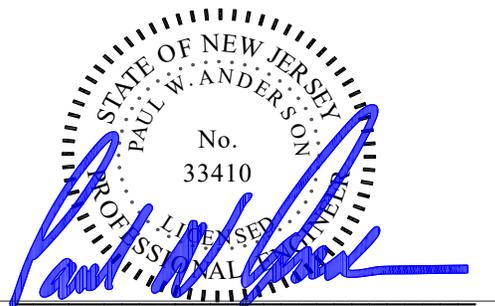




Stormwater Management Report  
Hillcrest Farms  
Block 708, Lot 1  
November 26, 2025



Paul W. Anderson PE PP CME  
NJ PE Lic. No. 33410



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Area Map



## **Introduction**

The Hillcrest Farms property is proposed to be redeveloped with a mixed-use development with first floor retail and apartments above. The property currently is developed with a garden center with multiple buildings and paved parking and storage areas. Because the redevelopment of the property will disturb more than one acre the project is classified as a major stormwater project and is subject to the stormwater requirements as outlined in the ordinance and state stormwater regulations.

This report outlines the design of the stormwater system and demonstrates the compliance with the standards. The calculations utilize Hydrocad, version 9.10, NJDEP approved intensity curves, and the SCS TR-20 methodology to calculate the pre-and post-development runoff.

## **Discussion**

### **Water Quantity**

The stormwater system proposed has been designed to reduce the discharge from the site for the 2-, 10- and 100-year storms as required by the stormwater regulations. The results of the stormwater analysis for existing and proposed discharge are provided in the summary tables for each point of analysis. Detailed Hydrocad output is also included in the appendix of this report.

### **Water Quality**

The drainage system uses green technology to achieve the required 80% suspended solid removal rate. Porous pavement is specified for the vehicle surface area to meet this requirement. The porous pavement is under-drained with the underdrain connected to the proposed small scale detention system.

### **Groundwater Recharge**

In accordance with 7:8-5.4(b) 2, Groundwater recharge does not apply to projects within the urban redevelopment area. The project site is within the planning area 01 (PA-01). In preliminary designs, due to the size of the site and the proximity of neighboring properties the mounding of groundwater from a recharge system would be detrimental to adjoining properties.

## **Existing Conditions**

The existing 1.23-acre property is covered with 67.9% impervious cover. The pervious areas are also utilized as part of the garden center operation and consist of compacted gravel/soil area. Credit for this compaction on permeability was not taken.

The drainage from the existing property goes in 3 directions.



DA#1 is small area located in the southern corner of the site and drains towards the residential properties to the south. With a total area of 3811.8 sf with 1374.2 sf of impervious cover and a Tc of 6.3 minutes.

DA#2 is small drainage area in the northern part of the property that drains to Bloomfield Ave and the intersection of Bloomfield and Park. It has a total drainage area of 4511.6 sf with 4185.3 impervious and a Tc of 1 minutes. It is made up of part of the main building onsite and part of the front parking area.

DA#3 is the main draining area onsite in between areas 1&2 and drains to Park Street. It has a total drainage area of 45,073 sf with 30,715.5 sf of impervious. The Tc is 1.7 minutes.

The summary of the existing conditions discharges is as follows. Hydrocad output for the existing conditions is provided in the appendix of this report.

	DA#1	DA#2	DA#3	PEAK/TOTAL
2020 2 YR	.25	.37	3.19	3.80
2020 10YR	.41	.58	5.38	6.36
2020 100 YR	.74	1.00	9.65	11.33
2050 2 YR	.30	.44	3.90	4.63
2050 10 YR	.50	.69	6.50	7.65
2050 100 YR	.94	1.25	12.25	14.36

**Proposed Conditions**

The proposed conditions for each of the pre-development drainage area has been analyzed with the summary table of the results below verifying the compliance with the discharge quantity standards. The standards require a reduction in flow from the existing conditions. The discharges need to be reduced to 50%, 70% and 80% for the 2, 10 and 100 year storm respectively. To achieve this areas draining to DA#1 and DA#2 have been reduced and the impervious cover has been reduced.

In DA#3 the detention system reduces discharge from the main project drainage area which include the roof and parking lot. The parking lot drains through porous asphalt pavement for water quality conformance to the standard and is detained in the underground system. An outlet structure controls the rate of discharge to the drainage system in Park Avenue. Since the porous pavement is undertrained , no credit was taken for recharge to groundwater.

DA#1 has a total drainage area of 1467.1 sf with 212.3 sf of impervious cover. The Tc is 2.9 minutes

DA#2 has a total drainage area of 4202.4 sf with 1802.4 sf of impervious cover. The Tc is 4.2 minutes



DA#3 has a total drainage area of 47,866.9 sf with 38,903.1 sf of impervious. The Tc is 2.5 minutes.

Overall the project proposes a modest increase in impervious cover from 67.9% to 76.4% or 4548 sf. It meets the permitted impervious cover in the ordinance of 80%.

The summary of the proposed conditions discharges is as follows. Hydrocad output for the existing conditions is provided in the appendix of this report.

2020	Existing Total CFS	Allowable CFS	DA#1	DA#2	DA#3	Total Discharge CFS
2YR	3.8	1.9	.06	.24	1.65	1.89
10YR	6.36	4.45	.13	.44	3.85	4.28
100YR	11.33	9.06	.27	.84	7.36	8.25
2050						
2YR	4.63	2.32	.08	.31	1.91	2.15
10 YR	7.65	5.36	.16	.55	4.73	5.31
100 YR	14.36	11.49	.36	1.09	9.53	10.75

## **Conclusion**

The storm drainage system for the Hillcrest Farms project has been designed in accordance with Verona and NJ State stormwater standards for a major project. The discharge from the site meets the required reduction for both the 2020 and 2050 storm intensity and the water quality standard is met with green technology porous pavement.

NEW JERSEY STATE LAW REQUIRES NOTIFICATION. A BUSINESS MUST REFER TO ANY LAND DISTRICTS, COMMISSIONS OR AGENCIES THAT HAVE JURISDICTION OVER ANY ASPECTS OF THE PROJECT. ANY AND ALL PERMITS, APPROVALS, ORDINANCES, REGULATIONS, AND RULES OF THE STATE ARCHITECTURE BOARD AND ANY OTHER AGENCIES MUST BE OBTAINED PRIOR TO THE COMMENCEMENT OF THE PROJECT.

DA 1  
3,811.8 SF  
Tc = 6.3 MIN  
IMPERVIOUS  
1,374.2 SF  
PERVIOUS  
2,437.6 SF

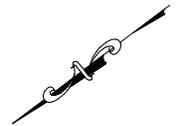
DA 2  
4,511.6 SF  
Tc = 1.0 MIN  
IMPERVIOUS  
4,185.3 SF  
PERVIOUS  
326.3 SF

DA 3  
45,073 SF  
Tc = 1.7 MIN  
IMPERVIOUS  
30,715.5 SF  
PERVIOUS  
14,357.5 SF



BLOOMFIELD AVENUE  
75' ROW

PARK AVENUE  
43' ROW



REFERENCES:

BOUNDARY AND FIELD SURVEY TAKEN FROM LAKELAND SURVEYING, PREPARED BY MARC LOPRONE P.L.S. REGISTERED ON 10-01-2024. EXISTING TOPOGRAPHY IS MAND 1988 ARCHITECTURAL FOOTPRINT TAKEN FROM PLANS PREPARED BY GSAPC ON 08-14-2025.

DA - 1  
SHEET 1 OF 7

383 BLOOMFIELD AVENUE  
BLOCK 708, LOT 1  
TOWNSHIP OF VERONA  
ESSEX COUNTY, NEW JERSEY

EXISTING DRAINAGE AREA MAP

Proj. No.	BLOOMFIELD
Client	VERONA
Date	09-15-25
Drawn by	BCA
Designed by	PWA
Checked by	PWA
Scale	AS SHOWN

Anderson Consulting Services LLC  
40 Miller Drive  
Boonton, NJ 07005  
Tel: 973-975-0703  
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www.pwanderson-cs.com

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CERTIFICATE OF AUTHORIZATION  
246A28182400

Revisions

PAUL W. ANDERSON  
N.J. PROFESSIONAL ENGINEER  
LIC. NO. 33410

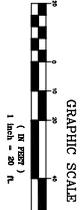
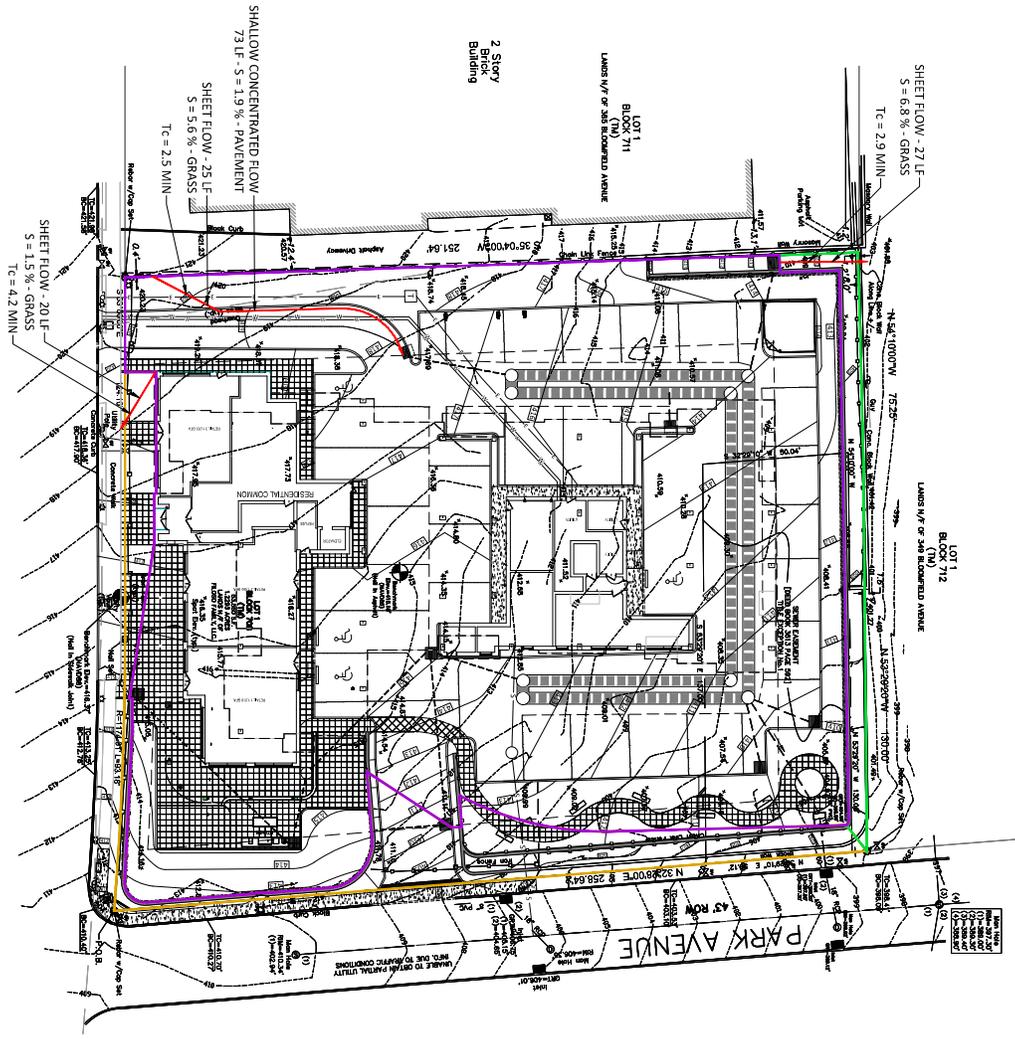
SIGNATURE TRACED TO REGISTERED SEAL OF P.E.

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DA-1: 1,467.1 SF  
 Tc = 2.9 MIN  
 IMPV: 212.3 SF  
 PV: 1,254.8 SF

DA-2: 4,202.4 SF  
 Tc = 4.2 MIN  
 IMPV: 1,802.4 SF  
 PV: 2,400.0 SF

DA-3: 47,866.9 SF  
 Tc = 2.5 MIN  
 IMPV: 38,903.1 SF  
 PV: 8,963.8 SF



**REFERENCES:**

BOUNDARY AND FIELD SURVEY TAKEN FROM LAKELAND SURVEYING, PREPARED BY MARC LORFME P.L.S. REGISTERED ON 10-01-2024. EXISTING TOPOGRAPHY IS MAND 1988 ARCHITECTURAL FOOTPRINT TAKEN FROM PLANS PREPARED BY CSAPC ON 08-14-2025.

DA - 1  
 SHEET 1 OF 7

383 BLOOMFIELD AVENUE  
 BLOCK 708, LOT 1  
 TOWNSHIP OF VERONA  
 ESSEX COUNTY, NEW JERSEY

**PROPOSED DRAINAGE AREA MAP**

Proj. No. BLD00FIELD  
 Date 09-15-25  
 Drawn by BCA  
 Designed by PWA  
 Checked by PWA  
 Scale AS SHOWN

**ACS**  
 Anderson Consulting Services LLC  
 40 Miller Drive  
 Boonton, NJ 07005  
 TEL: 973.975.0703  
 FAX: 973.975.0703  
 www.pwanderson-cs.com

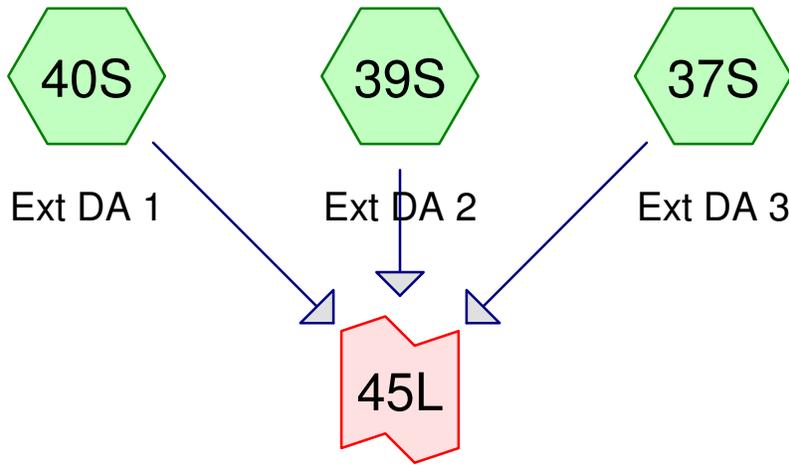
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CERTIFICATE OF AUTHORIZATION  
 246A28182400

**PAUL W. ANDERSON**  
 N.J. PROFESSIONAL ENGINEER  
 LIC. NO. 33410

*Paul W. Anderson*  
 SIGNATURE TRAIL TO BE KEPT WITH SEAL OF P.E.

Revisions



existing total discharge



Pro DA 3

Detention System



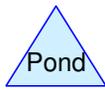
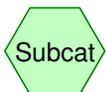
DA 1 Undetained



undetained 2



Overall discharge



**2025-09-22 HydroCad - hillcrest farms A**

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Page 6

**Rainfall Events Listing**

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year-2000	NOAA 24-hr	D	Default	24.00	1	3.44	2
2	10-Year-2000	NOAA 24-hr	D	Default	24.00	1	5.22	2
3	100-Year-2000	NOAA 24-hr	D	Default	24.00	1	8.66	2
4	2-Year-2020	NOAA 24-hr	D	Default	24.00	1	3.47	2
5	10-Year-2020	NOAA 24-hr	D	Default	24.00	1	5.38	2
6	100-Year-2020	NOAA 24-hr	D	Default	24.00	1	9.18	2
7	2-Year-2050	NOAA 24-hr	D	Default	24.00	1	4.09	2
8	10-Year-2050	NOAA 24-hr	D	Default	24.00	1	6.37	2
9	100-Year-2050	NOAA 24-hr	D	Default	24.00	1	11.52	2
10	WQ	NJ DEP 2-hr		Default	2.00	1	1.25	2

**2025-09-22 HydroCad - hillcrest farms A**

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**Notes Listing (all nodes)**

Line#	Node Number	Notes
1	Project	Rainfall events imported from "NJ-2023-Rain.txt" for 6606 NJ Essex
2		Rainfall events imported from "NRCS2-Rain.txt" for 1167 NJ Essex-D
3		Rainfall events imported from "NRCS2-Rain.txt" for 1167 NJ Essex-D
4		Rainfall events imported from "NJ-2023-Rain.txt" for 6606 NJ Essex
5		Rainfall events imported from "NJ-2023-Rain.txt" for 6606 NJ Essex
6		Rainfall events imported from "NJ-2023-Rain.txt" for 6606 NJ Essex
7		Rainfall events imported from "NJ-2023-Rain.txt" for 6606 NJ Essex

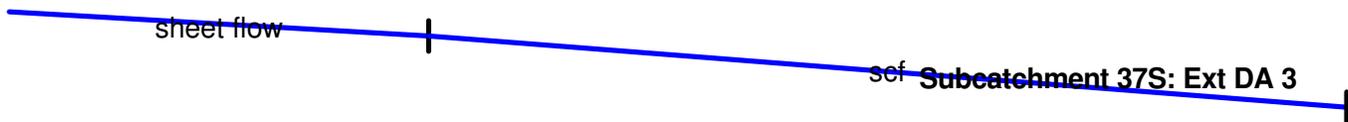
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 3.16 cfs @ 12.10 hrs, Volume= 8,984 cf, Depth= 2.39"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

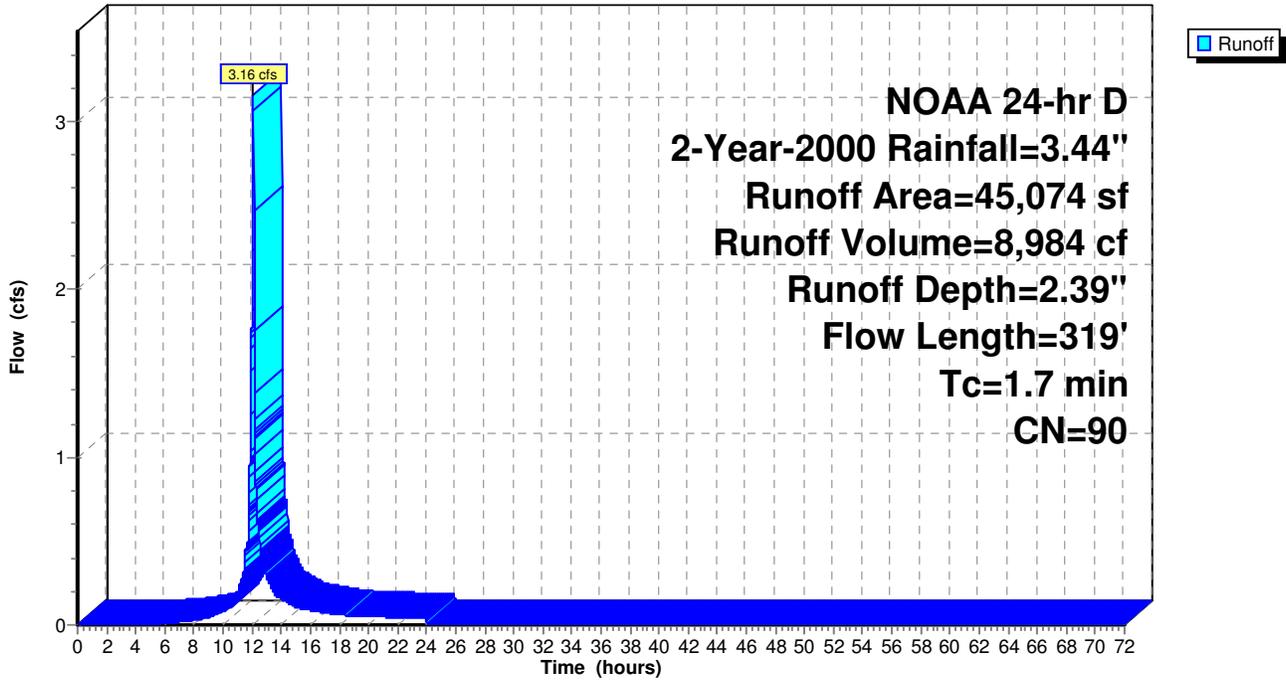
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



Subcatchment 37S: Ext DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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Page 10

**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.44	2.39	0.00
1.00	0.04	0.00	0.00	52.00	3.44	2.39	0.00
2.00	0.08	0.00	0.00	53.00	3.44	2.39	0.00
3.00	0.13	0.00	0.00	54.00	3.44	2.39	0.00
4.00	0.18	0.00	0.00	55.00	3.44	2.39	0.00
5.00	0.24	0.00	0.00	56.00	3.44	2.39	0.00
6.00	0.29	0.00	0.01	57.00	3.44	2.39	0.00
7.00	0.36	0.02	0.02	58.00	3.44	2.39	0.00
8.00	0.45	0.04	0.03	59.00	3.44	2.39	0.00
9.00	0.55	0.07	0.04	60.00	3.44	2.39	0.00
10.00	0.68	0.13	0.08	61.00	3.44	2.39	0.00
11.00	0.89	0.25	0.18	62.00	3.44	2.39	0.00
12.00	1.65	0.80	<b>1.80</b>	63.00	3.44	2.39	0.00
13.00	2.55	1.57	<b>0.30</b>	64.00	3.44	2.39	0.00
14.00	2.76	1.76	0.16	65.00	3.44	2.39	0.00
15.00	2.89	1.89	0.11	66.00	3.44	2.39	0.00
16.00	2.99	1.98	0.09	67.00	3.44	2.39	0.00
17.00	3.08	2.06	0.07	68.00	3.44	2.39	0.00
18.00	3.15	2.12	0.06	69.00	3.44	2.39	0.00
19.00	3.20	2.17	0.05	70.00	3.44	2.39	0.00
20.00	3.26	2.22	0.05	71.00	3.44	2.39	0.00
21.00	3.31	2.27	0.05	72.00	3.44	2.39	0.00
22.00	3.36	2.31	0.04				
23.00	3.40	2.36	0.04				
24.00	<b>3.44</b>	<b>2.39</b>	0.04				
25.00	3.44	2.39	0.00				
26.00	3.44	2.39	0.00				
27.00	3.44	2.39	0.00				
28.00	3.44	2.39	0.00				
29.00	3.44	2.39	0.00				
30.00	3.44	2.39	0.00				
31.00	3.44	2.39	0.00				
32.00	3.44	2.39	0.00				
33.00	3.44	2.39	0.00				
34.00	3.44	2.39	0.00				
35.00	3.44	2.39	0.00				
36.00	3.44	2.39	0.00				
37.00	3.44	2.39	0.00				
38.00	3.44	2.39	0.00				
39.00	3.44	2.39	0.00				
40.00	3.44	2.39	0.00				
41.00	3.44	2.39	0.00				
42.00	3.44	2.39	0.00				
43.00	3.44	2.39	0.00				
44.00	3.44	2.39	0.00				
45.00	3.44	2.39	0.00				
46.00	3.44	2.39	0.00				
47.00	3.44	2.39	0.00				
48.00	3.44	2.39	0.00				
49.00	3.44	2.39	0.00				
50.00	3.44	2.39	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 1,205 cf, Depth= 3.21"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

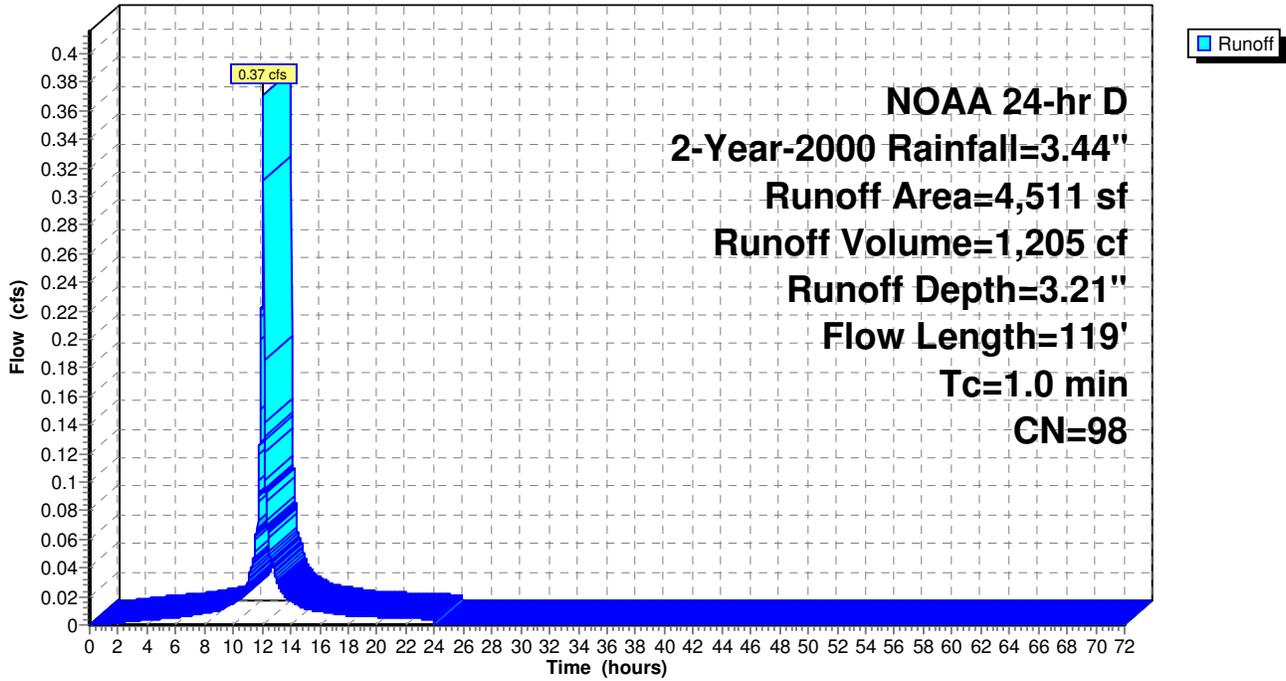
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



Subcatchment 39S: Ext DA 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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Page 13

**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.44	3.21	0.00
1.00	0.04	0.00	0.00	52.00	3.44	3.21	0.00
2.00	0.08	0.01	0.00	53.00	3.44	3.21	0.00
3.00	0.13	0.03	0.00	54.00	3.44	3.21	0.00
4.00	0.18	0.06	0.00	55.00	3.44	3.21	0.00
5.00	0.24	0.09	0.00	56.00	3.44	3.21	0.00
6.00	0.29	0.14	0.01	57.00	3.44	3.21	0.00
7.00	0.36	0.20	0.01	58.00	3.44	3.21	0.00
8.00	0.45	0.27	0.01	59.00	3.44	3.21	0.00
9.00	0.55	0.36	0.01	60.00	3.44	3.21	0.00
10.00	0.68	0.49	0.02	61.00	3.44	3.21	0.00
11.00	0.89	0.69	0.03	62.00	3.44	3.21	0.00
12.00	1.65	1.43	<b>0.22</b>	63.00	3.44	3.21	0.00
13.00	2.55	2.32	<b>0.03</b>	64.00	3.44	3.21	0.00
14.00	2.76	2.53	0.02	65.00	3.44	3.21	0.00
15.00	2.89	2.66	0.01	66.00	3.44	3.21	0.00
16.00	2.99	2.76	0.01	67.00	3.44	3.21	0.00
17.00	3.08	2.85	0.01	68.00	3.44	3.21	0.00
18.00	3.15	2.91	0.01	69.00	3.44	3.21	0.00
19.00	3.20	2.97	0.01	70.00	3.44	3.21	0.00
20.00	3.26	3.03	0.01	71.00	3.44	3.21	0.00
21.00	3.31	3.08	0.01	72.00	3.44	3.21	0.00
22.00	3.36	3.12	0.00				
23.00	3.40	3.17	0.00				
24.00	<b>3.44</b>	<b>3.21</b>	0.00				
25.00	3.44	3.21	0.00				
26.00	3.44	3.21	0.00				
27.00	3.44	3.21	0.00				
28.00	3.44	3.21	0.00				
29.00	3.44	3.21	0.00				
30.00	3.44	3.21	0.00				
31.00	3.44	3.21	0.00				
32.00	3.44	3.21	0.00				
33.00	3.44	3.21	0.00				
34.00	3.44	3.21	0.00				
35.00	3.44	3.21	0.00				
36.00	3.44	3.21	0.00				
37.00	3.44	3.21	0.00				
38.00	3.44	3.21	0.00				
39.00	3.44	3.21	0.00				
40.00	3.44	3.21	0.00				
41.00	3.44	3.21	0.00				
42.00	3.44	3.21	0.00				
43.00	3.44	3.21	0.00				
44.00	3.44	3.21	0.00				
45.00	3.44	3.21	0.00				
46.00	3.44	3.21	0.00				
47.00	3.44	3.21	0.00				
48.00	3.44	3.21	0.00				
49.00	3.44	3.21	0.00				
50.00	3.44	3.21	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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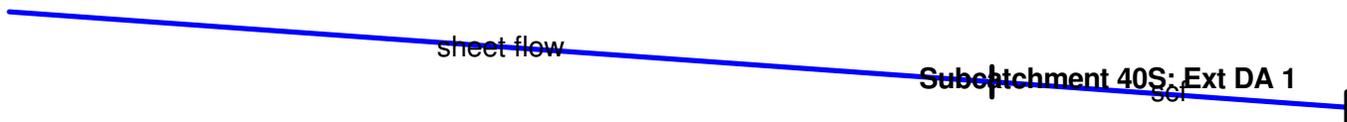
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.24 cfs @ 12.13 hrs, Volume= 789 cf, Depth= 2.48"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

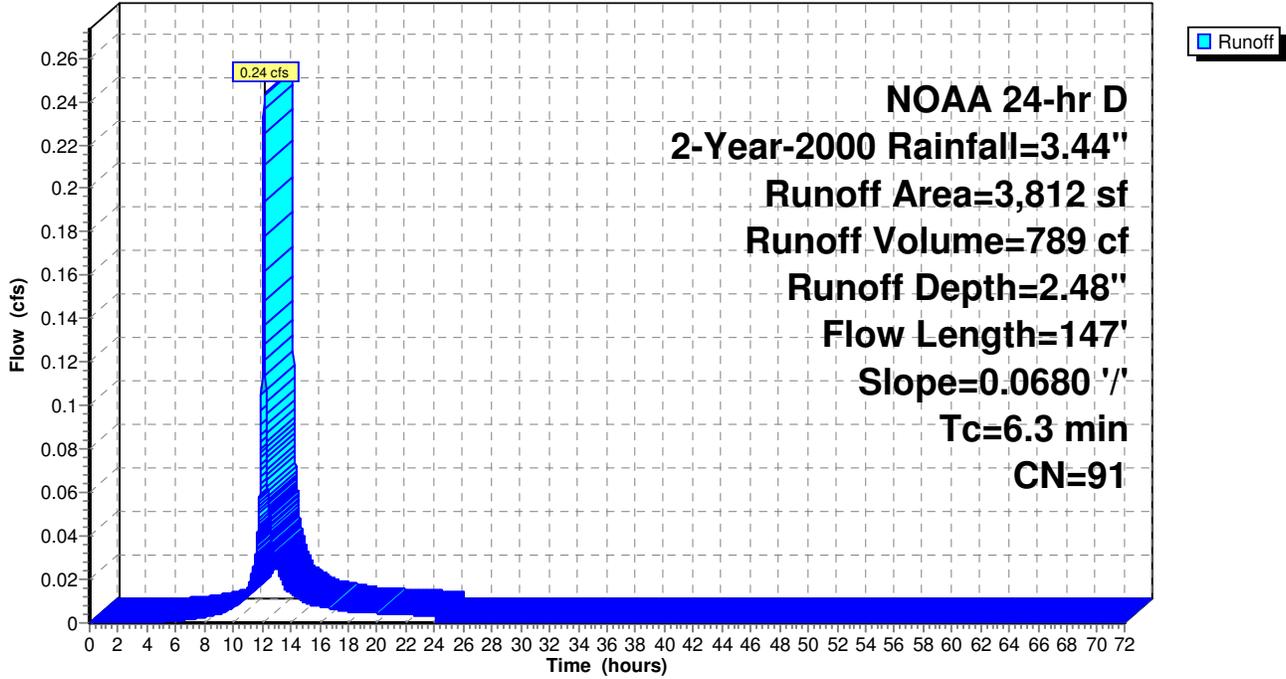
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



Subcatchment 40S: Ext DA 1

Hydrograph



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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.44	2.48	0.00
1.00	0.04	0.00	0.00	52.00	3.44	2.48	0.00
2.00	0.08	0.00	0.00	53.00	3.44	2.48	0.00
3.00	0.13	0.00	0.00	54.00	3.44	2.48	0.00
4.00	0.18	0.00	0.00	55.00	3.44	2.48	0.00
5.00	0.24	0.00	0.00	56.00	3.44	2.48	0.00
6.00	0.29	0.01	0.00	57.00	3.44	2.48	0.00
7.00	0.36	0.02	0.00	58.00	3.44	2.48	0.00
8.00	0.45	0.05	0.00	59.00	3.44	2.48	0.00
9.00	0.55	0.09	0.00	60.00	3.44	2.48	0.00
10.00	0.68	0.16	0.01	61.00	3.44	2.48	0.00
11.00	0.89	0.29	0.02	62.00	3.44	2.48	0.00
12.00	1.65	0.86	<b>0.13</b>	63.00	3.44	2.48	0.00
13.00	2.55	1.65	<b>0.03</b>	64.00	3.44	2.48	0.00
14.00	2.76	1.85	0.01	65.00	3.44	2.48	0.00
15.00	2.89	1.97	0.01	66.00	3.44	2.48	0.00
16.00	2.99	2.07	0.01	67.00	3.44	2.48	0.00
17.00	3.08	2.14	0.01	68.00	3.44	2.48	0.00
18.00	3.15	2.21	0.01	69.00	3.44	2.48	0.00
19.00	3.20	2.26	0.00	70.00	3.44	2.48	0.00
20.00	3.26	2.31	0.00	71.00	3.44	2.48	0.00
21.00	3.31	2.36	0.00	72.00	3.44	2.48	0.00
22.00	3.36	2.41	0.00				
23.00	3.40	2.45	0.00				
24.00	<b>3.44</b>	<b>2.48</b>	0.00				
25.00	3.44	2.48	0.00				
26.00	3.44	2.48	0.00				
27.00	3.44	2.48	0.00				
28.00	3.44	2.48	0.00				
29.00	3.44	2.48	0.00				
30.00	3.44	2.48	0.00				
31.00	3.44	2.48	0.00				
32.00	3.44	2.48	0.00				
33.00	3.44	2.48	0.00				
34.00	3.44	2.48	0.00				
35.00	3.44	2.48	0.00				
36.00	3.44	2.48	0.00				
37.00	3.44	2.48	0.00				
38.00	3.44	2.48	0.00				
39.00	3.44	2.48	0.00				
40.00	3.44	2.48	0.00				
41.00	3.44	2.48	0.00				
42.00	3.44	2.48	0.00				
43.00	3.44	2.48	0.00				
44.00	3.44	2.48	0.00				
45.00	3.44	2.48	0.00				
46.00	3.44	2.48	0.00				
47.00	3.44	2.48	0.00				
48.00	3.44	2.48	0.00				
49.00	3.44	2.48	0.00				
50.00	3.44	2.48	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

Hillcrest Farms  
 NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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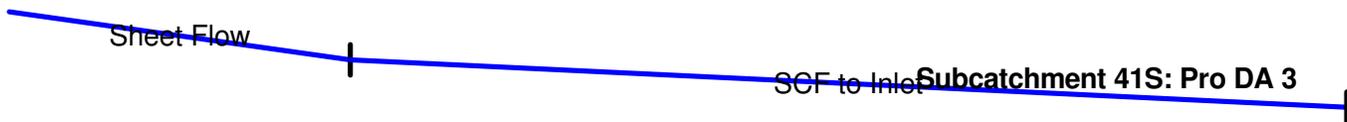
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 3.68 cfs @ 12.10 hrs, Volume= 11,078 cf, Depth= 2.78"  
 Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

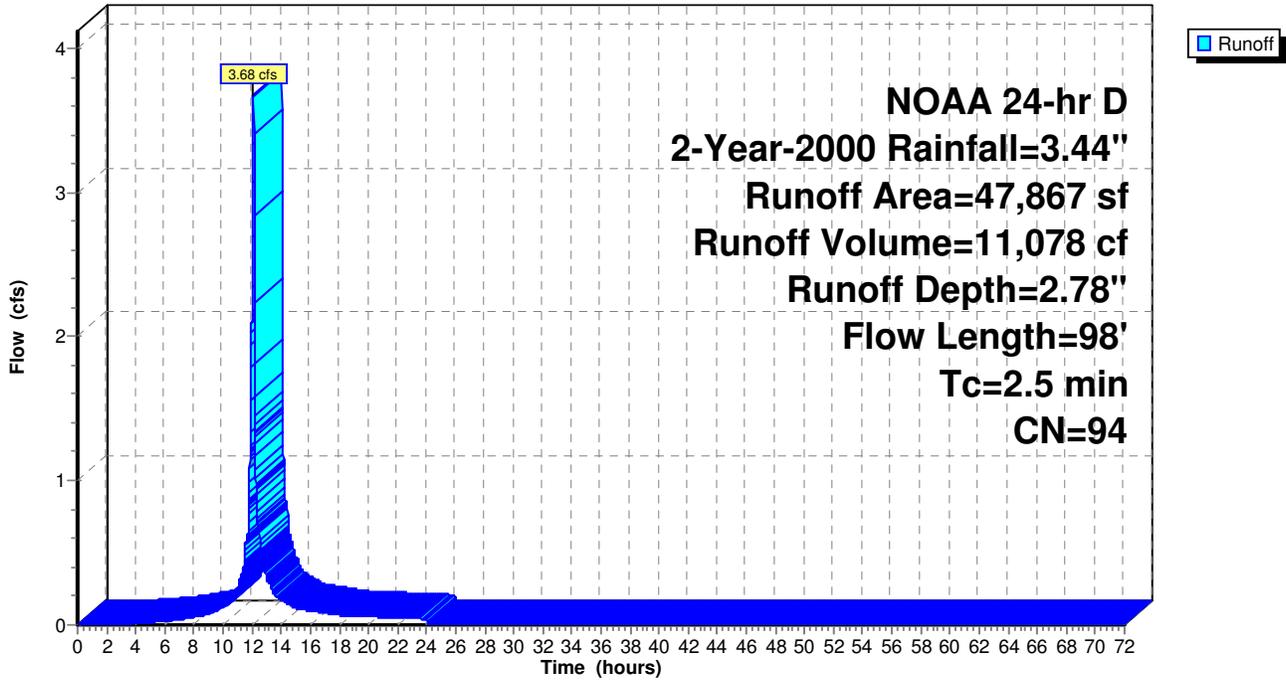
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



Subcatchment 41S: Pro DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.44	2.78	0.00
1.00	0.04	0.00	0.00	52.00	3.44	2.78	0.00
2.00	0.08	0.00	0.00	53.00	3.44	2.78	0.00
3.00	0.13	0.00	0.00	54.00	3.44	2.78	0.00
4.00	0.18	0.00	0.01	55.00	3.44	2.78	0.00
5.00	0.24	0.02	0.02	56.00	3.44	2.78	0.00
6.00	0.29	0.03	0.02	57.00	3.44	2.78	0.00
7.00	0.36	0.06	0.04	58.00	3.44	2.78	0.00
8.00	0.45	0.11	0.06	59.00	3.44	2.78	0.00
9.00	0.55	0.17	0.07	60.00	3.44	2.78	0.00
10.00	0.68	0.26	0.13	61.00	3.44	2.78	0.00
11.00	0.89	0.42	0.25	62.00	3.44	2.78	0.00
12.00	1.65	1.07	<b>2.15</b>	63.00	3.44	2.78	0.00
13.00	2.55	1.91	<b>0.34</b>	64.00	3.44	2.78	0.00
14.00	2.76	2.12	0.18	65.00	3.44	2.78	0.00
15.00	2.89	2.25	0.12	66.00	3.44	2.78	0.00
16.00	2.99	2.34	0.10	67.00	3.44	2.78	0.00
17.00	3.08	2.43	0.08	68.00	3.44	2.78	0.00
18.00	3.15	2.49	0.07	69.00	3.44	2.78	0.00
19.00	3.20	2.55	0.06	70.00	3.44	2.78	0.00
20.00	3.26	2.60	0.06	71.00	3.44	2.78	0.00
21.00	3.31	2.65	0.05	72.00	3.44	2.78	0.00
22.00	3.36	2.70	0.05				
23.00	3.40	2.74	0.04				
24.00	<b>3.44</b>	<b>2.78</b>	0.04				
25.00	3.44	2.78	0.00				
26.00	3.44	2.78	0.00				
27.00	3.44	2.78	0.00				
28.00	3.44	2.78	0.00				
29.00	3.44	2.78	0.00				
30.00	3.44	2.78	0.00				
31.00	3.44	2.78	0.00				
32.00	3.44	2.78	0.00				
33.00	3.44	2.78	0.00				
34.00	3.44	2.78	0.00				
35.00	3.44	2.78	0.00				
36.00	3.44	2.78	0.00				
37.00	3.44	2.78	0.00				
38.00	3.44	2.78	0.00				
39.00	3.44	2.78	0.00				
40.00	3.44	2.78	0.00				
41.00	3.44	2.78	0.00				
42.00	3.44	2.78	0.00				
43.00	3.44	2.78	0.00				
44.00	3.44	2.78	0.00				
45.00	3.44	2.78	0.00				
46.00	3.44	2.78	0.00				
47.00	3.44	2.78	0.00				
48.00	3.44	2.78	0.00				
49.00	3.44	2.78	0.00				
50.00	3.44	2.78	0.00				

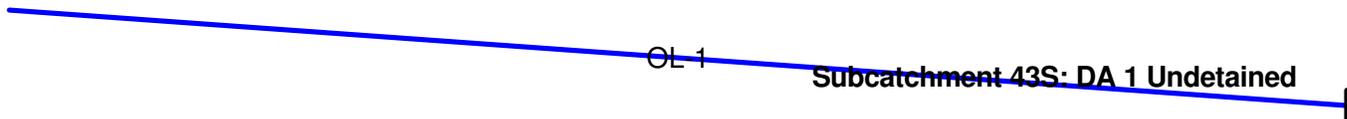
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.06 cfs @ 12.10 hrs, Volume= 162 cf, Depth= 1.32"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

