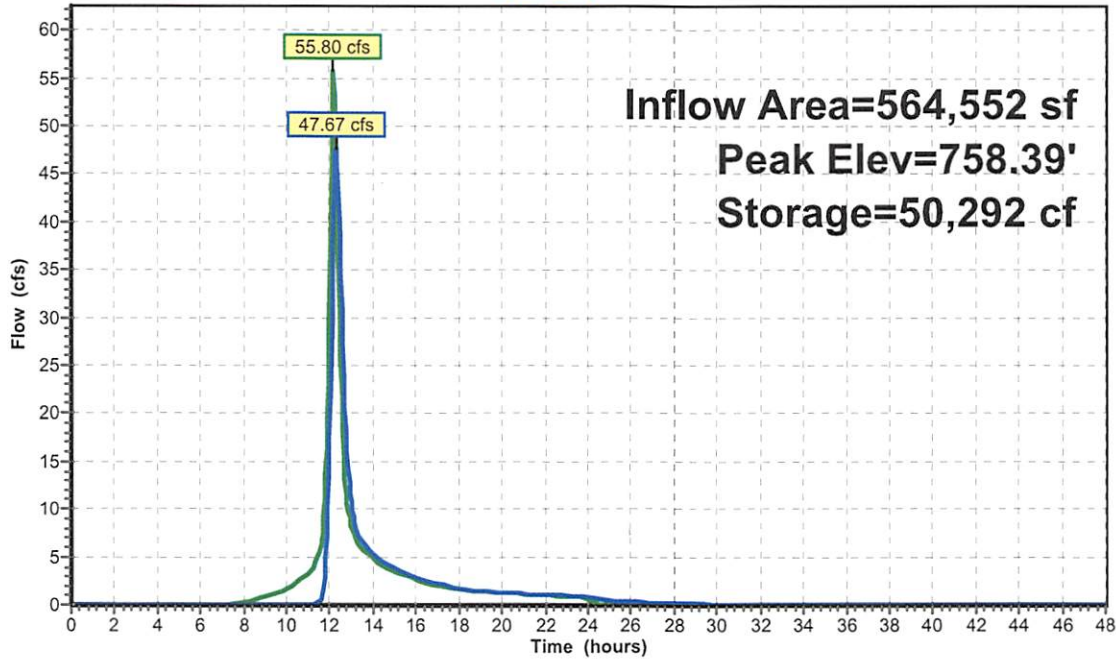
**Primary OutFlow** Max=47.40 cfs @ 12.28 hrs HW=758.38' (Free Discharge)

1=Culvert (Inlet Controls 3.92 cfs @ 5.00 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 43.47 cfs @ 3.14 fps)

### Pond 5P: 2

#### Hydrograph



— Inflow  
— Primary

**Summary for Pond 6P: 3**

Inflow Area = 256,797 sf, 0.19% Impervious, Inflow Depth = 5.06" for 50-Year event  
 Inflow = 30.48 cfs @ 12.13 hrs, Volume= 108,320 cf  
 Outflow = 28.52 cfs @ 12.17 hrs, Volume= 102,070 cf, Atten= 6%, Lag= 2.6 min  
 Primary = 28.52 cfs @ 12.17 hrs, Volume= 102,070 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 762.96' @ 12.17 hrs Surf.Area= 6,388 sf Storage= 14,385 cf

Plug-Flow detention time= 67.5 min calculated for 101,963 cf (94% of inflow)  
 Center-of-Mass det. time= 37.3 min ( 853.4 - 816.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	760.00'	21,640 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
760.00	3,440	0	0
761.00	4,350	3,895	3,895
762.00	5,350	4,850	8,745
763.00	6,430	5,890	14,635
764.00	7,580	7,005	21,640

Device	Routing	Invert	Outlet Devices
#1	Primary	761.50'	<b>12.0" Round Culvert</b> L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 761.50' / 761.00' S= 0.0167 ' S= 0.0167 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	762.00'	<b>10.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

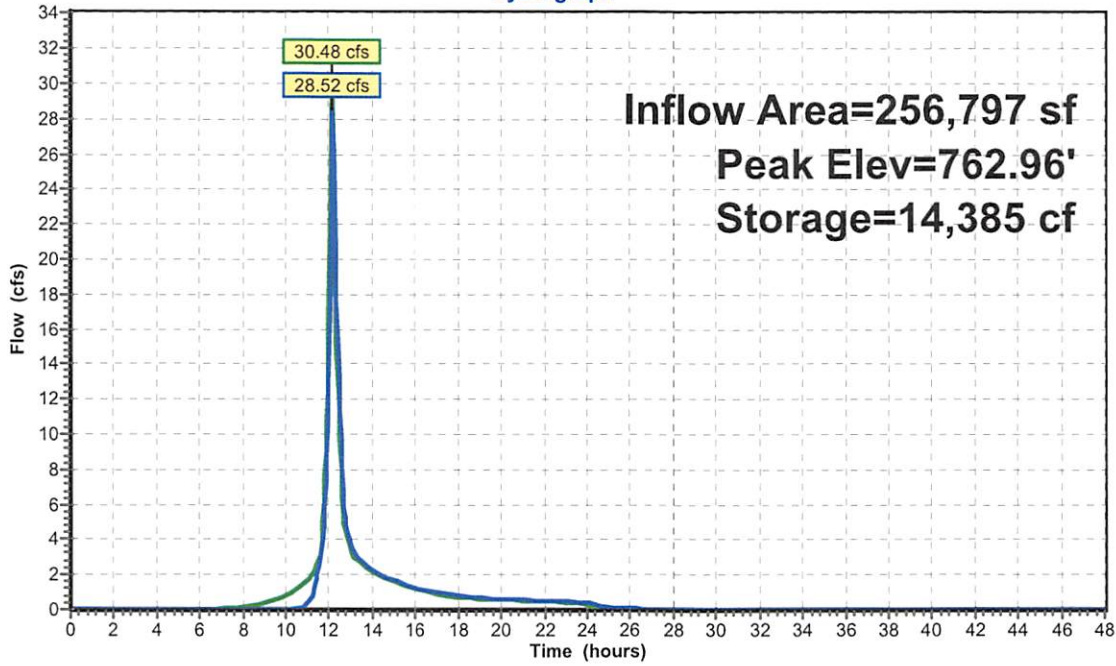
**Primary OutFlow** Max=27.93 cfs @ 12.17 hrs HW=762.95' (Free Discharge)

1=Culvert (Inlet Controls 3.25 cfs @ 4.13 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 24.68 cfs @ 2.61 fps)