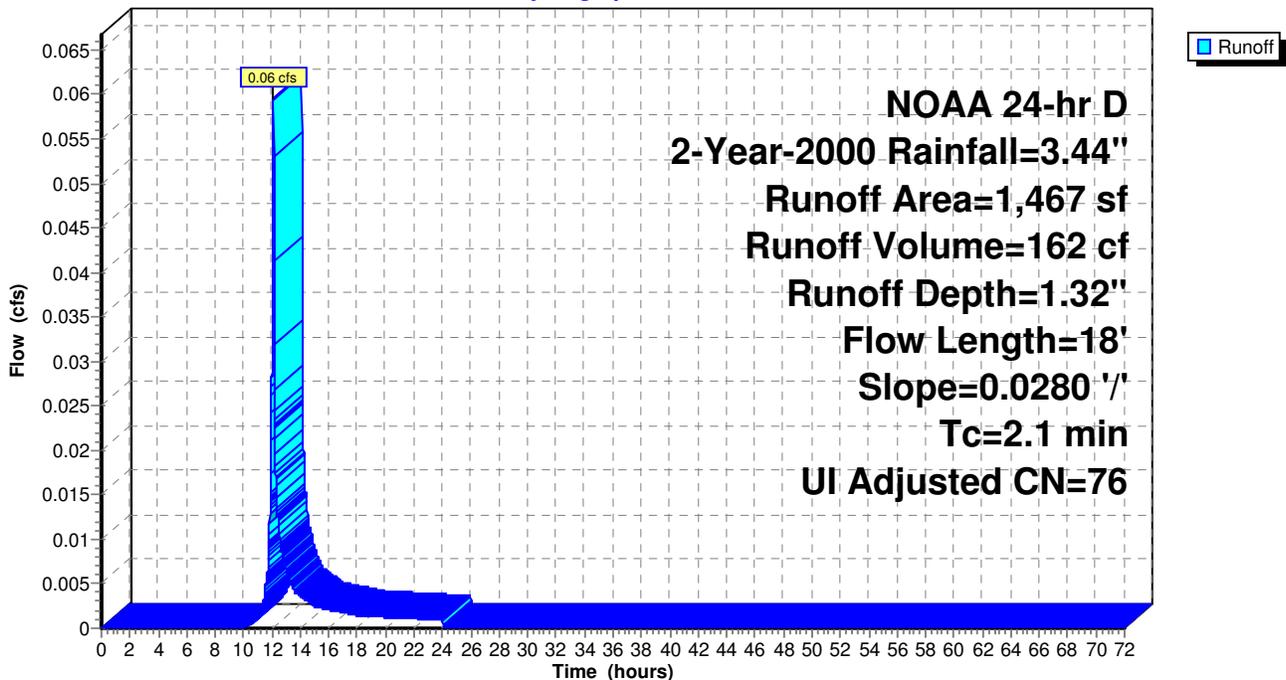
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.44	1.32	0.00
1.00	0.04	0.00	0.00	52.00	3.44	1.32	0.00
2.00	0.08	0.00	0.00	53.00	3.44	1.32	0.00
3.00	0.13	0.00	0.00	54.00	3.44	1.32	0.00
4.00	0.18	0.00	0.00	55.00	3.44	1.32	0.00
5.00	0.24	0.00	0.00	56.00	3.44	1.32	0.00
6.00	0.29	0.00	0.00	57.00	3.44	1.32	0.00
7.00	0.36	0.00	0.00	58.00	3.44	1.32	0.00
8.00	0.45	0.00	0.00	59.00	3.44	1.32	0.00
9.00	0.55	0.00	0.00	60.00	3.44	1.32	0.00
10.00	0.68	0.00	0.00	61.00	3.44	1.32	0.00
11.00	0.89	0.02	0.00	62.00	3.44	1.32	0.00
12.00	1.65	0.25	<b>0.03</b>	63.00	3.44	1.32	0.00
13.00	2.55	0.72	<b>0.01</b>	64.00	3.44	1.32	0.00
14.00	2.76	0.86	0.00	65.00	3.44	1.32	0.00
15.00	2.89	0.94	0.00	66.00	3.44	1.32	0.00
16.00	2.99	1.01	0.00	67.00	3.44	1.32	0.00
17.00	3.08	1.07	0.00	68.00	3.44	1.32	0.00
18.00	3.15	1.11	0.00	69.00	3.44	1.32	0.00
19.00	3.20	1.16	0.00	70.00	3.44	1.32	0.00
20.00	3.26	1.19	0.00	71.00	3.44	1.32	0.00
21.00	3.31	1.23	0.00	72.00	3.44	1.32	0.00
22.00	3.36	1.26	0.00				
23.00	3.40	1.29	0.00				
24.00	<b>3.44</b>	<b>1.32</b>	0.00				
25.00	3.44	1.32	0.00				
26.00	3.44	1.32	0.00				
27.00	3.44	1.32	0.00				
28.00	3.44	1.32	0.00				
29.00	3.44	1.32	0.00				
30.00	3.44	1.32	0.00				
31.00	3.44	1.32	0.00				
32.00	3.44	1.32	0.00				
33.00	3.44	1.32	0.00				
34.00	3.44	1.32	0.00				
35.00	3.44	1.32	0.00				
36.00	3.44	1.32	0.00				
37.00	3.44	1.32	0.00				
38.00	3.44	1.32	0.00				
39.00	3.44	1.32	0.00				
40.00	3.44	1.32	0.00				
41.00	3.44	1.32	0.00				
42.00	3.44	1.32	0.00				
43.00	3.44	1.32	0.00				
44.00	3.44	1.32	0.00				
45.00	3.44	1.32	0.00				
46.00	3.44	1.32	0.00				
47.00	3.44	1.32	0.00				
48.00	3.44	1.32	0.00				
49.00	3.44	1.32	0.00				
50.00	3.44	1.32	0.00				

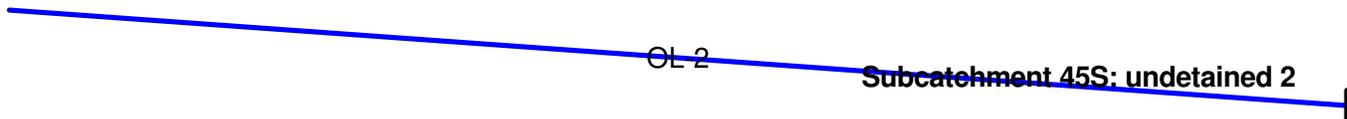
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.24 cfs @ 12.11 hrs, Volume= 660 cf, Depth= 1.89"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

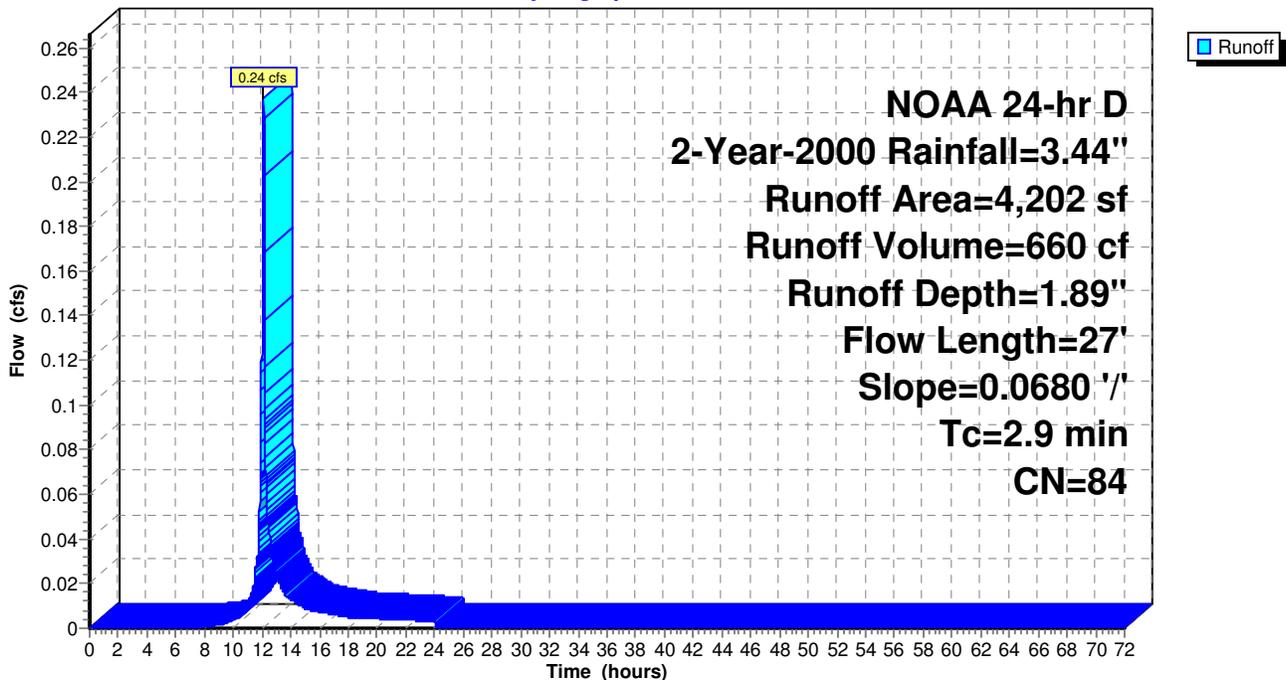
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.44	1.89	0.00
1.00	0.04	0.00	0.00	52.00	3.44	1.89	0.00
2.00	0.08	0.00	0.00	53.00	3.44	1.89	0.00
3.00	0.13	0.00	0.00	54.00	3.44	1.89	0.00
4.00	0.18	0.00	0.00	55.00	3.44	1.89	0.00
5.00	0.24	0.00	0.00	56.00	3.44	1.89	0.00
6.00	0.29	0.00	0.00	57.00	3.44	1.89	0.00
7.00	0.36	0.00	0.00	58.00	3.44	1.89	0.00
8.00	0.45	0.00	0.00	59.00	3.44	1.89	0.00
9.00	0.55	0.01	0.00	60.00	3.44	1.89	0.00
10.00	0.68	0.04	0.00	61.00	3.44	1.89	0.00
11.00	0.89	0.11	0.01	62.00	3.44	1.89	0.00
12.00	1.65	0.51	<b>0.13</b>	63.00	3.44	1.89	0.00
13.00	2.55	1.15	<b>0.02</b>	64.00	3.44	1.89	0.00
14.00	2.76	1.32	0.01	65.00	3.44	1.89	0.00
15.00	2.89	1.43	0.01	66.00	3.44	1.89	0.00
16.00	2.99	1.51	0.01	67.00	3.44	1.89	0.00
17.00	3.08	1.58	0.01	68.00	3.44	1.89	0.00
18.00	3.15	1.64	0.01	69.00	3.44	1.89	0.00
19.00	3.20	1.69	0.00	70.00	3.44	1.89	0.00
20.00	3.26	1.73	0.00	71.00	3.44	1.89	0.00
21.00	3.31	1.78	0.00	72.00	3.44	1.89	0.00
22.00	3.36	1.82	0.00				
23.00	3.40	1.85	0.00				
24.00	<b>3.44</b>	<b>1.89</b>	0.00				
25.00	3.44	1.89	0.00				
26.00	3.44	1.89	0.00				
27.00	3.44	1.89	0.00				
28.00	3.44	1.89	0.00				
29.00	3.44	1.89	0.00				
30.00	3.44	1.89	0.00				
31.00	3.44	1.89	0.00				
32.00	3.44	1.89	0.00				
33.00	3.44	1.89	0.00				
34.00	3.44	1.89	0.00				
35.00	3.44	1.89	0.00				
36.00	3.44	1.89	0.00				
37.00	3.44	1.89	0.00				
38.00	3.44	1.89	0.00				
39.00	3.44	1.89	0.00				
40.00	3.44	1.89	0.00				
41.00	3.44	1.89	0.00				
42.00	3.44	1.89	0.00				
43.00	3.44	1.89	0.00				
44.00	3.44	1.89	0.00				
45.00	3.44	1.89	0.00				
46.00	3.44	1.89	0.00				
47.00	3.44	1.89	0.00				
48.00	3.44	1.89	0.00				
49.00	3.44	1.89	0.00				
50.00	3.44	1.89	0.00				

**Summary for Pond 42P: Detention System**

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 2.78" for 2-Year-2000 event  
 Inflow = 3.68 cfs @ 12.10 hrs, Volume= 11,078 cf  
 Outflow = 1.64 cfs @ 12.16 hrs, Volume= 11,078 cf, Atten= 55%, Lag= 3.5 min  
 Primary = 1.64 cfs @ 12.16 hrs, Volume= 11,078 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 404.29' @ 12.16 hrs Surf.Area= 1,869 sf Storage= 1,748 cf

Plug-Flow detention time= 14.7 min calculated for 11,076 cf (100% of inflow)  
 Center-of-Mass det. time= 14.7 min ( 801.1 - 786.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

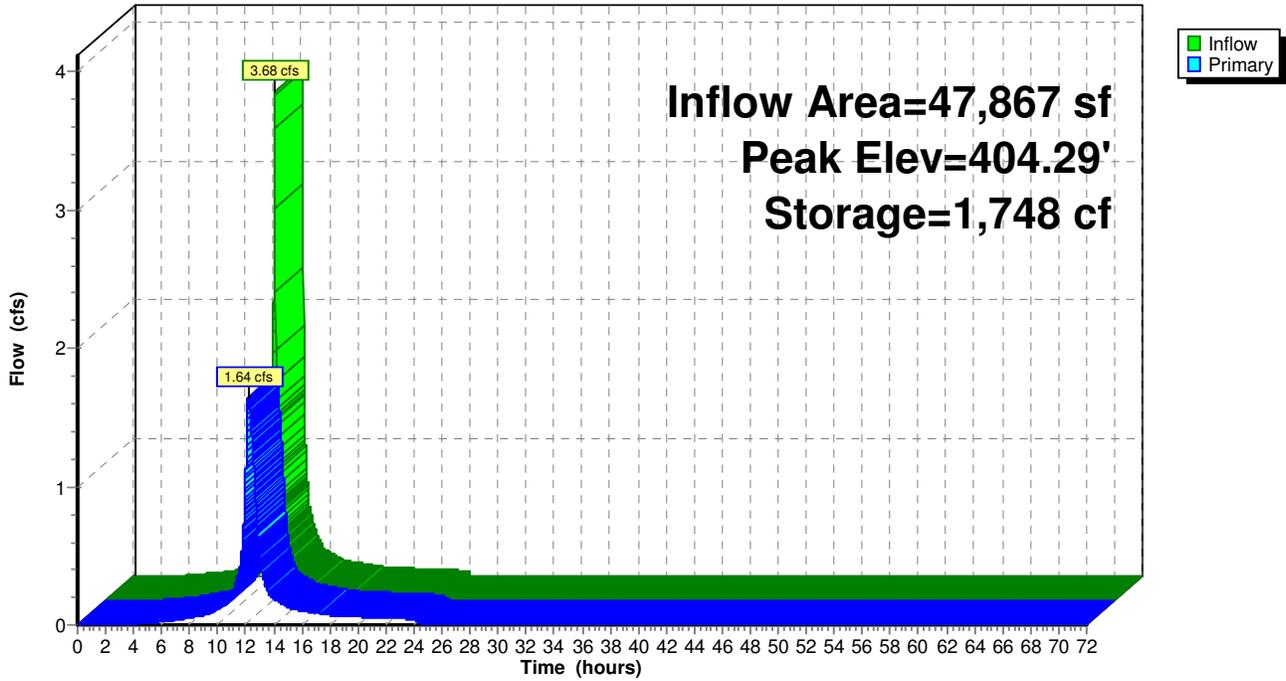
**Primary OutFlow** Max=1.64 cfs @ 12.16 hrs HW=404.29' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 1.64 cfs @ 4.70 fps)
- 2=Orifice/Grate ( Controls 0.00 cfs)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.00	0	403.00	0.00
4.00	0.01	9	403.03	0.00
6.00	0.02	29	403.08	0.02
8.00	0.06	56	403.12	0.05
10.00	0.13	105	403.18	0.12
12.00	<b>2.15</b>	<b>857</b>	<b>403.78</b>	<b>1.12</b>
14.00	<b>0.18</b>	<b>154</b>	<b>403.24</b>	<b>0.19</b>
16.00	0.10	95	403.17	0.10
18.00	0.07	70	403.14	0.07
20.00	0.06	61	403.13	0.06
22.00	0.05	54	403.12	0.05
24.00	0.04	47	403.11	0.04
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

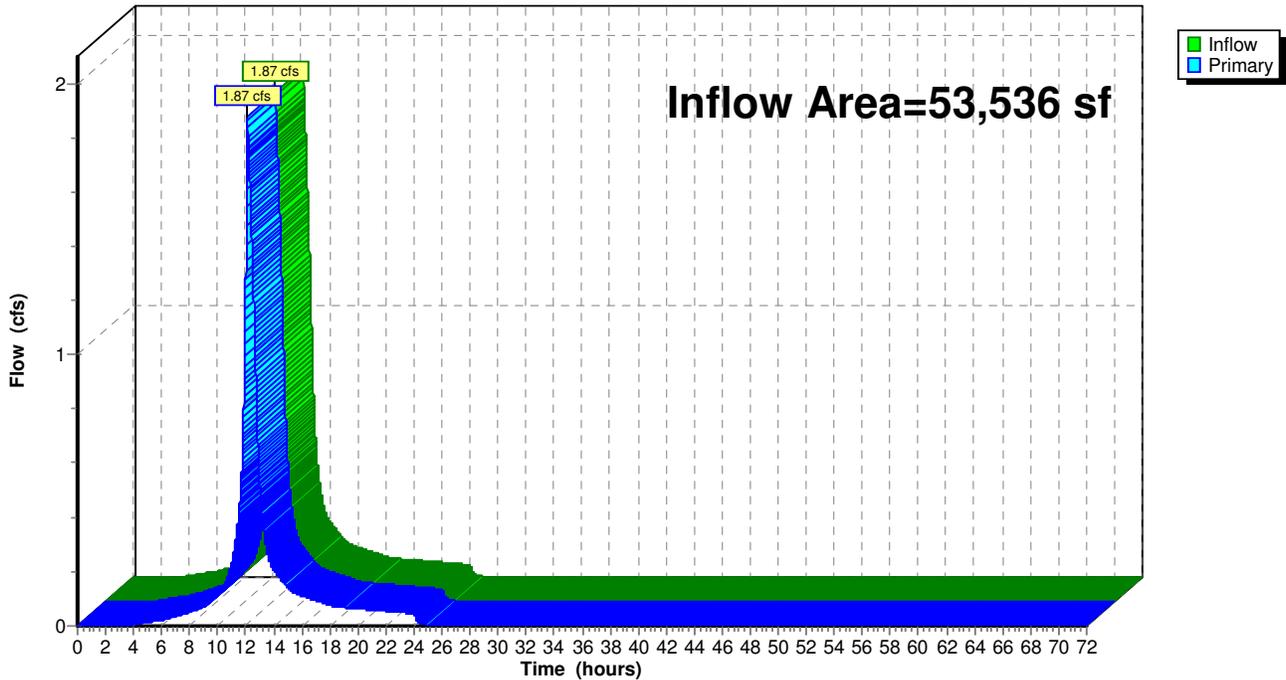
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 2.67" for 2-Year-2000 event  
Inflow = 1.87 cfs @ 12.12 hrs, Volume= 11,900 cf  
Primary = 1.87 cfs @ 12.12 hrs, Volume= 11,900 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
6.00	0.02	0.00	0.02	57.00	0.00	0.00	0.00
7.00	0.04	0.00	0.04	58.00	0.00	0.00	0.00
8.00	0.05	0.00	0.05	59.00	0.00	0.00	0.00
9.00	0.07	0.00	0.07	60.00	0.00	0.00	0.00
10.00	0.12	0.00	0.12	61.00	0.00	0.00	0.00
11.00	0.23	0.00	0.23	62.00	0.00	0.00	0.00
12.00	1.28	0.00	1.28	63.00	0.00	0.00	0.00
13.00	0.51	0.00	0.51	64.00	0.00	0.00	0.00
14.00	0.21	0.00	0.21	65.00	0.00	0.00	0.00
15.00	0.14	0.00	0.14	66.00	0.00	0.00	0.00
16.00	0.11	0.00	0.11	67.00	0.00	0.00	0.00
17.00	0.09	0.00	0.09	68.00	0.00	0.00	0.00
18.00	0.08	0.00	0.08	69.00	0.00	0.00	0.00
19.00	0.07	0.00	0.07	70.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	71.00	0.00	0.00	0.00
21.00	0.06	0.00	0.06	72.00	0.00	0.00	0.00
22.00	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

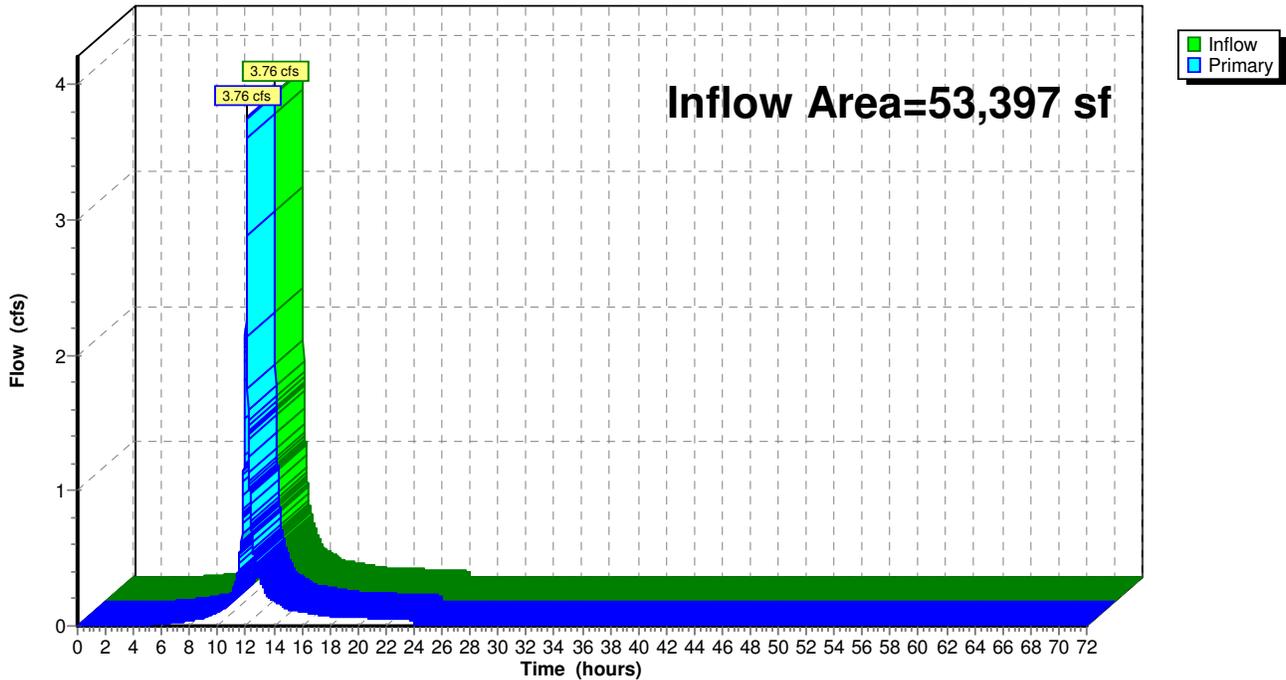
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 2.47" for 2-Year-2000 event  
Inflow = 3.76 cfs @ 12.10 hrs, Volume= 10,979 cf  
Primary = 3.76 cfs @ 12.10 hrs, Volume= 10,979 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2000 Rainfall=3.44"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
7.00	0.02	0.00	0.02	58.00	0.00	0.00	0.00
8.00	0.04	0.00	0.04	59.00	0.00	0.00	0.00
9.00	0.06	0.00	0.06	60.00	0.00	0.00	0.00
10.00	0.11	0.00	0.11	61.00	0.00	0.00	0.00
11.00	0.23	0.00	0.23	62.00	0.00	0.00	0.00
12.00	<b>2.14</b>	0.00	<b>2.14</b>	63.00	0.00	0.00	0.00
13.00	<b>0.36</b>	0.00	<b>0.36</b>	64.00	0.00	0.00	0.00
14.00	0.19	0.00	0.19	65.00	0.00	0.00	0.00
15.00	0.13	0.00	0.13	66.00	0.00	0.00	0.00
16.00	0.11	0.00	0.11	67.00	0.00	0.00	0.00
17.00	0.09	0.00	0.09	68.00	0.00	0.00	0.00
18.00	0.07	0.00	0.07	69.00	0.00	0.00	0.00
19.00	0.07	0.00	0.07	70.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	71.00	0.00	0.00	0.00
21.00	0.06	0.00	0.06	72.00	0.00	0.00	0.00
22.00	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
24.00	0.04	0.00	0.04				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

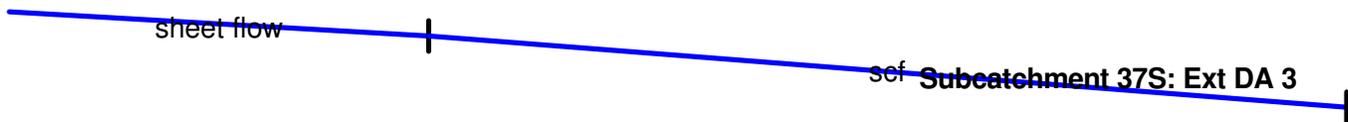
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 5.19 cfs @ 12.10 hrs, Volume= 15,358 cf, Depth= 4.09"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

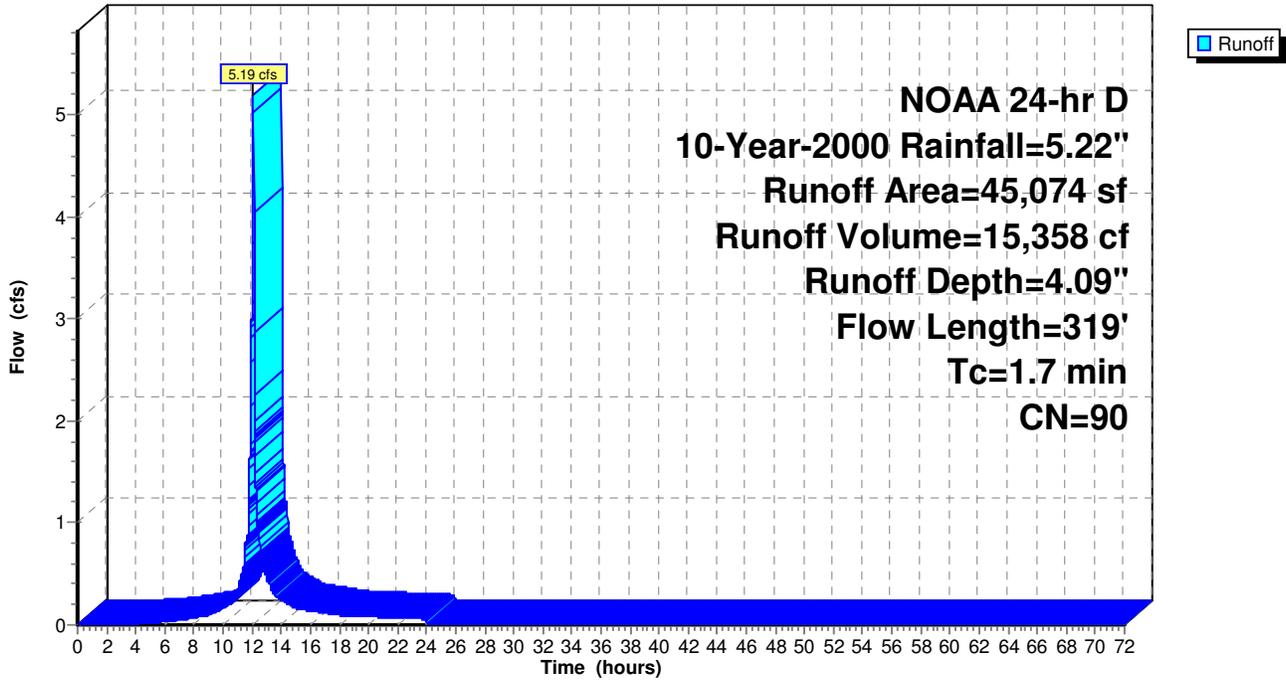
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



### Subcatchment 37S: Ext DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.22	4.09	0.00
1.00	0.06	0.00	0.00	52.00	5.22	4.09	0.00
2.00	0.13	0.00	0.00	53.00	5.22	4.09	0.00
3.00	0.20	0.00	0.00	54.00	5.22	4.09	0.00
4.00	0.27	0.00	0.01	55.00	5.22	4.09	0.00
5.00	0.36	0.01	0.02	56.00	5.22	4.09	0.00
6.00	0.45	0.04	0.03	57.00	5.22	4.09	0.00
7.00	0.55	0.07	0.05	58.00	5.22	4.09	0.00
8.00	0.68	0.13	0.07	59.00	5.22	4.09	0.00
9.00	0.83	0.21	0.10	60.00	5.22	4.09	0.00
10.00	1.03	0.34	0.17	61.00	5.22	4.09	0.00
11.00	1.36	0.57	0.34	62.00	5.22	4.09	0.00
12.00	2.50	1.53	<b>3.02</b>	63.00	5.22	4.09	0.00
13.00	3.86	2.79	<b>0.48</b>	64.00	5.22	4.09	0.00
14.00	4.19	3.10	0.25	65.00	5.22	4.09	0.00
15.00	4.39	3.29	0.17	66.00	5.22	4.09	0.00
16.00	4.54	3.44	0.14	67.00	5.22	4.09	0.00
17.00	4.67	3.56	0.12	68.00	5.22	4.09	0.00
18.00	4.77	3.66	0.09	69.00	5.22	4.09	0.00
19.00	4.86	3.74	0.09	70.00	5.22	4.09	0.00
20.00	4.95	3.82	0.08	71.00	5.22	4.09	0.00
21.00	5.02	3.90	0.08	72.00	5.22	4.09	0.00
22.00	5.09	3.97	0.07				
23.00	5.16	4.03	0.06				
24.00	<b>5.22</b>	<b>4.09</b>	0.06				
25.00	5.22	4.09	0.00				
26.00	5.22	4.09	0.00				
27.00	5.22	4.09	0.00				
28.00	5.22	4.09	0.00				
29.00	5.22	4.09	0.00				
30.00	5.22	4.09	0.00				
31.00	5.22	4.09	0.00				
32.00	5.22	4.09	0.00				
33.00	5.22	4.09	0.00				
34.00	5.22	4.09	0.00				
35.00	5.22	4.09	0.00				
36.00	5.22	4.09	0.00				
37.00	5.22	4.09	0.00				
38.00	5.22	4.09	0.00				
39.00	5.22	4.09	0.00				
40.00	5.22	4.09	0.00				
41.00	5.22	4.09	0.00				
42.00	5.22	4.09	0.00				
43.00	5.22	4.09	0.00				
44.00	5.22	4.09	0.00				
45.00	5.22	4.09	0.00				
46.00	5.22	4.09	0.00				
47.00	5.22	4.09	0.00				
48.00	5.22	4.09	0.00				
49.00	5.22	4.09	0.00				
50.00	5.22	4.09	0.00				

**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 1,873 cf, Depth= 4.98"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

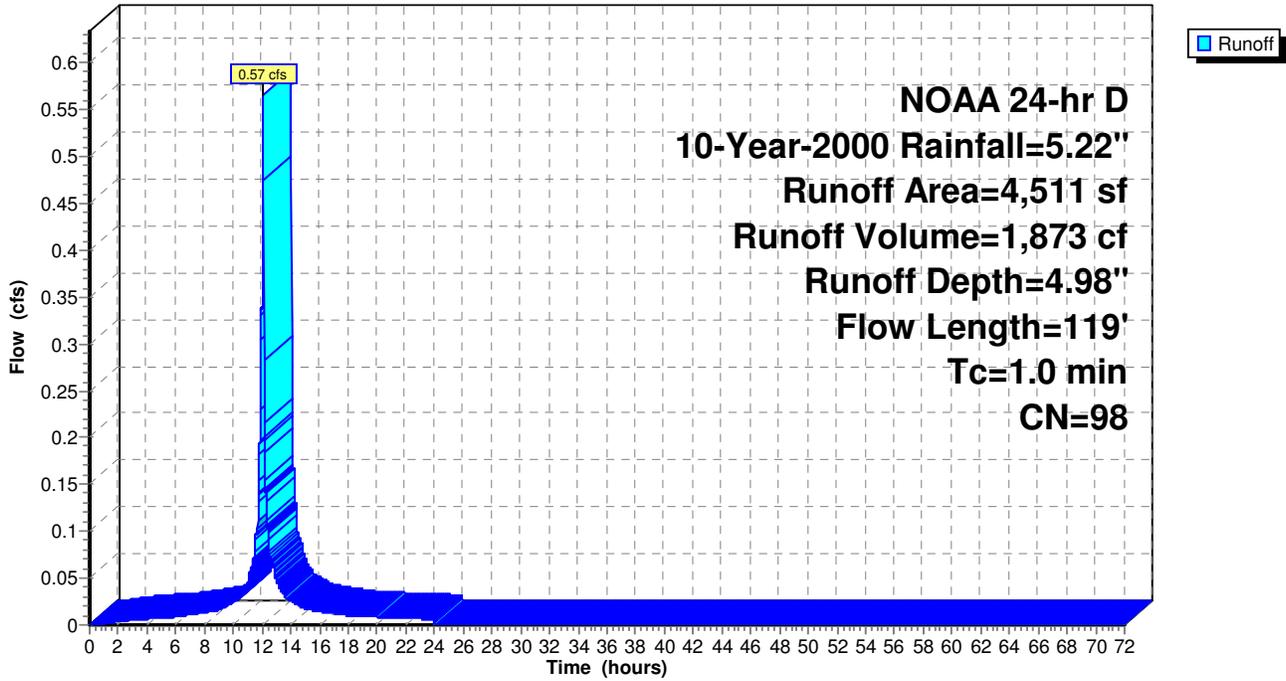
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



### Subcatchment 39S: Ext DA 2

Hydrograph



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NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.22	4.98	0.00
1.00	0.06	0.00	0.00	52.00	5.22	4.98	0.00
2.00	0.13	0.02	0.00	53.00	5.22	4.98	0.00
3.00	0.20	0.07	0.01	54.00	5.22	4.98	0.00
4.00	0.27	0.12	0.01	55.00	5.22	4.98	0.00
5.00	0.36	0.19	0.01	56.00	5.22	4.98	0.00
6.00	0.45	0.27	0.01	57.00	5.22	4.98	0.00
7.00	0.55	0.36	0.01	58.00	5.22	4.98	0.00
8.00	0.68	0.48	0.01	59.00	5.22	4.98	0.00
9.00	0.83	0.63	0.02	60.00	5.22	4.98	0.00
10.00	1.03	0.82	0.02	61.00	5.22	4.98	0.00
11.00	1.36	1.14	0.04	62.00	5.22	4.98	0.00
12.00	2.50	2.27	<b>0.34</b>	63.00	5.22	4.98	0.00
13.00	3.86	3.63	<b>0.05</b>	64.00	5.22	4.98	0.00
14.00	4.19	3.95	0.03	65.00	5.22	4.98	0.00
15.00	4.39	4.16	0.02	66.00	5.22	4.98	0.00
16.00	4.54	4.31	0.01	67.00	5.22	4.98	0.00
17.00	4.67	4.43	0.01	68.00	5.22	4.98	0.00
18.00	4.77	4.54	0.01	69.00	5.22	4.98	0.00
19.00	4.86	4.63	0.01	70.00	5.22	4.98	0.00
20.00	4.95	4.71	0.01	71.00	5.22	4.98	0.00
21.00	5.02	4.79	0.01	72.00	5.22	4.98	0.00
22.00	5.09	4.86	0.01				
23.00	5.16	4.92	0.01				
24.00	<b>5.22</b>	<b>4.98</b>	0.01				
25.00	5.22	4.98	0.00				
26.00	5.22	4.98	0.00				
27.00	5.22	4.98	0.00				
28.00	5.22	4.98	0.00				
29.00	5.22	4.98	0.00				
30.00	5.22	4.98	0.00				
31.00	5.22	4.98	0.00				
32.00	5.22	4.98	0.00				
33.00	5.22	4.98	0.00				
34.00	5.22	4.98	0.00				
35.00	5.22	4.98	0.00				
36.00	5.22	4.98	0.00				
37.00	5.22	4.98	0.00				
38.00	5.22	4.98	0.00				
39.00	5.22	4.98	0.00				
40.00	5.22	4.98	0.00				
41.00	5.22	4.98	0.00				
42.00	5.22	4.98	0.00				
43.00	5.22	4.98	0.00				
44.00	5.22	4.98	0.00				
45.00	5.22	4.98	0.00				
46.00	5.22	4.98	0.00				
47.00	5.22	4.98	0.00				
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50.00	5.22	4.98	0.00				

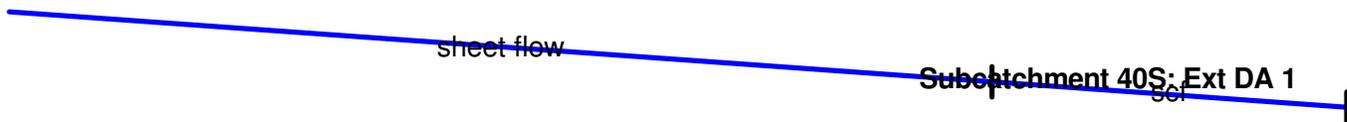
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.40 cfs @ 12.13 hrs, Volume= 1,333 cf, Depth= 4.20"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

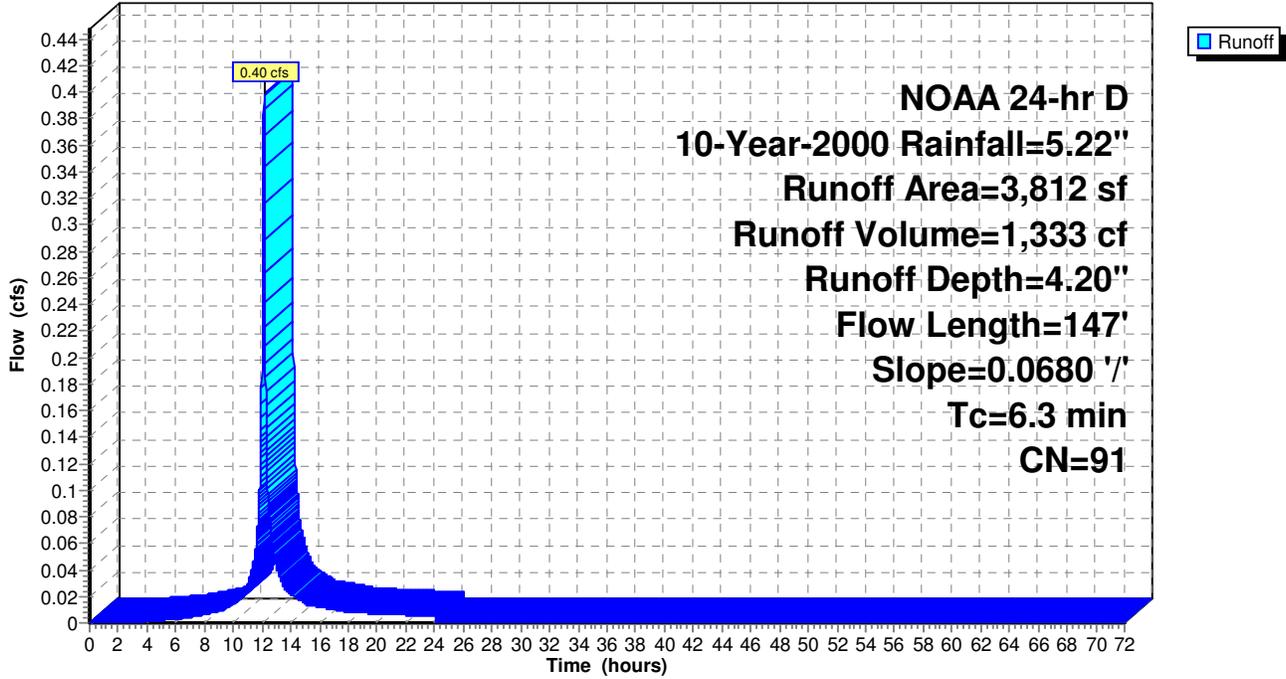
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



Subcatchment 40S: Ext DA 1

Hydrograph



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NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.22	4.20	0.00
1.00	0.06	0.00	0.00	52.00	5.22	4.20	0.00
2.00	0.13	0.00	0.00	53.00	5.22	4.20	0.00
3.00	0.20	0.00	0.00	54.00	5.22	4.20	0.00
4.00	0.27	0.01	0.00	55.00	5.22	4.20	0.00
5.00	0.36	0.02	0.00	56.00	5.22	4.20	0.00
6.00	0.45	0.05	0.00	57.00	5.22	4.20	0.00
7.00	0.55	0.09	0.00	58.00	5.22	4.20	0.00
8.00	0.68	0.16	0.01	59.00	5.22	4.20	0.00
9.00	0.83	0.25	0.01	60.00	5.22	4.20	0.00
10.00	1.03	0.38	0.01	61.00	5.22	4.20	0.00
11.00	1.36	0.63	0.03	62.00	5.22	4.20	0.00
12.00	2.50	1.61	<b>0.21</b>	63.00	5.22	4.20	0.00
13.00	3.86	2.89	<b>0.04</b>	64.00	5.22	4.20	0.00
14.00	4.19	3.19	0.02	65.00	5.22	4.20	0.00
15.00	4.39	3.39	0.01	66.00	5.22	4.20	0.00
16.00	4.54	3.54	0.01	67.00	5.22	4.20	0.00
17.00	4.67	3.66	0.01	68.00	5.22	4.20	0.00
18.00	4.77	3.76	0.01	69.00	5.22	4.20	0.00
19.00	4.86	3.85	0.01	70.00	5.22	4.20	0.00
20.00	4.95	3.93	0.01	71.00	5.22	4.20	0.00
21.00	5.02	4.00	0.01	72.00	5.22	4.20	0.00
22.00	5.09	4.07	0.01				
23.00	5.16	4.14	0.01				
24.00	<b>5.22</b>	<b>4.20</b>	0.00				
25.00	5.22	4.20	0.00				
26.00	5.22	4.20	0.00				
27.00	5.22	4.20	0.00				
28.00	5.22	4.20	0.00				
29.00	5.22	4.20	0.00				
30.00	5.22	4.20	0.00				
31.00	5.22	4.20	0.00				
32.00	5.22	4.20	0.00				
33.00	5.22	4.20	0.00				
34.00	5.22	4.20	0.00				
35.00	5.22	4.20	0.00				
36.00	5.22	4.20	0.00				
37.00	5.22	4.20	0.00				
38.00	5.22	4.20	0.00				
39.00	5.22	4.20	0.00				
40.00	5.22	4.20	0.00				
41.00	5.22	4.20	0.00				
42.00	5.22	4.20	0.00				
43.00	5.22	4.20	0.00				
44.00	5.22	4.20	0.00				
45.00	5.22	4.20	0.00				
46.00	5.22	4.20	0.00				
47.00	5.22	4.20	0.00				
48.00	5.22	4.20	0.00				
49.00	5.22	4.20	0.00				
50.00	5.22	4.20	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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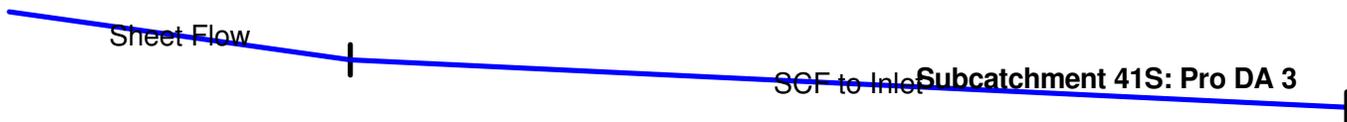
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 5.79 cfs @ 12.10 hrs, Volume= 18,050 cf, Depth= 4.53"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

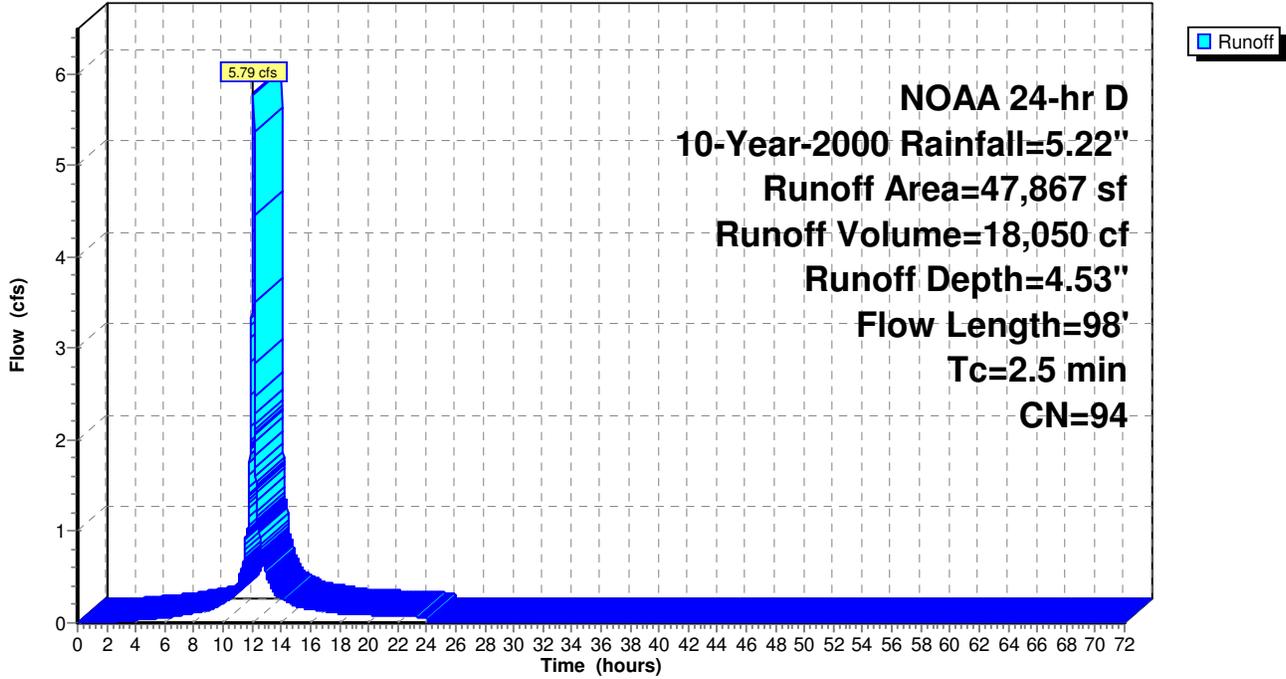
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



### Subcatchment 41S: Pro DA 3

Hydrograph



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NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.22	4.53	0.00
1.00	0.06	0.00	0.00	52.00	5.22	4.53	0.00
2.00	0.13	0.00	0.00	53.00	5.22	4.53	0.00
3.00	0.20	0.01	0.01	54.00	5.22	4.53	0.00
4.00	0.27	0.03	0.03	55.00	5.22	4.53	0.00
5.00	0.36	0.06	0.04	56.00	5.22	4.53	0.00
6.00	0.45	0.11	0.06	57.00	5.22	4.53	0.00
7.00	0.55	0.17	0.08	58.00	5.22	4.53	0.00
8.00	0.68	0.25	0.11	59.00	5.22	4.53	0.00
9.00	0.83	0.37	0.14	60.00	5.22	4.53	0.00
10.00	1.03	0.53	0.22	61.00	5.22	4.53	0.00
11.00	1.36	0.81	0.43	62.00	5.22	4.53	0.00
12.00	2.50	1.87	<b>3.43</b>	63.00	5.22	4.53	0.00
13.00	3.86	3.19	<b>0.53</b>	64.00	5.22	4.53	0.00
14.00	4.19	3.51	0.27	65.00	5.22	4.53	0.00
15.00	4.39	3.71	0.18	66.00	5.22	4.53	0.00
16.00	4.54	3.86	0.15	67.00	5.22	4.53	0.00
17.00	4.67	3.98	0.13	68.00	5.22	4.53	0.00
18.00	4.77	4.09	0.10	69.00	5.22	4.53	0.00
19.00	4.86	4.17	0.09	70.00	5.22	4.53	0.00
20.00	4.95	4.25	0.09	71.00	5.22	4.53	0.00
21.00	5.02	4.33	0.08	72.00	5.22	4.53	0.00
22.00	5.09	4.40	0.08				
23.00	5.16	4.47	0.07				
24.00	<b>5.22</b>	<b>4.53</b>	0.06				
25.00	5.22	4.53	0.00				
26.00	5.22	4.53	0.00				
27.00	5.22	4.53	0.00				
28.00	5.22	4.53	0.00				
29.00	5.22	4.53	0.00				
30.00	5.22	4.53	0.00				
31.00	5.22	4.53	0.00				
32.00	5.22	4.53	0.00				
33.00	5.22	4.53	0.00				
34.00	5.22	4.53	0.00				
35.00	5.22	4.53	0.00				
36.00	5.22	4.53	0.00				
37.00	5.22	4.53	0.00				
38.00	5.22	4.53	0.00				
39.00	5.22	4.53	0.00				
40.00	5.22	4.53	0.00				
41.00	5.22	4.53	0.00				
42.00	5.22	4.53	0.00				
43.00	5.22	4.53	0.00				
44.00	5.22	4.53	0.00				
45.00	5.22	4.53	0.00				
46.00	5.22	4.53	0.00				
47.00	5.22	4.53	0.00				
48.00	5.22	4.53	0.00				
49.00	5.22	4.53	0.00				
50.00	5.22	4.53	0.00				

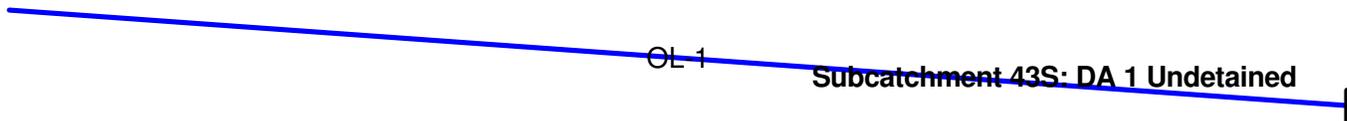
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.12 cfs @ 12.10 hrs, Volume= 332 cf, Depth= 2.72"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

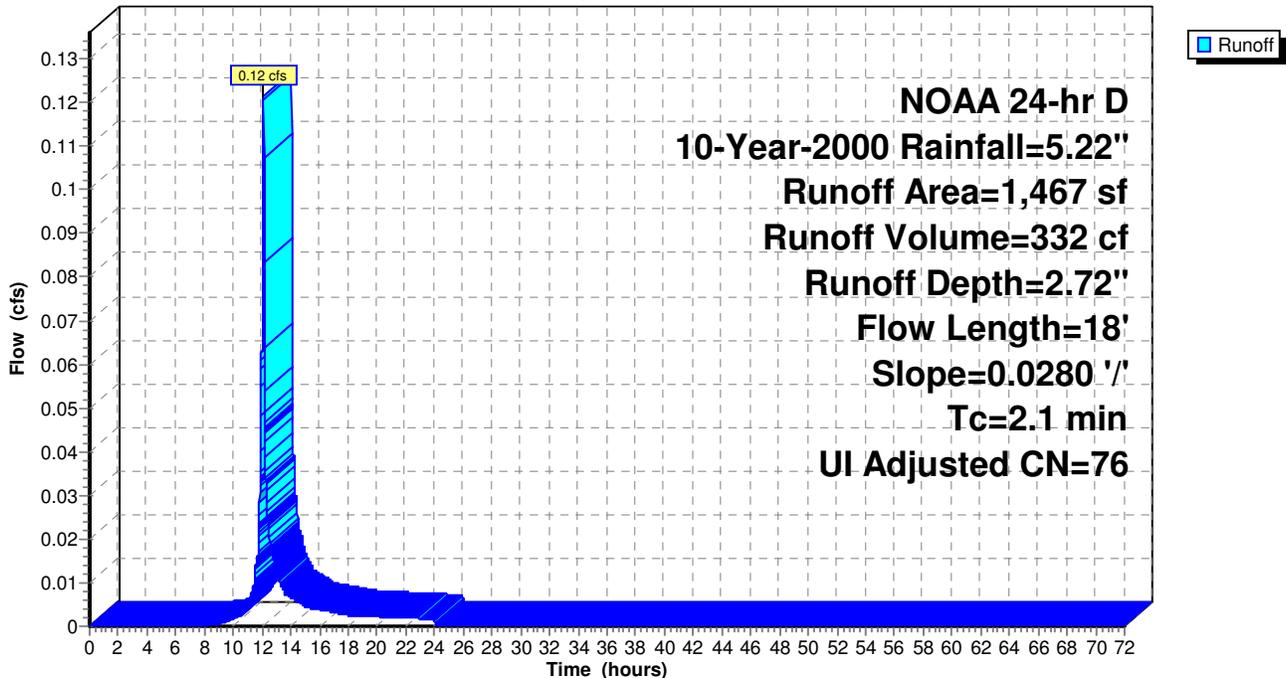
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



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NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.22	2.72	0.00
1.00	0.06	0.00	0.00	52.00	5.22	2.72	0.00
2.00	0.13	0.00	0.00	53.00	5.22	2.72	0.00
3.00	0.20	0.00	0.00	54.00	5.22	2.72	0.00
4.00	0.27	0.00	0.00	55.00	5.22	2.72	0.00
5.00	0.36	0.00	0.00	56.00	5.22	2.72	0.00
6.00	0.45	0.00	0.00	57.00	5.22	2.72	0.00
7.00	0.55	0.00	0.00	58.00	5.22	2.72	0.00
8.00	0.68	0.00	0.00	59.00	5.22	2.72	0.00
9.00	0.83	0.01	0.00	60.00	5.22	2.72	0.00
10.00	1.03	0.05	0.00	61.00	5.22	2.72	0.00
11.00	1.36	0.14	0.00	62.00	5.22	2.72	0.00
12.00	2.50	0.70	<b>0.07</b>	63.00	5.22	2.72	0.00
13.00	3.86	1.63	<b>0.01</b>	64.00	5.22	2.72	0.00
14.00	4.19	1.88	0.01	65.00	5.22	2.72	0.00
15.00	4.39	2.04	0.00	66.00	5.22	2.72	0.00
16.00	4.54	2.16	0.00	67.00	5.22	2.72	0.00
17.00	4.67	2.27	0.00	68.00	5.22	2.72	0.00
18.00	4.77	2.35	0.00	69.00	5.22	2.72	0.00
19.00	4.86	2.42	0.00	70.00	5.22	2.72	0.00
20.00	4.95	2.49	0.00	71.00	5.22	2.72	0.00
21.00	5.02	2.55	0.00	72.00	5.22	2.72	0.00
22.00	5.09	2.61	0.00				
23.00	5.16	2.67	0.00				
24.00	<b>5.22</b>	<b>2.72</b>	0.00				
25.00	5.22	2.72	0.00				
26.00	5.22	2.72	0.00				
27.00	5.22	2.72	0.00				
28.00	5.22	2.72	0.00				
29.00	5.22	2.72	0.00				
30.00	5.22	2.72	0.00				
31.00	5.22	2.72	0.00				
32.00	5.22	2.72	0.00				
33.00	5.22	2.72	0.00				
34.00	5.22	2.72	0.00				
35.00	5.22	2.72	0.00				
36.00	5.22	2.72	0.00				
37.00	5.22	2.72	0.00				
38.00	5.22	2.72	0.00				
39.00	5.22	2.72	0.00				
40.00	5.22	2.72	0.00				
41.00	5.22	2.72	0.00				
42.00	5.22	2.72	0.00				
43.00	5.22	2.72	0.00				
44.00	5.22	2.72	0.00				
45.00	5.22	2.72	0.00				
46.00	5.22	2.72	0.00				
47.00	5.22	2.72	0.00				
48.00	5.22	2.72	0.00				
49.00	5.22	2.72	0.00				
50.00	5.22	2.72	0.00				

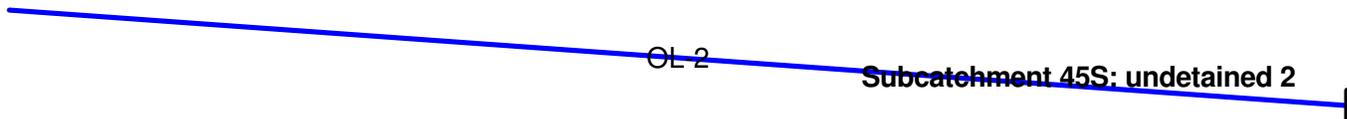
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.43 cfs @ 12.11 hrs, Volume= 1,216 cf, Depth= 3.47"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

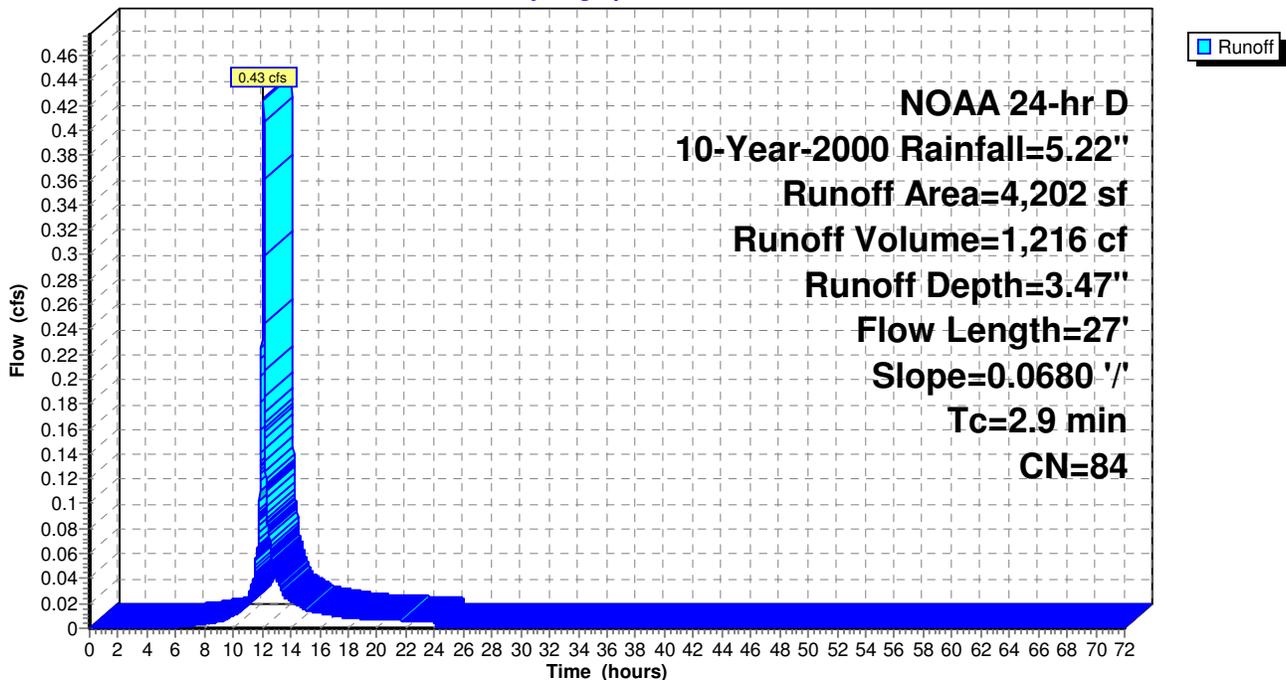
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.22	3.47	0.00
1.00	0.06	0.00	0.00	52.00	5.22	3.47	0.00
2.00	0.13	0.00	0.00	53.00	5.22	3.47	0.00
3.00	0.20	0.00	0.00	54.00	5.22	3.47	0.00
4.00	0.27	0.00	0.00	55.00	5.22	3.47	0.00
5.00	0.36	0.00	0.00	56.00	5.22	3.47	0.00
6.00	0.45	0.00	0.00	57.00	5.22	3.47	0.00
7.00	0.55	0.01	0.00	58.00	5.22	3.47	0.00
8.00	0.68	0.04	0.00	59.00	5.22	3.47	0.00
9.00	0.83	0.09	0.01	60.00	5.22	3.47	0.00
10.00	1.03	0.17	0.01	61.00	5.22	3.47	0.00
11.00	1.36	0.33	0.02	62.00	5.22	3.47	0.00
12.00	2.50	1.12	<b>0.24</b>	63.00	5.22	3.47	0.00
13.00	3.86	2.25	<b>0.04</b>	64.00	5.22	3.47	0.00
14.00	4.19	2.53	0.02	65.00	5.22	3.47	0.00
15.00	4.39	2.72	0.01	66.00	5.22	3.47	0.00
16.00	4.54	2.85	0.01	67.00	5.22	3.47	0.00
17.00	4.67	2.97	0.01	68.00	5.22	3.47	0.00
18.00	4.77	3.06	0.01	69.00	5.22	3.47	0.00
19.00	4.86	3.15	0.01	70.00	5.22	3.47	0.00
20.00	4.95	3.22	0.01	71.00	5.22	3.47	0.00
21.00	5.02	3.29	0.01	72.00	5.22	3.47	0.00
22.00	5.09	3.36	0.01				
23.00	5.16	3.42	0.01				
24.00	<b>5.22</b>	<b>3.47</b>	0.01				
25.00	5.22	3.47	0.00				
26.00	5.22	3.47	0.00				
27.00	5.22	3.47	0.00				
28.00	5.22	3.47	0.00				
29.00	5.22	3.47	0.00				
30.00	5.22	3.47	0.00				
31.00	5.22	3.47	0.00				
32.00	5.22	3.47	0.00				
33.00	5.22	3.47	0.00				
34.00	5.22	3.47	0.00				
35.00	5.22	3.47	0.00				
36.00	5.22	3.47	0.00				
37.00	5.22	3.47	0.00				
38.00	5.22	3.47	0.00				
39.00	5.22	3.47	0.00				
40.00	5.22	3.47	0.00				
41.00	5.22	3.47	0.00				
42.00	5.22	3.47	0.00				
43.00	5.22	3.47	0.00				
44.00	5.22	3.47	0.00				
45.00	5.22	3.47	0.00				
46.00	5.22	3.47	0.00				
47.00	5.22	3.47	0.00				
48.00	5.22	3.47	0.00				
49.00	5.22	3.47	0.00				
50.00	5.22	3.47	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 4.53" for 10-Year-2000 event  
 Inflow = 5.79 cfs @ 12.10 hrs, Volume= 18,050 cf  
 Outflow = 3.67 cfs @ 12.14 hrs, Volume= 18,050 cf, Atten= 37%, Lag= 2.4 min  
 Primary = 3.67 cfs @ 12.14 hrs, Volume= 18,050 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 404.83' @ 12.14 hrs Surf.Area= 1,993 sf Storage= 2,806 cf

Plug-Flow detention time= 14.5 min calculated for 18,048 cf (100% of inflow)  
 Center-of-Mass det. time= 14.5 min ( 787.1 - 772.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

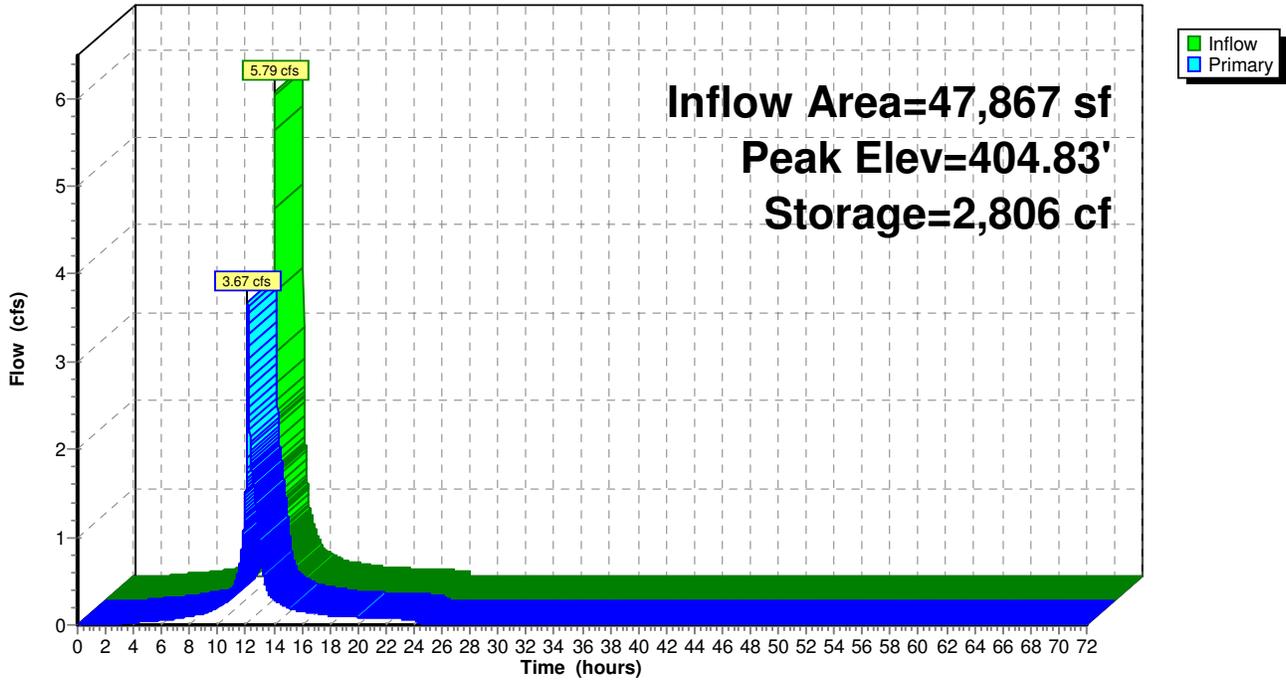
**Primary OutFlow** Max=3.67 cfs @ 12.14 hrs HW=404.83' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 2.06 cfs @ 5.89 fps)
- 2=Orifice/Grate (Orifice Controls 1.61 cfs @ 2.15 fps)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.00	0	403.00	0.00
4.00	0.03	32	403.08	0.03
6.00	0.06	57	403.12	0.05
8.00	0.11	95	403.17	0.10
10.00	0.22	167	403.25	0.21
12.00	<b>3.43</b>	<b>1,490</b>	<b>404.15</b>	<b>1.52</b>
14.00	<b>0.27</b>	<b>219</b>	<b>403.30</b>	<b>0.29</b>
16.00	0.15	133	403.22	0.16
18.00	0.10	98	403.18	0.11
20.00	0.09	85	403.16	0.09
22.00	0.08	76	403.15	0.08
24.00	0.06	66	403.13	0.06
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

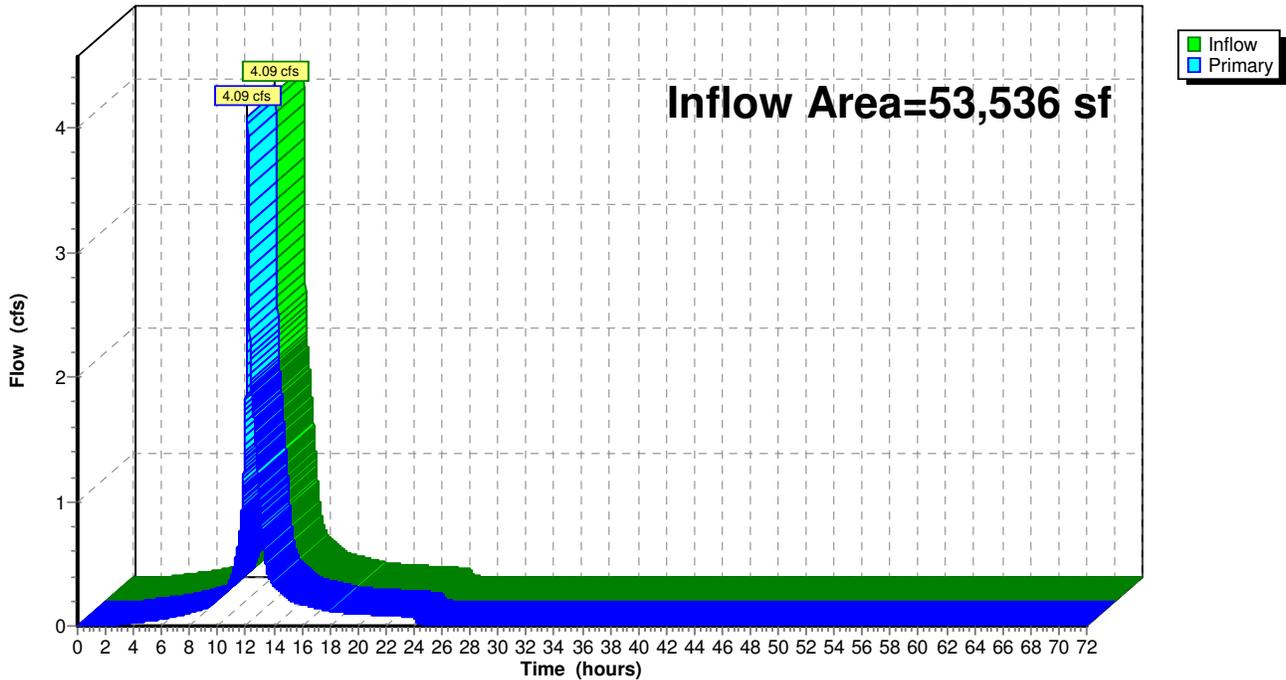
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 4.39" for 10-Year-2000 event  
Inflow = 4.09 cfs @ 12.13 hrs, Volume= 19,599 cf  
Primary = 4.09 cfs @ 12.13 hrs, Volume= 19,599 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	54.00	0.00	0.00	0.00
4.00	0.03	0.00	0.03	55.00	0.00	0.00	0.00
5.00	0.04	0.00	0.04	56.00	0.00	0.00	0.00
6.00	0.05	0.00	0.05	57.00	0.00	0.00	0.00
7.00	0.08	0.00	0.08	58.00	0.00	0.00	0.00
8.00	0.11	0.00	0.11	59.00	0.00	0.00	0.00
9.00	0.14	0.00	0.14	60.00	0.00	0.00	0.00
10.00	0.22	0.00	0.22	61.00	0.00	0.00	0.00
11.00	0.41	0.00	0.41	62.00	0.00	0.00	0.00
12.00	<b>1.82</b>	0.00	<b>1.82</b>	63.00	0.00	0.00	0.00
13.00	<b>1.01</b>	0.00	<b>1.01</b>	64.00	0.00	0.00	0.00
14.00	0.32	0.00	0.32	65.00	0.00	0.00	0.00
15.00	0.22	0.00	0.22	66.00	0.00	0.00	0.00
16.00	0.17	0.00	0.17	67.00	0.00	0.00	0.00
17.00	0.15	0.00	0.15	68.00	0.00	0.00	0.00
18.00	0.12	0.00	0.12	69.00	0.00	0.00	0.00
19.00	0.11	0.00	0.11	70.00	0.00	0.00	0.00
20.00	0.10	0.00	0.10	71.00	0.00	0.00	0.00
21.00	0.09	0.00	0.09	72.00	0.00	0.00	0.00
22.00	0.08	0.00	0.08				
23.00	0.08	0.00	0.08				
24.00	0.07	0.00	0.07				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

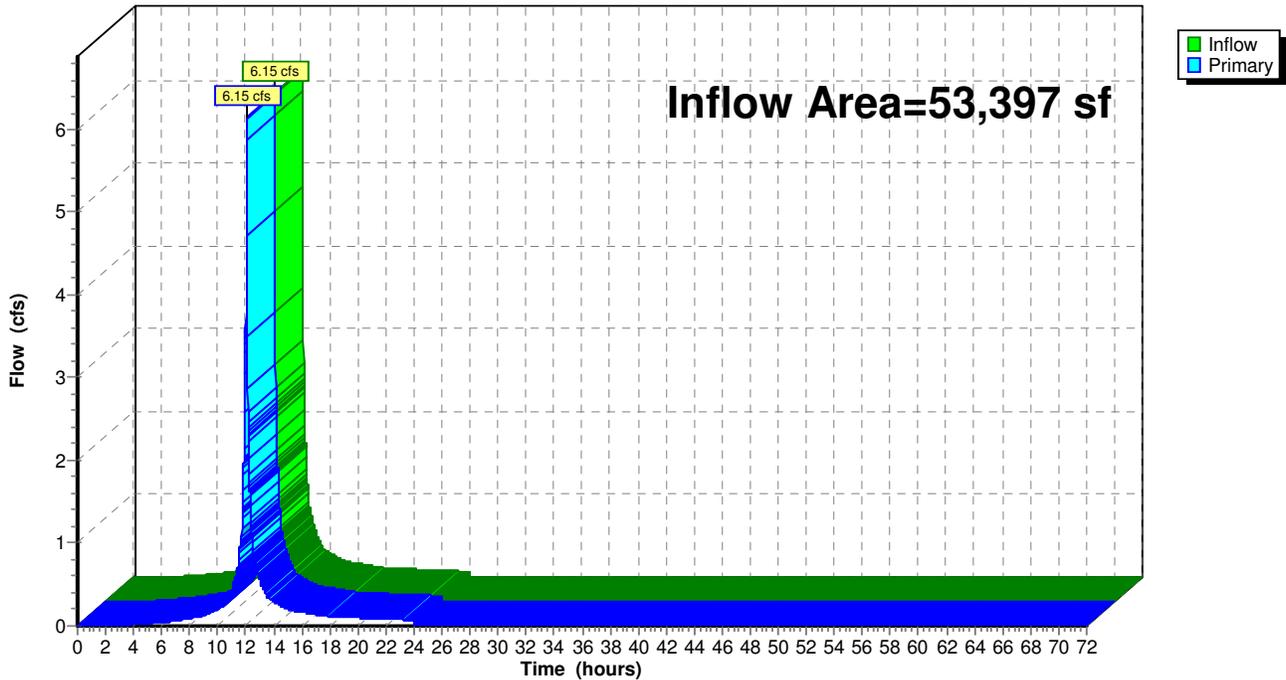
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 4.17" for 10-Year-2000 event  
Inflow = 6.15 cfs @ 12.10 hrs, Volume= 18,564 cf  
Primary = 6.15 cfs @ 12.10 hrs, Volume= 18,564 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2000 Rainfall=5.22"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	54.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	55.00	0.00	0.00	0.00
5.00	0.03	0.00	0.03	56.00	0.00	0.00	0.00
6.00	0.04	0.00	0.04	57.00	0.00	0.00	0.00
7.00	0.06	0.00	0.06	58.00	0.00	0.00	0.00
8.00	0.09	0.00	0.09	59.00	0.00	0.00	0.00
9.00	0.12	0.00	0.12	60.00	0.00	0.00	0.00
10.00	0.21	0.00	0.21	61.00	0.00	0.00	0.00
11.00	0.42	0.00	0.42	62.00	0.00	0.00	0.00
12.00	<b>3.58</b>	0.00	<b>3.58</b>	63.00	0.00	0.00	0.00
13.00	<b>0.58</b>	0.00	<b>0.58</b>	64.00	0.00	0.00	0.00
14.00	0.30	0.00	0.30	65.00	0.00	0.00	0.00
15.00	0.20	0.00	0.20	66.00	0.00	0.00	0.00
16.00	0.17	0.00	0.17	67.00	0.00	0.00	0.00
17.00	0.14	0.00	0.14	68.00	0.00	0.00	0.00
18.00	0.11	0.00	0.11	69.00	0.00	0.00	0.00
19.00	0.10	0.00	0.10	70.00	0.00	0.00	0.00
20.00	0.10	0.00	0.10	71.00	0.00	0.00	0.00
21.00	0.09	0.00	0.09	72.00	0.00	0.00	0.00
22.00	0.08	0.00	0.08				
23.00	0.08	0.00	0.08				
24.00	0.07	0.00	0.07				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 9.07 cfs @ 12.10 hrs, Volume= 28,006 cf, Depth= 7.46"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

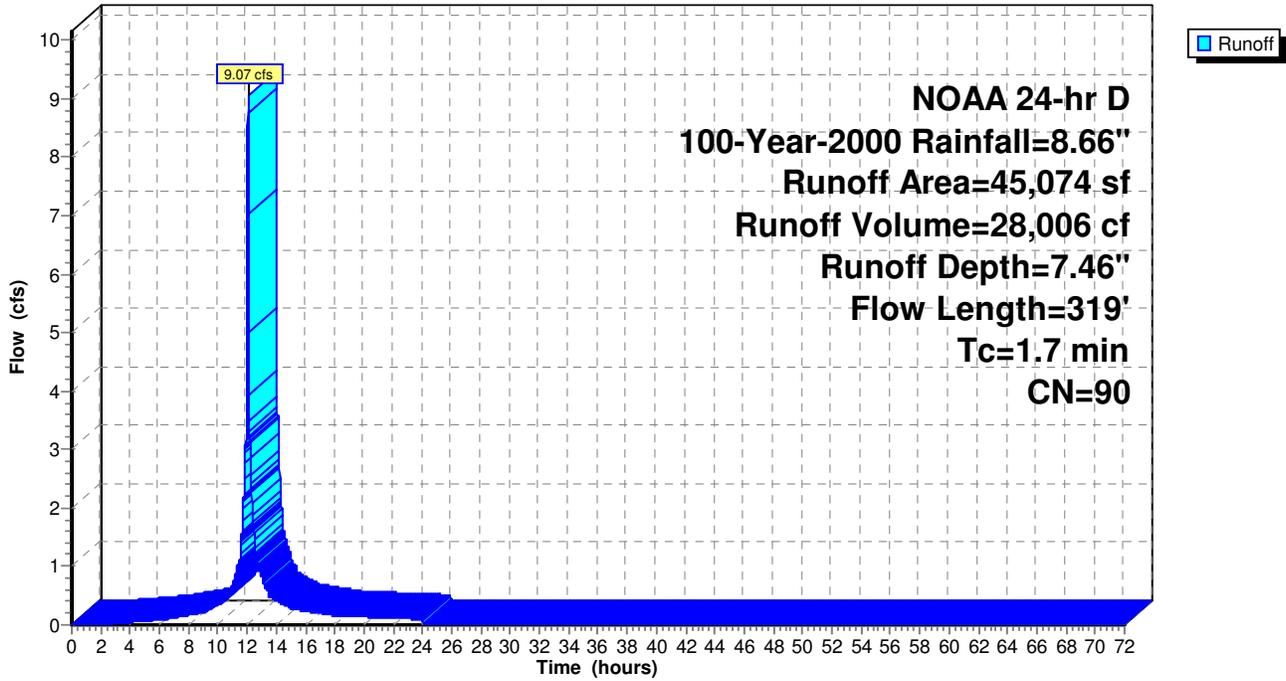
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



### Subcatchment 37S: Ext DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	8.66	7.46	0.00
1.00	0.10	0.00	0.00	52.00	8.66	7.46	0.00
2.00	0.21	0.00	0.00	53.00	8.66	7.46	0.00
3.00	0.33	0.01	0.02	54.00	8.66	7.46	0.00
4.00	0.45	0.04	0.04	55.00	8.66	7.46	0.00
5.00	0.59	0.09	0.06	56.00	8.66	7.46	0.00
6.00	0.74	0.16	0.08	57.00	8.66	7.46	0.00
7.00	0.91	0.26	0.12	58.00	8.66	7.46	0.00
8.00	1.12	0.40	0.17	59.00	8.66	7.46	0.00
9.00	1.37	0.59	0.21	60.00	8.66	7.46	0.00
10.00	1.72	0.86	0.34	61.00	8.66	7.46	0.00
11.00	2.25	1.31	0.66	62.00	8.66	7.46	0.00
12.00	4.15	3.06	<b>5.36</b>	63.00	8.66	7.46	0.00
13.00	6.41	5.24	<b>0.83</b>	64.00	8.66	7.46	0.00
14.00	6.94	5.77	0.43	65.00	8.66	7.46	0.00
15.00	7.29	6.10	0.29	66.00	8.66	7.46	0.00
16.00	7.54	6.35	0.24	67.00	8.66	7.46	0.00
17.00	7.75	6.56	0.20	68.00	8.66	7.46	0.00
18.00	7.92	6.73	0.16	69.00	8.66	7.46	0.00
19.00	8.07	6.87	0.15	70.00	8.66	7.46	0.00
20.00	8.21	7.01	0.14	71.00	8.66	7.46	0.00
21.00	8.33	7.13	0.13	72.00	8.66	7.46	0.00
22.00	8.45	7.25	0.12				
23.00	8.56	7.36	0.11				
24.00	<b>8.66</b>	<b>7.46</b>	0.10				
25.00	8.66	7.46	0.00				
26.00	8.66	7.46	0.00				
27.00	8.66	7.46	0.00				
28.00	8.66	7.46	0.00				
29.00	8.66	7.46	0.00				
30.00	8.66	7.46	0.00				
31.00	8.66	7.46	0.00				
32.00	8.66	7.46	0.00				
33.00	8.66	7.46	0.00				
34.00	8.66	7.46	0.00				
35.00	8.66	7.46	0.00				
36.00	8.66	7.46	0.00				
37.00	8.66	7.46	0.00				
38.00	8.66	7.46	0.00				
39.00	8.66	7.46	0.00				
40.00	8.66	7.46	0.00				
41.00	8.66	7.46	0.00				
42.00	8.66	7.46	0.00				
43.00	8.66	7.46	0.00				
44.00	8.66	7.46	0.00				
45.00	8.66	7.46	0.00				
46.00	8.66	7.46	0.00				
47.00	8.66	7.46	0.00				
48.00	8.66	7.46	0.00				
49.00	8.66	7.46	0.00				
50.00	8.66	7.46	0.00				

**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.94 cfs @ 12.09 hrs, Volume= 3,165 cf, Depth= 8.42"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

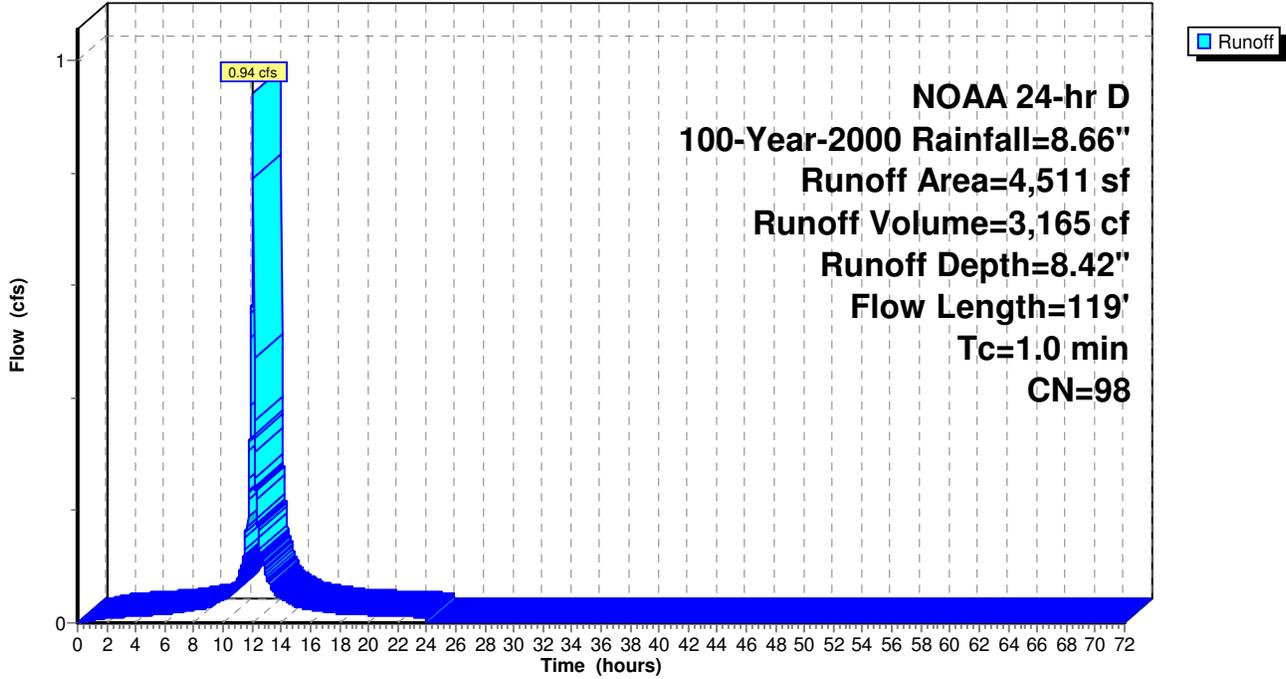
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



### Subcatchment 39S: Ext DA 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	8.66	8.42	0.00
1.00	0.10	0.01	0.00	52.00	8.66	8.42	0.00
2.00	0.21	0.08	0.01	53.00	8.66	8.42	0.00
3.00	0.33	0.17	0.01	54.00	8.66	8.42	0.00
4.00	0.45	0.28	0.01	55.00	8.66	8.42	0.00
5.00	0.59	0.40	0.01	56.00	8.66	8.42	0.00
6.00	0.74	0.54	0.02	57.00	8.66	8.42	0.00
7.00	0.91	0.71	0.02	58.00	8.66	8.42	0.00
8.00	1.12	0.91	0.02	59.00	8.66	8.42	0.00
9.00	1.37	1.16	0.03	60.00	8.66	8.42	0.00
10.00	1.72	1.49	0.04	61.00	8.66	8.42	0.00
11.00	2.25	2.02	0.07	62.00	8.66	8.42	0.00
12.00	4.15	3.91	<b>0.57</b>	63.00	8.66	8.42	0.00
13.00	6.41	6.17	<b>0.08</b>	64.00	8.66	8.42	0.00
14.00	6.94	6.70	0.04	65.00	8.66	8.42	0.00
15.00	7.29	7.05	0.03	66.00	8.66	8.42	0.00
16.00	7.54	7.30	0.02	67.00	8.66	8.42	0.00
17.00	7.75	7.51	0.02	68.00	8.66	8.42	0.00
18.00	7.92	7.68	0.02	69.00	8.66	8.42	0.00
19.00	8.07	7.83	0.01	70.00	8.66	8.42	0.00
20.00	8.21	7.97	0.01	71.00	8.66	8.42	0.00
21.00	8.33	8.09	0.01	72.00	8.66	8.42	0.00
22.00	8.45	8.21	0.01				
23.00	8.56	8.32	0.01				
24.00	<b>8.66</b>	<b>8.42</b>	0.01				
25.00	8.66	8.42	0.00				
26.00	8.66	8.42	0.00				
27.00	8.66	8.42	0.00				
28.00	8.66	8.42	0.00				
29.00	8.66	8.42	0.00				
30.00	8.66	8.42	0.00				
31.00	8.66	8.42	0.00				
32.00	8.66	8.42	0.00				
33.00	8.66	8.42	0.00				
34.00	8.66	8.42	0.00				
35.00	8.66	8.42	0.00				
36.00	8.66	8.42	0.00				
37.00	8.66	8.42	0.00				
38.00	8.66	8.42	0.00				
39.00	8.66	8.42	0.00				
40.00	8.66	8.42	0.00				
41.00	8.66	8.42	0.00				
42.00	8.66	8.42	0.00				
43.00	8.66	8.42	0.00				
44.00	8.66	8.42	0.00				
45.00	8.66	8.42	0.00				
46.00	8.66	8.42	0.00				
47.00	8.66	8.42	0.00				
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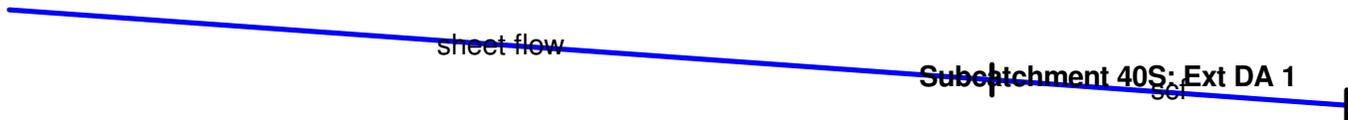
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.69 cfs @ 12.13 hrs, Volume= 2,407 cf, Depth= 7.58"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