### Pond 6P: 3

#### Hydrograph



Inflow  
Primary



**Summary for Pond 7P: 4.3 (ROAD)**

Inflow Area = 3,866 sf, 0.00% Impervious, Inflow Depth = 7.46" for 50-Year event  
 Inflow = 0.69 cfs @ 12.07 hrs, Volume= 2,404 cf  
 Outflow = 0.01 cfs @ 18.73 hrs, Volume= 1,575 cf, Atten= 98%, Lag= 399.8 min  
 Discarded = 0.01 cfs @ 18.73 hrs, Volume= 1,575 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 792.13' @ 18.73 hrs Surf.Area= 3,866 sf Storage= 1,751 cf

Plug-Flow detention time= 937.9 min calculated for 1,575 cf (66% of inflow)  
 Center-of-Mass det. time= 836.9 min ( 1,588.5 - 751.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	791.00'	4,639 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 11,598 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
791.00	3,866	0	0
792.00	3,866	3,866	3,866
793.00	3,866	3,866	7,732
794.00	3,866	3,866	11,598

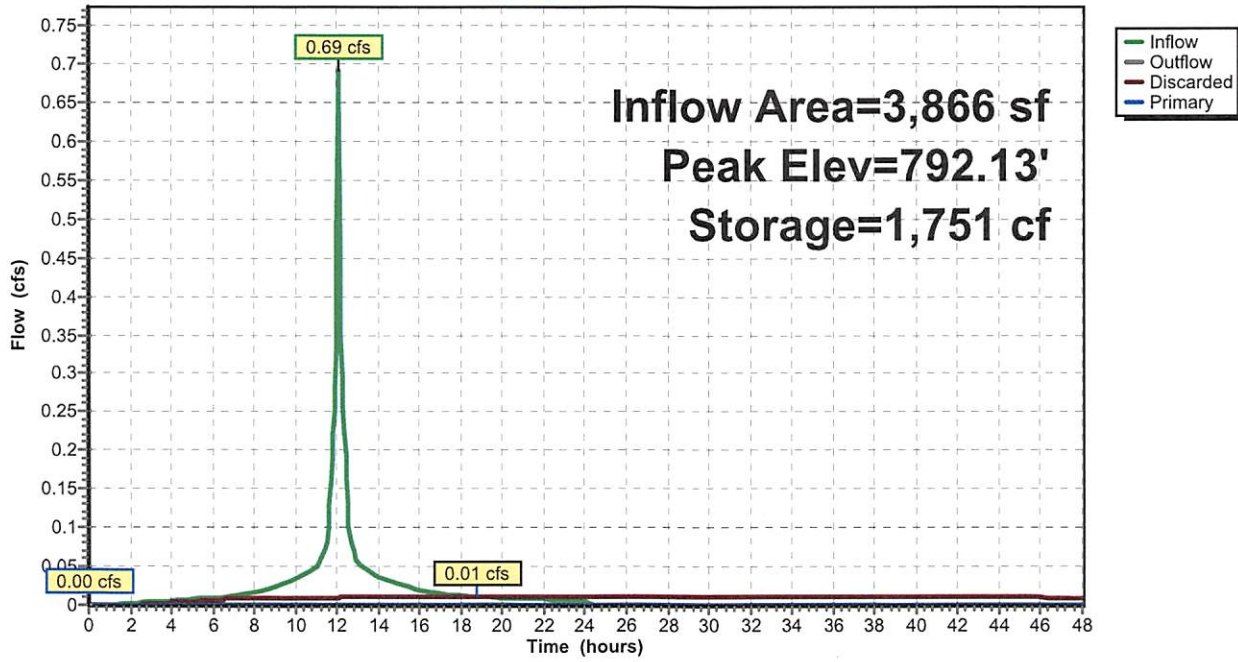
Device	Routing	Invert	Outlet Devices
#1	Discarded	791.00'	<b>0.100 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 785.00'
#2	Primary	793.00'	<b>12.0' long x 5.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 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

**Discarded OutFlow** Max=0.01 cfs @ 18.73 hrs HW=792.13' (Free Discharge)  
 ↖1=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=791.00' (Free Discharge)  
 ↖2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond 7P: 4.3 (ROAD)

#### Hydrograph



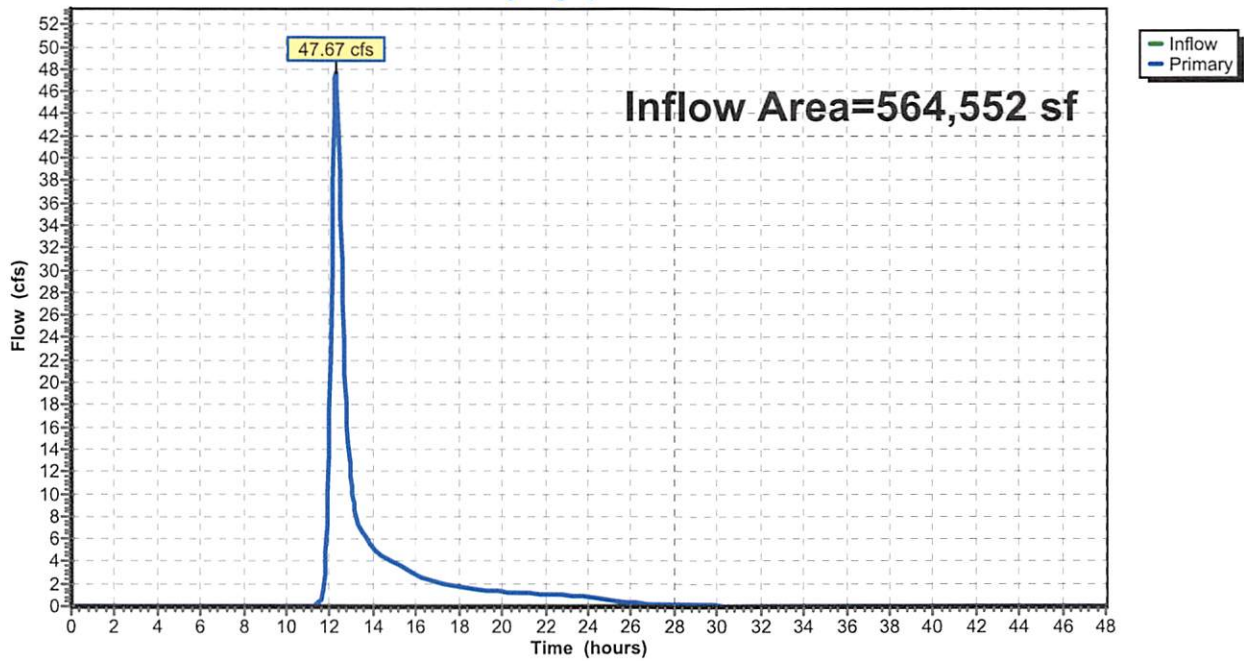
### Summary for Link 8L: AP-1

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth > 4.58" for 50-Year event  
Inflow = 47.67 cfs @ 12.28 hrs, Volume= 215,602 cf  
Primary = 47.67 cfs @ 12.28 hrs, Volume= 215,602 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 8L: AP-1