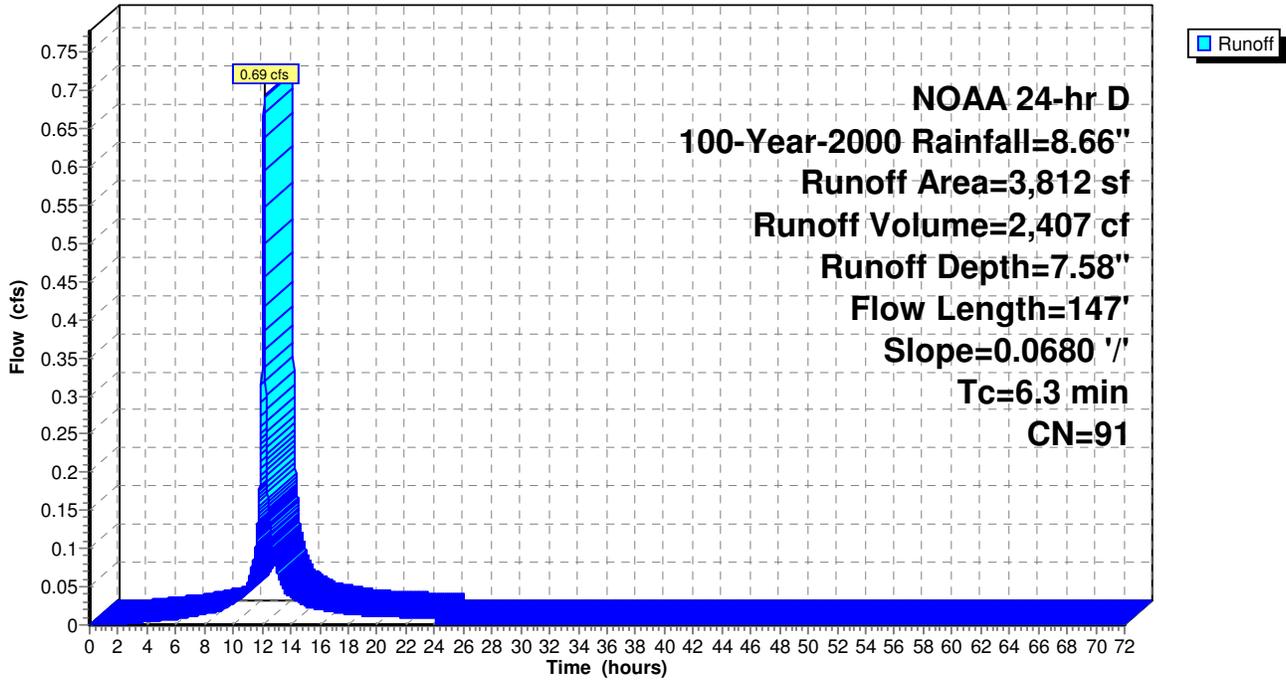
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



### Subcatchment 40S: Ext DA 1

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	8.66	7.58	0.00
1.00	0.10	0.00	0.00	52.00	8.66	7.58	0.00
2.00	0.21	0.00	0.00	53.00	8.66	7.58	0.00
3.00	0.33	0.01	0.00	54.00	8.66	7.58	0.00
4.00	0.45	0.05	0.00	55.00	8.66	7.58	0.00
5.00	0.59	0.11	0.01	56.00	8.66	7.58	0.00
6.00	0.74	0.19	0.01	57.00	8.66	7.58	0.00
7.00	0.91	0.30	0.01	58.00	8.66	7.58	0.00
8.00	1.12	0.45	0.01	59.00	8.66	7.58	0.00
9.00	1.37	0.64	0.02	60.00	8.66	7.58	0.00
10.00	1.72	0.92	0.03	61.00	8.66	7.58	0.00
11.00	2.25	1.39	0.06	62.00	8.66	7.58	0.00
12.00	4.15	3.16	<b>0.38</b>	63.00	8.66	7.58	0.00
13.00	6.41	5.36	<b>0.07</b>	64.00	8.66	7.58	0.00
14.00	6.94	5.88	0.04	65.00	8.66	7.58	0.00
15.00	7.29	6.22	0.02	66.00	8.66	7.58	0.00
16.00	7.54	6.47	0.02	67.00	8.66	7.58	0.00
17.00	7.75	6.68	0.02	68.00	8.66	7.58	0.00
18.00	7.92	6.85	0.01	69.00	8.66	7.58	0.00
19.00	8.07	6.99	0.01	70.00	8.66	7.58	0.00
20.00	8.21	7.13	0.01	71.00	8.66	7.58	0.00
21.00	8.33	7.25	0.01	72.00	8.66	7.58	0.00
22.00	8.45	7.37	0.01				
23.00	8.56	7.48	0.01				
24.00	<b>8.66</b>	<b>7.58</b>	0.01				
25.00	8.66	7.58	0.00				
26.00	8.66	7.58	0.00				
27.00	8.66	7.58	0.00				
28.00	8.66	7.58	0.00				
29.00	8.66	7.58	0.00				
30.00	8.66	7.58	0.00				
31.00	8.66	7.58	0.00				
32.00	8.66	7.58	0.00				
33.00	8.66	7.58	0.00				
34.00	8.66	7.58	0.00				
35.00	8.66	7.58	0.00				
36.00	8.66	7.58	0.00				
37.00	8.66	7.58	0.00				
38.00	8.66	7.58	0.00				
39.00	8.66	7.58	0.00				
40.00	8.66	7.58	0.00				
41.00	8.66	7.58	0.00				
42.00	8.66	7.58	0.00				
43.00	8.66	7.58	0.00				
44.00	8.66	7.58	0.00				
45.00	8.66	7.58	0.00				
46.00	8.66	7.58	0.00				
47.00	8.66	7.58	0.00				
48.00	8.66	7.58	0.00				
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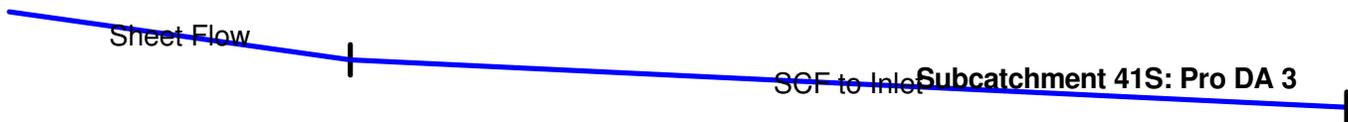
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 9.83 cfs @ 12.10 hrs, Volume= 31,666 cf, Depth= 7.94"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

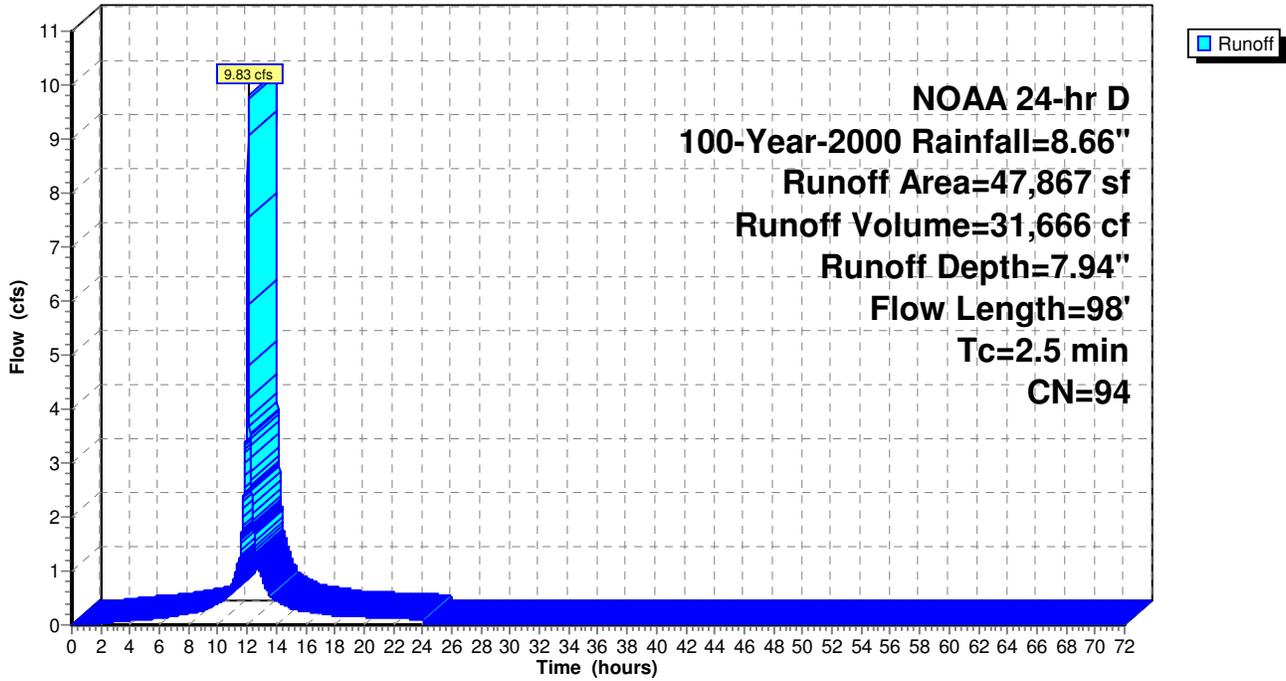
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



### Subcatchment 41S: Pro DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	8.66	7.94	0.00
1.00	0.10	0.00	0.00	52.00	8.66	7.94	0.00
2.00	0.21	0.01	0.03	53.00	8.66	7.94	0.00
3.00	0.33	0.05	0.06	54.00	8.66	7.94	0.00
4.00	0.45	0.11	0.08	55.00	8.66	7.94	0.00
5.00	0.59	0.20	0.10	56.00	8.66	7.94	0.00
6.00	0.74	0.30	0.12	57.00	8.66	7.94	0.00
7.00	0.91	0.43	0.17	58.00	8.66	7.94	0.00
8.00	1.12	0.61	0.22	59.00	8.66	7.94	0.00
9.00	1.37	0.82	0.26	60.00	8.66	7.94	0.00
10.00	1.72	1.13	0.41	61.00	8.66	7.94	0.00
11.00	2.25	1.63	0.76	62.00	8.66	7.94	0.00
12.00	4.15	3.47	<b>5.85</b>	63.00	8.66	7.94	0.00
13.00	6.41	5.70	<b>0.89</b>	64.00	8.66	7.94	0.00
14.00	6.94	6.23	0.46	65.00	8.66	7.94	0.00
15.00	7.29	6.57	0.31	66.00	8.66	7.94	0.00
16.00	7.54	6.82	0.26	67.00	8.66	7.94	0.00
17.00	7.75	7.03	0.21	68.00	8.66	7.94	0.00
18.00	7.92	7.20	0.17	69.00	8.66	7.94	0.00
19.00	8.07	7.35	0.16	70.00	8.66	7.94	0.00
20.00	8.21	7.49	0.15	71.00	8.66	7.94	0.00
21.00	8.33	7.61	0.14	72.00	8.66	7.94	0.00
22.00	8.45	7.73	0.13				
23.00	8.56	7.84	0.11				
24.00	<b>8.66</b>	<b>7.94</b>	0.11				
25.00	8.66	7.94	0.00				
26.00	8.66	7.94	0.00				
27.00	8.66	7.94	0.00				
28.00	8.66	7.94	0.00				
29.00	8.66	7.94	0.00				
30.00	8.66	7.94	0.00				
31.00	8.66	7.94	0.00				
32.00	8.66	7.94	0.00				
33.00	8.66	7.94	0.00				
34.00	8.66	7.94	0.00				
35.00	8.66	7.94	0.00				
36.00	8.66	7.94	0.00				
37.00	8.66	7.94	0.00				
38.00	8.66	7.94	0.00				
39.00	8.66	7.94	0.00				
40.00	8.66	7.94	0.00				
41.00	8.66	7.94	0.00				
42.00	8.66	7.94	0.00				
43.00	8.66	7.94	0.00				
44.00	8.66	7.94	0.00				
45.00	8.66	7.94	0.00				
46.00	8.66	7.94	0.00				
47.00	8.66	7.94	0.00				
48.00	8.66	7.94	0.00				
49.00	8.66	7.94	0.00				
50.00	8.66	7.94	0.00				

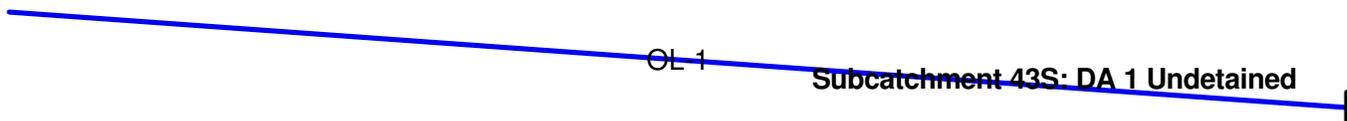
### Summary for Subcatchment 43S: DA 1 Undetained

Runoff = 0.25 cfs @ 12.10 hrs, Volume= 704 cf, Depth= 5.76"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

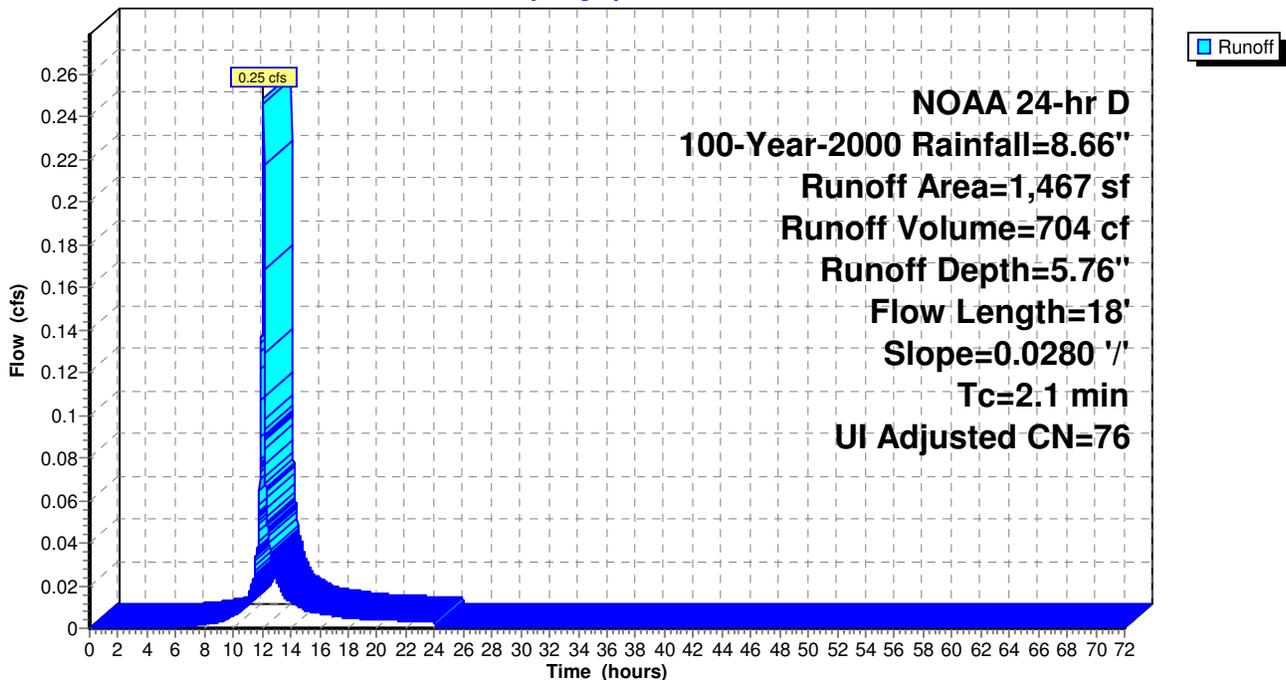
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



### Subcatchment 43S: DA 1 Undetained

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	8.66	5.76	0.00
1.00	0.10	0.00	0.00	52.00	8.66	5.76	0.00
2.00	0.21	0.00	0.00	53.00	8.66	5.76	0.00
3.00	0.33	0.00	0.00	54.00	8.66	5.76	0.00
4.00	0.45	0.00	0.00	55.00	8.66	5.76	0.00
5.00	0.59	0.00	0.00	56.00	8.66	5.76	0.00
6.00	0.74	0.00	0.00	57.00	8.66	5.76	0.00
7.00	0.91	0.02	0.00	58.00	8.66	5.76	0.00
8.00	1.12	0.07	0.00	59.00	8.66	5.76	0.00
9.00	1.37	0.14	0.00	60.00	8.66	5.76	0.00
10.00	1.72	0.28	0.01	61.00	8.66	5.76	0.00
11.00	2.25	0.55	0.01	62.00	8.66	5.76	0.00
12.00	4.15	1.85	<b>0.14</b>	63.00	8.66	5.76	0.00
13.00	6.41	3.74	<b>0.02</b>	64.00	8.66	5.76	0.00
14.00	6.94	4.21	0.01	65.00	8.66	5.76	0.00
15.00	7.29	4.51	0.01	66.00	8.66	5.76	0.00
16.00	7.54	4.74	0.01	67.00	8.66	5.76	0.00
17.00	7.75	4.93	0.01	68.00	8.66	5.76	0.00
18.00	7.92	5.09	0.00	69.00	8.66	5.76	0.00
19.00	8.07	5.22	0.00	70.00	8.66	5.76	0.00
20.00	8.21	5.35	0.00	71.00	8.66	5.76	0.00
21.00	8.33	5.46	0.00	72.00	8.66	5.76	0.00
22.00	8.45	5.57	0.00				
23.00	8.56	5.67	0.00				
24.00	<b>8.66</b>	<b>5.76</b>	0.00				
25.00	8.66	5.76	0.00				
26.00	8.66	5.76	0.00				
27.00	8.66	5.76	0.00				
28.00	8.66	5.76	0.00				
29.00	8.66	5.76	0.00				
30.00	8.66	5.76	0.00				
31.00	8.66	5.76	0.00				
32.00	8.66	5.76	0.00				
33.00	8.66	5.76	0.00				
34.00	8.66	5.76	0.00				
35.00	8.66	5.76	0.00				
36.00	8.66	5.76	0.00				
37.00	8.66	5.76	0.00				
38.00	8.66	5.76	0.00				
39.00	8.66	5.76	0.00				
40.00	8.66	5.76	0.00				
41.00	8.66	5.76	0.00				
42.00	8.66	5.76	0.00				
43.00	8.66	5.76	0.00				
44.00	8.66	5.76	0.00				
45.00	8.66	5.76	0.00				
46.00	8.66	5.76	0.00				
47.00	8.66	5.76	0.00				
48.00	8.66	5.76	0.00				
49.00	8.66	5.76	0.00				
50.00	8.66	5.76	0.00				

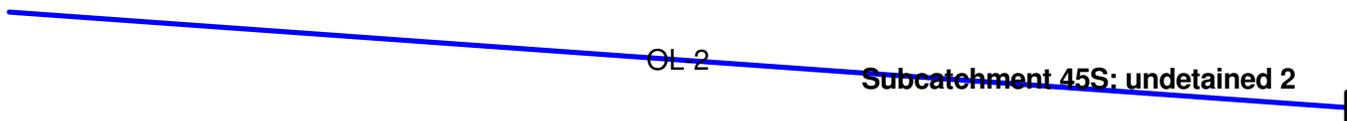
### Summary for Subcatchment 45S: undetained 2

Runoff = 0.79 cfs @ 12.10 hrs, Volume= 2,357 cf, Depth= 6.73"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

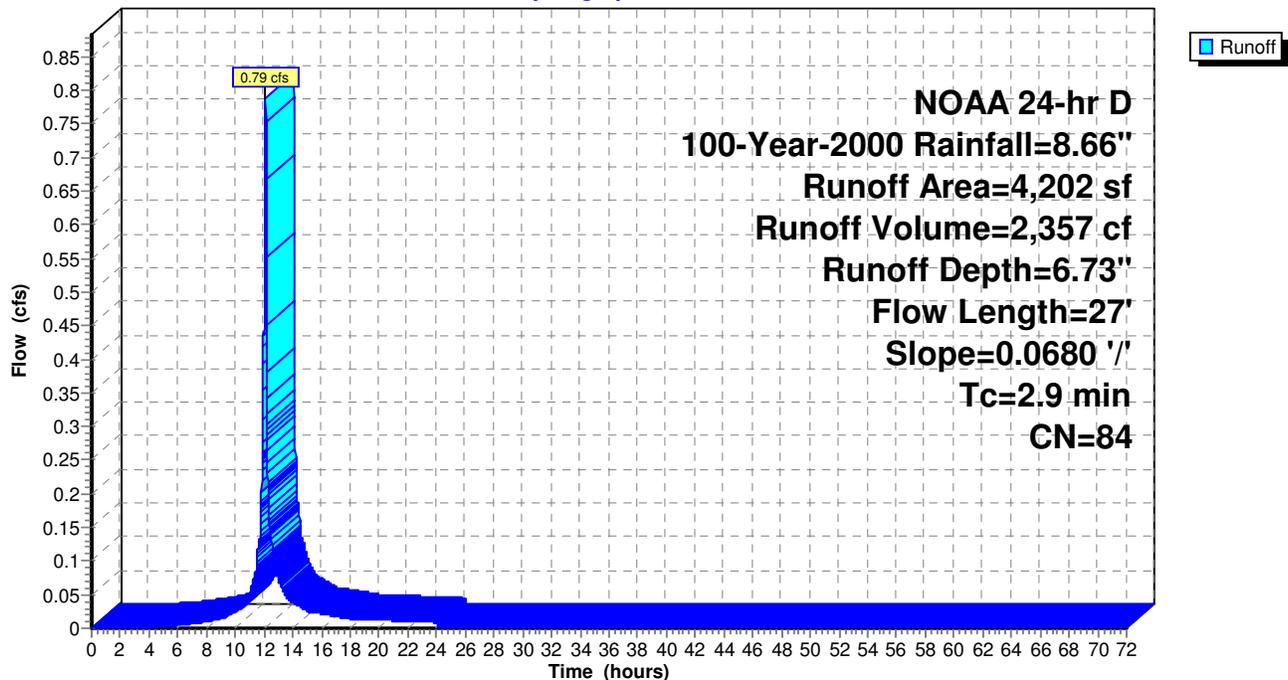
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



### Subcatchment 45S: undetained 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2000 Rainfall=8.66"

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	8.66	6.73	0.00
1.00	0.10	0.00	0.00	52.00	8.66	6.73	0.00
2.00	0.21	0.00	0.00	53.00	8.66	6.73	0.00
3.00	0.33	0.00	0.00	54.00	8.66	6.73	0.00
4.00	0.45	0.00	0.00	55.00	8.66	6.73	0.00
5.00	0.59	0.02	0.00	56.00	8.66	6.73	0.00
6.00	0.74	0.06	0.00	57.00	8.66	6.73	0.00
7.00	0.91	0.12	0.01	58.00	8.66	6.73	0.00
8.00	1.12	0.21	0.01	59.00	8.66	6.73	0.00
9.00	1.37	0.34	0.01	60.00	8.66	6.73	0.00
10.00	1.72	0.55	0.03	61.00	8.66	6.73	0.00
11.00	2.25	0.93	0.05	62.00	8.66	6.73	0.00
12.00	4.15	2.50	<b>0.46</b>	63.00	8.66	6.73	0.00
13.00	6.41	4.58	<b>0.07</b>	64.00	8.66	6.73	0.00
14.00	6.94	5.09	0.04	65.00	8.66	6.73	0.00
15.00	7.29	5.41	0.03	66.00	8.66	6.73	0.00
16.00	7.54	5.65	0.02	67.00	8.66	6.73	0.00
17.00	7.75	5.85	0.02	68.00	8.66	6.73	0.00
18.00	7.92	6.02	0.01	69.00	8.66	6.73	0.00
19.00	8.07	6.16	0.01	70.00	8.66	6.73	0.00
20.00	8.21	6.29	0.01	71.00	8.66	6.73	0.00
21.00	8.33	6.42	0.01	72.00	8.66	6.73	0.00
22.00	8.45	6.53	0.01				
23.00	8.56	6.63	0.01				
24.00	<b>8.66</b>	<b>6.73</b>	0.01				
25.00	8.66	6.73	0.00				
26.00	8.66	6.73	0.00				
27.00	8.66	6.73	0.00				
28.00	8.66	6.73	0.00				
29.00	8.66	6.73	0.00				
30.00	8.66	6.73	0.00				
31.00	8.66	6.73	0.00				
32.00	8.66	6.73	0.00				
33.00	8.66	6.73	0.00				
34.00	8.66	6.73	0.00				
35.00	8.66	6.73	0.00				
36.00	8.66	6.73	0.00				
37.00	8.66	6.73	0.00				
38.00	8.66	6.73	0.00				
39.00	8.66	6.73	0.00				
40.00	8.66	6.73	0.00				
41.00	8.66	6.73	0.00				
42.00	8.66	6.73	0.00				
43.00	8.66	6.73	0.00				
44.00	8.66	6.73	0.00				
45.00	8.66	6.73	0.00				
46.00	8.66	6.73	0.00				
47.00	8.66	6.73	0.00				
48.00	8.66	6.73	0.00				
49.00	8.66	6.73	0.00				
50.00	8.66	6.73	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 7.94" for 100-Year-2000 event  
 Inflow = 9.83 cfs @ 12.10 hrs, Volume= 31,666 cf  
 Outflow = 6.63 cfs @ 12.14 hrs, Volume= 31,666 cf, Atten= 33%, Lag= 2.2 min  
 Primary = 6.63 cfs @ 12.14 hrs, Volume= 31,666 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 405.66' @ 12.14 hrs Surf.Area= 1,889 sf Storage= 4,431 cf

Plug-Flow detention time= 13.5 min calculated for 31,661 cf (100% of inflow)  
 Center-of-Mass det. time= 13.6 min ( 772.1 - 758.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

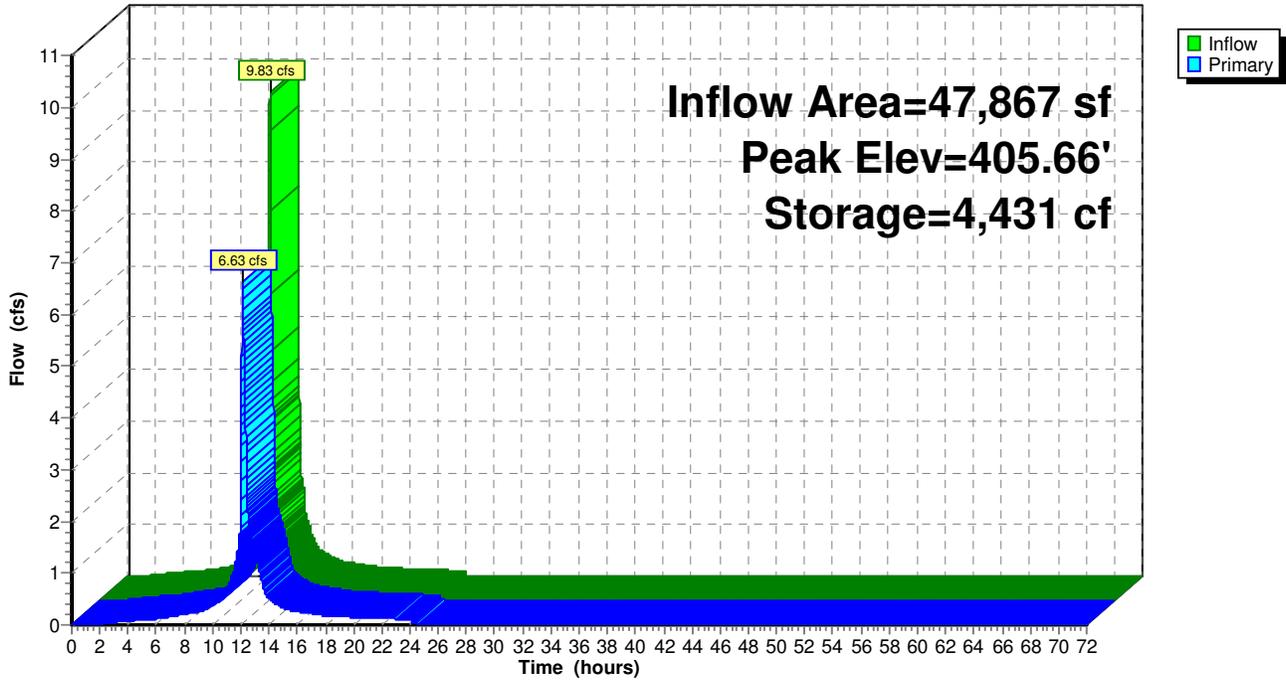
**Primary OutFlow** Max=6.61 cfs @ 12.14 hrs HW=405.65' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 2.56 cfs @ 7.33 fps)
- 2=Orifice/Grate (Orifice Controls 3.66 cfs @ 4.88 fps)
- 3=Orifice/Grate (Orifice Controls 0.39 cfs @ 1.26 fps)



### Pond 42P: Detention System

Hydrograph



**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.03	20	403.06	0.01
4.00	0.08	75	403.15	0.08
6.00	0.12	107	403.19	0.12
8.00	0.22	165	403.25	0.21
10.00	0.41	277	403.36	0.39
12.00	<b>5.85</b>	<b>2,807</b>	<b>404.83</b>	<b>3.68</b>
14.00	<b>0.46</b>	<b>345</b>	<b>403.41</b>	<b>0.50</b>
16.00	0.26	201	403.29	0.26
18.00	0.17	147	403.23	0.18
20.00	0.15	127	403.21	0.15
22.00	0.13	113	403.19	0.13
24.00	0.11	98	403.18	0.11
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

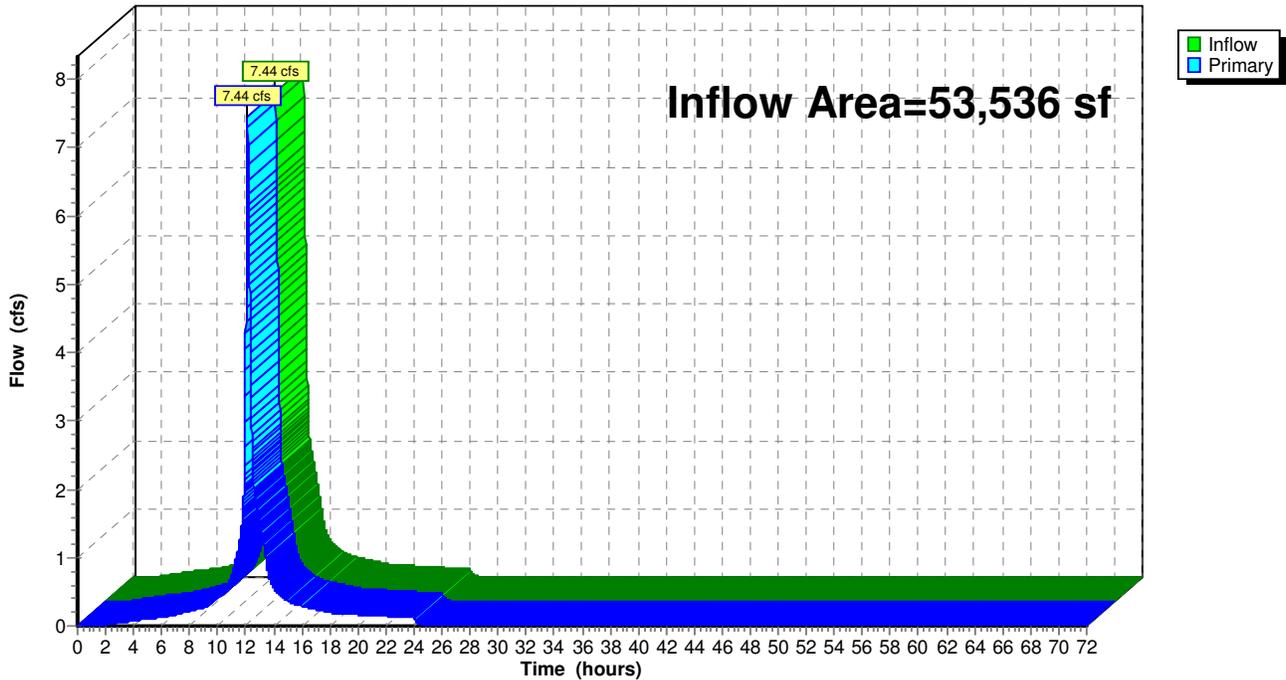
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 7.78" for 100-Year-2000 event  
Inflow = 7.44 cfs @ 12.13 hrs, Volume= 34,727 cf  
Primary = 7.44 cfs @ 12.13 hrs, Volume= 34,727 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	53.00	0.00	0.00	0.00
3.00	0.05	0.00	0.05	54.00	0.00	0.00	0.00
4.00	0.08	0.00	0.08	55.00	0.00	0.00	0.00
5.00	0.10	0.00	0.10	56.00	0.00	0.00	0.00
6.00	0.12	0.00	0.12	57.00	0.00	0.00	0.00
7.00	0.17	0.00	0.17	58.00	0.00	0.00	0.00
8.00	0.22	0.00	0.22	59.00	0.00	0.00	0.00
9.00	0.27	0.00	0.27	60.00	0.00	0.00	0.00
10.00	0.42	0.00	0.42	61.00	0.00	0.00	0.00
11.00	0.74	0.00	0.74	62.00	0.00	0.00	0.00
12.00	<b>4.27</b>	0.00	<b>4.27</b>	63.00	0.00	0.00	0.00
13.00	<b>1.53</b>	0.00	<b>1.53</b>	64.00	0.00	0.00	0.00
14.00	0.55	0.00	0.55	65.00	0.00	0.00	0.00
15.00	0.37	0.00	0.37	66.00	0.00	0.00	0.00
16.00	0.29	0.00	0.29	67.00	0.00	0.00	0.00
17.00	0.24	0.00	0.24	68.00	0.00	0.00	0.00
18.00	0.20	0.00	0.20	69.00	0.00	0.00	0.00
19.00	0.18	0.00	0.18	70.00	0.00	0.00	0.00
20.00	0.17	0.00	0.17	71.00	0.00	0.00	0.00
21.00	0.15	0.00	0.15	72.00	0.00	0.00	0.00
22.00	0.14	0.00	0.14				
23.00	0.13	0.00	0.13				
24.00	0.12	0.00	0.12				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

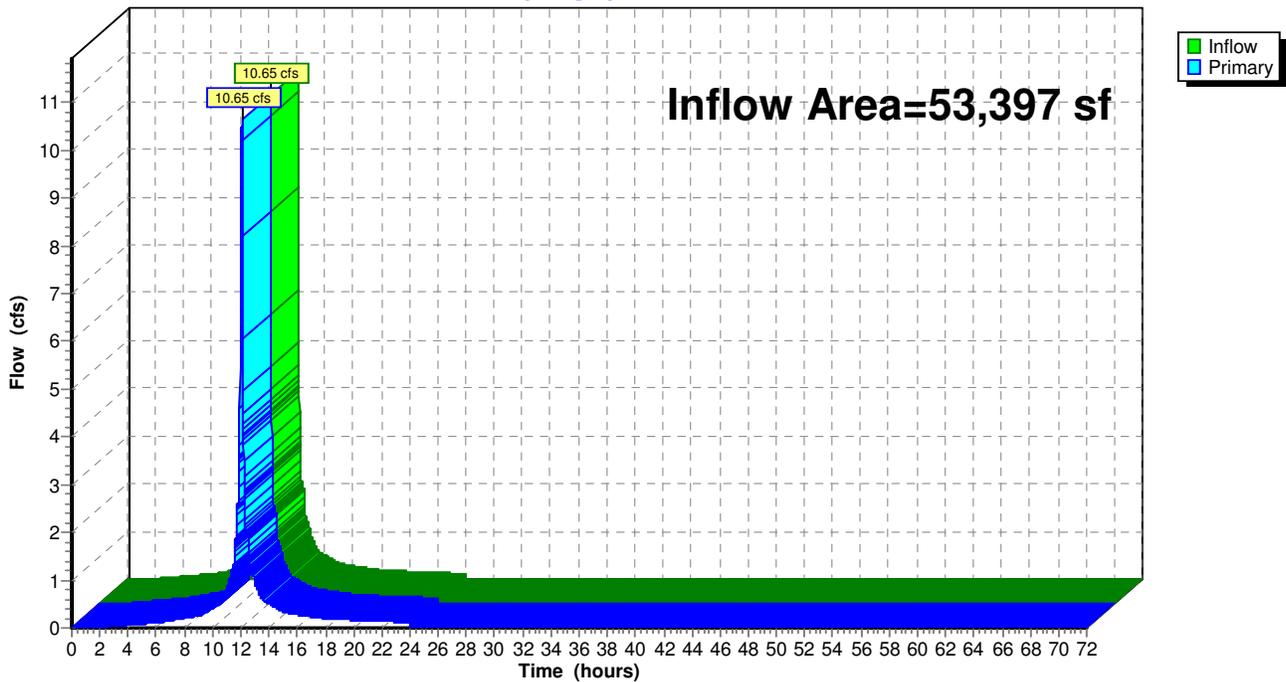
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 7.55" for 100-Year-2000 event  
Inflow = 10.65 cfs @ 12.10 hrs, Volume= 33,578 cf  
Primary = 10.65 cfs @ 12.10 hrs, Volume= 33,578 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	53.00	0.00	0.00	0.00
3.00	0.03	0.00	0.03	54.00	0.00	0.00	0.00
4.00	0.06	0.00	0.06	55.00	0.00	0.00	0.00
5.00	0.08	0.00	0.08	56.00	0.00	0.00	0.00
6.00	0.11	0.00	0.11	57.00	0.00	0.00	0.00
7.00	0.15	0.00	0.15	58.00	0.00	0.00	0.00
8.00	0.20	0.00	0.20	59.00	0.00	0.00	0.00
9.00	0.26	0.00	0.26	60.00	0.00	0.00	0.00
10.00	0.42	0.00	0.42	61.00	0.00	0.00	0.00
11.00	0.79	0.00	0.79	62.00	0.00	0.00	0.00
12.00	<b>6.31</b>	0.00	<b>6.31</b>	63.00	0.00	0.00	0.00
13.00	<b>0.99</b>	0.00	<b>0.99</b>	64.00	0.00	0.00	0.00
14.00	0.51	0.00	0.51	65.00	0.00	0.00	0.00
15.00	0.34	0.00	0.34	66.00	0.00	0.00	0.00
16.00	0.28	0.00	0.28	67.00	0.00	0.00	0.00
17.00	0.24	0.00	0.24	68.00	0.00	0.00	0.00
18.00	0.19	0.00	0.19	69.00	0.00	0.00	0.00
19.00	0.17	0.00	0.17	70.00	0.00	0.00	0.00
20.00	0.16	0.00	0.16	71.00	0.00	0.00	0.00
21.00	0.15	0.00	0.15	72.00	0.00	0.00	0.00
22.00	0.14	0.00	0.14				
23.00	0.13	0.00	0.13				
24.00	0.12	0.00	0.12				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 3.19 cfs @ 12.10 hrs, Volume= 9,090 cf, Depth= 2.42"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

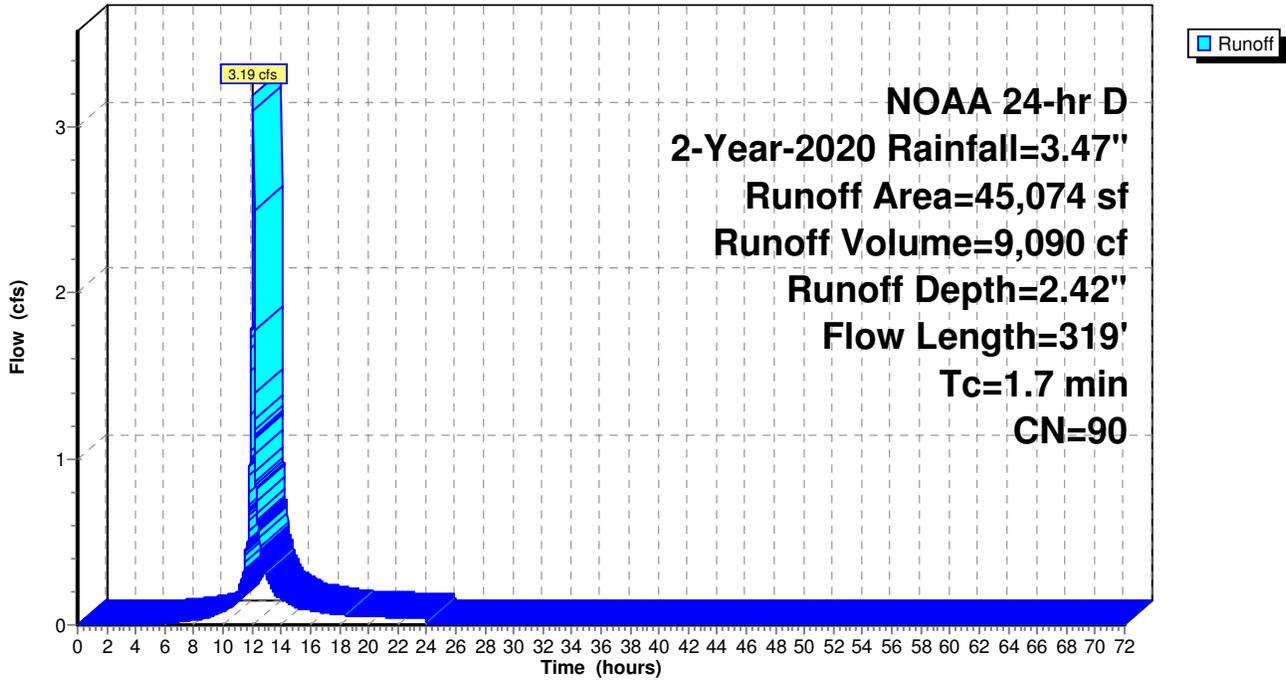
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