Hydrograph



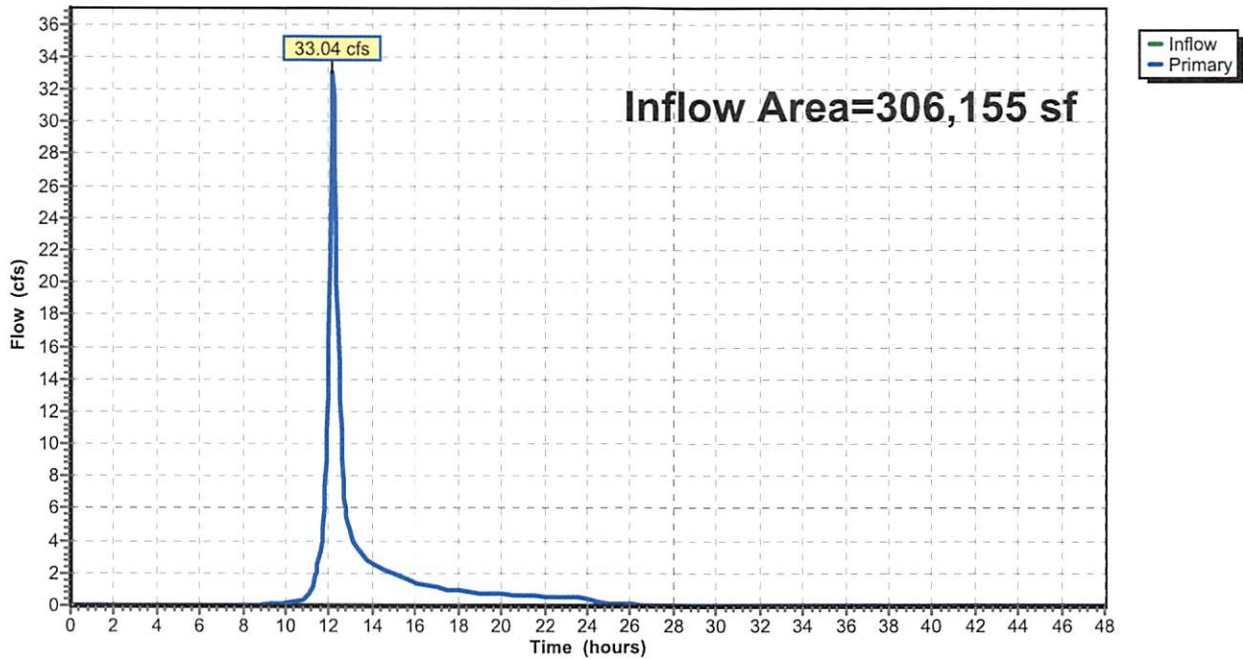
### Summary for Link 9L: AP-2

Inflow Area = 306,155 sf, 0.16% Impervious, Inflow Depth = 4.72" for 50-Year event  
Inflow = 33.04 cfs @ 12.16 hrs, Volume= 120,539 cf  
Primary = 33.04 cfs @ 12.16 hrs, Volume= 120,539 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 9L: AP-2

Hydrograph



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: 1** Runoff Area=104,729 sf 0.00% Impervious Runoff Depth=5.96"  
Flow Length=480' Slope=0.0960 '/' Tc=5.9 min CN=75 Runoff=16.35 cfs 52,029 cf

**Subcatchment 2S: 2** Runoff Area=459,823 sf 0.00% Impervious Runoff Depth=5.96"  
Flow Length=1,115' Tc=14.4 min CN=75 Runoff=56.07 cfs 228,439 cf

**Subcatchment 3S: 3** Runoff Area=164,510 sf 0.00% Impervious Runoff Depth=6.08"  
Flow Length=860' Slope=0.0750 '/' Tc=9.8 min CN=76 Runoff=23.14 cfs 83,420 cf

**Subcatchment 4S: 4.2** Runoff Area=45,492 sf 0.00% Impervious Runoff Depth=5.84"  
Flow Length=370' Slope=0.0500 '/' Tc=6.7 min CN=74 Runoff=6.83 cfs 22,132 cf

**Subcatchment 8S: 4.3 (ROAD)** Runoff Area=3,866 sf 0.00% Impervious Runoff Depth=8.53"  
Tc=5.0 min CN=96 Runoff=0.79 cfs 2,748 cf

**Subcatchment 10S: 4.1** Runoff Area=92,287 sf 0.53% Impervious Runoff Depth=5.96"  
Flow Length=735' Slope=0.0840 '/' Tc=8.3 min CN=75 Runoff=13.40 cfs 45,848 cf

**Pond 5P: 2** Peak Elev=758.59' Storage=54,280 cf Inflow=66.63 cfs 280,468 cf  
Outflow=57.25 cfs 261,423 cf

**Pond 6P: 3** Peak Elev=763.09' Storage=15,231 cf Inflow=36.21 cfs 129,268 cf  
Outflow=34.04 cfs 123,017 cf

**Pond 7P: 4.3 (ROAD)** Peak Elev=792.33' Storage=2,052 cf Inflow=0.79 cfs 2,748 cf  
Discarded=0.01 cfs 1,630 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 1,630 cf

**Link 8L: AP-1** Inflow=57.25 cfs 261,423 cf  
Primary=57.25 cfs 261,423 cf

**Link 9L: AP-2** Inflow=39.47 cfs 145,150 cf  
Primary=39.47 cfs 145,150 cf

**Total Runoff Area = 870,707 sf Runoff Volume = 434,615 cf Average Runoff Depth = 5.99"**  
**99.94% Pervious = 870,221 sf 0.06% Impervious = 486 sf**

**Summary for Subcatchment 1S: 1**

[49] Hint:  $T_c < 2dt$  may require smaller dt

Runoff = 16.35 cfs @ 12.09 hrs, Volume= 52,029 cf, Depth= 5.96"

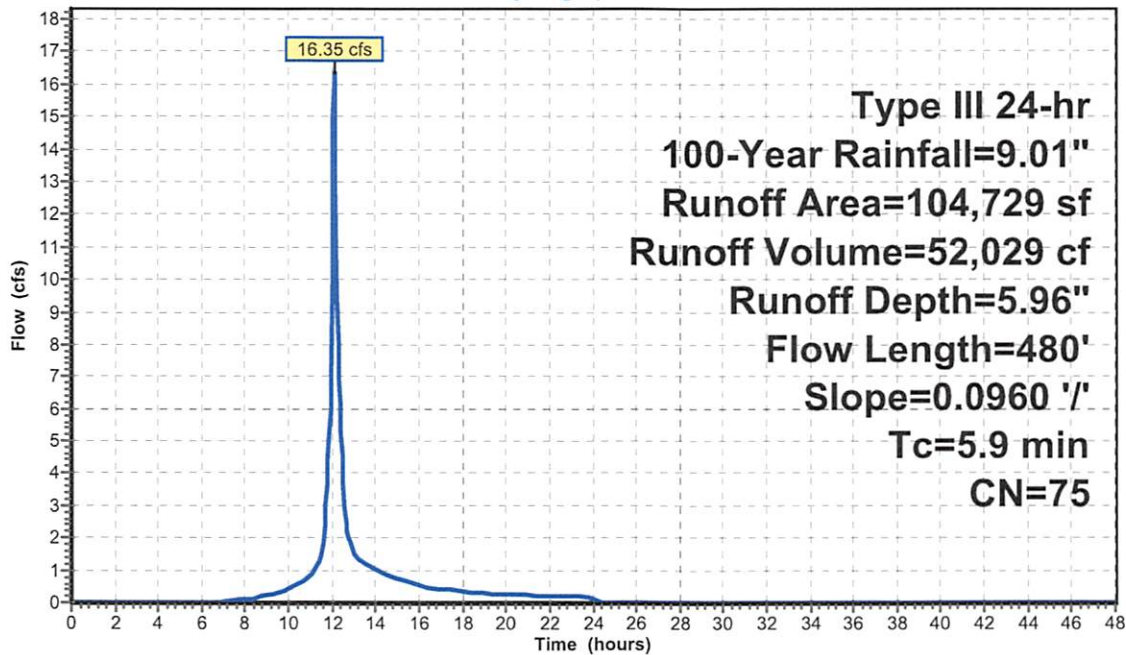
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100-Year Rainfall=9.01"

Area (sf)	CN	Description
49,057	78	Meadow, non-grazed, HSG D
1,212	71	Meadow, non-grazed, HSG C
50,317	74	Pasture/grassland/range, Good, HSG C
4,143	61	Pasture/grassland/range, Good, HSG B
104,729	75	Weighted Average
104,729		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	50	0.0960	0.33		Sheet Flow, Range n= 0.130 P2= 3.52"
3.3	430	0.0960	2.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
5.9	480	Total			

**Subcatchment 1S: 1**

Hydrograph



**Summary for Subcatchment 2S: 2**

Runoff = 56.07 cfs @ 12.20 hrs, Volume= 228,439 cf, Depth= 5.96"

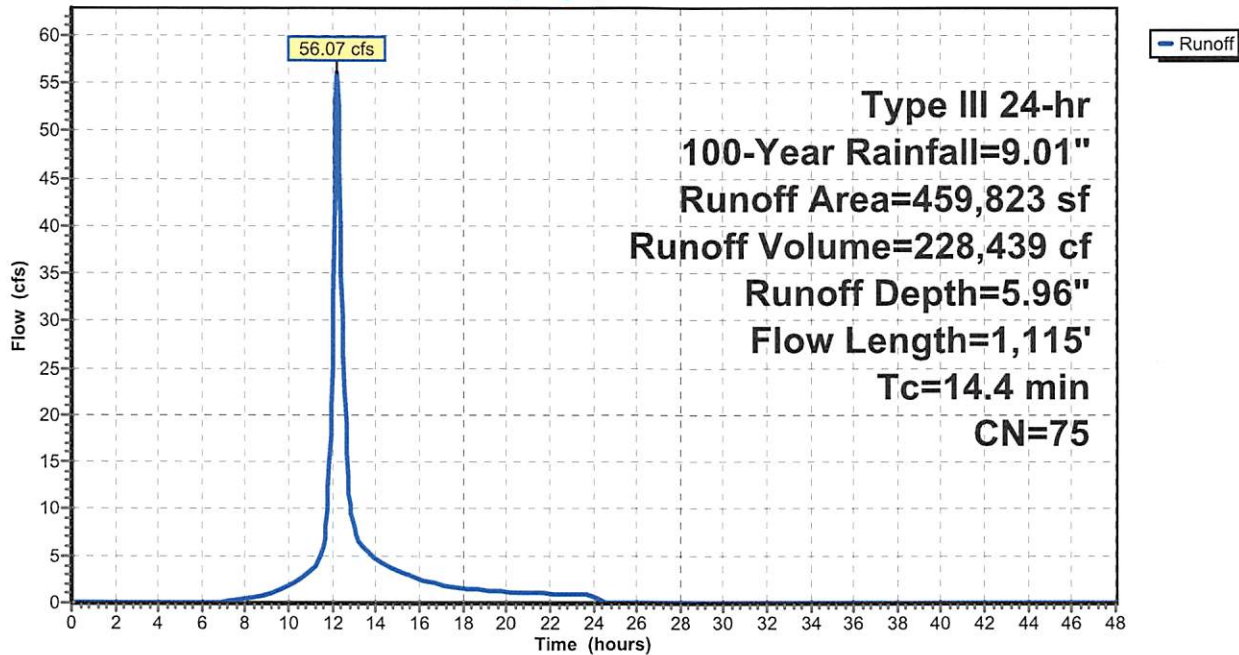
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100-Year Rainfall=9.01"

Area (sf)	CN	Description
137,232	74	Pasture/grassland/range, Good, HSG C
217,637	78	Meadow, non-grazed, HSG D
104,954	71	Meadow, non-grazed, HSG C
459,823	75	Weighted Average
459,823		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1110	0.35		<b>Sheet Flow,</b> Range n= 0.130 P2= 3.52"
4.3	605	0.1110	2.33		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
7.7	460	0.0200	0.99		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
14.4	1,115	Total			

**Subcatchment 2S: 2**

Hydrograph



**Summary for Subcatchment 3S: 3**

Runoff = 23.14 cfs @ 12.14 hrs, Volume= 83,420 cf, Depth= 6.08"