Subcatchment 37S: Ext DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.47	2.42	0.00
1.00	0.04	0.00	0.00	52.00	3.47	2.42	0.00
2.00	0.08	0.00	0.00	53.00	3.47	2.42	0.00
3.00	0.13	0.00	0.00	54.00	3.47	2.42	0.00
4.00	0.18	0.00	0.00	55.00	3.47	2.42	0.00
5.00	0.24	0.00	0.00	56.00	3.47	2.42	0.00
6.00	0.30	0.00	0.01	57.00	3.47	2.42	0.00
7.00	0.37	0.02	0.02	58.00	3.47	2.42	0.00
8.00	0.45	0.04	0.03	59.00	3.47	2.42	0.00
9.00	0.55	0.07	0.04	60.00	3.47	2.42	0.00
10.00	0.69	0.14	0.08	61.00	3.47	2.42	0.00
11.00	0.90	0.26	0.18	62.00	3.47	2.42	0.00
12.00	1.66	0.81	<b>1.82</b>	63.00	3.47	2.42	0.00
13.00	2.57	1.59	<b>0.30</b>	64.00	3.47	2.42	0.00
14.00	2.78	1.79	0.16	65.00	3.47	2.42	0.00
15.00	2.92	1.91	0.11	66.00	3.47	2.42	0.00
16.00	3.02	2.00	0.09	67.00	3.47	2.42	0.00
17.00	3.10	2.08	0.07	68.00	3.47	2.42	0.00
18.00	3.17	2.14	0.06	69.00	3.47	2.42	0.00
19.00	3.23	2.20	0.06	70.00	3.47	2.42	0.00
20.00	3.29	2.25	0.05	71.00	3.47	2.42	0.00
21.00	3.34	2.30	0.05	72.00	3.47	2.42	0.00
22.00	3.39	2.34	0.04				
23.00	3.43	2.38	0.04				
24.00	<b>3.47</b>	<b>2.42</b>	0.04				
25.00	3.47	2.42	0.00				
26.00	3.47	2.42	0.00				
27.00	3.47	2.42	0.00				
28.00	3.47	2.42	0.00				
29.00	3.47	2.42	0.00				
30.00	3.47	2.42	0.00				
31.00	3.47	2.42	0.00				
32.00	3.47	2.42	0.00				
33.00	3.47	2.42	0.00				
34.00	3.47	2.42	0.00				
35.00	3.47	2.42	0.00				
36.00	3.47	2.42	0.00				
37.00	3.47	2.42	0.00				
38.00	3.47	2.42	0.00				
39.00	3.47	2.42	0.00				
40.00	3.47	2.42	0.00				
41.00	3.47	2.42	0.00				
42.00	3.47	2.42	0.00				
43.00	3.47	2.42	0.00				
44.00	3.47	2.42	0.00				
45.00	3.47	2.42	0.00				
46.00	3.47	2.42	0.00				
47.00	3.47	2.42	0.00				
48.00	3.47	2.42	0.00				
49.00	3.47	2.42	0.00				
50.00	3.47	2.42	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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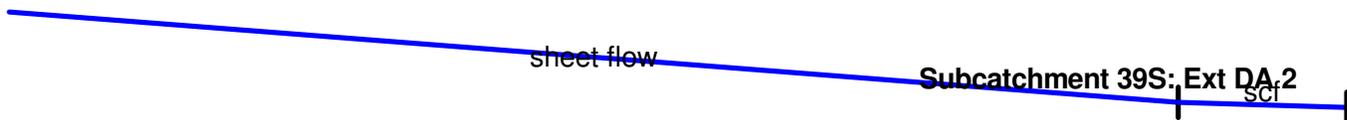
**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 1,217 cf, Depth= 3.24"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

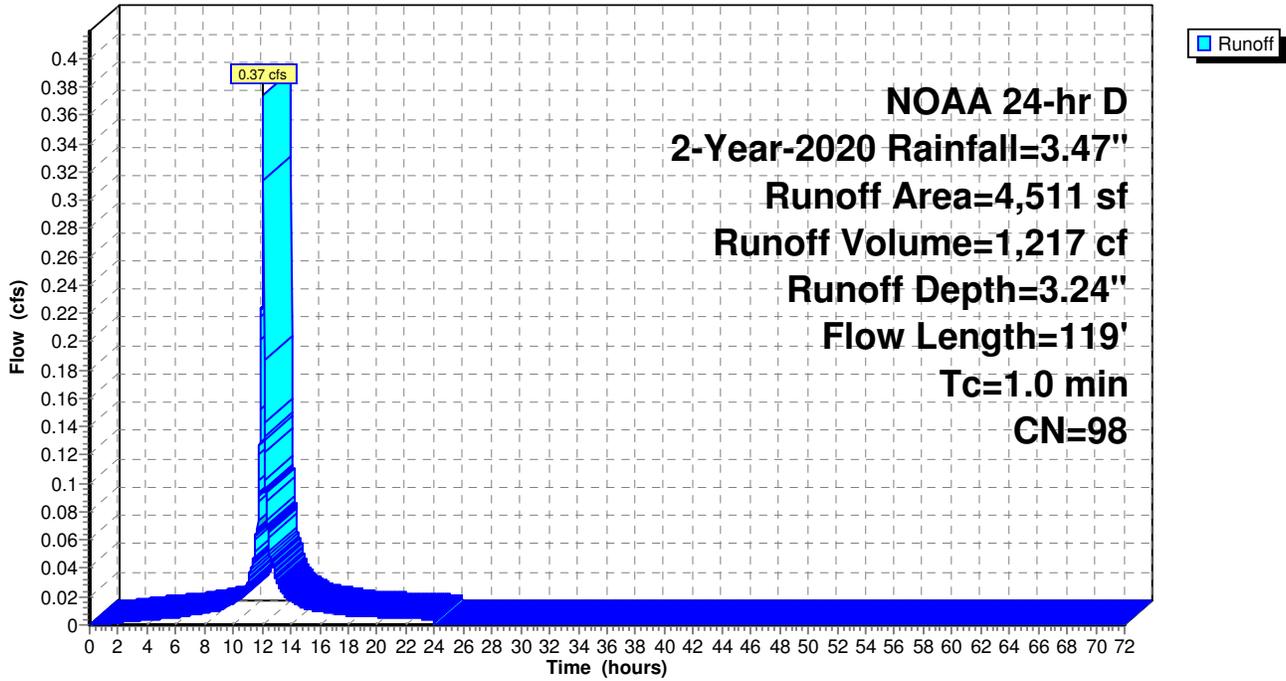
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



Subcatchment 39S: Ext DA 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.47	3.24	0.00
1.00	0.04	0.00	0.00	52.00	3.47	3.24	0.00
2.00	0.08	0.01	0.00	53.00	3.47	3.24	0.00
3.00	0.13	0.03	0.00	54.00	3.47	3.24	0.00
4.00	0.18	0.06	0.00	55.00	3.47	3.24	0.00
5.00	0.24	0.10	0.00	56.00	3.47	3.24	0.00
6.00	0.30	0.14	0.01	57.00	3.47	3.24	0.00
7.00	0.37	0.20	0.01	58.00	3.47	3.24	0.00
8.00	0.45	0.27	0.01	59.00	3.47	3.24	0.00
9.00	0.55	0.36	0.01	60.00	3.47	3.24	0.00
10.00	0.69	0.49	0.02	61.00	3.47	3.24	0.00
11.00	0.90	0.70	0.03	62.00	3.47	3.24	0.00
12.00	1.66	1.44	<b>0.22</b>	63.00	3.47	3.24	0.00
13.00	2.57	2.34	<b>0.03</b>	64.00	3.47	3.24	0.00
14.00	2.78	2.55	0.02	65.00	3.47	3.24	0.00
15.00	2.92	2.69	0.01	66.00	3.47	3.24	0.00
16.00	3.02	2.79	0.01	67.00	3.47	3.24	0.00
17.00	3.10	2.87	0.01	68.00	3.47	3.24	0.00
18.00	3.17	2.94	0.01	69.00	3.47	3.24	0.00
19.00	3.23	3.00	0.01	70.00	3.47	3.24	0.00
20.00	3.29	3.06	0.01	71.00	3.47	3.24	0.00
21.00	3.34	3.11	0.01	72.00	3.47	3.24	0.00
22.00	3.39	3.15	0.00				
23.00	3.43	3.20	0.00				
24.00	<b>3.47</b>	<b>3.24</b>	0.00				
25.00	3.47	3.24	0.00				
26.00	3.47	3.24	0.00				
27.00	3.47	3.24	0.00				
28.00	3.47	3.24	0.00				
29.00	3.47	3.24	0.00				
30.00	3.47	3.24	0.00				
31.00	3.47	3.24	0.00				
32.00	3.47	3.24	0.00				
33.00	3.47	3.24	0.00				
34.00	3.47	3.24	0.00				
35.00	3.47	3.24	0.00				
36.00	3.47	3.24	0.00				
37.00	3.47	3.24	0.00				
38.00	3.47	3.24	0.00				
39.00	3.47	3.24	0.00				
40.00	3.47	3.24	0.00				
41.00	3.47	3.24	0.00				
42.00	3.47	3.24	0.00				
43.00	3.47	3.24	0.00				
44.00	3.47	3.24	0.00				
45.00	3.47	3.24	0.00				
46.00	3.47	3.24	0.00				
47.00	3.47	3.24	0.00				
48.00	3.47	3.24	0.00				
49.00	3.47	3.24	0.00				
50.00	3.47	3.24	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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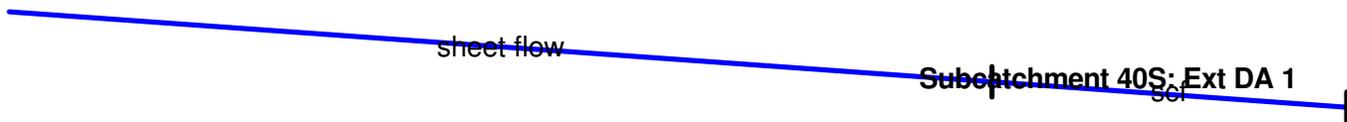
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.25 cfs @ 12.13 hrs, Volume= 798 cf, Depth= 2.51"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

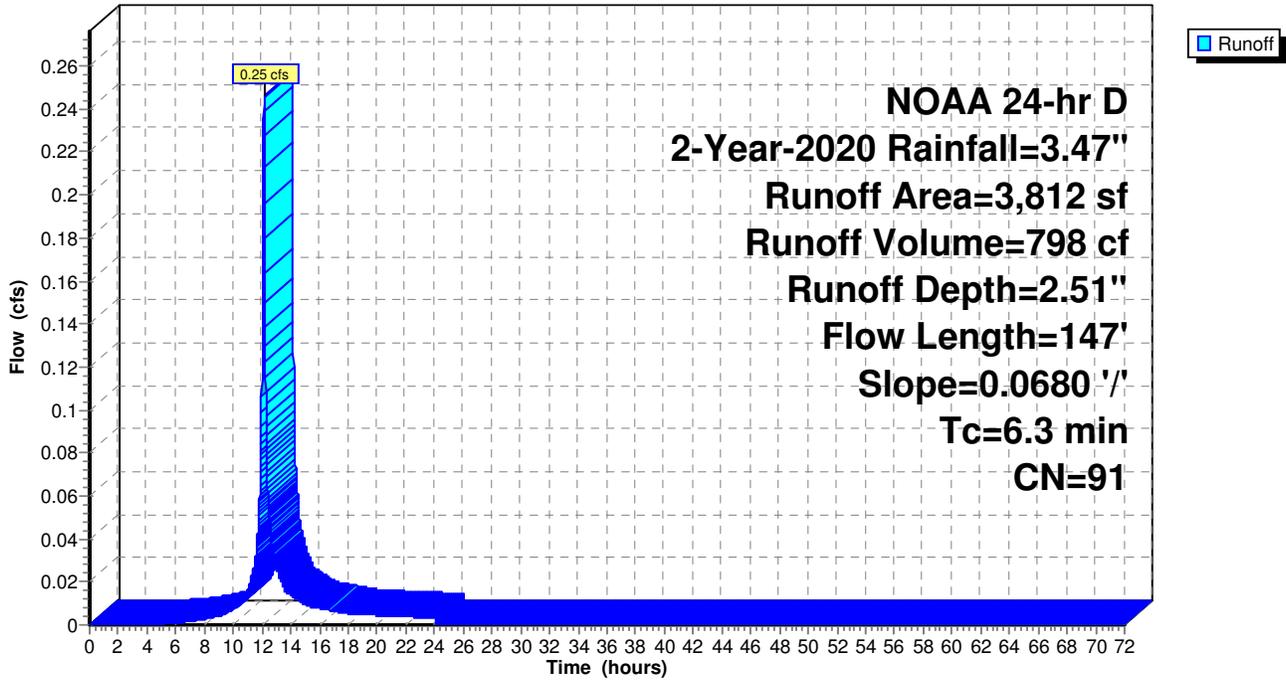
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



### Subcatchment 40S: Ext DA 1

Hydrograph



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NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.47	2.51	0.00
1.00	0.04	0.00	0.00	52.00	3.47	2.51	0.00
2.00	0.08	0.00	0.00	53.00	3.47	2.51	0.00
3.00	0.13	0.00	0.00	54.00	3.47	2.51	0.00
4.00	0.18	0.00	0.00	55.00	3.47	2.51	0.00
5.00	0.24	0.00	0.00	56.00	3.47	2.51	0.00
6.00	0.30	0.01	0.00	57.00	3.47	2.51	0.00
7.00	0.37	0.02	0.00	58.00	3.47	2.51	0.00
8.00	0.45	0.05	0.00	59.00	3.47	2.51	0.00
9.00	0.55	0.09	0.00	60.00	3.47	2.51	0.00
10.00	0.69	0.16	0.01	61.00	3.47	2.51	0.00
11.00	0.90	0.29	0.02	62.00	3.47	2.51	0.00
12.00	1.66	0.87	<b>0.13</b>	63.00	3.47	2.51	0.00
13.00	2.57	1.67	<b>0.03</b>	64.00	3.47	2.51	0.00
14.00	2.78	1.87	0.01	65.00	3.47	2.51	0.00
15.00	2.92	2.00	0.01	66.00	3.47	2.51	0.00
16.00	3.02	2.09	0.01	67.00	3.47	2.51	0.00
17.00	3.10	2.17	0.01	68.00	3.47	2.51	0.00
18.00	3.17	2.23	0.01	69.00	3.47	2.51	0.00
19.00	3.23	2.29	0.00	70.00	3.47	2.51	0.00
20.00	3.29	2.34	0.00	71.00	3.47	2.51	0.00
21.00	3.34	2.39	0.00	72.00	3.47	2.51	0.00
22.00	3.39	2.43	0.00				
23.00	3.43	2.48	0.00				
24.00	<b>3.47</b>	<b>2.51</b>	0.00				
25.00	3.47	2.51	0.00				
26.00	3.47	2.51	0.00				
27.00	3.47	2.51	0.00				
28.00	3.47	2.51	0.00				
29.00	3.47	2.51	0.00				
30.00	3.47	2.51	0.00				
31.00	3.47	2.51	0.00				
32.00	3.47	2.51	0.00				
33.00	3.47	2.51	0.00				
34.00	3.47	2.51	0.00				
35.00	3.47	2.51	0.00				
36.00	3.47	2.51	0.00				
37.00	3.47	2.51	0.00				
38.00	3.47	2.51	0.00				
39.00	3.47	2.51	0.00				
40.00	3.47	2.51	0.00				
41.00	3.47	2.51	0.00				
42.00	3.47	2.51	0.00				
43.00	3.47	2.51	0.00				
44.00	3.47	2.51	0.00				
45.00	3.47	2.51	0.00				
46.00	3.47	2.51	0.00				
47.00	3.47	2.51	0.00				
48.00	3.47	2.51	0.00				
49.00	3.47	2.51	0.00				
50.00	3.47	2.51	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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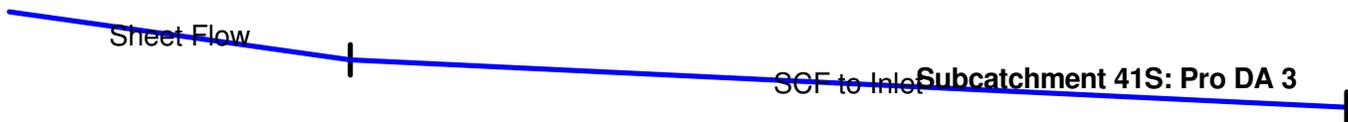
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 3.71 cfs @ 12.10 hrs, Volume= 11,194 cf, Depth= 2.81"  
 Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

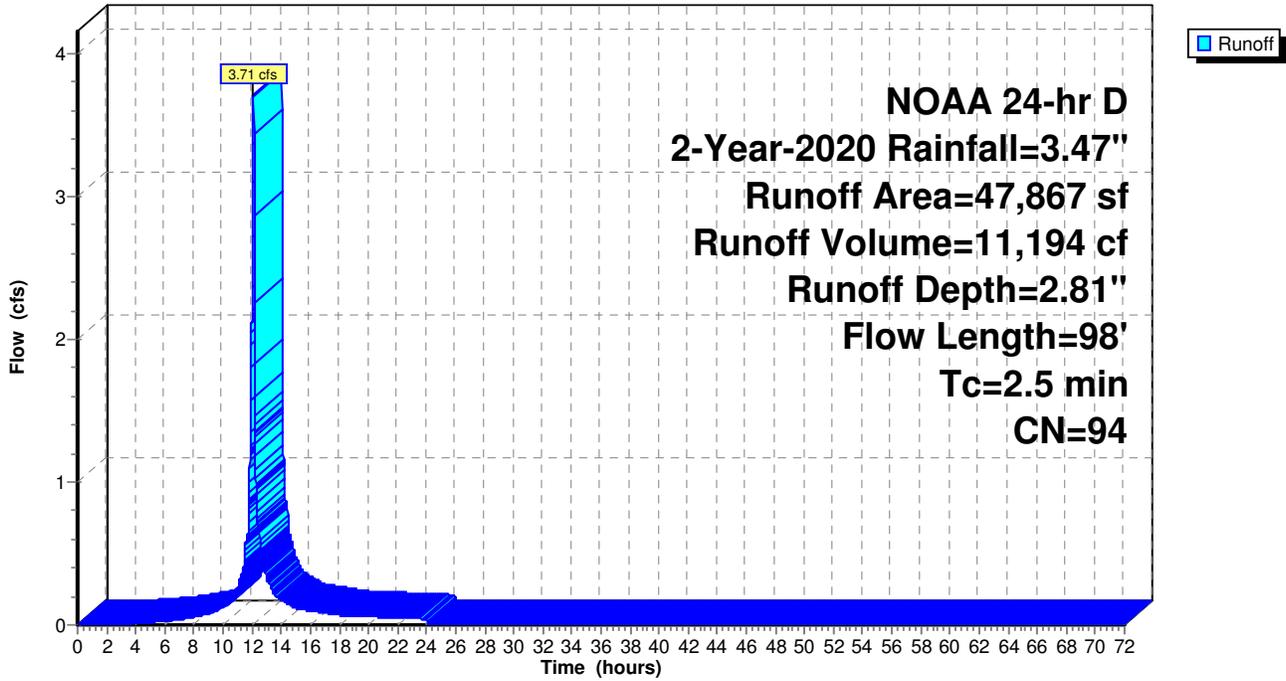
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b>
					Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b>
					Paved Kv= 20.3 fps
2.5	98	Total			



Subcatchment 41S: Pro DA 3

Hydrograph



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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.47	2.81	0.00
1.00	0.04	0.00	0.00	52.00	3.47	2.81	0.00
2.00	0.08	0.00	0.00	53.00	3.47	2.81	0.00
3.00	0.13	0.00	0.00	54.00	3.47	2.81	0.00
4.00	0.18	0.00	0.01	55.00	3.47	2.81	0.00
5.00	0.24	0.02	0.02	56.00	3.47	2.81	0.00
6.00	0.30	0.04	0.02	57.00	3.47	2.81	0.00
7.00	0.37	0.06	0.04	58.00	3.47	2.81	0.00
8.00	0.45	0.11	0.06	59.00	3.47	2.81	0.00
9.00	0.55	0.17	0.08	60.00	3.47	2.81	0.00
10.00	0.69	0.26	0.13	61.00	3.47	2.81	0.00
11.00	0.90	0.42	0.25	62.00	3.47	2.81	0.00
12.00	1.66	1.08	<b>2.17</b>	63.00	3.47	2.81	0.00
13.00	2.57	1.93	<b>0.35</b>	64.00	3.47	2.81	0.00
14.00	2.78	2.14	0.18	65.00	3.47	2.81	0.00
15.00	2.92	2.27	0.12	66.00	3.47	2.81	0.00
16.00	3.02	2.37	0.10	67.00	3.47	2.81	0.00
17.00	3.10	2.45	0.08	68.00	3.47	2.81	0.00
18.00	3.17	2.52	0.07	69.00	3.47	2.81	0.00
19.00	3.23	2.58	0.06	70.00	3.47	2.81	0.00
20.00	3.29	2.63	0.06	71.00	3.47	2.81	0.00
21.00	3.34	2.68	0.05	72.00	3.47	2.81	0.00
22.00	3.39	2.73	0.05				
23.00	3.43	2.77	0.04				
24.00	<b>3.47</b>	<b>2.81</b>	0.04				
25.00	3.47	2.81	0.00				
26.00	3.47	2.81	0.00				
27.00	3.47	2.81	0.00				
28.00	3.47	2.81	0.00				
29.00	3.47	2.81	0.00				
30.00	3.47	2.81	0.00				
31.00	3.47	2.81	0.00				
32.00	3.47	2.81	0.00				
33.00	3.47	2.81	0.00				
34.00	3.47	2.81	0.00				
35.00	3.47	2.81	0.00				
36.00	3.47	2.81	0.00				
37.00	3.47	2.81	0.00				
38.00	3.47	2.81	0.00				
39.00	3.47	2.81	0.00				
40.00	3.47	2.81	0.00				
41.00	3.47	2.81	0.00				
42.00	3.47	2.81	0.00				
43.00	3.47	2.81	0.00				
44.00	3.47	2.81	0.00				
45.00	3.47	2.81	0.00				
46.00	3.47	2.81	0.00				
47.00	3.47	2.81	0.00				
48.00	3.47	2.81	0.00				
49.00	3.47	2.81	0.00				
50.00	3.47	2.81	0.00				

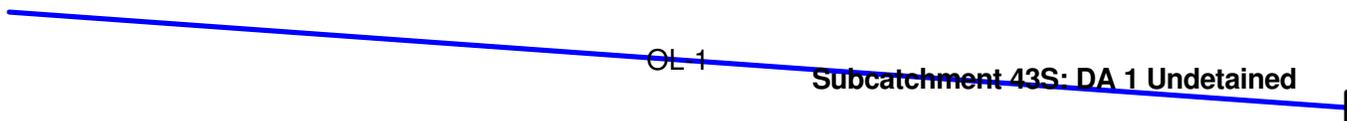
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.06 cfs @ 12.10 hrs, Volume= 164 cf, Depth= 1.34"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

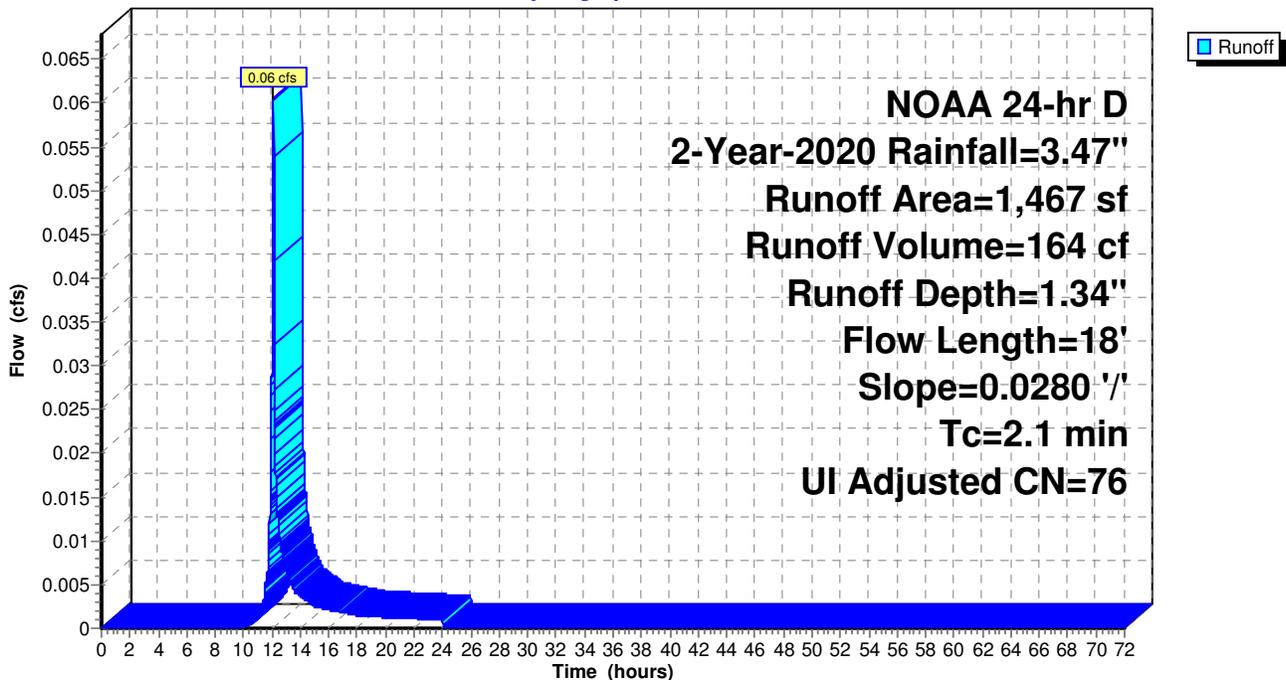
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.47	1.34	0.00
1.00	0.04	0.00	0.00	52.00	3.47	1.34	0.00
2.00	0.08	0.00	0.00	53.00	3.47	1.34	0.00
3.00	0.13	0.00	0.00	54.00	3.47	1.34	0.00
4.00	0.18	0.00	0.00	55.00	3.47	1.34	0.00
5.00	0.24	0.00	0.00	56.00	3.47	1.34	0.00
6.00	0.30	0.00	0.00	57.00	3.47	1.34	0.00
7.00	0.37	0.00	0.00	58.00	3.47	1.34	0.00
8.00	0.45	0.00	0.00	59.00	3.47	1.34	0.00
9.00	0.55	0.00	0.00	60.00	3.47	1.34	0.00
10.00	0.69	0.00	0.00	61.00	3.47	1.34	0.00
11.00	0.90	0.02	0.00	62.00	3.47	1.34	0.00
12.00	1.66	0.25	<b>0.03</b>	63.00	3.47	1.34	0.00
13.00	2.57	0.74	<b>0.01</b>	64.00	3.47	1.34	0.00
14.00	2.78	0.87	0.00	65.00	3.47	1.34	0.00
15.00	2.92	0.96	0.00	66.00	3.47	1.34	0.00
16.00	3.02	1.03	0.00	67.00	3.47	1.34	0.00
17.00	3.10	1.09	0.00	68.00	3.47	1.34	0.00
18.00	3.17	1.13	0.00	69.00	3.47	1.34	0.00
19.00	3.23	1.17	0.00	70.00	3.47	1.34	0.00
20.00	3.29	1.21	0.00	71.00	3.47	1.34	0.00
21.00	3.34	1.25	0.00	72.00	3.47	1.34	0.00
22.00	3.39	1.28	0.00				
23.00	3.43	1.31	0.00				
24.00	<b>3.47</b>	<b>1.34</b>	0.00				
25.00	3.47	1.34	0.00				
26.00	3.47	1.34	0.00				
27.00	3.47	1.34	0.00				
28.00	3.47	1.34	0.00				
29.00	3.47	1.34	0.00				
30.00	3.47	1.34	0.00				
31.00	3.47	1.34	0.00				
32.00	3.47	1.34	0.00				
33.00	3.47	1.34	0.00				
34.00	3.47	1.34	0.00				
35.00	3.47	1.34	0.00				
36.00	3.47	1.34	0.00				
37.00	3.47	1.34	0.00				
38.00	3.47	1.34	0.00				
39.00	3.47	1.34	0.00				
40.00	3.47	1.34	0.00				
41.00	3.47	1.34	0.00				
42.00	3.47	1.34	0.00				
43.00	3.47	1.34	0.00				
44.00	3.47	1.34	0.00				
45.00	3.47	1.34	0.00				
46.00	3.47	1.34	0.00				
47.00	3.47	1.34	0.00				
48.00	3.47	1.34	0.00				
49.00	3.47	1.34	0.00				
50.00	3.47	1.34	0.00				

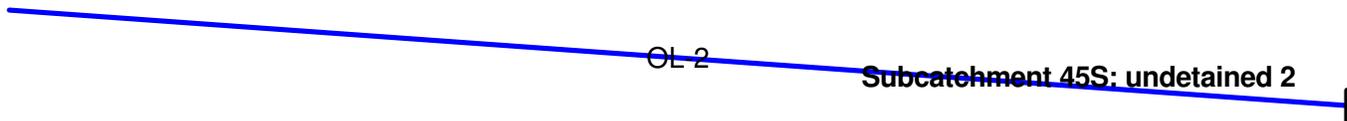
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.24 cfs @ 12.11 hrs, Volume= 669 cf, Depth= 1.91"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

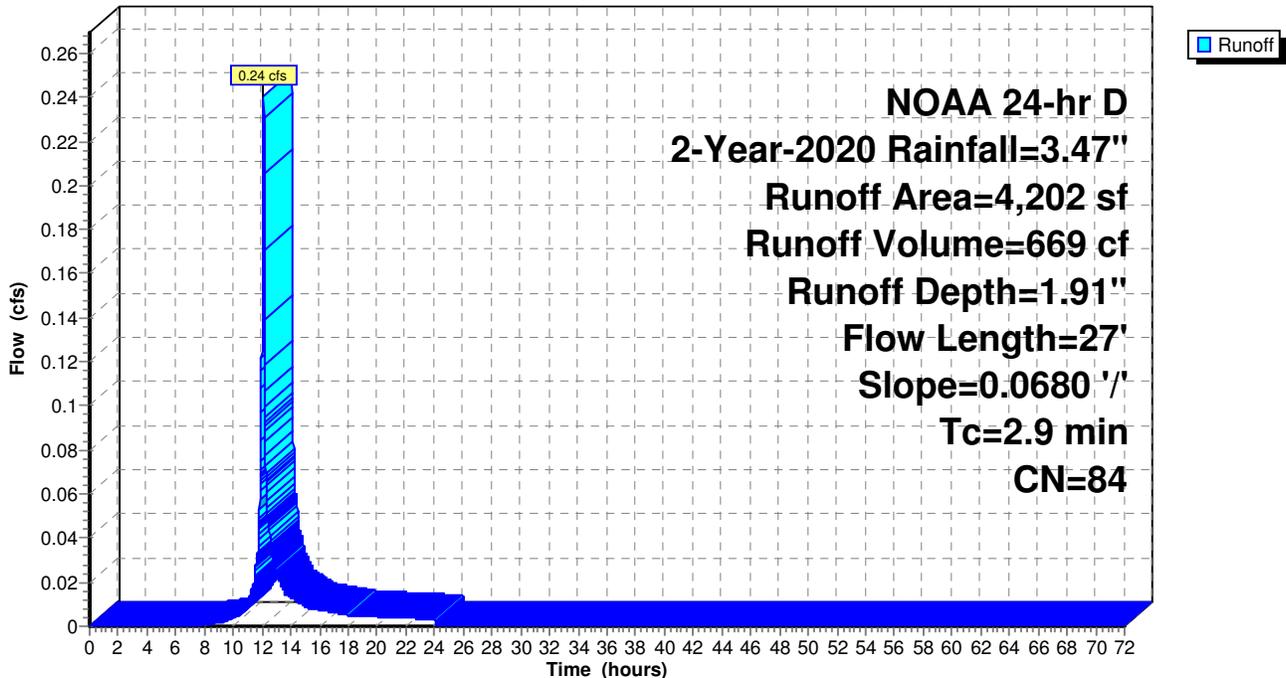
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	3.47	1.91	0.00
1.00	0.04	0.00	0.00	52.00	3.47	1.91	0.00
2.00	0.08	0.00	0.00	53.00	3.47	1.91	0.00
3.00	0.13	0.00	0.00	54.00	3.47	1.91	0.00
4.00	0.18	0.00	0.00	55.00	3.47	1.91	0.00
5.00	0.24	0.00	0.00	56.00	3.47	1.91	0.00
6.00	0.30	0.00	0.00	57.00	3.47	1.91	0.00
7.00	0.37	0.00	0.00	58.00	3.47	1.91	0.00
8.00	0.45	0.00	0.00	59.00	3.47	1.91	0.00
9.00	0.55	0.01	0.00	60.00	3.47	1.91	0.00
10.00	0.69	0.04	0.00	61.00	3.47	1.91	0.00
11.00	0.90	0.11	0.01	62.00	3.47	1.91	0.00
12.00	1.66	0.52	<b>0.13</b>	63.00	3.47	1.91	0.00
13.00	2.57	1.17	<b>0.02</b>	64.00	3.47	1.91	0.00
14.00	2.78	1.34	0.01	65.00	3.47	1.91	0.00
15.00	2.92	1.45	0.01	66.00	3.47	1.91	0.00
16.00	3.02	1.53	0.01	67.00	3.47	1.91	0.00
17.00	3.10	1.60	0.01	68.00	3.47	1.91	0.00
18.00	3.17	1.66	0.01	69.00	3.47	1.91	0.00
19.00	3.23	1.71	0.00	70.00	3.47	1.91	0.00
20.00	3.29	1.76	0.00	71.00	3.47	1.91	0.00
21.00	3.34	1.80	0.00	72.00	3.47	1.91	0.00
22.00	3.39	1.84	0.00				
23.00	3.43	1.88	0.00				
24.00	<b>3.47</b>	<b>1.91</b>	0.00				
25.00	3.47	1.91	0.00				
26.00	3.47	1.91	0.00				
27.00	3.47	1.91	0.00				
28.00	3.47	1.91	0.00				
29.00	3.47	1.91	0.00				
30.00	3.47	1.91	0.00				
31.00	3.47	1.91	0.00				
32.00	3.47	1.91	0.00				
33.00	3.47	1.91	0.00				
34.00	3.47	1.91	0.00				
35.00	3.47	1.91	0.00				
36.00	3.47	1.91	0.00				
37.00	3.47	1.91	0.00				
38.00	3.47	1.91	0.00				
39.00	3.47	1.91	0.00				
40.00	3.47	1.91	0.00				
41.00	3.47	1.91	0.00				
42.00	3.47	1.91	0.00				
43.00	3.47	1.91	0.00				
44.00	3.47	1.91	0.00				
45.00	3.47	1.91	0.00				
46.00	3.47	1.91	0.00				
47.00	3.47	1.91	0.00				
48.00	3.47	1.91	0.00				
49.00	3.47	1.91	0.00				
50.00	3.47	1.91	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 2.81" for 2-Year-2020 event  
 Inflow = 3.71 cfs @ 12.10 hrs, Volume= 11,194 cf  
 Outflow = 1.65 cfs @ 12.16 hrs, Volume= 11,194 cf, Atten= 56%, Lag= 3.5 min  
 Primary = 1.65 cfs @ 12.16 hrs, Volume= 11,194 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 404.30' @ 12.16 hrs Surf.Area= 1,873 sf Storage= 1,769 cf

Plug-Flow detention time= 14.7 min calculated for 11,193 cf (100% of inflow)  
 Center-of-Mass det. time= 14.7 min ( 800.8 - 786.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

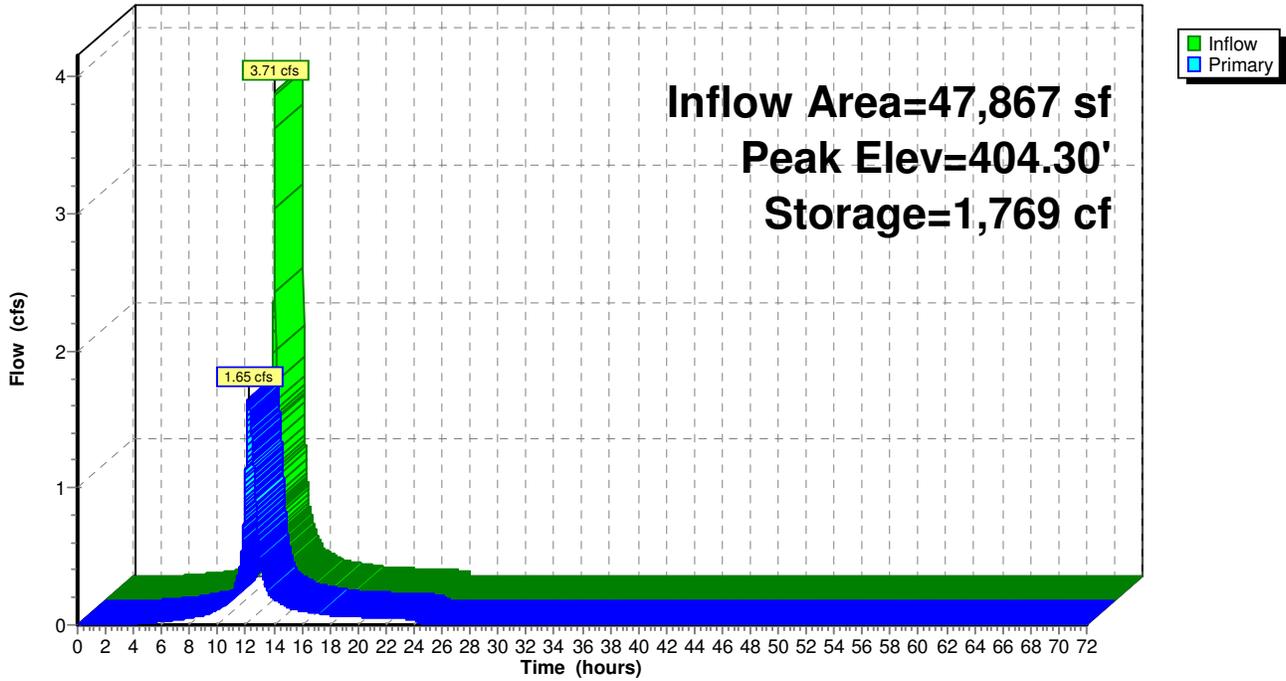
**Primary OutFlow** Max=1.65 cfs @ 12.16 hrs HW=404.30' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 1.65 cfs @ 4.73 fps)
- 2=Orifice/Grate ( Controls 0.00 cfs)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.00	0	403.00	0.00
4.00	0.01	9	403.03	0.00
6.00	0.02	29	403.08	0.02
8.00	0.06	56	403.12	0.05
10.00	0.13	106	403.19	0.12
12.00	<b>2.17</b>	<b>867</b>	<b>403.78</b>	<b>1.13</b>
14.00	<b>0.18</b>	<b>155</b>	<b>403.24</b>	<b>0.19</b>
16.00	0.10	95	403.17	0.10
18.00	0.07	71	403.14	0.07
20.00	0.06	61	403.13	0.06
22.00	0.05	55	403.12	0.05
24.00	0.04	47	403.11	0.04
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

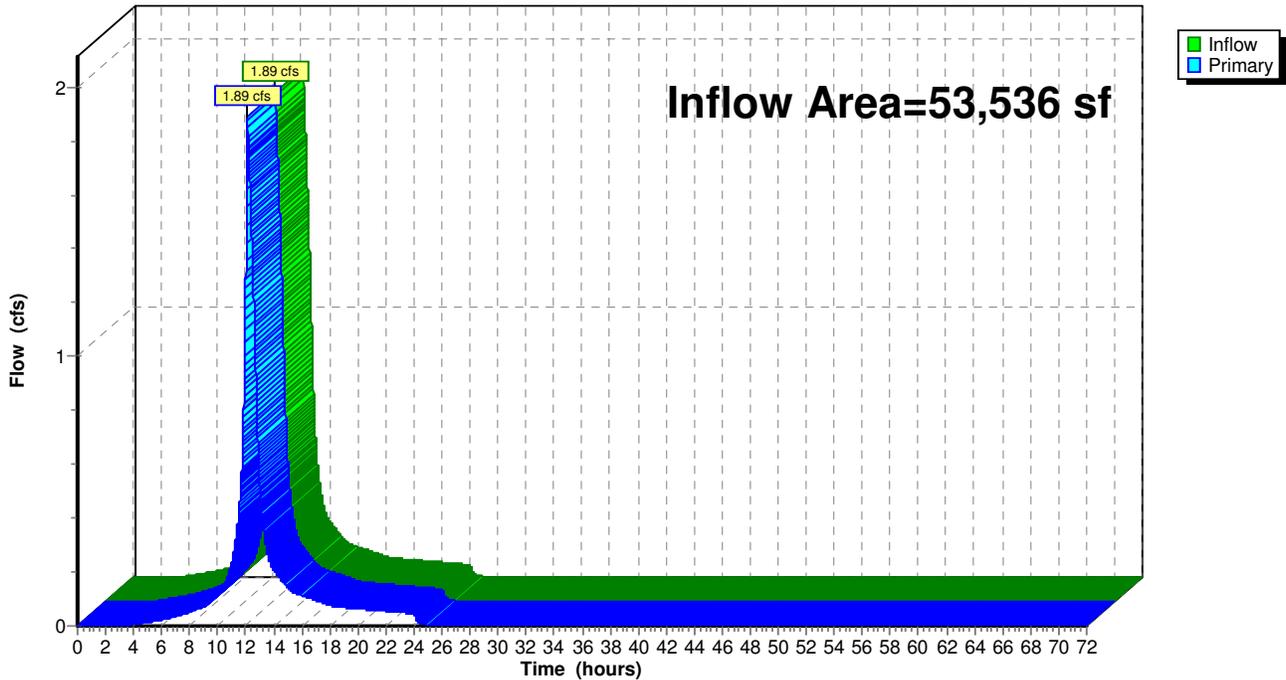
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 2.70" for 2-Year-2020 event  
Inflow = 1.89 cfs @ 12.12 hrs, Volume= 12,028 cf  
Primary = 1.89 cfs @ 12.12 hrs, Volume= 12,028 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
6.00	0.02	0.00	0.02	57.00	0.00	0.00	0.00
7.00	0.04	0.00	0.04	58.00	0.00	0.00	0.00
8.00	0.05	0.00	0.05	59.00	0.00	0.00	0.00
9.00	0.07	0.00	0.07	60.00	0.00	0.00	0.00
10.00	0.12	0.00	0.12	61.00	0.00	0.00	0.00
11.00	0.23	0.00	0.23	62.00	0.00	0.00	0.00
12.00	1.29	0.00	1.29	63.00	0.00	0.00	0.00
13.00	0.52	0.00	0.52	64.00	0.00	0.00	0.00
14.00	0.21	0.00	0.21	65.00	0.00	0.00	0.00
15.00	0.14	0.00	0.14	66.00	0.00	0.00	0.00
16.00	0.11	0.00	0.11	67.00	0.00	0.00	0.00
17.00	0.09	0.00	0.09	68.00	0.00	0.00	0.00
18.00	0.08	0.00	0.08	69.00	0.00	0.00	0.00
19.00	0.07	0.00	0.07	70.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	71.00	0.00	0.00	0.00
21.00	0.06	0.00	0.06	72.00	0.00	0.00	0.00
22.00	0.06	0.00	0.06				
23.00	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