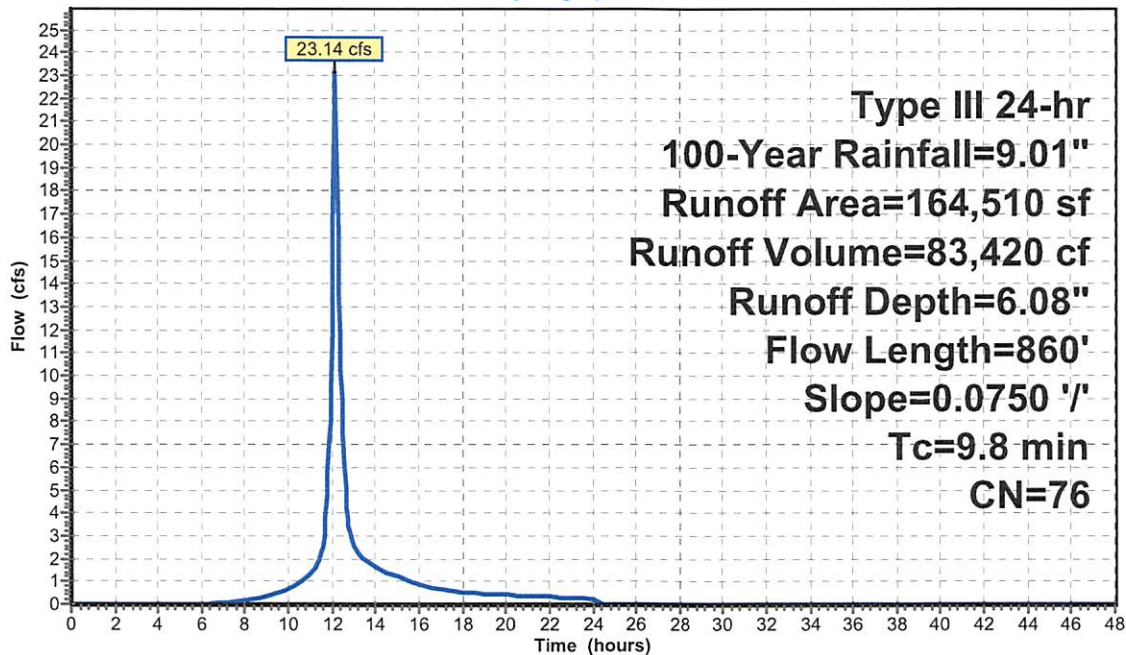
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100-Year Rainfall=9.01"

Area (sf)	CN	Description
65,559	74	Pasture/grassland/range, Good, HSG C
98,951	78	Meadow, non-grazed, HSG D
164,510	76	Weighted Average
164,510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.0750	0.30		Sheet Flow, Range n= 0.130 P2= 3.52"
7.0	810	0.0750	1.92		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.8	860	Total			

**Subcatchment 3S: 3**

Hydrograph





**Summary for Subcatchment 4S: 4.2**

Runoff = 6.83 cfs @ 12.10 hrs, Volume= 22,132 cf, Depth= 5.84"

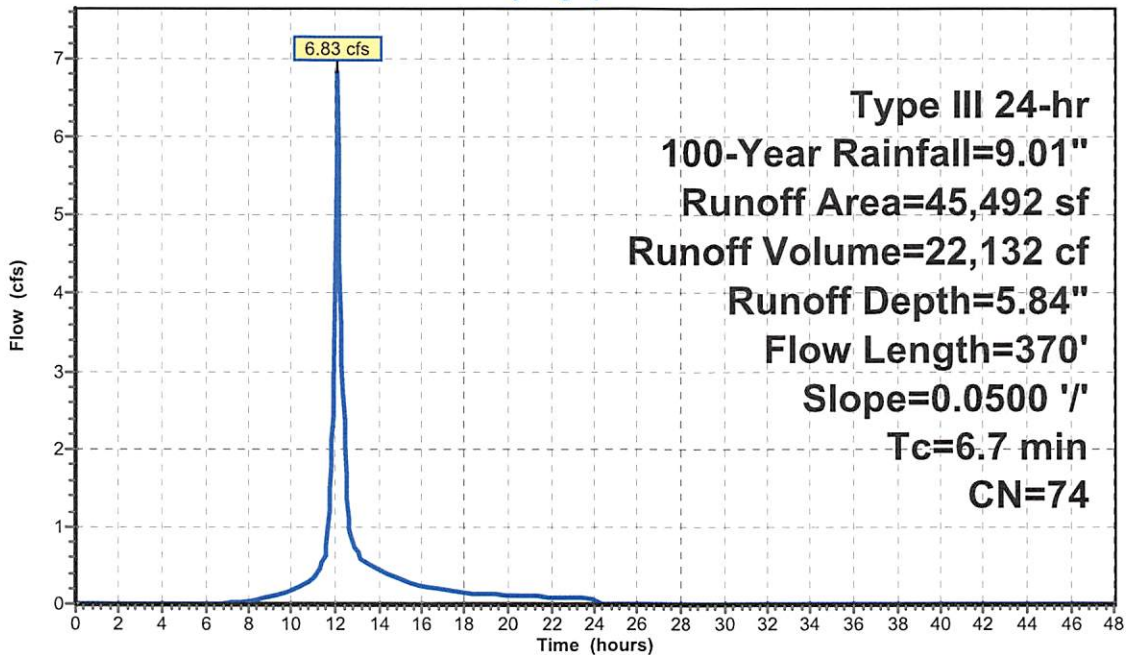
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100-Year Rainfall=9.01"

Area (sf)	CN	Description
5,290	71	Meadow, non-grazed, HSG C
40,202	74	Pasture/grassland/range, Good, HSG C
45,492	74	Weighted Average
45,492		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0500	0.25		<b>Sheet Flow,</b> Range n= 0.130 P2= 3.52"
3.4	320	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
6.7	370	Total			

**Subcatchment 4S: 4.2**

Hydrograph



**Summary for Subcatchment 8S: 4.3 (ROAD)**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 0.79 cfs @ 12.07 hrs, Volume= 2,748 cf, Depth= 8.53"

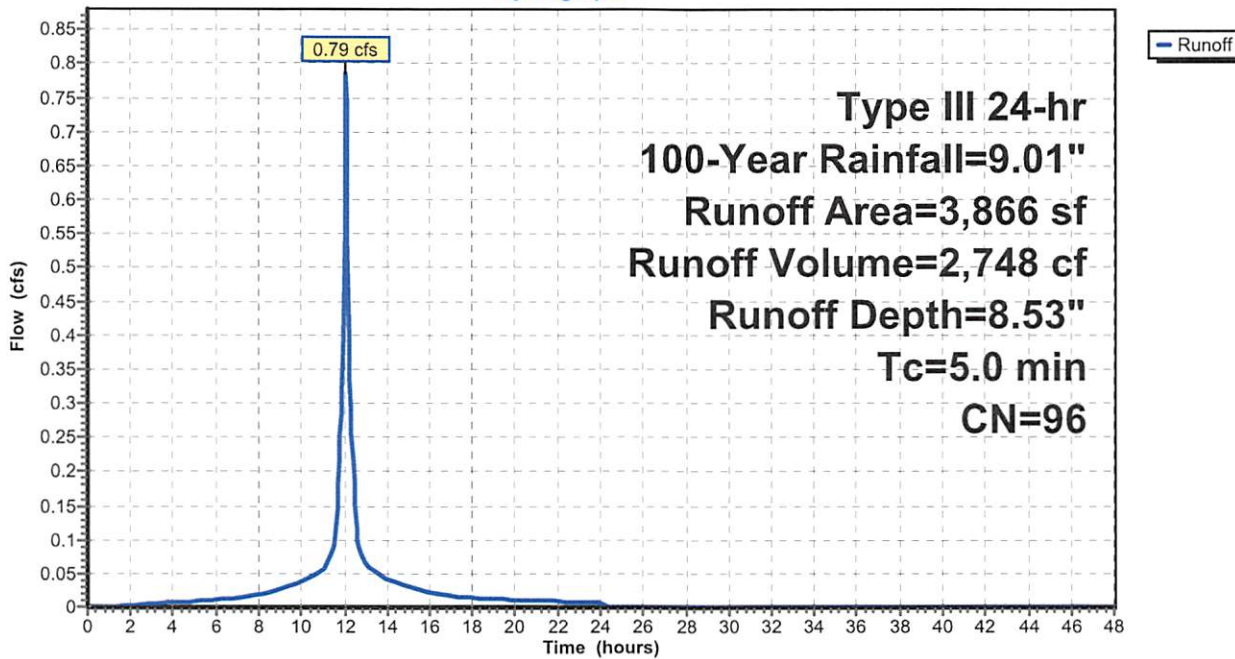
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 100-Year Rainfall=9.01"

Area (sf)	CN	Description
3,866	96	Gravel surface, HSG C
3,866		100.00% Pervious Area

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

**Subcatchment 8S: 4.3 (ROAD)**

Hydrograph



**Summary for Subcatchment 10S: 4.1**

Runoff = 13.40 cfs @ 12.12 hrs, Volume= 45,848 cf, Depth= 5.96"

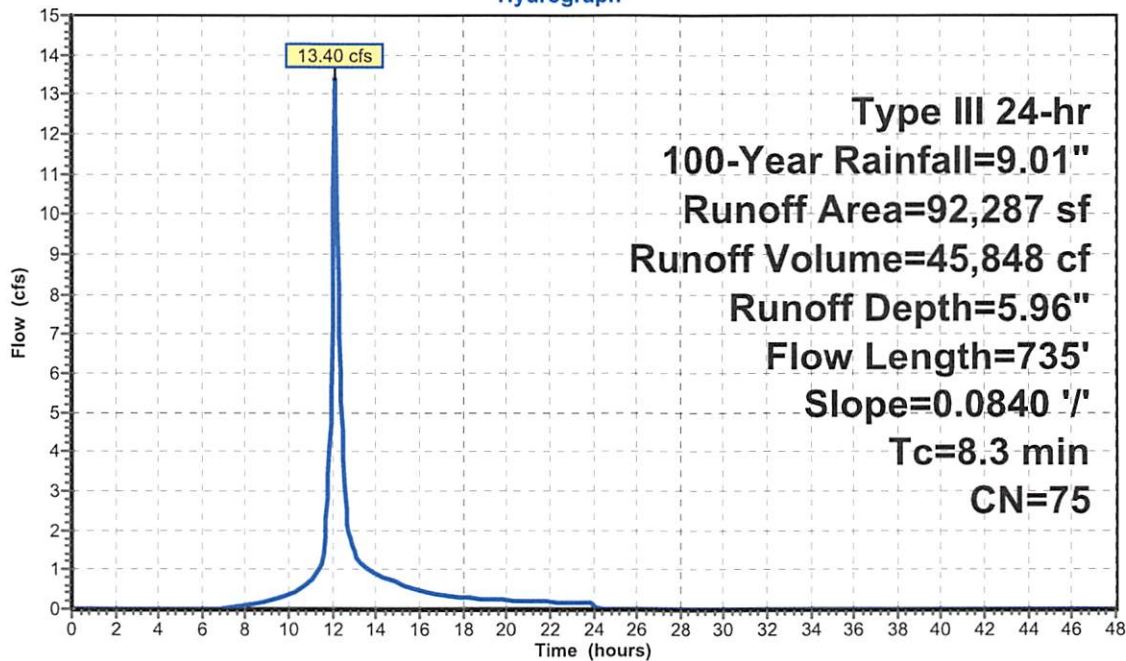
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 100-Year Rainfall=9.01"

Area (sf)	CN	Description
486	98	Unconnected roofs, HSG C
32,386	78	Meadow, non-grazed, HSG D
6,477	71	Meadow, non-grazed, HSG C
52,938	74	Pasture/grassland/range, Good, HSG C
92,287	75	Weighted Average
91,801		99.47% Pervious Area
486		0.53% Impervious Area
486		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0840	0.31		Sheet Flow, Range n= 0.130 P2= 3.52"
5.6	685	0.0840	2.03		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
8.3	735	Total			

**Subcatchment 10S: 4.1**

Hydrograph



**Summary for Pond 5P: 2**

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth = 5.96" for 100-Year event  
 Inflow = 66.63 cfs @ 12.17 hrs, Volume= 280,468 cf  
 Outflow = 57.25 cfs @ 12.27 hrs, Volume= 261,423 cf, Atten= 14%, Lag= 6.0 min  
 Primary = 57.25 cfs @ 12.27 hrs, Volume= 261,423 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 758.59' @ 12.27 hrs Surf.Area= 19,969 sf Storage= 54,280 cf

Plug-Flow detention time= 88.9 min calculated for 261,151 cf (93% of inflow)  
 Center-of-Mass det. time= 54.5 min ( 870.2 - 815.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	755.00'	62,665 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
755.00	10,380	0	0
756.00	12,975	11,678	11,678
757.00	15,620	14,298	25,975
758.00	18,330	16,975	42,950
759.00	21,100	19,715	62,665

Device	Routing	Invert	Outlet Devices
#1	Primary	756.50'	<b>12.0" Round Culvert</b> L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 756.50' / 755.00' S= 0.0750 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	757.00'	<b>10.0' long x 10.0' breadth Broad-Crested Rectangular Weir</b> 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