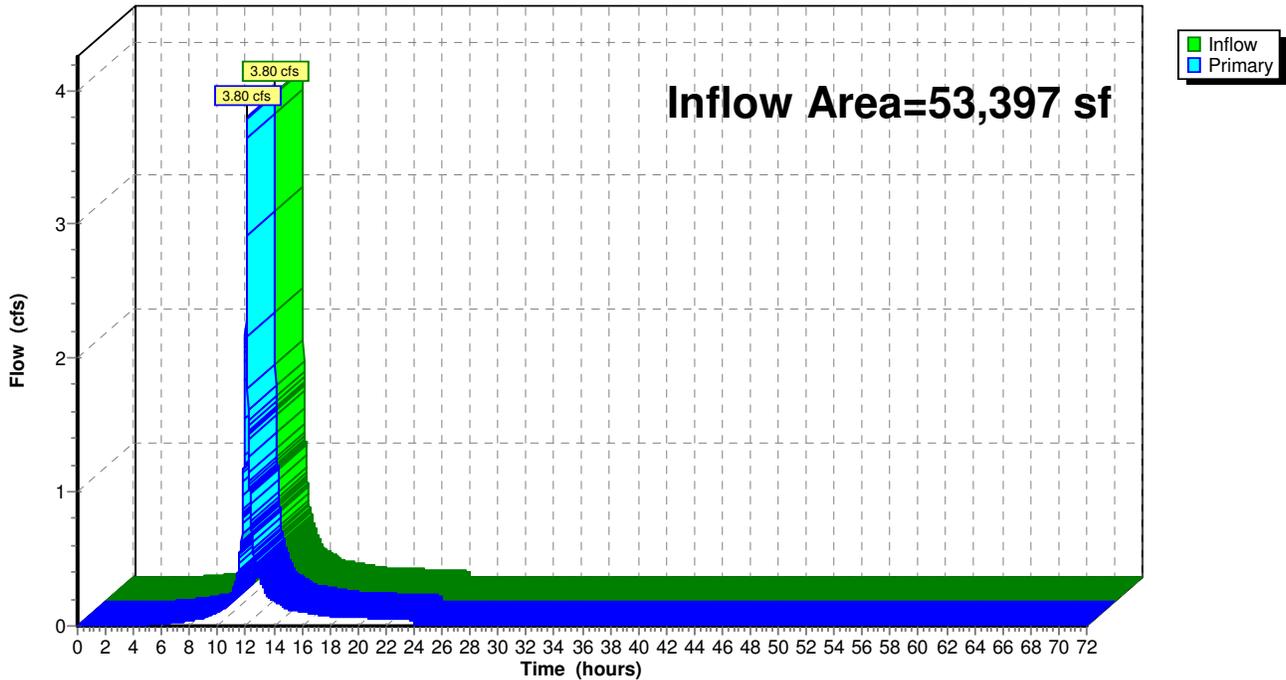
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 2.50" for 2-Year-2020 event  
Inflow = 3.80 cfs @ 12.10 hrs, Volume= 11,104 cf  
Primary = 3.80 cfs @ 12.10 hrs, Volume= 11,104 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
7.00	0.03	0.00	0.03	58.00	0.00	0.00	0.00
8.00	0.04	0.00	0.04	59.00	0.00	0.00	0.00
9.00	0.06	0.00	0.06	60.00	0.00	0.00	0.00
10.00	0.11	0.00	0.11	61.00	0.00	0.00	0.00
11.00	0.23	0.00	0.23	62.00	0.00	0.00	0.00
12.00	<b>2.17</b>	0.00	<b>2.17</b>	63.00	0.00	0.00	0.00
13.00	<b>0.37</b>	0.00	<b>0.37</b>	64.00	0.00	0.00	0.00
14.00	0.19	0.00	0.19	65.00	0.00	0.00	0.00
15.00	0.13	0.00	0.13	66.00	0.00	0.00	0.00
16.00	0.11	0.00	0.11	67.00	0.00	0.00	0.00
17.00	0.09	0.00	0.09	68.00	0.00	0.00	0.00
18.00	0.07	0.00	0.07	69.00	0.00	0.00	0.00
19.00	0.07	0.00	0.07	70.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	71.00	0.00	0.00	0.00
21.00	0.06	0.00	0.06	72.00	0.00	0.00	0.00
22.00	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
24.00	0.04	0.00	0.04				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 5.38 cfs @ 12.10 hrs, Volume= 15,940 cf, Depth= 4.24"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

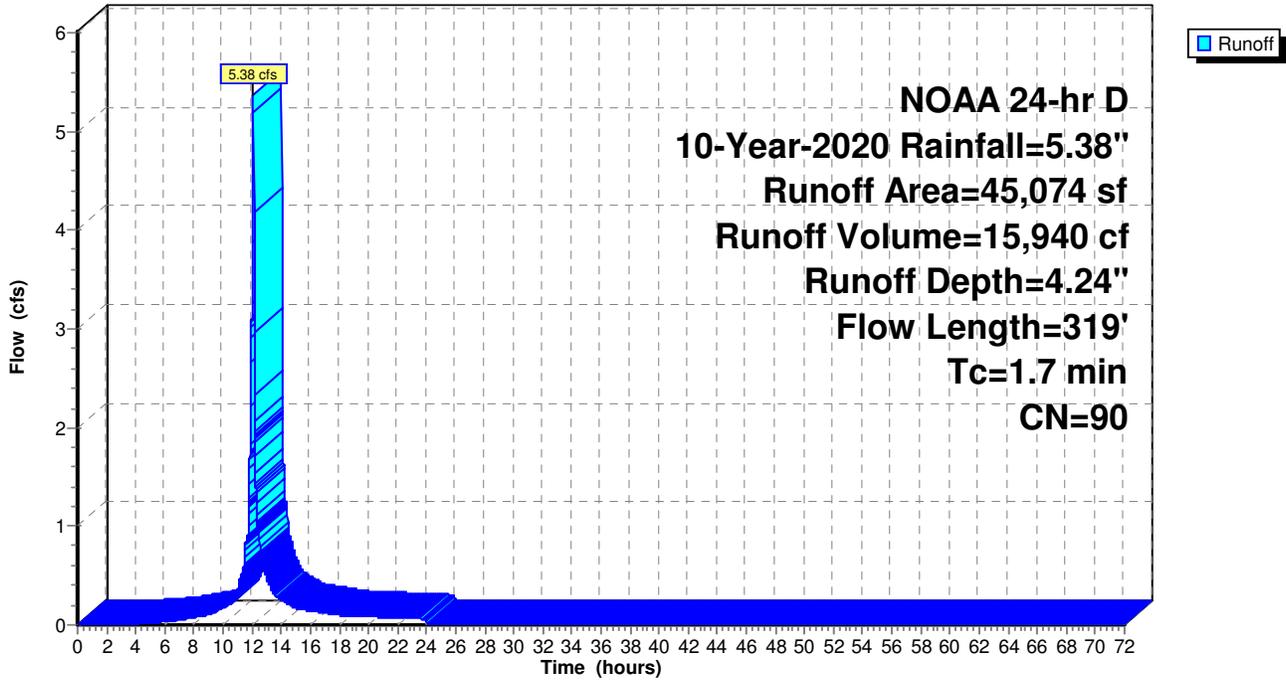
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



Subcatchment 37S: Ext DA 3

Hydrograph



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Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.38	4.24	0.00
1.00	0.06	0.00	0.00	52.00	5.38	4.24	0.00
2.00	0.13	0.00	0.00	53.00	5.38	4.24	0.00
3.00	0.20	0.00	0.00	54.00	5.38	4.24	0.00
4.00	0.28	0.00	0.01	55.00	5.38	4.24	0.00
5.00	0.37	0.02	0.02	56.00	5.38	4.24	0.00
6.00	0.46	0.04	0.03	57.00	5.38	4.24	0.00
7.00	0.57	0.08	0.05	58.00	5.38	4.24	0.00
8.00	0.70	0.14	0.08	59.00	5.38	4.24	0.00
9.00	0.85	0.23	0.10	60.00	5.38	4.24	0.00
10.00	1.07	0.36	0.18	61.00	5.38	4.24	0.00
11.00	1.40	0.60	0.36	62.00	5.38	4.24	0.00
12.00	2.58	1.60	<b>3.13</b>	63.00	5.38	4.24	0.00
13.00	3.98	2.90	<b>0.50</b>	64.00	5.38	4.24	0.00
14.00	4.31	3.22	0.26	65.00	5.38	4.24	0.00
15.00	4.53	3.42	0.17	66.00	5.38	4.24	0.00
16.00	4.68	3.57	0.14	67.00	5.38	4.24	0.00
17.00	4.81	3.70	0.12	68.00	5.38	4.24	0.00
18.00	4.92	3.80	0.10	69.00	5.38	4.24	0.00
19.00	5.01	3.89	0.09	70.00	5.38	4.24	0.00
20.00	5.10	3.97	0.08	71.00	5.38	4.24	0.00
21.00	5.18	4.05	0.08	72.00	5.38	4.24	0.00
22.00	5.25	4.12	0.07				
23.00	5.32	4.18	0.07				
24.00	<b>5.38</b>	<b>4.24</b>	0.06				
25.00	5.38	4.24	0.00				
26.00	5.38	4.24	0.00				
27.00	5.38	4.24	0.00				
28.00	5.38	4.24	0.00				
29.00	5.38	4.24	0.00				
30.00	5.38	4.24	0.00				
31.00	5.38	4.24	0.00				
32.00	5.38	4.24	0.00				
33.00	5.38	4.24	0.00				
34.00	5.38	4.24	0.00				
35.00	5.38	4.24	0.00				
36.00	5.38	4.24	0.00				
37.00	5.38	4.24	0.00				
38.00	5.38	4.24	0.00				
39.00	5.38	4.24	0.00				
40.00	5.38	4.24	0.00				
41.00	5.38	4.24	0.00				
42.00	5.38	4.24	0.00				
43.00	5.38	4.24	0.00				
44.00	5.38	4.24	0.00				
45.00	5.38	4.24	0.00				
46.00	5.38	4.24	0.00				
47.00	5.38	4.24	0.00				
48.00	5.38	4.24	0.00				
49.00	5.38	4.24	0.00				
50.00	5.38	4.24	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

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**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 1,933 cf, Depth= 5.14"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

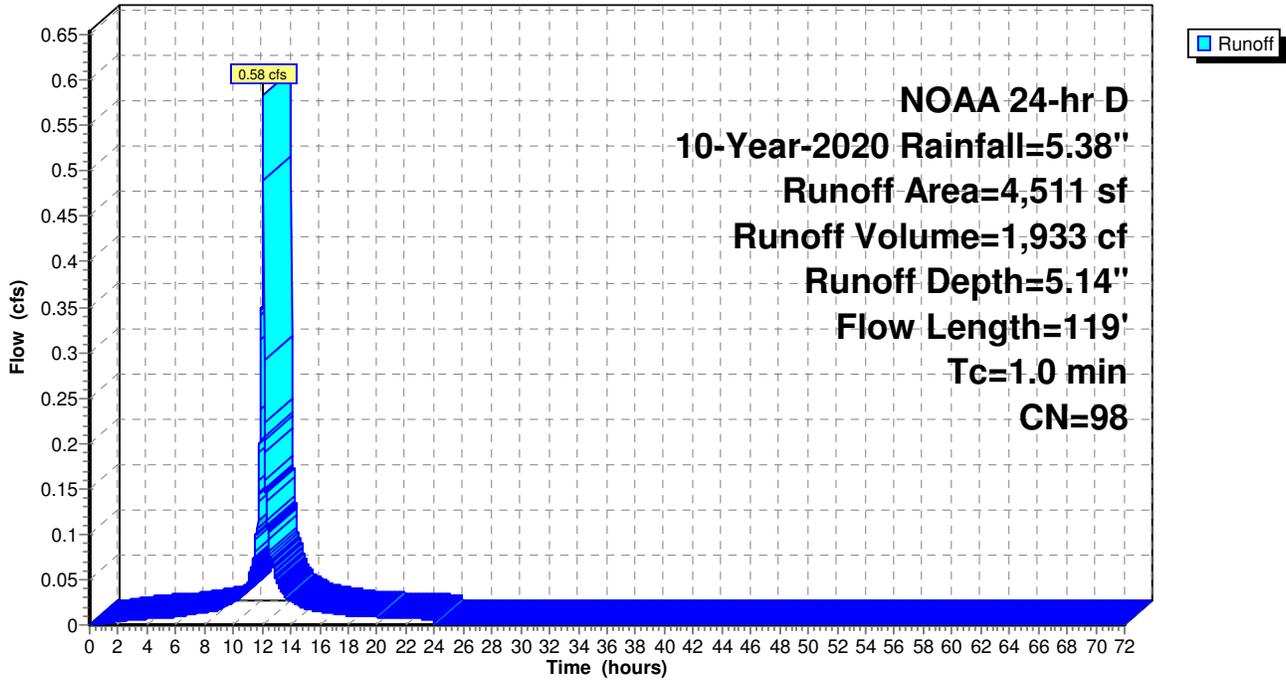
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



Subcatchment 39S: Ext DA 2

Hydrograph



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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.38	5.14	0.00
1.00	0.06	0.00	0.00	52.00	5.38	5.14	0.00
2.00	0.13	0.03	0.00	53.00	5.38	5.14	0.00
3.00	0.20	0.07	0.01	54.00	5.38	5.14	0.00
4.00	0.28	0.13	0.01	55.00	5.38	5.14	0.00
5.00	0.37	0.20	0.01	56.00	5.38	5.14	0.00
6.00	0.46	0.28	0.01	57.00	5.38	5.14	0.00
7.00	0.57	0.38	0.01	58.00	5.38	5.14	0.00
8.00	0.70	0.50	0.01	59.00	5.38	5.14	0.00
9.00	0.85	0.65	0.02	60.00	5.38	5.14	0.00
10.00	1.07	0.86	0.03	61.00	5.38	5.14	0.00
11.00	1.40	1.18	0.05	62.00	5.38	5.14	0.00
12.00	2.58	2.35	<b>0.35</b>	63.00	5.38	5.14	0.00
13.00	3.98	3.75	<b>0.05</b>	64.00	5.38	5.14	0.00
14.00	4.31	4.08	0.03	65.00	5.38	5.14	0.00
15.00	4.53	4.29	0.02	66.00	5.38	5.14	0.00
16.00	4.68	4.45	0.02	67.00	5.38	5.14	0.00
17.00	4.81	4.58	0.01	68.00	5.38	5.14	0.00
18.00	4.92	4.68	0.01	69.00	5.38	5.14	0.00
19.00	5.01	4.78	0.01	70.00	5.38	5.14	0.00
20.00	5.10	4.86	0.01	71.00	5.38	5.14	0.00
21.00	5.18	4.94	0.01	72.00	5.38	5.14	0.00
22.00	5.25	5.01	0.01				
23.00	5.32	5.08	0.01				
24.00	<b>5.38</b>	<b>5.14</b>	0.01				
25.00	5.38	5.14	0.00				
26.00	5.38	5.14	0.00				
27.00	5.38	5.14	0.00				
28.00	5.38	5.14	0.00				
29.00	5.38	5.14	0.00				
30.00	5.38	5.14	0.00				
31.00	5.38	5.14	0.00				
32.00	5.38	5.14	0.00				
33.00	5.38	5.14	0.00				
34.00	5.38	5.14	0.00				
35.00	5.38	5.14	0.00				
36.00	5.38	5.14	0.00				
37.00	5.38	5.14	0.00				
38.00	5.38	5.14	0.00				
39.00	5.38	5.14	0.00				
40.00	5.38	5.14	0.00				
41.00	5.38	5.14	0.00				
42.00	5.38	5.14	0.00				
43.00	5.38	5.14	0.00				
44.00	5.38	5.14	0.00				
45.00	5.38	5.14	0.00				
46.00	5.38	5.14	0.00				
47.00	5.38	5.14	0.00				
48.00	5.38	5.14	0.00				
49.00	5.38	5.14	0.00				
50.00	5.38	5.14	0.00				

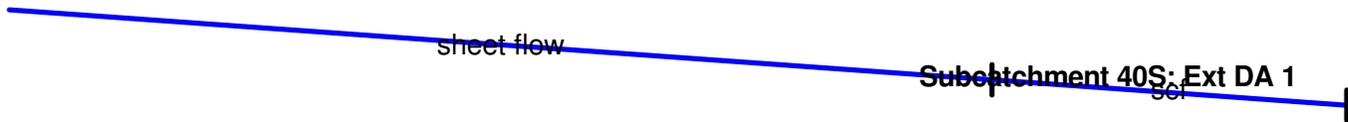
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.41 cfs @ 12.13 hrs, Volume= 1,382 cf, Depth= 4.35"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

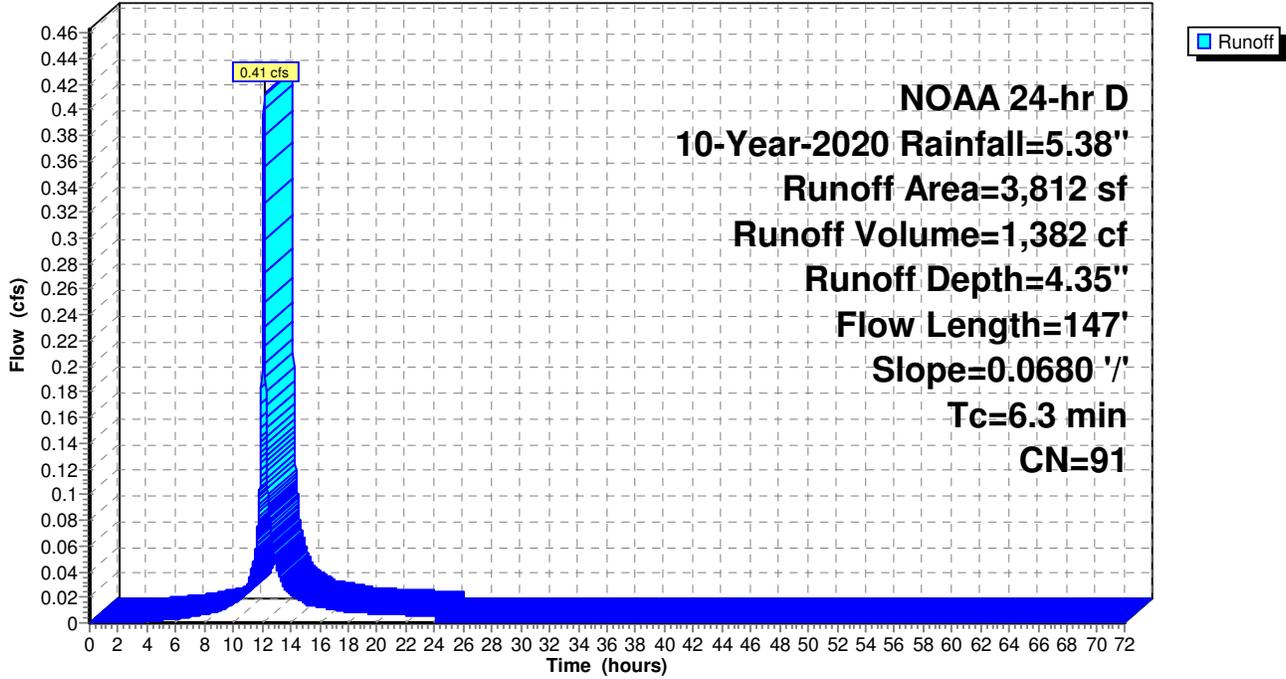
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



Subcatchment 40S: Ext DA 1

Hydrograph



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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.38	4.35	0.00
1.00	0.06	0.00	0.00	52.00	5.38	4.35	0.00
2.00	0.13	0.00	0.00	53.00	5.38	4.35	0.00
3.00	0.20	0.00	0.00	54.00	5.38	4.35	0.00
4.00	0.28	0.01	0.00	55.00	5.38	4.35	0.00
5.00	0.37	0.02	0.00	56.00	5.38	4.35	0.00
6.00	0.46	0.05	0.00	57.00	5.38	4.35	0.00
7.00	0.57	0.10	0.00	58.00	5.38	4.35	0.00
8.00	0.70	0.17	0.01	59.00	5.38	4.35	0.00
9.00	0.85	0.26	0.01	60.00	5.38	4.35	0.00
10.00	1.07	0.41	0.02	61.00	5.38	4.35	0.00
11.00	1.40	0.66	0.03	62.00	5.38	4.35	0.00
12.00	2.58	1.68	<b>0.22</b>	63.00	5.38	4.35	0.00
13.00	3.98	3.00	<b>0.04</b>	64.00	5.38	4.35	0.00
14.00	4.31	3.32	0.02	65.00	5.38	4.35	0.00
15.00	4.53	3.52	0.02	66.00	5.38	4.35	0.00
16.00	4.68	3.67	0.01	67.00	5.38	4.35	0.00
17.00	4.81	3.80	0.01	68.00	5.38	4.35	0.00
18.00	4.92	3.91	0.01	69.00	5.38	4.35	0.00
19.00	5.01	3.99	0.01	70.00	5.38	4.35	0.00
20.00	5.10	4.08	0.01	71.00	5.38	4.35	0.00
21.00	5.18	4.15	0.01	72.00	5.38	4.35	0.00
22.00	5.25	4.23	0.01				
23.00	5.32	4.29	0.01				
24.00	<b>5.38</b>	<b>4.35</b>	0.01				
25.00	5.38	4.35	0.00				
26.00	5.38	4.35	0.00				
27.00	5.38	4.35	0.00				
28.00	5.38	4.35	0.00				
29.00	5.38	4.35	0.00				
30.00	5.38	4.35	0.00				
31.00	5.38	4.35	0.00				
32.00	5.38	4.35	0.00				
33.00	5.38	4.35	0.00				
34.00	5.38	4.35	0.00				
35.00	5.38	4.35	0.00				
36.00	5.38	4.35	0.00				
37.00	5.38	4.35	0.00				
38.00	5.38	4.35	0.00				
39.00	5.38	4.35	0.00				
40.00	5.38	4.35	0.00				
41.00	5.38	4.35	0.00				
42.00	5.38	4.35	0.00				
43.00	5.38	4.35	0.00				
44.00	5.38	4.35	0.00				
45.00	5.38	4.35	0.00				
46.00	5.38	4.35	0.00				
47.00	5.38	4.35	0.00				
48.00	5.38	4.35	0.00				
49.00	5.38	4.35	0.00				
50.00	5.38	4.35	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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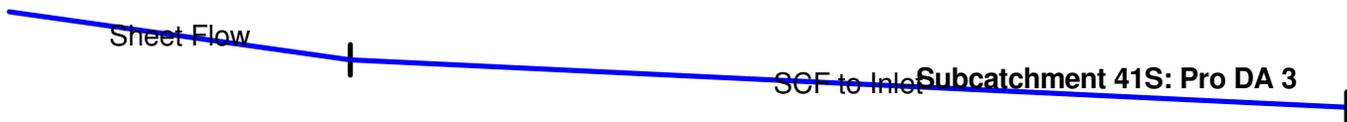
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 5.98 cfs @ 12.10 hrs, Volume= 18,681 cf, Depth= 4.68"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

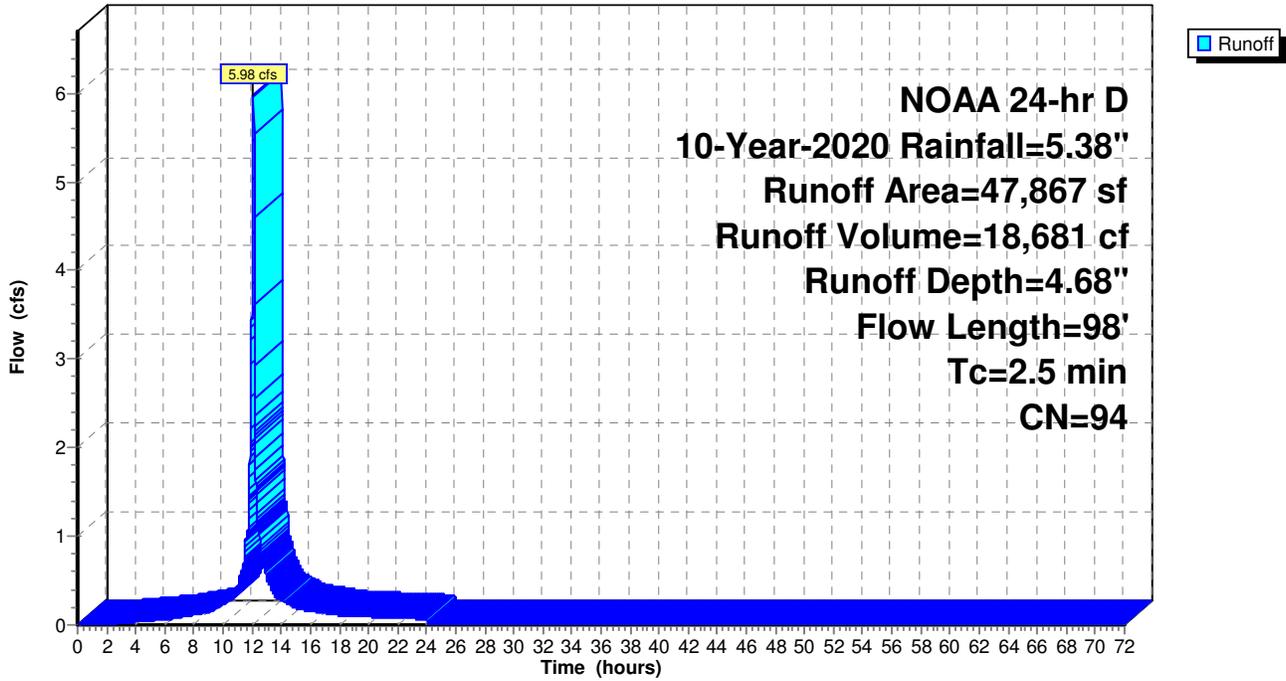
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



### Subcatchment 41S: Pro DA 3

Hydrograph



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NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.38	4.68	0.00
1.00	0.06	0.00	0.00	52.00	5.38	4.68	0.00
2.00	0.13	0.00	0.00	53.00	5.38	4.68	0.00
3.00	0.20	0.01	0.02	54.00	5.38	4.68	0.00
4.00	0.28	0.03	0.03	55.00	5.38	4.68	0.00
5.00	0.37	0.07	0.05	56.00	5.38	4.68	0.00
6.00	0.46	0.11	0.06	57.00	5.38	4.68	0.00
7.00	0.57	0.18	0.08	58.00	5.38	4.68	0.00
8.00	0.70	0.27	0.11	59.00	5.38	4.68	0.00
9.00	0.85	0.39	0.14	60.00	5.38	4.68	0.00
10.00	1.07	0.56	0.23	61.00	5.38	4.68	0.00
11.00	1.40	0.85	0.44	62.00	5.38	4.68	0.00
12.00	2.58	1.94	<b>3.54</b>	63.00	5.38	4.68	0.00
13.00	3.98	3.31	<b>0.55</b>	64.00	5.38	4.68	0.00
14.00	4.31	3.63	0.28	65.00	5.38	4.68	0.00
15.00	4.53	3.84	0.19	66.00	5.38	4.68	0.00
16.00	4.68	3.99	0.16	67.00	5.38	4.68	0.00
17.00	4.81	4.12	0.13	68.00	5.38	4.68	0.00
18.00	4.92	4.23	0.11	69.00	5.38	4.68	0.00
19.00	5.01	4.32	0.10	70.00	5.38	4.68	0.00
20.00	5.10	4.40	0.09	71.00	5.38	4.68	0.00
21.00	5.18	4.48	0.08	72.00	5.38	4.68	0.00
22.00	5.25	4.56	0.08				
23.00	5.32	4.62	0.07				
24.00	<b>5.38</b>	<b>4.68</b>	0.06				
25.00	5.38	4.68	0.00				
26.00	5.38	4.68	0.00				
27.00	5.38	4.68	0.00				
28.00	5.38	4.68	0.00				
29.00	5.38	4.68	0.00				
30.00	5.38	4.68	0.00				
31.00	5.38	4.68	0.00				
32.00	5.38	4.68	0.00				
33.00	5.38	4.68	0.00				
34.00	5.38	4.68	0.00				
35.00	5.38	4.68	0.00				
36.00	5.38	4.68	0.00				
37.00	5.38	4.68	0.00				
38.00	5.38	4.68	0.00				
39.00	5.38	4.68	0.00				
40.00	5.38	4.68	0.00				
41.00	5.38	4.68	0.00				
42.00	5.38	4.68	0.00				
43.00	5.38	4.68	0.00				
44.00	5.38	4.68	0.00				
45.00	5.38	4.68	0.00				
46.00	5.38	4.68	0.00				
47.00	5.38	4.68	0.00				
48.00	5.38	4.68	0.00				
49.00	5.38	4.68	0.00				
50.00	5.38	4.68	0.00				

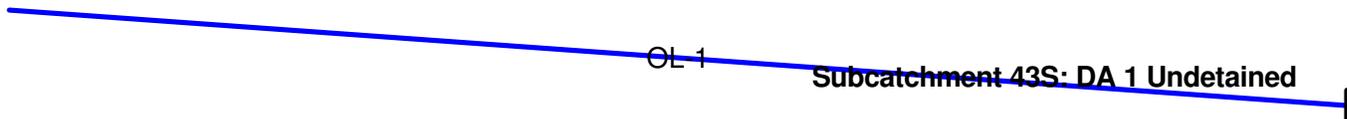
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.13 cfs @ 12.10 hrs, Volume= 349 cf, Depth= 2.85"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

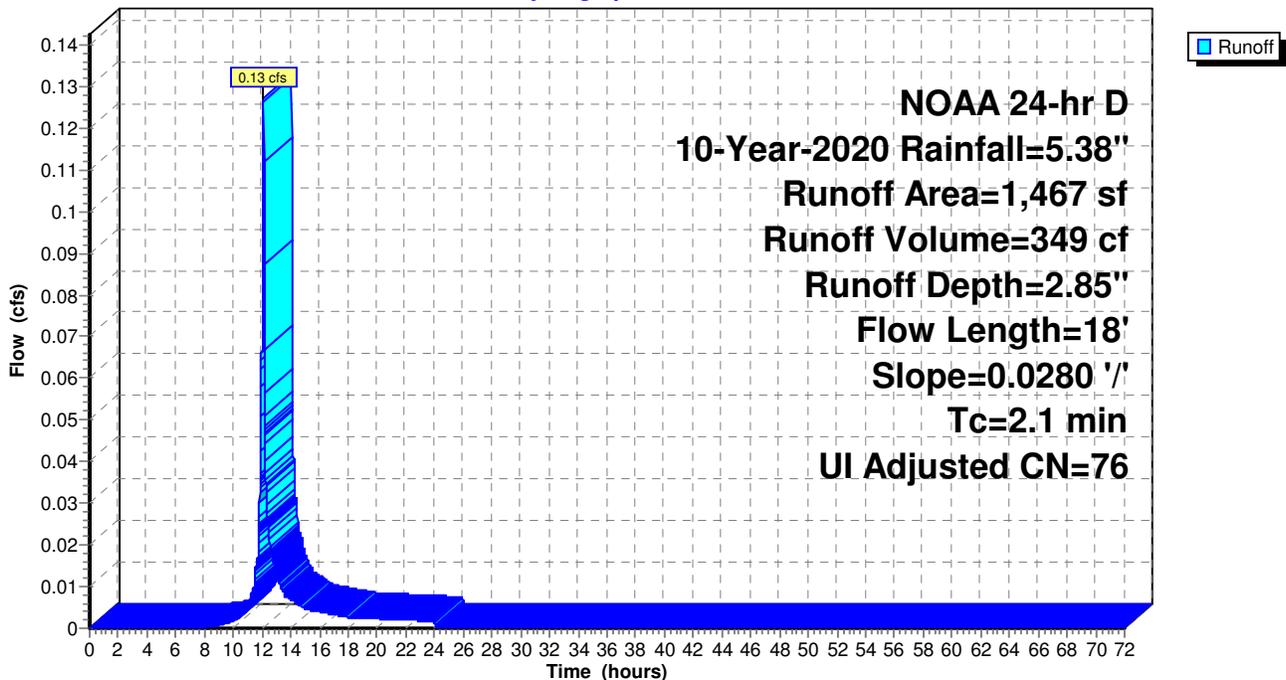
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.38	2.85	0.00
1.00	0.06	0.00	0.00	52.00	5.38	2.85	0.00
2.00	0.13	0.00	0.00	53.00	5.38	2.85	0.00
3.00	0.20	0.00	0.00	54.00	5.38	2.85	0.00
4.00	0.28	0.00	0.00	55.00	5.38	2.85	0.00
5.00	0.37	0.00	0.00	56.00	5.38	2.85	0.00
6.00	0.46	0.00	0.00	57.00	5.38	2.85	0.00
7.00	0.57	0.00	0.00	58.00	5.38	2.85	0.00
8.00	0.70	0.00	0.00	59.00	5.38	2.85	0.00
9.00	0.85	0.01	0.00	60.00	5.38	2.85	0.00
10.00	1.07	0.05	0.00	61.00	5.38	2.85	0.00
11.00	1.40	0.15	0.01	62.00	5.38	2.85	0.00
12.00	2.58	0.74	<b>0.07</b>	63.00	5.38	2.85	0.00
13.00	3.98	1.72	<b>0.01</b>	64.00	5.38	2.85	0.00
14.00	4.31	1.98	0.01	65.00	5.38	2.85	0.00
15.00	4.53	2.15	0.00	66.00	5.38	2.85	0.00
16.00	4.68	2.28	0.00	67.00	5.38	2.85	0.00
17.00	4.81	2.38	0.00	68.00	5.38	2.85	0.00
18.00	4.92	2.47	0.00	69.00	5.38	2.85	0.00
19.00	5.01	2.55	0.00	70.00	5.38	2.85	0.00
20.00	5.10	2.62	0.00	71.00	5.38	2.85	0.00
21.00	5.18	2.68	0.00	72.00	5.38	2.85	0.00
22.00	5.25	2.74	0.00				
23.00	5.32	2.80	0.00				
24.00	<b>5.38</b>	<b>2.85</b>	0.00				
25.00	5.38	2.85	0.00				
26.00	5.38	2.85	0.00				
27.00	5.38	2.85	0.00				
28.00	5.38	2.85	0.00				
29.00	5.38	2.85	0.00				
30.00	5.38	2.85	0.00				
31.00	5.38	2.85	0.00				
32.00	5.38	2.85	0.00				
33.00	5.38	2.85	0.00				
34.00	5.38	2.85	0.00				
35.00	5.38	2.85	0.00				
36.00	5.38	2.85	0.00				
37.00	5.38	2.85	0.00				
38.00	5.38	2.85	0.00				
39.00	5.38	2.85	0.00				
40.00	5.38	2.85	0.00				
41.00	5.38	2.85	0.00				
42.00	5.38	2.85	0.00				
43.00	5.38	2.85	0.00				
44.00	5.38	2.85	0.00				
45.00	5.38	2.85	0.00				
46.00	5.38	2.85	0.00				
47.00	5.38	2.85	0.00				
48.00	5.38	2.85	0.00				
49.00	5.38	2.85	0.00				
50.00	5.38	2.85	0.00				

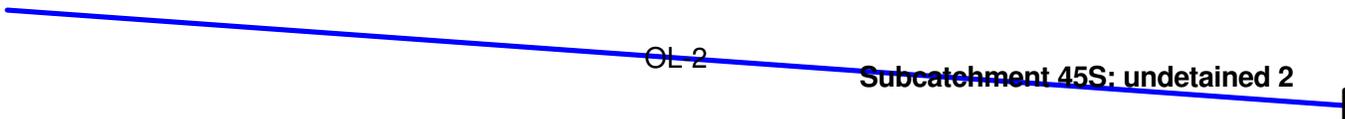
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.44 cfs @ 12.11 hrs, Volume= 1,268 cf, Depth= 3.62"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

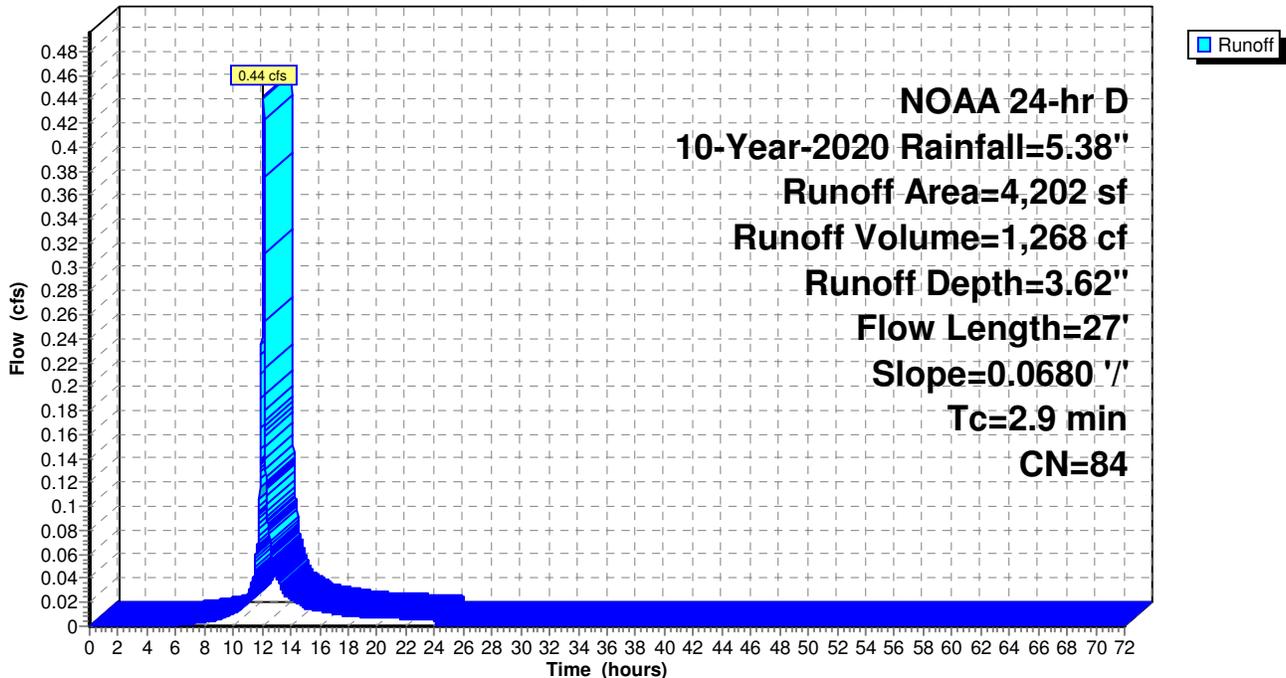
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	5.38	3.62	0.00
1.00	0.06	0.00	0.00	52.00	5.38	3.62	0.00
2.00	0.13	0.00	0.00	53.00	5.38	3.62	0.00
3.00	0.20	0.00	0.00	54.00	5.38	3.62	0.00
4.00	0.28	0.00	0.00	55.00	5.38	3.62	0.00
5.00	0.37	0.00	0.00	56.00	5.38	3.62	0.00
6.00	0.46	0.00	0.00	57.00	5.38	3.62	0.00
7.00	0.57	0.02	0.00	58.00	5.38	3.62	0.00
8.00	0.70	0.05	0.00	59.00	5.38	3.62	0.00
9.00	0.85	0.09	0.01	60.00	5.38	3.62	0.00
10.00	1.07	0.18	0.01	61.00	5.38	3.62	0.00
11.00	1.40	0.35	0.02	62.00	5.38	3.62	0.00
12.00	2.58	1.18	<b>0.25</b>	63.00	5.38	3.62	0.00
13.00	3.98	2.35	<b>0.04</b>	64.00	5.38	3.62	0.00
14.00	4.31	2.65	0.02	65.00	5.38	3.62	0.00
15.00	4.53	2.84	0.02	66.00	5.38	3.62	0.00
16.00	4.68	2.98	0.01	67.00	5.38	3.62	0.00
17.00	4.81	3.10	0.01	68.00	5.38	3.62	0.00
18.00	4.92	3.20	0.01	69.00	5.38	3.62	0.00
19.00	5.01	3.28	0.01	70.00	5.38	3.62	0.00
20.00	5.10	3.36	0.01	71.00	5.38	3.62	0.00
21.00	5.18	3.43	0.01	72.00	5.38	3.62	0.00
22.00	5.25	3.50	0.01				
23.00	5.32	3.56	0.01				
24.00	<b>5.38</b>	<b>3.62</b>	0.01				
25.00	5.38	3.62	0.00				
26.00	5.38	3.62	0.00				
27.00	5.38	3.62	0.00				
28.00	5.38	3.62	0.00				
29.00	5.38	3.62	0.00				
30.00	5.38	3.62	0.00				
31.00	5.38	3.62	0.00				
32.00	5.38	3.62	0.00				
33.00	5.38	3.62	0.00				
34.00	5.38	3.62	0.00				
35.00	5.38	3.62	0.00				
36.00	5.38	3.62	0.00				
37.00	5.38	3.62	0.00				
38.00	5.38	3.62	0.00				
39.00	5.38	3.62	0.00				
40.00	5.38	3.62	0.00				
41.00	5.38	3.62	0.00				
42.00	5.38	3.62	0.00				
43.00	5.38	3.62	0.00				
44.00	5.38	3.62	0.00				
45.00	5.38	3.62	0.00				
46.00	5.38	3.62	0.00				
47.00	5.38	3.62	0.00				
48.00	5.38	3.62	0.00				
49.00	5.38	3.62	0.00				
50.00	5.38	3.62	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 4.68" for 10-Year-2020 event  
 Inflow = 5.98 cfs @ 12.10 hrs, Volume= 18,681 cf  
 Outflow = 3.85 cfs @ 12.14 hrs, Volume= 18,681 cf, Atten= 36%, Lag= 2.3 min  
 Primary = 3.85 cfs @ 12.14 hrs, Volume= 18,681 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 404.87' @ 12.14 hrs Surf.Area= 1,996 sf Storage= 2,880 cf

Plug-Flow detention time= 14.5 min calculated for 18,678 cf (100% of inflow)  
 Center-of-Mass det. time= 14.5 min ( 786.1 - 771.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

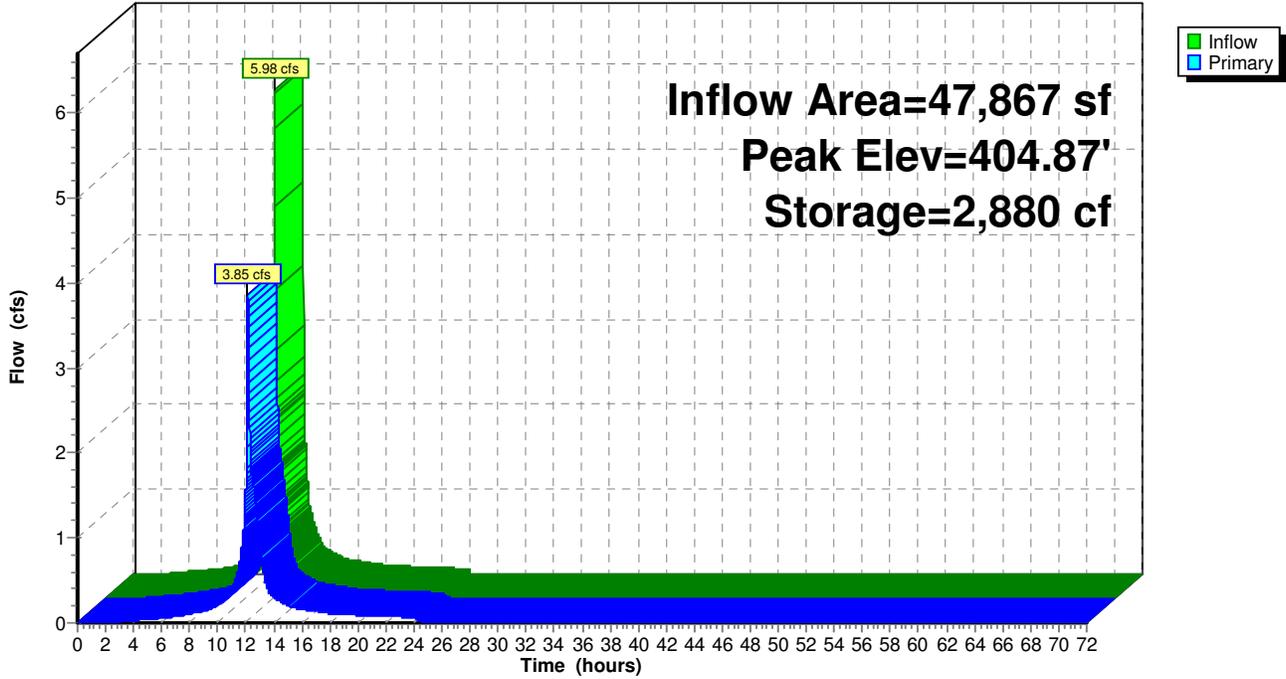
**Primary OutFlow** Max=3.84 cfs @ 12.14 hrs HW=404.87' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 2.08 cfs @ 5.97 fps)
- 2=Orifice/Grate (Orifice Controls 1.76 cfs @ 2.35 fps)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.00	0	403.00	0.00
4.00	0.03	34	403.09	0.03
6.00	0.06	59	403.13	0.06
8.00	0.11	99	403.18	0.11
10.00	0.23	172	403.26	0.22
12.00	<b>3.54</b>	<b>1,553</b>	<b>404.18</b>	<b>1.55</b>
14.00	<b>0.28</b>	<b>225</b>	<b>403.31</b>	<b>0.30</b>
16.00	0.16	136	403.22	0.16
18.00	0.11	101	403.18	0.11
20.00	0.09	87	403.16	0.09
22.00	0.08	77	403.15	0.08
24.00	0.06	67	403.14	0.07
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

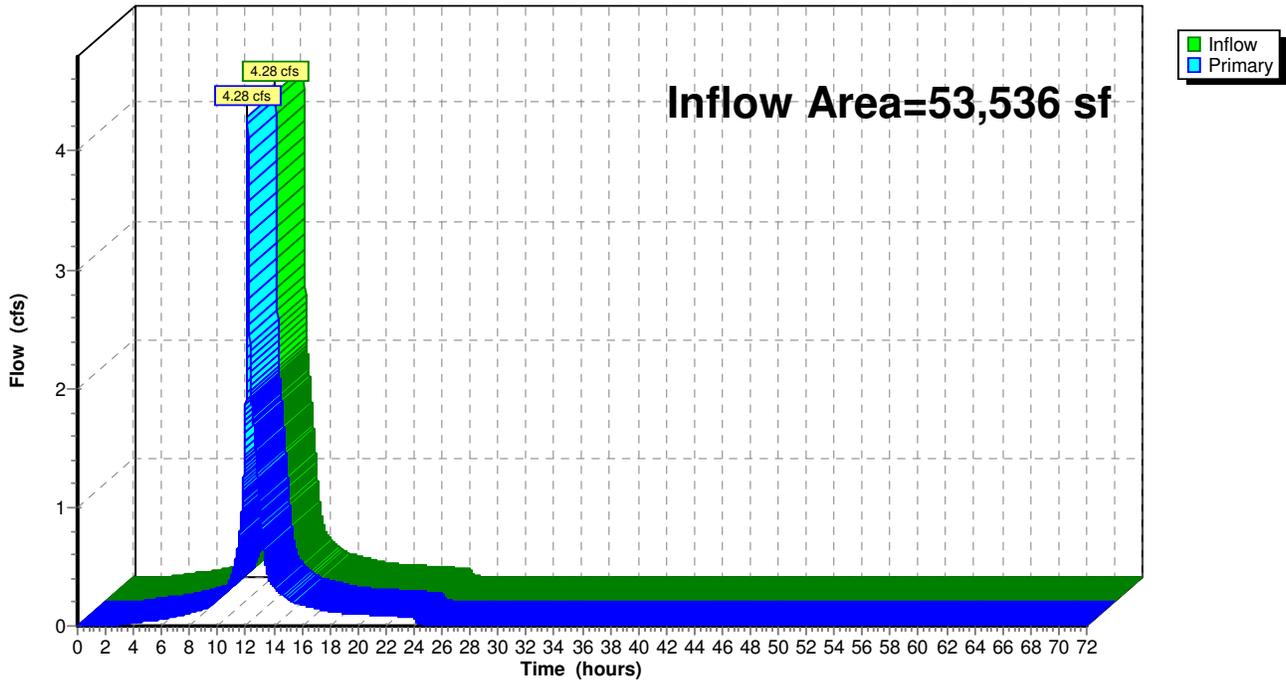
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 4.55" for 10-Year-2020 event  
Inflow = 4.28 cfs @ 12.13 hrs, Volume= 20,297 cf  
Primary = 4.28 cfs @ 12.13 hrs, Volume= 20,297 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	54.00	0.00	0.00	0.00
4.00	0.03	0.00	0.03	55.00	0.00	0.00	0.00
5.00	0.04	0.00	0.04	56.00	0.00	0.00	0.00
6.00	0.06	0.00	0.06	57.00	0.00	0.00	0.00
7.00	0.08	0.00	0.08	58.00	0.00	0.00	0.00
8.00	0.11	0.00	0.11	59.00	0.00	0.00	0.00
9.00	0.14	0.00	0.14	60.00	0.00	0.00	0.00
10.00	0.23	0.00	0.23	61.00	0.00	0.00	0.00
11.00	0.42	0.00	0.42	62.00	0.00	0.00	0.00
12.00	1.87	0.00	1.87	63.00	0.00	0.00	0.00
13.00	1.04	0.00	1.04	64.00	0.00	0.00	0.00
14.00	0.33	0.00	0.33	65.00	0.00	0.00	0.00
15.00	0.23	0.00	0.23	66.00	0.00	0.00	0.00
16.00	0.18	0.00	0.18	67.00	0.00	0.00	0.00
17.00	0.15	0.00	0.15	68.00	0.00	0.00	0.00
18.00	0.12	0.00	0.12	69.00	0.00	0.00	0.00
19.00	0.11	0.00	0.11	70.00	0.00	0.00	0.00
20.00	0.10	0.00	0.10	71.00	0.00	0.00	0.00
21.00	0.09	0.00	0.09	72.00	0.00	0.00	0.00
22.00	0.09	0.00	0.09				
23.00	0.08	0.00	0.08				
24.00	0.07	0.00	0.07				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

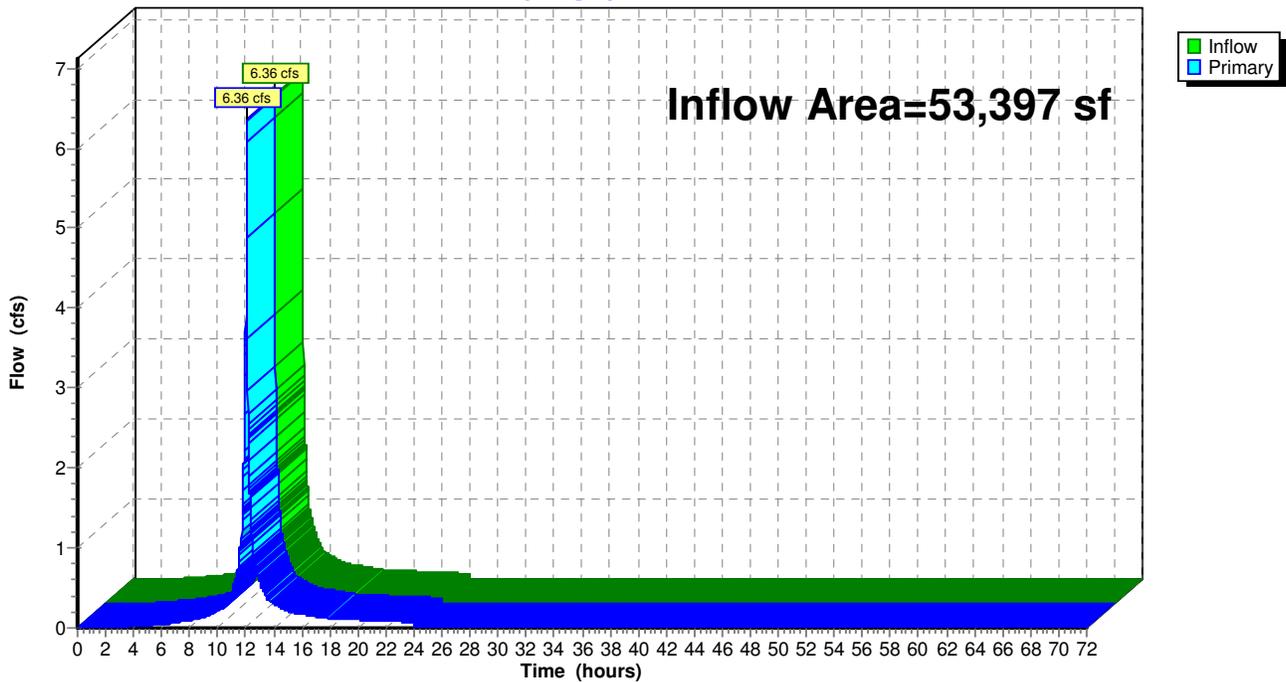
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 4.33" for 10-Year-2020 event  
Inflow = 6.36 cfs @ 12.10 hrs, Volume= 19,255 cf  
Primary = 6.36 cfs @ 12.10 hrs, Volume= 19,255 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	54.00	0.00	0.00	0.00
4.00	0.02	0.00	0.02	55.00	0.00	0.00	0.00
5.00	0.03	0.00	0.03	56.00	0.00	0.00	0.00
6.00	0.04	0.00	0.04	57.00	0.00	0.00	0.00
7.00	0.07	0.00	0.07	58.00	0.00	0.00	0.00
8.00	0.10	0.00	0.10	59.00	0.00	0.00	0.00
9.00	0.13	0.00	0.13	60.00	0.00	0.00	0.00
10.00	0.22	0.00	0.22	61.00	0.00	0.00	0.00
11.00	0.43	0.00	0.43	62.00	0.00	0.00	0.00
12.00	<b>3.70</b>	0.00	<b>3.70</b>	63.00	0.00	0.00	0.00
13.00	<b>0.60</b>	0.00	<b>0.60</b>	64.00	0.00	0.00	0.00
14.00	0.31	0.00	0.31	65.00	0.00	0.00	0.00
15.00	0.21	0.00	0.21	66.00	0.00	0.00	0.00
16.00	0.17	0.00	0.17	67.00	0.00	0.00	0.00
17.00	0.14	0.00	0.14	68.00	0.00	0.00	0.00
18.00	0.12	0.00	0.12	69.00	0.00	0.00	0.00
19.00	0.11	0.00	0.11	70.00	0.00	0.00	0.00
20.00	0.10	0.00	0.10	71.00	0.00	0.00	0.00
21.00	0.09	0.00	0.09	72.00	0.00	0.00	0.00
22.00	0.09	0.00	0.09				
23.00	0.08	0.00	0.08				
24.00	0.07	0.00	0.07				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
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49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

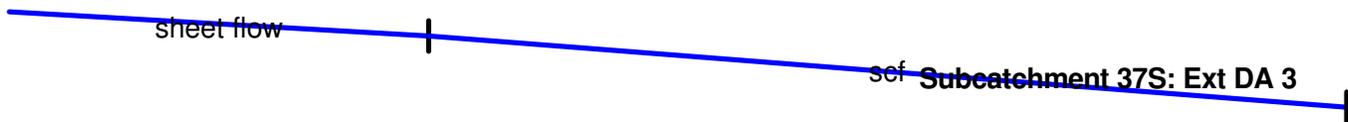
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 9.65 cfs @ 12.10 hrs, Volume= 29,934 cf, Depth= 7.97"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

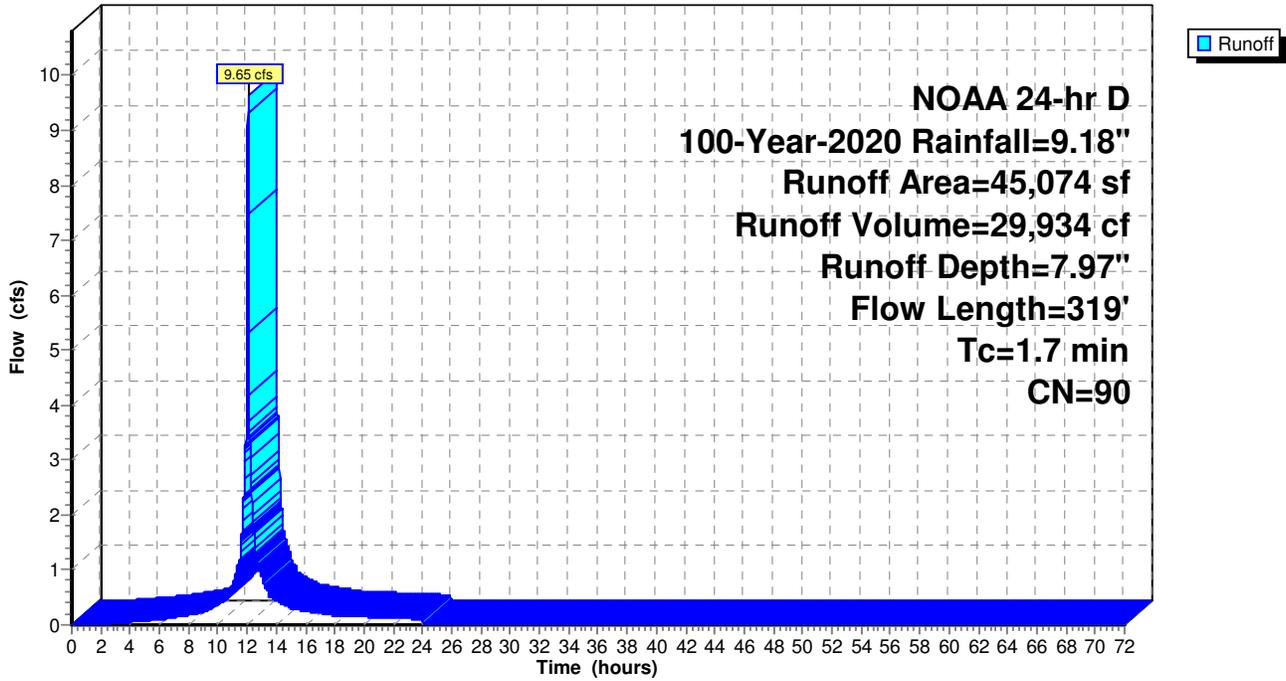
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



### Subcatchment 37S: Ext DA 3

Hydrograph



**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	9.18	7.97	0.00
1.00	0.11	0.00	0.00	52.00	9.18	7.97	0.00
2.00	0.22	0.00	0.00	53.00	9.18	7.97	0.00
3.00	0.35	0.01	0.03	54.00	9.18	7.97	0.00
4.00	0.48	0.05	0.05	55.00	9.18	7.97	0.00
5.00	0.63	0.11	0.07	56.00	9.18	7.97	0.00
6.00	0.78	0.19	0.09	57.00	9.18	7.97	0.00
7.00	0.97	0.30	0.13	58.00	9.18	7.97	0.00
8.00	1.19	0.45	0.18	59.00	9.18	7.97	0.00
9.00	1.46	0.65	0.23	60.00	9.18	7.97	0.00
10.00	1.82	0.94	0.37	61.00	9.18	7.97	0.00
11.00	2.39	1.43	0.71	62.00	9.18	7.97	0.00
12.00	4.40	3.30	<b>5.71</b>	63.00	9.18	7.97	0.00
13.00	6.79	5.62	<b>0.88</b>	64.00	9.18	7.97	0.00
14.00	7.36	6.18	0.45	65.00	9.18	7.97	0.00
15.00	7.72	6.53	0.31	66.00	9.18	7.97	0.00
16.00	7.99	6.79	0.25	67.00	9.18	7.97	0.00
17.00	8.21	7.02	0.21	68.00	9.18	7.97	0.00
18.00	8.40	7.20	0.17	69.00	9.18	7.97	0.00
19.00	8.55	7.35	0.16	70.00	9.18	7.97	0.00
20.00	8.70	7.49	0.15	71.00	9.18	7.97	0.00
21.00	8.83	7.63	0.14	72.00	9.18	7.97	0.00
22.00	8.96	7.75	0.12				
23.00	9.07	7.87	0.11				
24.00	<b>9.18</b>	<b>7.97</b>	0.10				
25.00	9.18	7.97	0.00				
26.00	9.18	7.97	0.00				
27.00	9.18	7.97	0.00				
28.00	9.18	7.97	0.00				
29.00	9.18	7.97	0.00				
30.00	9.18	7.97	0.00				
31.00	9.18	7.97	0.00				
32.00	9.18	7.97	0.00				
33.00	9.18	7.97	0.00				
34.00	9.18	7.97	0.00				
35.00	9.18	7.97	0.00				
36.00	9.18	7.97	0.00				
37.00	9.18	7.97	0.00				
38.00	9.18	7.97	0.00				
39.00	9.18	7.97	0.00				
40.00	9.18	7.97	0.00				
41.00	9.18	7.97	0.00				
42.00	9.18	7.97	0.00				
43.00	9.18	7.97	0.00				
44.00	9.18	7.97	0.00				
45.00	9.18	7.97	0.00				
46.00	9.18	7.97	0.00				
47.00	9.18	7.97	0.00				
48.00	9.18	7.97	0.00				
49.00	9.18	7.97	0.00				
50.00	9.18	7.97	0.00				

**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 1.00 cfs @ 12.09 hrs, Volume= 3,361 cf, Depth= 8.94"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

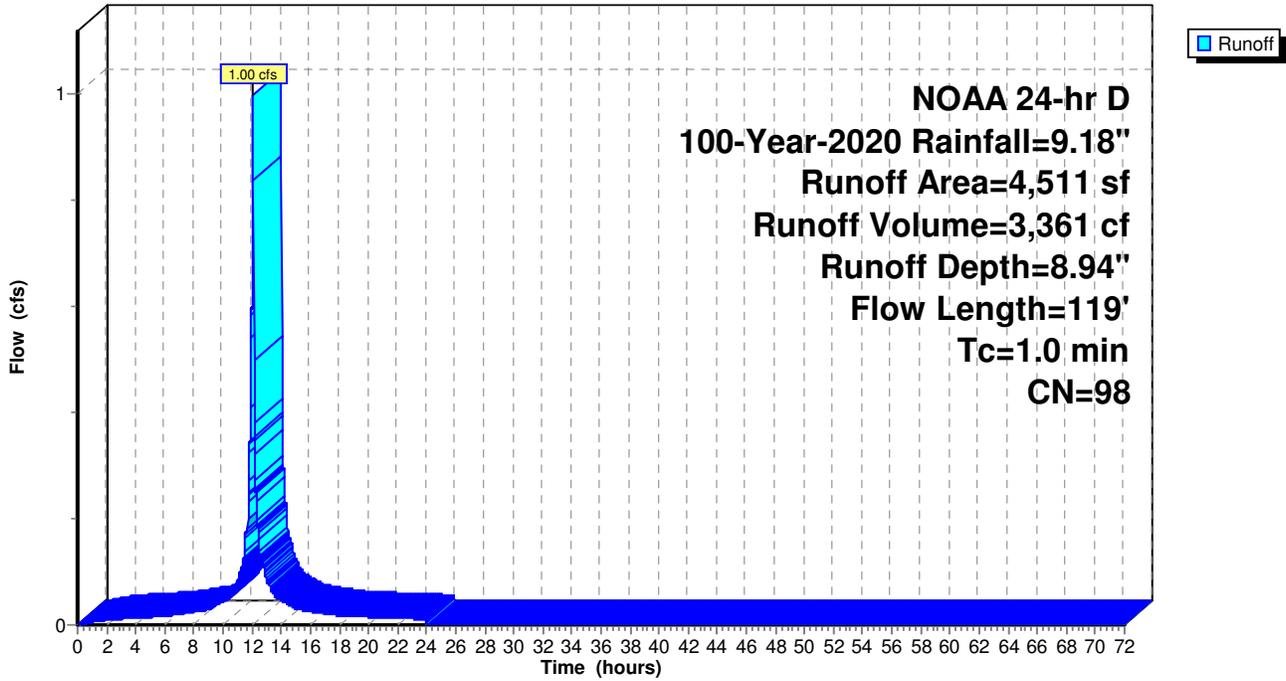
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



### Subcatchment 39S: Ext DA 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	9.18	8.94	0.00
1.00	0.11	0.02	0.00	52.00	9.18	8.94	0.00
2.00	0.22	0.08	0.01	53.00	9.18	8.94	0.00
3.00	0.35	0.18	0.01	54.00	9.18	8.94	0.00
4.00	0.48	0.30	0.01	55.00	9.18	8.94	0.00
5.00	0.63	0.44	0.01	56.00	9.18	8.94	0.00
6.00	0.78	0.58	0.02	57.00	9.18	8.94	0.00
7.00	0.97	0.76	0.02	58.00	9.18	8.94	0.00
8.00	1.19	0.98	0.02	59.00	9.18	8.94	0.00
9.00	1.46	1.24	0.03	60.00	9.18	8.94	0.00
10.00	1.82	1.60	0.04	61.00	9.18	8.94	0.00
11.00	2.39	2.16	0.08	62.00	9.18	8.94	0.00
12.00	4.40	4.16	<b>0.60</b>	63.00	9.18	8.94	0.00
13.00	6.79	6.55	<b>0.09</b>	64.00	9.18	8.94	0.00
14.00	7.36	7.12	0.05	65.00	9.18	8.94	0.00
15.00	7.72	7.48	0.03	66.00	9.18	8.94	0.00
16.00	7.99	7.75	0.03	67.00	9.18	8.94	0.00
17.00	8.21	7.97	0.02	68.00	9.18	8.94	0.00
18.00	8.40	8.16	0.02	69.00	9.18	8.94	0.00
19.00	8.55	8.31	0.02	70.00	9.18	8.94	0.00
20.00	8.70	8.46	0.01	71.00	9.18	8.94	0.00
21.00	8.83	8.59	0.01	72.00	9.18	8.94	0.00
22.00	8.96	8.72	0.01				
23.00	9.07	8.83	0.01				
24.00	<b>9.18</b>	<b>8.94</b>	0.01				
25.00	9.18	8.94	0.00				
26.00	9.18	8.94	0.00				
27.00	9.18	8.94	0.00				
28.00	9.18	8.94	0.00				
29.00	9.18	8.94	0.00				
30.00	9.18	8.94	0.00				
31.00	9.18	8.94	0.00				
32.00	9.18	8.94	0.00				
33.00	9.18	8.94	0.00				
34.00	9.18	8.94	0.00				
35.00	9.18	8.94	0.00				
36.00	9.18	8.94	0.00				
37.00	9.18	8.94	0.00				
38.00	9.18	8.94	0.00				
39.00	9.18	8.94	0.00				
40.00	9.18	8.94	0.00				
41.00	9.18	8.94	0.00				
42.00	9.18	8.94	0.00				
43.00	9.18	8.94	0.00				
44.00	9.18	8.94	0.00				
45.00	9.18	8.94	0.00				
46.00	9.18	8.94	0.00				
47.00	9.18	8.94	0.00				
48.00	9.18	8.94	0.00				
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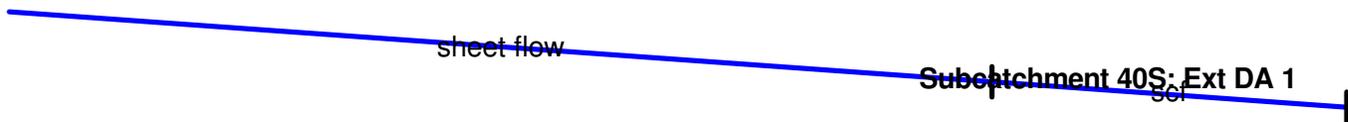
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.74 cfs @ 12.13 hrs, Volume= 2,570 cf, Depth= 8.09"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

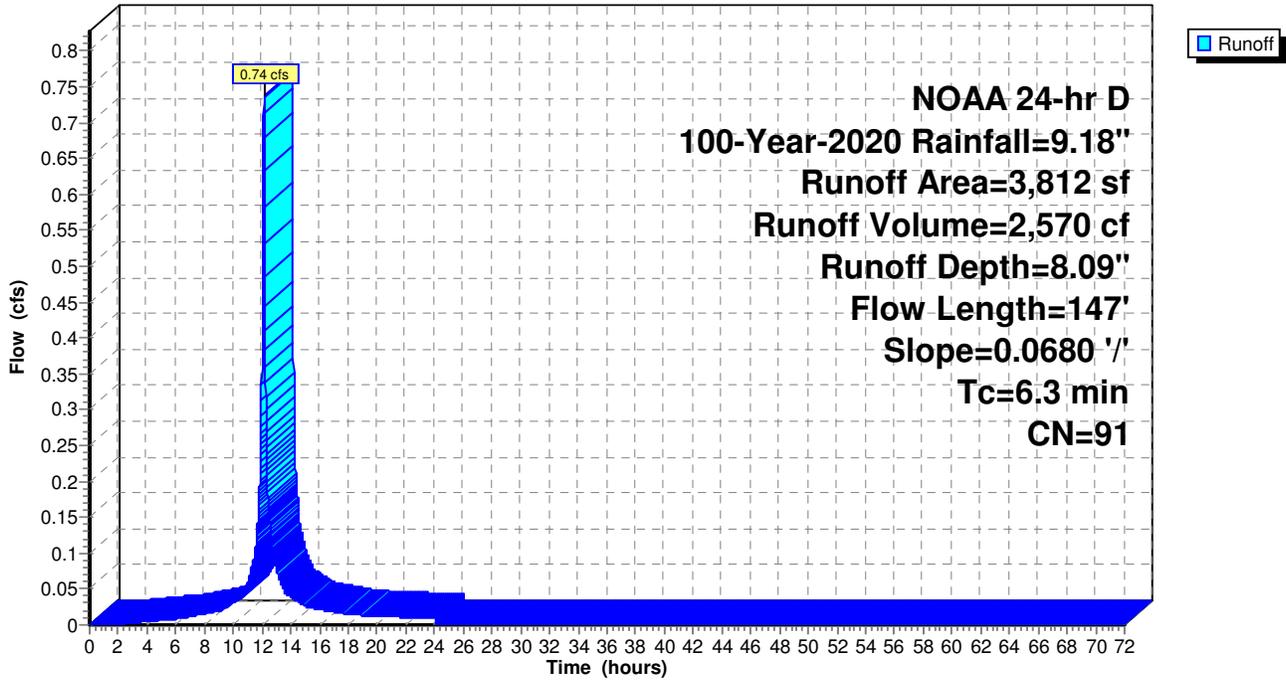
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



### Subcatchment 40S: Ext DA 1

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	9.18	8.09	0.00
1.00	0.11	0.00	0.00	52.00	9.18	8.09	0.00
2.00	0.22	0.00	0.00	53.00	9.18	8.09	0.00
3.00	0.35	0.02	0.00	54.00	9.18	8.09	0.00
4.00	0.48	0.06	0.00	55.00	9.18	8.09	0.00
5.00	0.63	0.13	0.01	56.00	9.18	8.09	0.00
6.00	0.78	0.22	0.01	57.00	9.18	8.09	0.00
7.00	0.97	0.34	0.01	58.00	9.18	8.09	0.00
8.00	1.19	0.50	0.02	59.00	9.18	8.09	0.00
9.00	1.46	0.70	0.02	60.00	9.18	8.09	0.00
10.00	1.82	1.01	0.03	61.00	9.18	8.09	0.00
11.00	2.39	1.51	0.06	62.00	9.18	8.09	0.00
12.00	4.40	3.40	<b>0.40</b>	63.00	9.18	8.09	0.00
13.00	6.79	5.74	<b>0.08</b>	64.00	9.18	8.09	0.00
14.00	7.36	6.29	0.04	65.00	9.18	8.09	0.00
15.00	7.72	6.65	0.03	66.00	9.18	8.09	0.00
16.00	7.99	6.91	0.02	67.00	9.18	8.09	0.00
17.00	8.21	7.13	0.02	68.00	9.18	8.09	0.00
18.00	8.40	7.32	0.01	69.00	9.18	8.09	0.00
19.00	8.55	7.47	0.01	70.00	9.18	8.09	0.00
20.00	8.70	7.61	0.01	71.00	9.18	8.09	0.00
21.00	8.83	7.75	0.01	72.00	9.18	8.09	0.00
22.00	8.96	7.87	0.01				
23.00	9.07	7.99	0.01				
24.00	<b>9.18</b>	<b>8.09</b>	0.01				
25.00	9.18	8.09	0.00				
26.00	9.18	8.09	0.00				
27.00	9.18	8.09	0.00				
28.00	9.18	8.09	0.00				
29.00	9.18	8.09	0.00				
30.00	9.18	8.09	0.00				
31.00	9.18	8.09	0.00				
32.00	9.18	8.09	0.00				
33.00	9.18	8.09	0.00				
34.00	9.18	8.09	0.00				
35.00	9.18	8.09	0.00				
36.00	9.18	8.09	0.00				
37.00	9.18	8.09	0.00				
38.00	9.18	8.09	0.00				
39.00	9.18	8.09	0.00				
40.00	9.18	8.09	0.00				
41.00	9.18	8.09	0.00				
42.00	9.18	8.09	0.00				
43.00	9.18	8.09	0.00				
44.00	9.18	8.09	0.00				
45.00	9.18	8.09	0.00				
46.00	9.18	8.09	0.00				
47.00	9.18	8.09	0.00				
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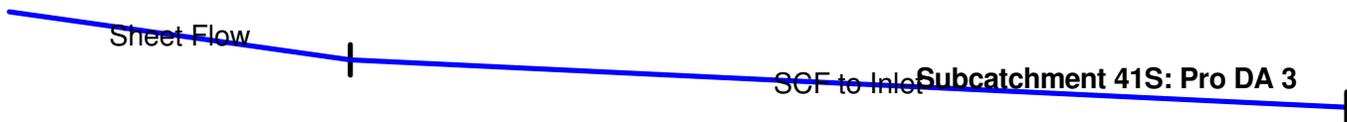
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 10.43 cfs @ 12.10 hrs, Volume= 33,731 cf, Depth= 8.46"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

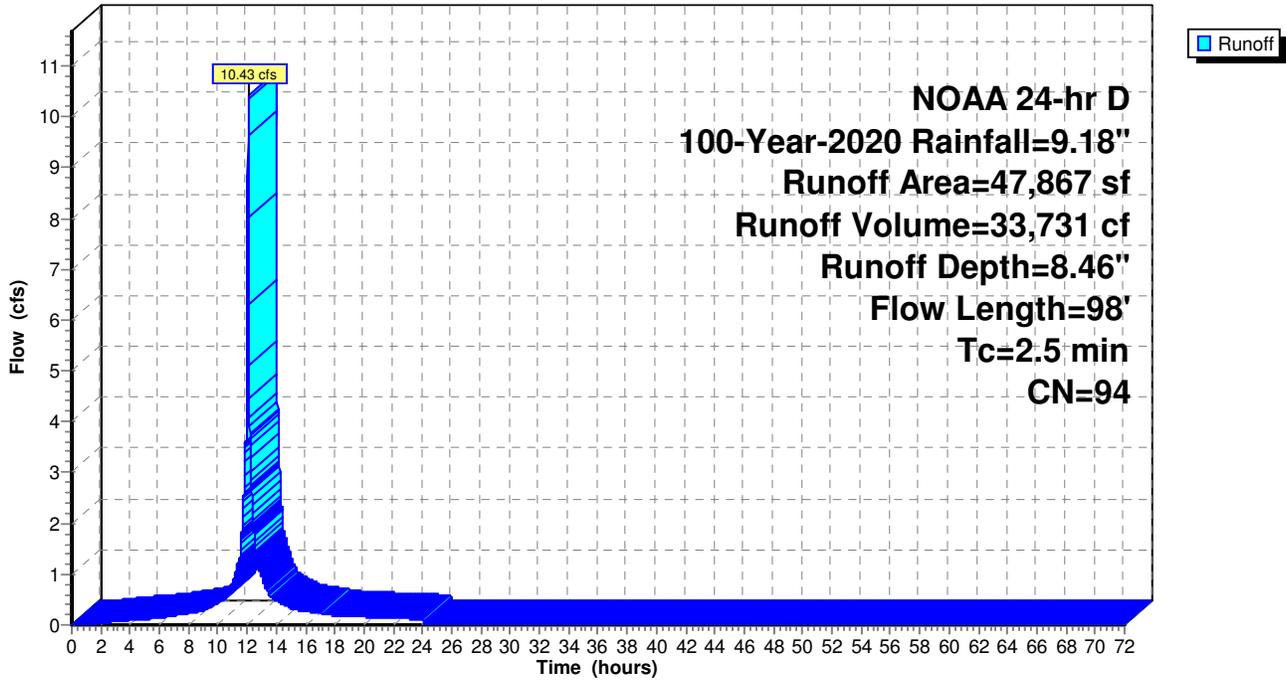
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



### Subcatchment 41S: Pro DA 3

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	9.18	8.46	0.00
1.00	0.11	0.00	0.00	52.00	9.18	8.46	0.00
2.00	0.22	0.01	0.03	53.00	9.18	8.46	0.00
3.00	0.35	0.06	0.06	54.00	9.18	8.46	0.00
4.00	0.48	0.13	0.09	55.00	9.18	8.46	0.00
5.00	0.63	0.22	0.11	56.00	9.18	8.46	0.00
6.00	0.78	0.33	0.13	57.00	9.18	8.46	0.00
7.00	0.97	0.48	0.18	58.00	9.18	8.46	0.00
8.00	1.19	0.66	0.23	59.00	9.18	8.46	0.00
9.00	1.46	0.90	0.28	60.00	9.18	8.46	0.00
10.00	1.82	1.23	0.44	61.00	9.18	8.46	0.00
11.00	2.39	1.76	0.81	62.00	9.18	8.46	0.00
12.00	4.40	3.72	<b>6.22</b>	63.00	9.18	8.46	0.00
13.00	6.79	6.08	<b>0.95</b>	64.00	9.18	8.46	0.00
14.00	7.36	6.65	0.49	65.00	9.18	8.46	0.00
15.00	7.72	7.01	0.33	66.00	9.18	8.46	0.00
16.00	7.99	7.27	0.27	67.00	9.18	8.46	0.00
17.00	8.21	7.49	0.23	68.00	9.18	8.46	0.00
18.00	8.40	7.68	0.18	69.00	9.18	8.46	0.00
19.00	8.55	7.83	0.17	70.00	9.18	8.46	0.00
20.00	8.70	7.98	0.16	71.00	9.18	8.46	0.00
21.00	8.83	8.11	0.14	72.00	9.18	8.46	0.00
22.00	8.96	8.24	0.13				
23.00	9.07	8.35	0.12				
24.00	<b>9.18</b>	<b>8.46</b>	0.11				
25.00	9.18	8.46	0.00				
26.00	9.18	8.46	0.00				
27.00	9.18	8.46	0.00				
28.00	9.18	8.46	0.00				
29.00	9.18	8.46	0.00				
30.00	9.18	8.46	0.00				
31.00	9.18	8.46	0.00				
32.00	9.18	8.46	0.00				
33.00	9.18	8.46	0.00				
34.00	9.18	8.46	0.00				
35.00	9.18	8.46	0.00				
36.00	9.18	8.46	0.00				
37.00	9.18	8.46	0.00				
38.00	9.18	8.46	0.00				
39.00	9.18	8.46	0.00				
40.00	9.18	8.46	0.00				
41.00	9.18	8.46	0.00				
42.00	9.18	8.46	0.00				
43.00	9.18	8.46	0.00				
44.00	9.18	8.46	0.00				
45.00	9.18	8.46	0.00				
46.00	9.18	8.46	0.00				
47.00	9.18	8.46	0.00				
48.00	9.18	8.46	0.00				
49.00	9.18	8.46	0.00				
50.00	9.18	8.46	0.00				

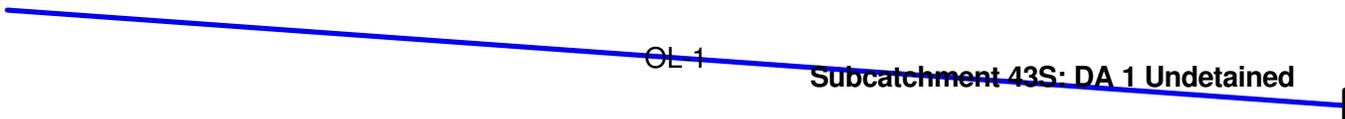
### Summary for Subcatchment 43S: DA 1 Undetained

Runoff = 0.27 cfs @ 12.10 hrs, Volume= 763 cf, Depth= 6.24"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

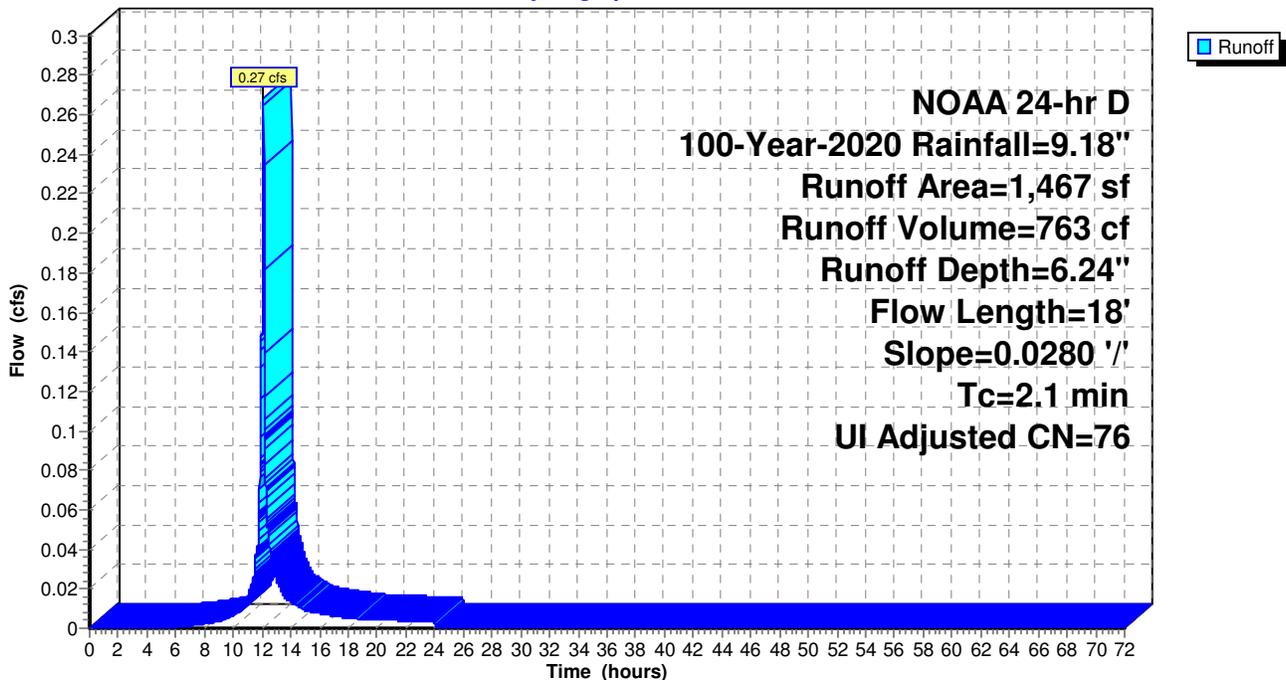
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



### Subcatchment 43S: DA 1 Undetained

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	9.18	6.24	0.00
1.00	0.11	0.00	0.00	52.00	9.18	6.24	0.00
2.00	0.22	0.00	0.00	53.00	9.18	6.24	0.00
3.00	0.35	0.00	0.00	54.00	9.18	6.24	0.00
4.00	0.48	0.00	0.00	55.00	9.18	6.24	0.00
5.00	0.63	0.00	0.00	56.00	9.18	6.24	0.00
6.00	0.78	0.01	0.00	57.00	9.18	6.24	0.00
7.00	0.97	0.03	0.00	58.00	9.18	6.24	0.00
8.00	1.19	0.08	0.00	59.00	9.18	6.24	0.00
9.00	1.46	0.17	0.00	60.00	9.18	6.24	0.00
10.00	1.82	0.32	0.01	61.00	9.18	6.24	0.00
11.00	2.39	0.63	0.02	62.00	9.18	6.24	0.00
12.00	4.40	2.05	<b>0.15</b>	63.00	9.18	6.24	0.00
13.00	6.79	4.07	<b>0.03</b>	64.00	9.18	6.24	0.00
14.00	7.36	4.58	0.01	65.00	9.18	6.24	0.00
15.00	7.72	4.91	0.01	66.00	9.18	6.24	0.00
16.00	7.99	5.15	0.01	67.00	9.18	6.24	0.00
17.00	8.21	5.35	0.01	68.00	9.18	6.24	0.00
18.00	8.40	5.52	0.01	69.00	9.18	6.24	0.00
19.00	8.55	5.66	0.00	70.00	9.18	6.24	0.00
20.00	8.70	5.80	0.00	71.00	9.18	6.24	0.00
21.00	8.83	5.92	0.00	72.00	9.18	6.24	0.00
22.00	8.96	6.04	0.00				
23.00	9.07	6.15	0.00				
24.00	<b>9.18</b>	<b>6.24</b>	0.00				
25.00	9.18	6.24	0.00				
26.00	9.18	6.24	0.00				
27.00	9.18	6.24	0.00				
28.00	9.18	6.24	0.00				
29.00	9.18	6.24	0.00				
30.00	9.18	6.24	0.00				
31.00	9.18	6.24	0.00				
32.00	9.18	6.24	0.00				
33.00	9.18	6.24	0.00				
34.00	9.18	6.24	0.00				
35.00	9.18	6.24	0.00				
36.00	9.18	6.24	0.00				
37.00	9.18	6.24	0.00				
38.00	9.18	6.24	0.00				
39.00	9.18	6.24	0.00				
40.00	9.18	6.24	0.00				
41.00	9.18	6.24	0.00				
42.00	9.18	6.24	0.00				
43.00	9.18	6.24	0.00				
44.00	9.18	6.24	0.00				
45.00	9.18	6.24	0.00				
46.00	9.18	6.24	0.00				
47.00	9.18	6.24	0.00				
48.00	9.18	6.24	0.00				
49.00	9.18	6.24	0.00				
50.00	9.18	6.24	0.00				

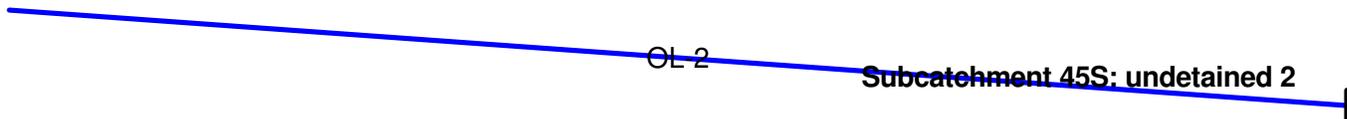
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.84 cfs @ 12.10 hrs, Volume= 2,533 cf, Depth= 7.23"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