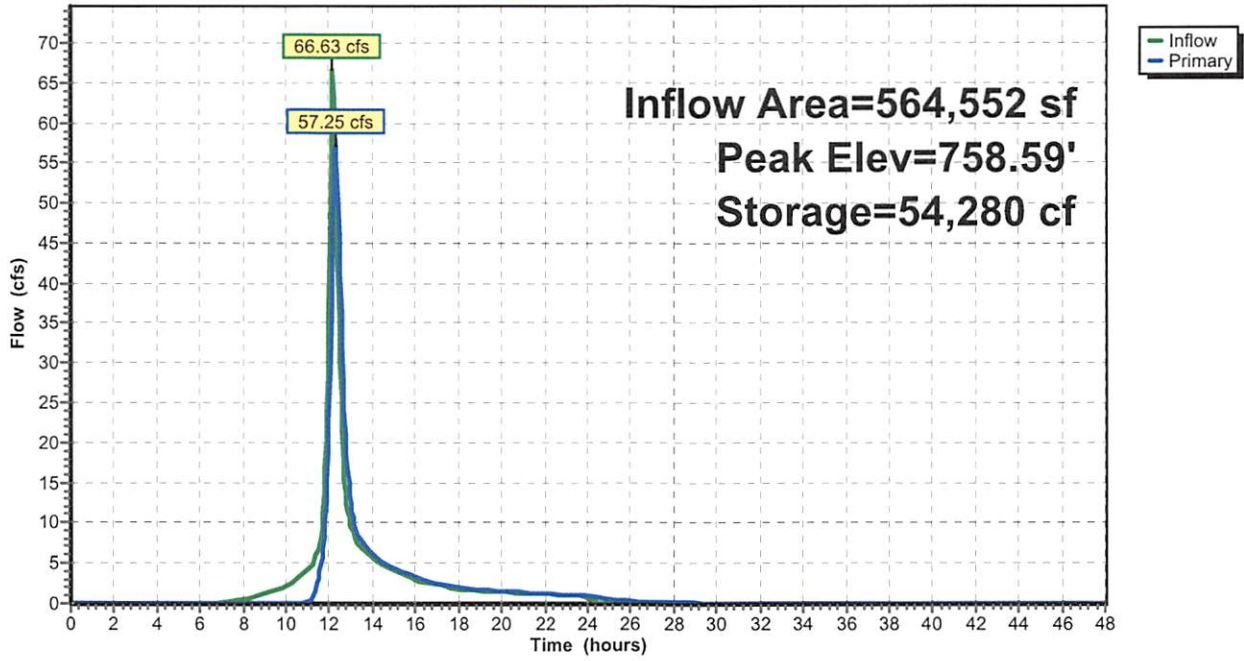
**Primary OutFlow** Max=56.81 cfs @ 12.27 hrs HW=758.58' (Free Discharge)

1=Culvert (Inlet Controls 4.20 cfs @ 5.34 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 52.61 cfs @ 3.32 fps)

### Pond 5P: 2

Hydrograph



**Summary for Pond 6P: 3**

Inflow Area = 256,797 sf, 0.19% Impervious, Inflow Depth = 6.04" for 100-Year event  
 Inflow = 36.21 cfs @ 12.13 hrs, Volume= 129,268 cf  
 Outflow = 34.04 cfs @ 12.17 hrs, Volume= 123,017 cf, Atten= 6%, Lag= 2.5 min  
 Primary = 34.04 cfs @ 12.17 hrs, Volume= 123,017 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 763.09' @ 12.17 hrs Surf.Area= 6,536 sf Storage= 15,231 cf

Plug-Flow detention time= 61.0 min calculated for 123,017 cf (95% of inflow)  
 Center-of-Mass det. time= 34.0 min ( 845.0 - 811.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	760.00'	21,640 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
760.00	3,440	0	0
761.00	4,350	3,895	3,895
762.00	5,350	4,850	8,745
763.00	6,430	5,890	14,635
764.00	7,580	7,005	21,640

Device	Routing	Invert	Outlet Devices
#1	Primary	761.50'	<b>12.0" Round Culvert</b> L= 30.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 761.50' / 761.00' S= 0.0167 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Primary	762.00'	<b>10.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

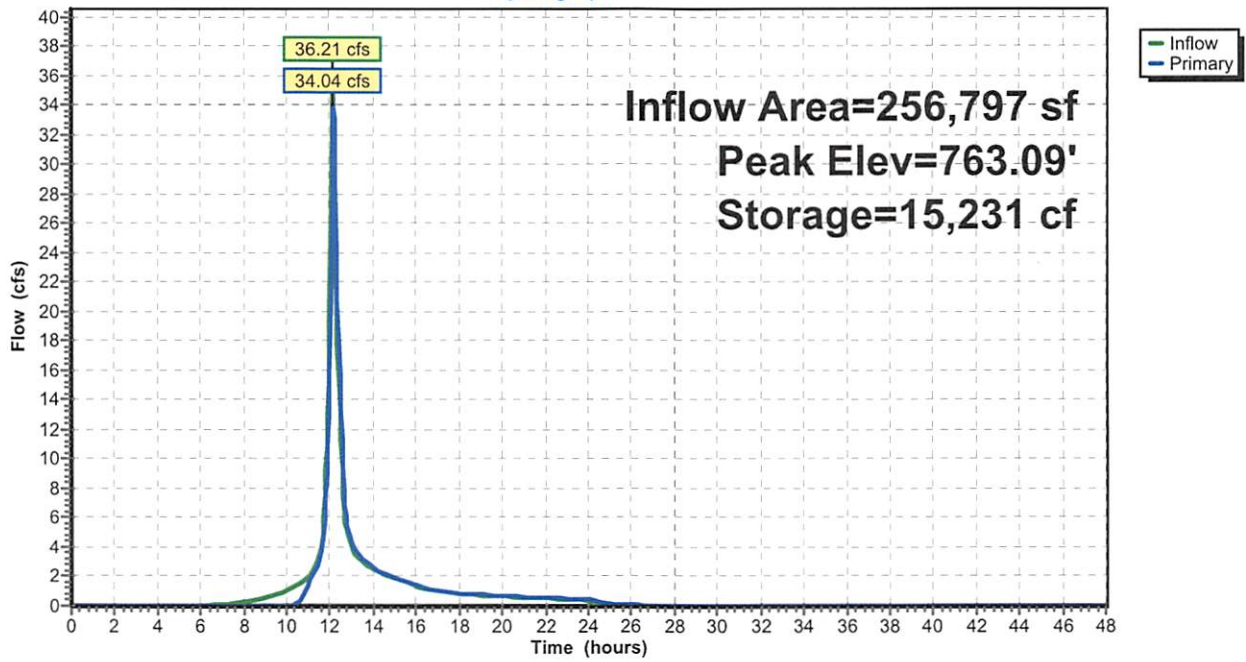
**Primary OutFlow Max=33.34 cfs @ 12.17 hrs HW=763.08' (Free Discharge)**

1=Culvert (Inlet Controls 3.46 cfs @ 4.41 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 29.88 cfs @ 2.78 fps)

### Pond 6P: 3

#### Hydrograph



**Summary for Pond 7P: 4.3 (ROAD)**

Inflow Area = 3,866 sf, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year event  
 Inflow = 0.79 cfs @ 12.07 hrs, Volume= 2,748 cf  
 Outflow = 0.01 cfs @ 19.69 hrs, Volume= 1,630 cf, Atten= 99%, Lag= 457.1 min  
 Discarded = 0.01 cfs @ 19.69 hrs, Volume= 1,630 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs  
 Peak Elev= 792.33' @ 19.69 hrs Surf.Area= 3,866 sf Storage= 2,052 cf

Plug-Flow detention time= 940.3 min calculated for 1,628 cf (59% of inflow)  
 Center-of-Mass det. time= 830.4 min ( 1,579.6 - 749.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	791.00'	4,639 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 11,598 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
791.00	3,866	0	0
792.00	3,866	3,866	3,866
793.00	3,866	3,866	7,732
794.00	3,866	3,866	11,598

Device	Routing	Invert	Outlet Devices
#1	Discarded	791.00'	<b>0.100 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 785.00'
#2	Primary	793.00'	<b>12.0' long x 5.0' breadth Broad-Crested Rectangular Weir</b> 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

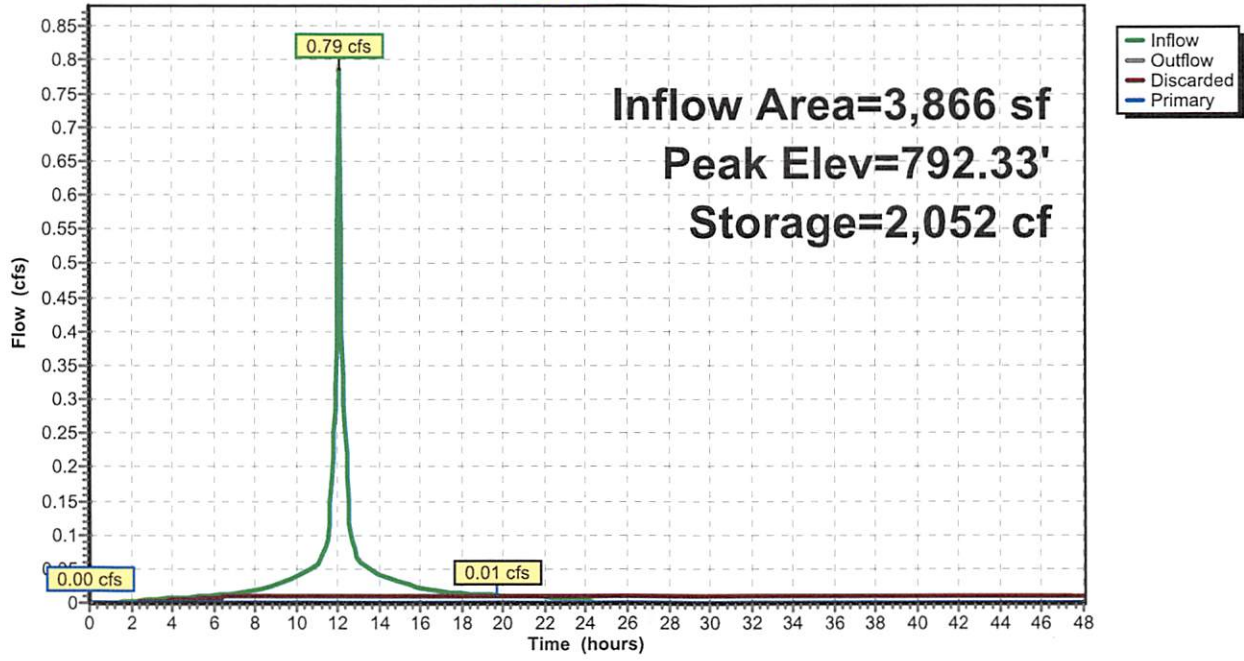
**Discarded OutFlow** Max=0.01 cfs @ 19.69 hrs HW=792.33' (Free Discharge)  
 ↖1=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=791.00' (Free Discharge)  
 ↖2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)



### Pond 7P: 4.3 (ROAD)

#### Hydrograph



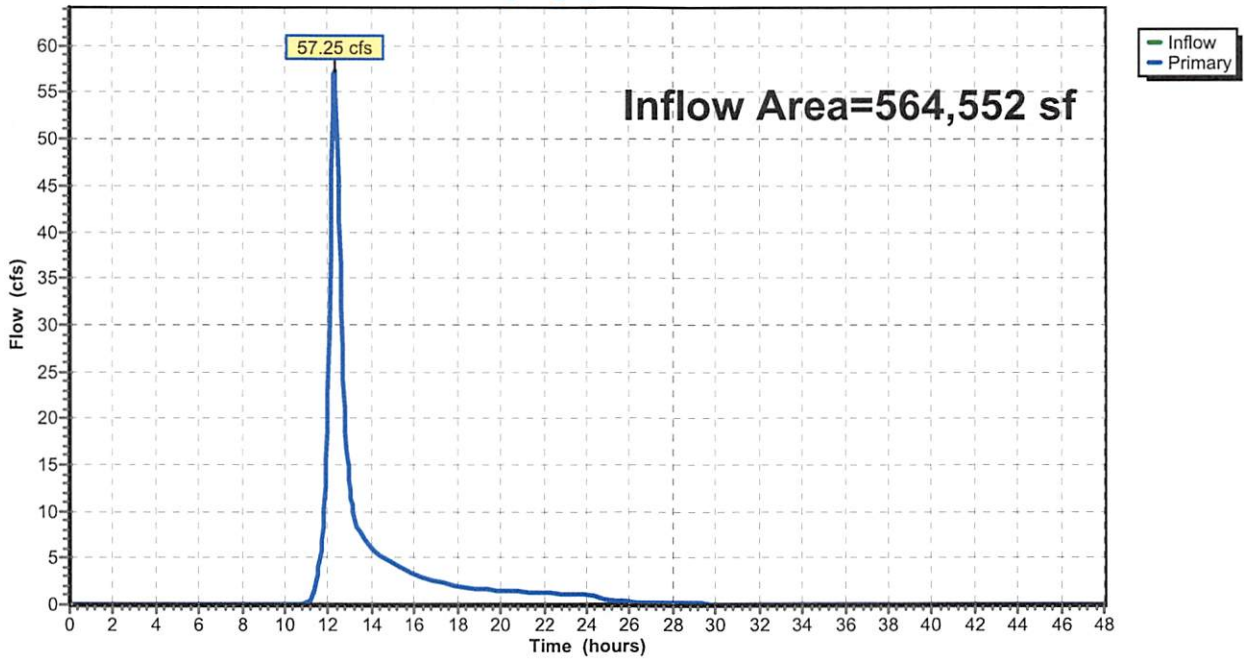
**Summary for Link 8L: AP-1**

Inflow Area = 564,552 sf, 0.00% Impervious, Inflow Depth > 5.56" for 100-Year event  
Inflow = 57.25 cfs @ 12.27 hrs, Volume= 261,423 cf  
Primary = 57.25 cfs @ 12.27 hrs, Volume= 261,423 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

**Link 8L: AP-1**

Hydrograph



### Summary for Link 9L: AP-2

Inflow Area = 306,155 sf, 0.16% Impervious, Inflow Depth = 5.69" for 100-Year event  
Inflow = 39.47 cfs @ 12.16 hrs, Volume= 145,150 cf  
Primary = 39.47 cfs @ 12.16 hrs, Volume= 145,150 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

### Link 9L: AP-2

Hydrograph