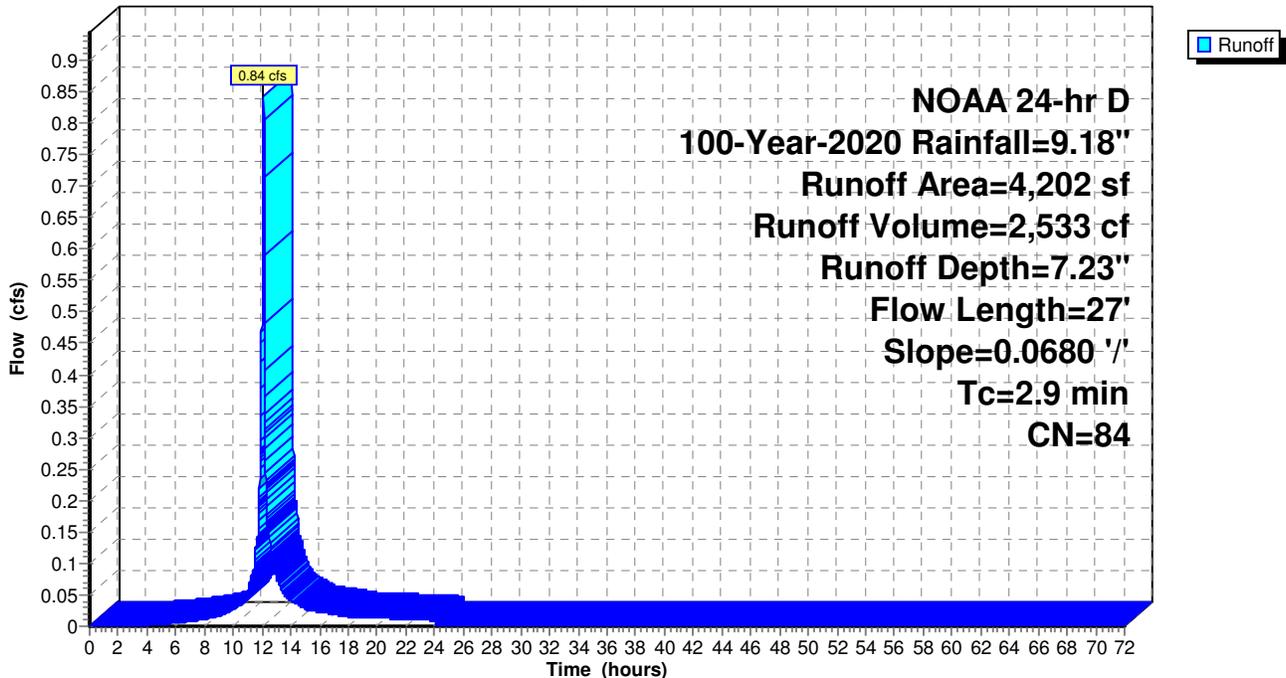
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	9.18	7.23	0.00
1.00	0.11	0.00	0.00	52.00	9.18	7.23	0.00
2.00	0.22	0.00	0.00	53.00	9.18	7.23	0.00
3.00	0.35	0.00	0.00	54.00	9.18	7.23	0.00
4.00	0.48	0.01	0.00	55.00	9.18	7.23	0.00
5.00	0.63	0.03	0.00	56.00	9.18	7.23	0.00
6.00	0.78	0.07	0.00	57.00	9.18	7.23	0.00
7.00	0.97	0.14	0.01	58.00	9.18	7.23	0.00
8.00	1.19	0.24	0.01	59.00	9.18	7.23	0.00
9.00	1.46	0.39	0.02	60.00	9.18	7.23	0.00
10.00	1.82	0.62	0.03	61.00	9.18	7.23	0.00
11.00	2.39	1.03	0.06	62.00	9.18	7.23	0.00
12.00	4.40	2.72	<b>0.49</b>	63.00	9.18	7.23	0.00
13.00	6.79	4.94	<b>0.08</b>	64.00	9.18	7.23	0.00
14.00	7.36	5.48	0.04	65.00	9.18	7.23	0.00
15.00	7.72	5.83	0.03	66.00	9.18	7.23	0.00
16.00	7.99	6.08	0.02	67.00	9.18	7.23	0.00
17.00	8.21	6.30	0.02	68.00	9.18	7.23	0.00
18.00	8.40	6.48	0.02	69.00	9.18	7.23	0.00
19.00	8.55	6.63	0.01	70.00	9.18	7.23	0.00
20.00	8.70	6.77	0.01	71.00	9.18	7.23	0.00
21.00	8.83	6.90	0.01	72.00	9.18	7.23	0.00
22.00	8.96	7.02	0.01				
23.00	9.07	7.13	0.01				
24.00	<b>9.18</b>	<b>7.23</b>	0.01				
25.00	9.18	7.23	0.00				
26.00	9.18	7.23	0.00				
27.00	9.18	7.23	0.00				
28.00	9.18	7.23	0.00				
29.00	9.18	7.23	0.00				
30.00	9.18	7.23	0.00				
31.00	9.18	7.23	0.00				
32.00	9.18	7.23	0.00				
33.00	9.18	7.23	0.00				
34.00	9.18	7.23	0.00				
35.00	9.18	7.23	0.00				
36.00	9.18	7.23	0.00				
37.00	9.18	7.23	0.00				
38.00	9.18	7.23	0.00				
39.00	9.18	7.23	0.00				
40.00	9.18	7.23	0.00				
41.00	9.18	7.23	0.00				
42.00	9.18	7.23	0.00				
43.00	9.18	7.23	0.00				
44.00	9.18	7.23	0.00				
45.00	9.18	7.23	0.00				
46.00	9.18	7.23	0.00				
47.00	9.18	7.23	0.00				
48.00	9.18	7.23	0.00				
49.00	9.18	7.23	0.00				
50.00	9.18	7.23	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 8.46" for 100-Year-2020 event  
 Inflow = 10.43 cfs @ 12.10 hrs, Volume= 33,731 cf  
 Outflow = 7.36 cfs @ 12.13 hrs, Volume= 33,731 cf, Atten= 29%, Lag= 2.1 min  
 Primary = 7.36 cfs @ 12.13 hrs, Volume= 33,731 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 405.77' @ 12.13 hrs Surf.Area= 1,846 sf Storage= 4,641 cf

Plug-Flow detention time= 13.5 min calculated for 33,731 cf (100% of inflow)  
 Center-of-Mass det. time= 13.4 min ( 770.6 - 757.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

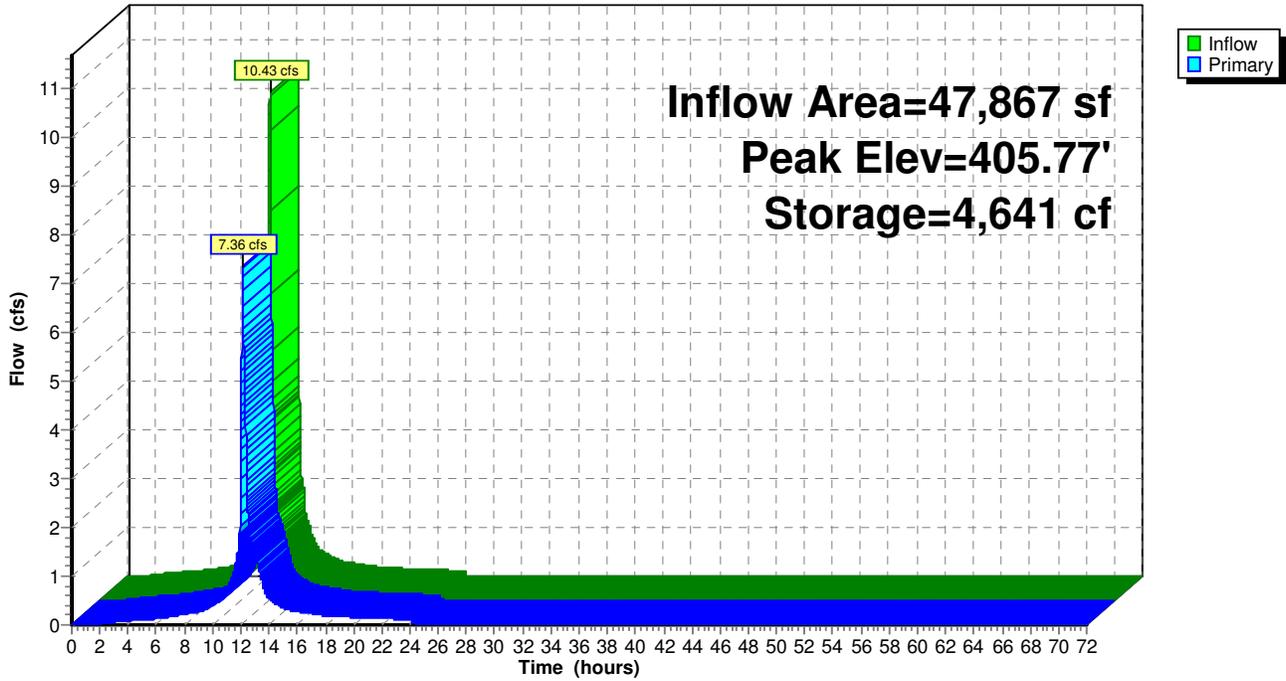
**Primary OutFlow** Max=7.34 cfs @ 12.13 hrs HW=405.77' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 2.62 cfs @ 7.51 fps)
- 2=Orifice/Grate (Orifice Controls 3.85 cfs @ 5.14 fps)
- 3=Orifice/Grate (Orifice Controls 0.86 cfs @ 1.73 fps)



### Pond 42P: Detention System

Hydrograph



**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.03	25	403.07	0.02
4.00	0.09	82	403.16	0.08
6.00	0.13	115	403.20	0.13
8.00	0.23	175	403.26	0.22
10.00	0.44	293	403.37	0.41
12.00	<b>6.22</b>	<b>2,958</b>	<b>404.91</b>	<b>4.01</b>
14.00	<b>0.49</b>	<b>365</b>	<b>403.43</b>	<b>0.53</b>
16.00	0.27	211	403.30	0.28
18.00	0.18	154	403.24	0.19
20.00	0.16	133	403.22	0.16
22.00	0.13	118	403.20	0.14
24.00	0.11	102	403.18	0.11
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

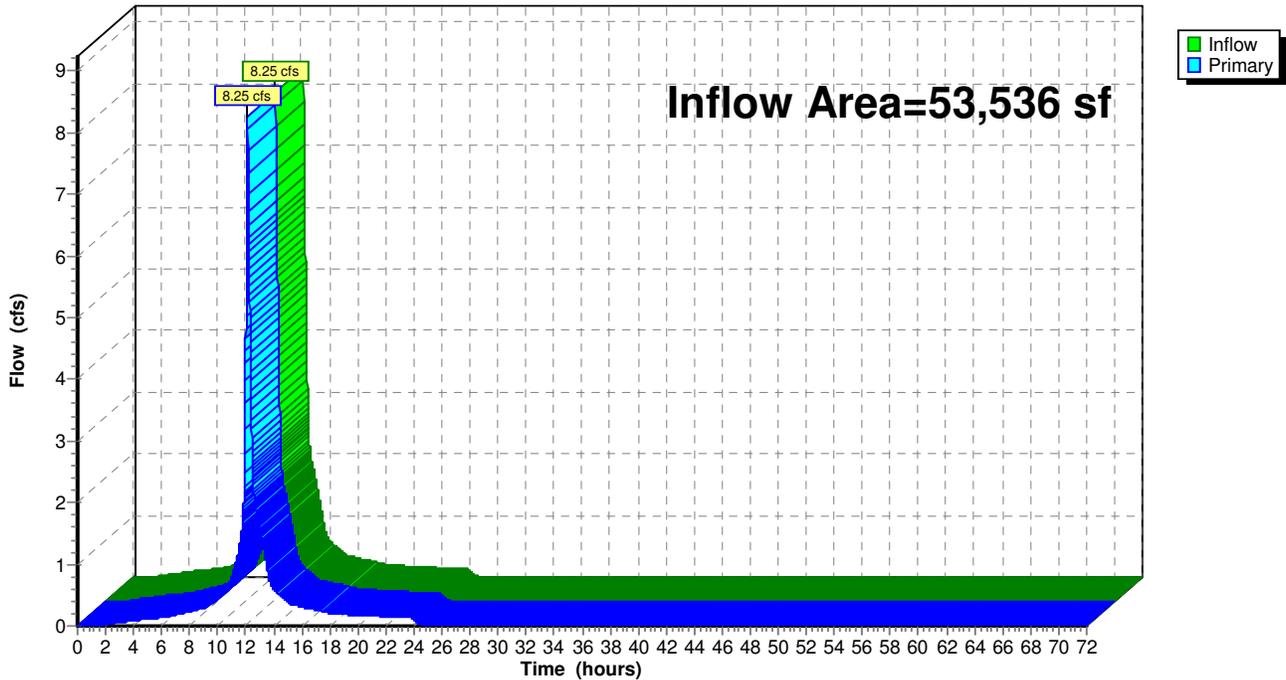
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 8.30" for 100-Year-2020 event  
Inflow = 8.25 cfs @ 12.13 hrs, Volume= 37,027 cf  
Primary = 8.25 cfs @ 12.13 hrs, Volume= 37,027 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.02	0.00	0.02	53.00	0.00	0.00	0.00
3.00	0.06	0.00	0.06	54.00	0.00	0.00	0.00
4.00	0.09	0.00	0.09	55.00	0.00	0.00	0.00
5.00	0.11	0.00	0.11	56.00	0.00	0.00	0.00
6.00	0.14	0.00	0.14	57.00	0.00	0.00	0.00
7.00	0.18	0.00	0.18	58.00	0.00	0.00	0.00
8.00	0.24	0.00	0.24	59.00	0.00	0.00	0.00
9.00	0.29	0.00	0.29	60.00	0.00	0.00	0.00
10.00	0.45	0.00	0.45	61.00	0.00	0.00	0.00
11.00	0.79	0.00	0.79	62.00	0.00	0.00	0.00
12.00	<b>4.66</b>	0.00	<b>4.66</b>	63.00	0.00	0.00	0.00
13.00	<b>1.59</b>	0.00	<b>1.59</b>	64.00	0.00	0.00	0.00
14.00	0.59	0.00	0.59	65.00	0.00	0.00	0.00
15.00	0.39	0.00	0.39	66.00	0.00	0.00	0.00
16.00	0.31	0.00	0.31	67.00	0.00	0.00	0.00
17.00	0.26	0.00	0.26	68.00	0.00	0.00	0.00
18.00	0.21	0.00	0.21	69.00	0.00	0.00	0.00
19.00	0.19	0.00	0.19	70.00	0.00	0.00	0.00
20.00	0.18	0.00	0.18	71.00	0.00	0.00	0.00
21.00	0.16	0.00	0.16	72.00	0.00	0.00	0.00
22.00	0.15	0.00	0.15				
23.00	0.14	0.00	0.14				
24.00	0.13	0.00	0.13				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

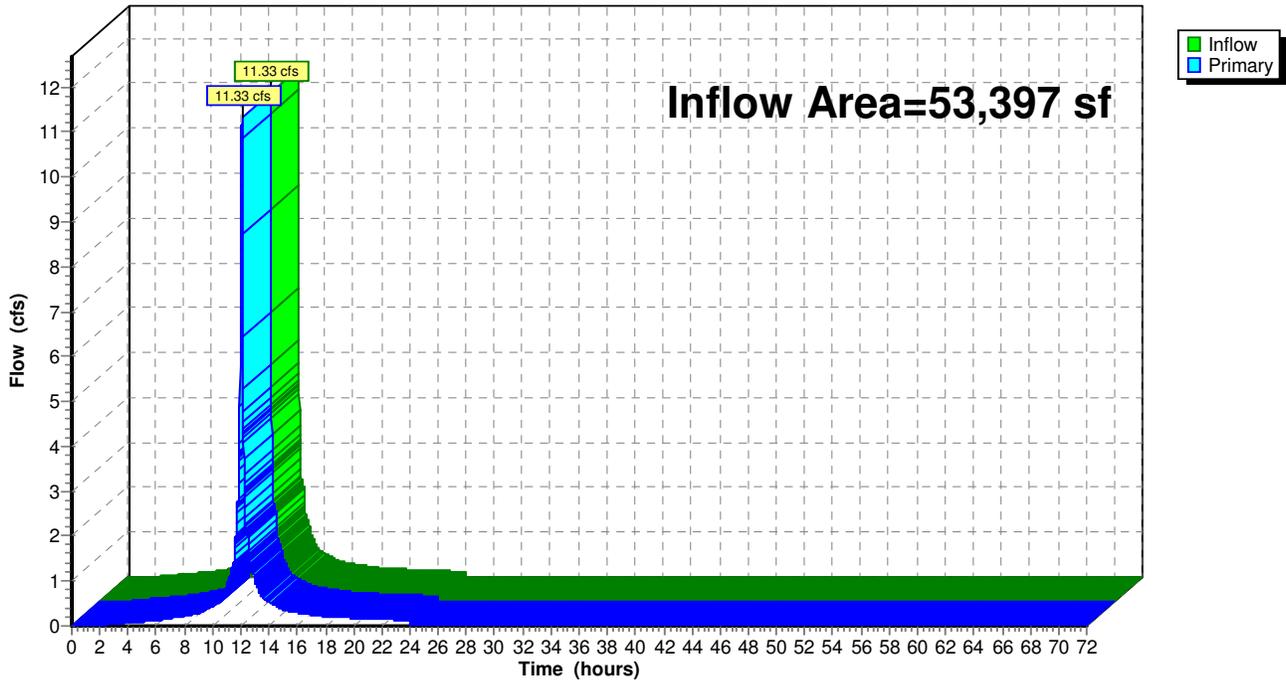
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 8.06" for 100-Year-2020 event  
Inflow = 11.33 cfs @ 12.10 hrs, Volume= 35,865 cf  
Primary = 11.33 cfs @ 12.10 hrs, Volume= 35,865 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	53.00	0.00	0.00	0.00
3.00	0.04	0.00	0.04	54.00	0.00	0.00	0.00
4.00	0.07	0.00	0.07	55.00	0.00	0.00	0.00
5.00	0.09	0.00	0.09	56.00	0.00	0.00	0.00
6.00	0.12	0.00	0.12	57.00	0.00	0.00	0.00
7.00	0.17	0.00	0.17	58.00	0.00	0.00	0.00
8.00	0.22	0.00	0.22	59.00	0.00	0.00	0.00
9.00	0.28	0.00	0.28	60.00	0.00	0.00	0.00
10.00	0.45	0.00	0.45	61.00	0.00	0.00	0.00
11.00	0.85	0.00	0.85	62.00	0.00	0.00	0.00
12.00	<b>6.71</b>	0.00	<b>6.71</b>	63.00	0.00	0.00	0.00
13.00	<b>1.05</b>	0.00	<b>1.05</b>	64.00	0.00	0.00	0.00
14.00	0.54	0.00	0.54	65.00	0.00	0.00	0.00
15.00	0.36	0.00	0.36	66.00	0.00	0.00	0.00
16.00	0.30	0.00	0.30	67.00	0.00	0.00	0.00
17.00	0.25	0.00	0.25	68.00	0.00	0.00	0.00
18.00	0.20	0.00	0.20	69.00	0.00	0.00	0.00
19.00	0.18	0.00	0.18	70.00	0.00	0.00	0.00
20.00	0.17	0.00	0.17	71.00	0.00	0.00	0.00
21.00	0.16	0.00	0.16	72.00	0.00	0.00	0.00
22.00	0.15	0.00	0.15				
23.00	0.13	0.00	0.13				
24.00	0.12	0.00	0.12				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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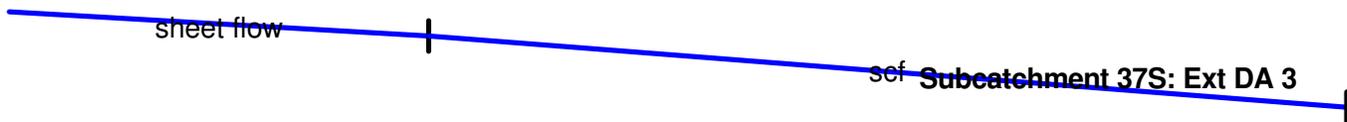
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 3.90 cfs @ 12.10 hrs, Volume= 11,286 cf, Depth= 3.00"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

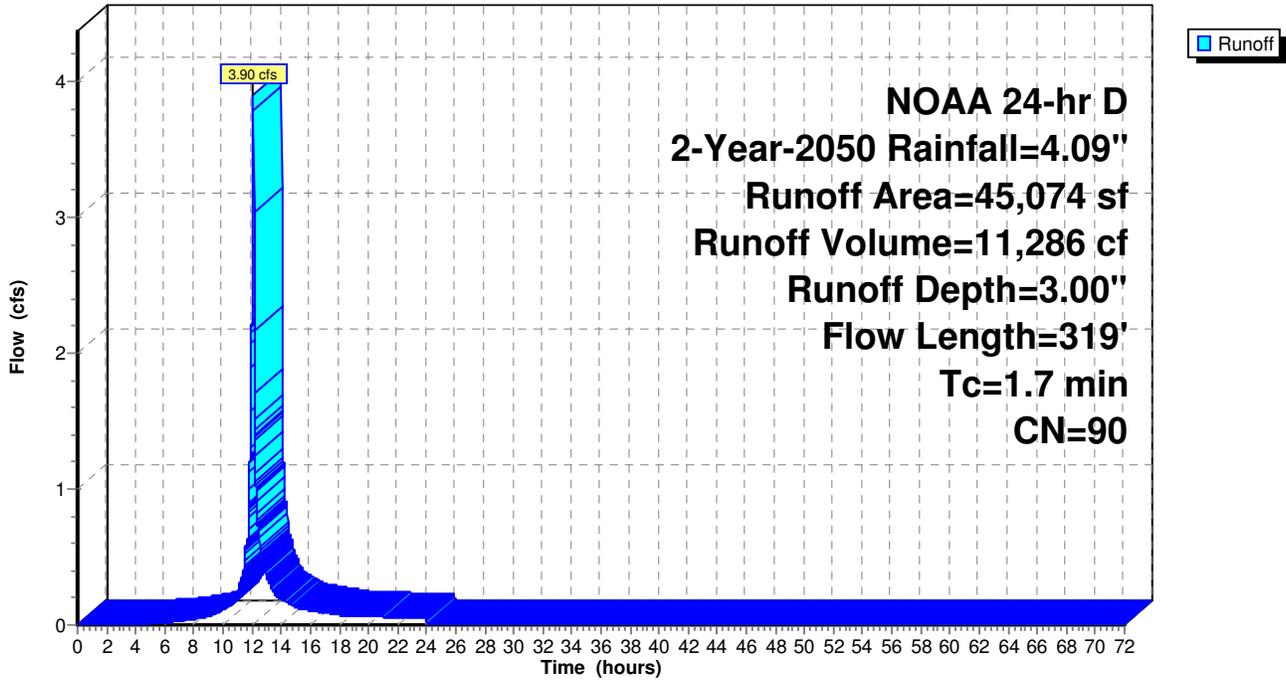
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



### Subcatchment 37S: Ext DA 3

Hydrograph



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NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	4.09	3.00	0.00
1.00	0.05	0.00	0.00	52.00	4.09	3.00	0.00
2.00	0.10	0.00	0.00	53.00	4.09	3.00	0.00
3.00	0.15	0.00	0.00	54.00	4.09	3.00	0.00
4.00	0.21	0.00	0.00	55.00	4.09	3.00	0.00
5.00	0.28	0.00	0.01	56.00	4.09	3.00	0.00
6.00	0.35	0.01	0.01	57.00	4.09	3.00	0.00
7.00	0.43	0.03	0.03	58.00	4.09	3.00	0.00
8.00	0.53	0.07	0.04	59.00	4.09	3.00	0.00
9.00	0.65	0.12	0.06	60.00	4.09	3.00	0.00
10.00	0.81	0.20	0.11	61.00	4.09	3.00	0.00
11.00	1.06	0.36	0.24	62.00	4.09	3.00	0.00
12.00	1.96	1.06	<b>2.24</b>	63.00	4.09	3.00	0.00
13.00	3.03	2.01	<b>0.37</b>	64.00	4.09	3.00	0.00
14.00	3.28	2.24	0.19	65.00	4.09	3.00	0.00
15.00	3.44	2.39	0.13	66.00	4.09	3.00	0.00
16.00	3.56	2.50	0.11	67.00	4.09	3.00	0.00
17.00	3.66	2.60	0.09	68.00	4.09	3.00	0.00
18.00	3.74	2.67	0.07	69.00	4.09	3.00	0.00
19.00	3.81	2.74	0.07	70.00	4.09	3.00	0.00
20.00	3.88	2.80	0.06	71.00	4.09	3.00	0.00
21.00	3.94	2.86	0.06	72.00	4.09	3.00	0.00
22.00	3.99	2.91	0.05				
23.00	4.04	2.96	0.05				
24.00	<b>4.09</b>	<b>3.00</b>	0.04				
25.00	4.09	3.00	0.00				
26.00	4.09	3.00	0.00				
27.00	4.09	3.00	0.00				
28.00	4.09	3.00	0.00				
29.00	4.09	3.00	0.00				
30.00	4.09	3.00	0.00				
31.00	4.09	3.00	0.00				
32.00	4.09	3.00	0.00				
33.00	4.09	3.00	0.00				
34.00	4.09	3.00	0.00				
35.00	4.09	3.00	0.00				
36.00	4.09	3.00	0.00				
37.00	4.09	3.00	0.00				
38.00	4.09	3.00	0.00				
39.00	4.09	3.00	0.00				
40.00	4.09	3.00	0.00				
41.00	4.09	3.00	0.00				
42.00	4.09	3.00	0.00				
43.00	4.09	3.00	0.00				
44.00	4.09	3.00	0.00				
45.00	4.09	3.00	0.00				
46.00	4.09	3.00	0.00				
47.00	4.09	3.00	0.00				
48.00	4.09	3.00	0.00				
49.00	4.09	3.00	0.00				
50.00	4.09	3.00	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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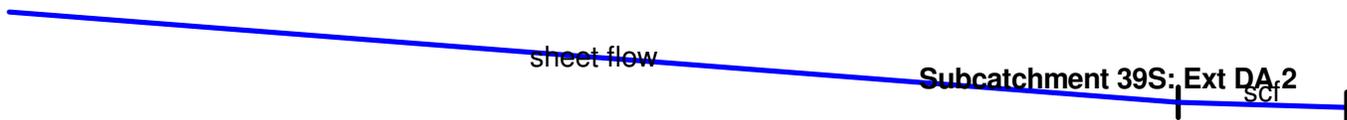
**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 1,449 cf, Depth= 3.85"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

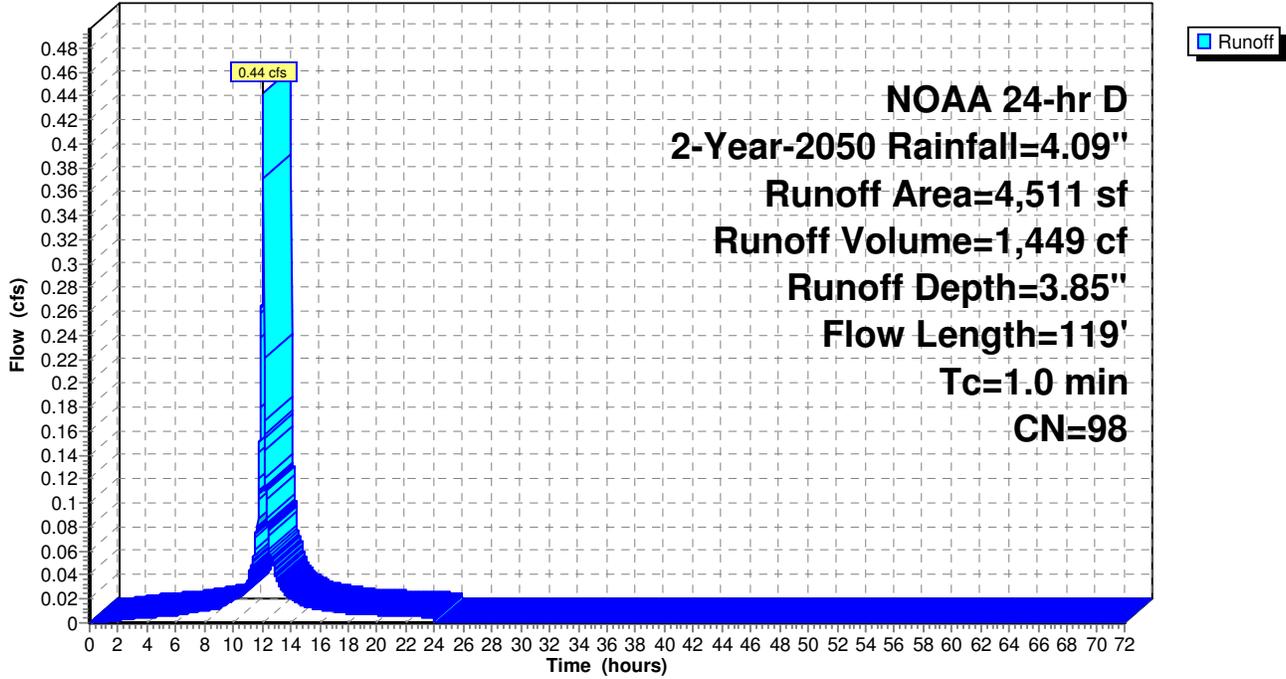
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



Subcatchment 39S: Ext DA 2

Hydrograph



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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	4.09	3.85	0.00
1.00	0.05	0.00	0.00	52.00	4.09	3.85	0.00
2.00	0.10	0.01	0.00	53.00	4.09	3.85	0.00
3.00	0.15	0.04	0.00	54.00	4.09	3.85	0.00
4.00	0.21	0.08	0.00	55.00	4.09	3.85	0.00
5.00	0.28	0.13	0.01	56.00	4.09	3.85	0.00
6.00	0.35	0.19	0.01	57.00	4.09	3.85	0.00
7.00	0.43	0.26	0.01	58.00	4.09	3.85	0.00
8.00	0.53	0.35	0.01	59.00	4.09	3.85	0.00
9.00	0.65	0.46	0.01	60.00	4.09	3.85	0.00
10.00	0.81	0.61	0.02	61.00	4.09	3.85	0.00
11.00	1.06	0.85	0.03	62.00	4.09	3.85	0.00
12.00	1.96	1.73	<b>0.26</b>	63.00	4.09	3.85	0.00
13.00	3.03	2.79	<b>0.04</b>	64.00	4.09	3.85	0.00
14.00	3.28	3.05	0.02	65.00	4.09	3.85	0.00
15.00	3.44	3.21	0.01	66.00	4.09	3.85	0.00
16.00	3.56	3.33	0.01	67.00	4.09	3.85	0.00
17.00	3.66	3.43	0.01	68.00	4.09	3.85	0.00
18.00	3.74	3.51	0.01	69.00	4.09	3.85	0.00
19.00	3.81	3.58	0.01	70.00	4.09	3.85	0.00
20.00	3.88	3.64	0.01	71.00	4.09	3.85	0.00
21.00	3.94	3.70	0.01	72.00	4.09	3.85	0.00
22.00	3.99	3.76	0.01				
23.00	4.04	3.81	0.01				
24.00	<b>4.09</b>	<b>3.85</b>	0.00				
25.00	4.09	3.85	0.00				
26.00	4.09	3.85	0.00				
27.00	4.09	3.85	0.00				
28.00	4.09	3.85	0.00				
29.00	4.09	3.85	0.00				
30.00	4.09	3.85	0.00				
31.00	4.09	3.85	0.00				
32.00	4.09	3.85	0.00				
33.00	4.09	3.85	0.00				
34.00	4.09	3.85	0.00				
35.00	4.09	3.85	0.00				
36.00	4.09	3.85	0.00				
37.00	4.09	3.85	0.00				
38.00	4.09	3.85	0.00				
39.00	4.09	3.85	0.00				
40.00	4.09	3.85	0.00				
41.00	4.09	3.85	0.00				
42.00	4.09	3.85	0.00				
43.00	4.09	3.85	0.00				
44.00	4.09	3.85	0.00				
45.00	4.09	3.85	0.00				
46.00	4.09	3.85	0.00				
47.00	4.09	3.85	0.00				
48.00	4.09	3.85	0.00				
49.00	4.09	3.85	0.00				
50.00	4.09	3.85	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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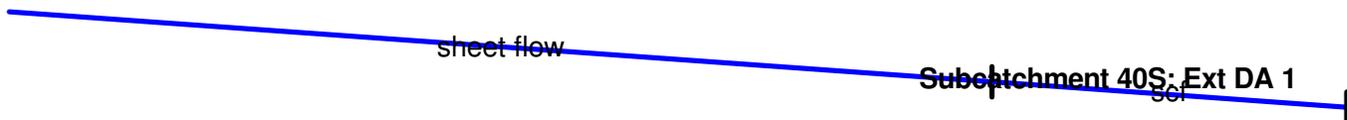
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.30 cfs @ 12.13 hrs, Volume= 986 cf, Depth= 3.10"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

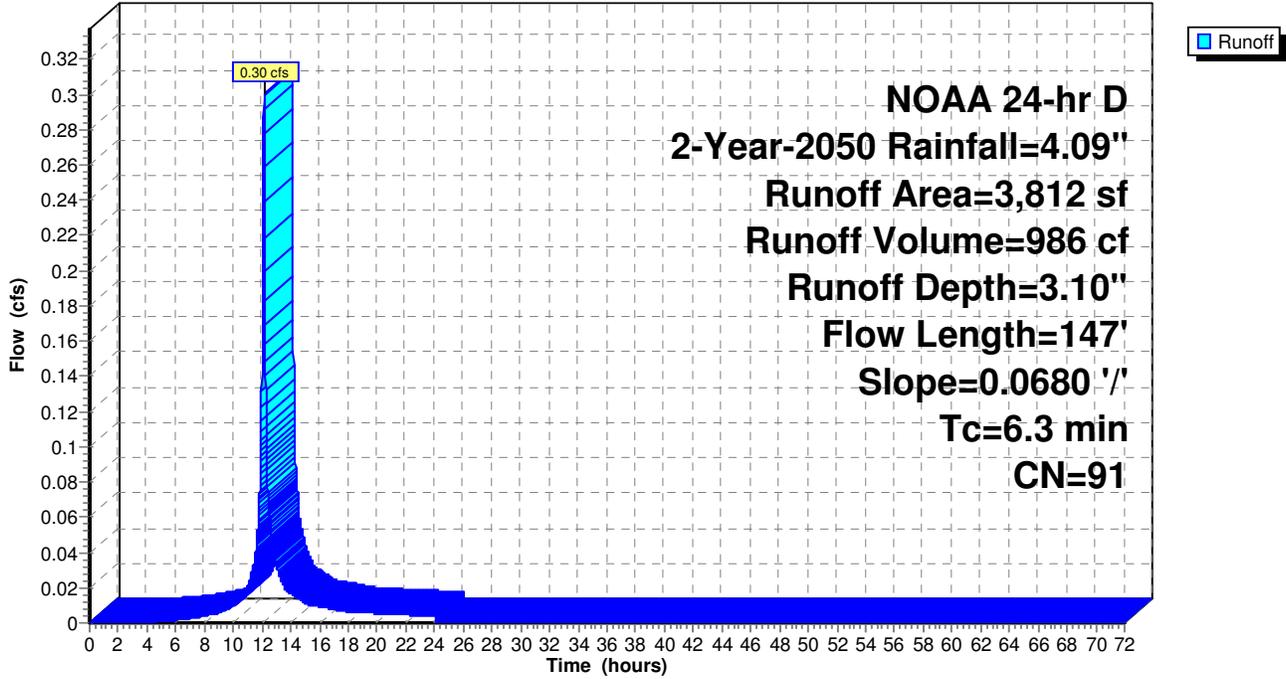
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



Subcatchment 40S: Ext DA 1

Hydrograph



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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	4.09	3.10	0.00
1.00	0.05	0.00	0.00	52.00	4.09	3.10	0.00
2.00	0.10	0.00	0.00	53.00	4.09	3.10	0.00
3.00	0.15	0.00	0.00	54.00	4.09	3.10	0.00
4.00	0.21	0.00	0.00	55.00	4.09	3.10	0.00
5.00	0.28	0.01	0.00	56.00	4.09	3.10	0.00
6.00	0.35	0.02	0.00	57.00	4.09	3.10	0.00
7.00	0.43	0.04	0.00	58.00	4.09	3.10	0.00
8.00	0.53	0.08	0.00	59.00	4.09	3.10	0.00
9.00	0.65	0.14	0.01	60.00	4.09	3.10	0.00
10.00	0.81	0.23	0.01	61.00	4.09	3.10	0.00
11.00	1.06	0.40	0.02	62.00	4.09	3.10	0.00
12.00	1.96	1.13	<b>0.16</b>	63.00	4.09	3.10	0.00
13.00	3.03	2.10	<b>0.03</b>	64.00	4.09	3.10	0.00
14.00	3.28	2.33	0.02	65.00	4.09	3.10	0.00
15.00	3.44	2.49	0.01	66.00	4.09	3.10	0.00
16.00	3.56	2.60	0.01	67.00	4.09	3.10	0.00
17.00	3.66	2.69	0.01	68.00	4.09	3.10	0.00
18.00	3.74	2.77	0.01	69.00	4.09	3.10	0.00
19.00	3.81	2.84	0.01	70.00	4.09	3.10	0.00
20.00	3.88	2.90	0.01	71.00	4.09	3.10	0.00
21.00	3.94	2.96	0.00	72.00	4.09	3.10	0.00
22.00	3.99	3.01	0.00				
23.00	4.04	3.06	0.00				
24.00	<b>4.09</b>	<b>3.10</b>	0.00				
25.00	4.09	3.10	0.00				
26.00	4.09	3.10	0.00				
27.00	4.09	3.10	0.00				
28.00	4.09	3.10	0.00				
29.00	4.09	3.10	0.00				
30.00	4.09	3.10	0.00				
31.00	4.09	3.10	0.00				
32.00	4.09	3.10	0.00				
33.00	4.09	3.10	0.00				
34.00	4.09	3.10	0.00				
35.00	4.09	3.10	0.00				
36.00	4.09	3.10	0.00				
37.00	4.09	3.10	0.00				
38.00	4.09	3.10	0.00				
39.00	4.09	3.10	0.00				
40.00	4.09	3.10	0.00				
41.00	4.09	3.10	0.00				
42.00	4.09	3.10	0.00				
43.00	4.09	3.10	0.00				
44.00	4.09	3.10	0.00				
45.00	4.09	3.10	0.00				
46.00	4.09	3.10	0.00				
47.00	4.09	3.10	0.00				
48.00	4.09	3.10	0.00				
49.00	4.09	3.10	0.00				
50.00	4.09	3.10	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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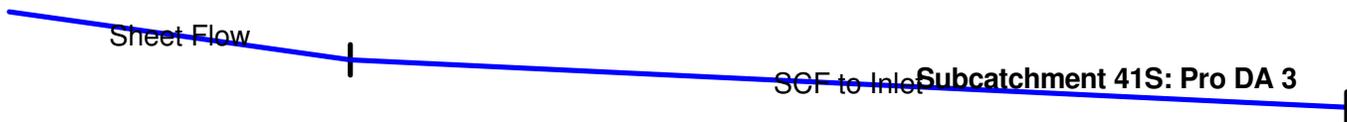
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 4.45 cfs @ 12.10 hrs, Volume= 13,613 cf, Depth= 3.41"  
 Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

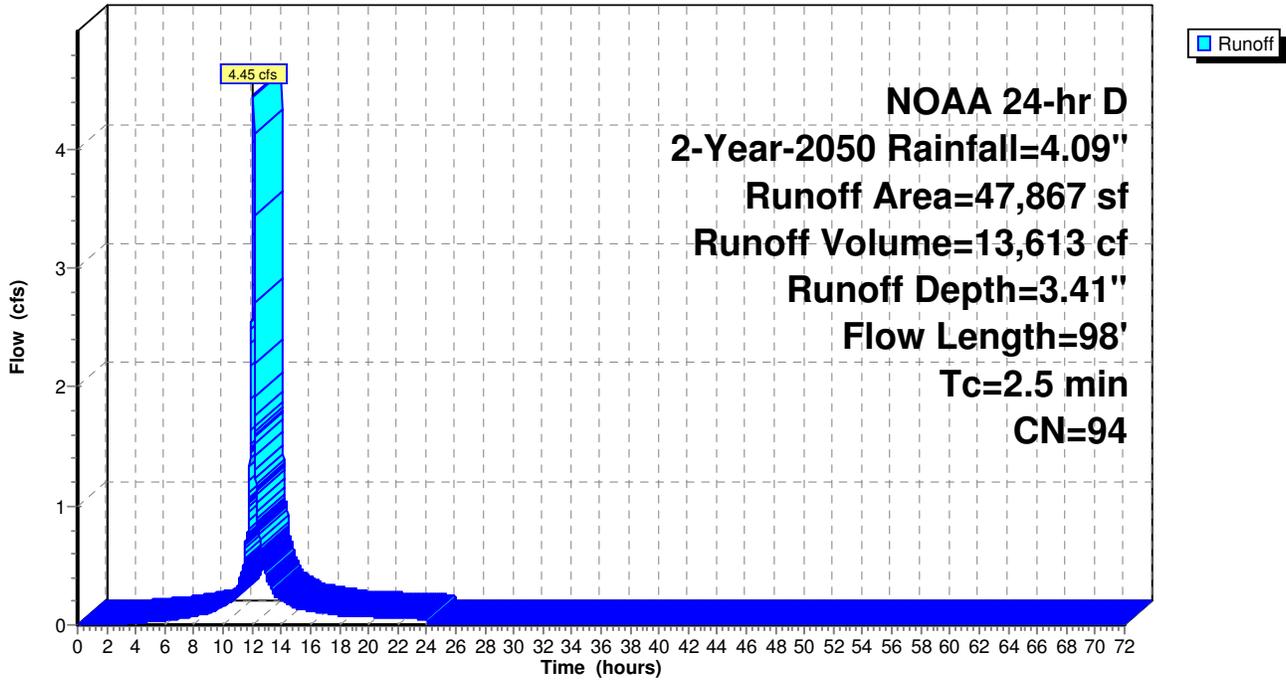
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



Subcatchment 41S: Pro DA 3

Hydrograph



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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	4.09	3.41	0.00
1.00	0.05	0.00	0.00	52.00	4.09	3.41	0.00
2.00	0.10	0.00	0.00	53.00	4.09	3.41	0.00
3.00	0.15	0.00	0.00	54.00	4.09	3.41	0.00
4.00	0.21	0.01	0.02	55.00	4.09	3.41	0.00
5.00	0.28	0.03	0.03	56.00	4.09	3.41	0.00
6.00	0.35	0.06	0.04	57.00	4.09	3.41	0.00
7.00	0.43	0.10	0.05	58.00	4.09	3.41	0.00
8.00	0.53	0.16	0.07	59.00	4.09	3.41	0.00
9.00	0.65	0.23	0.10	60.00	4.09	3.41	0.00
10.00	0.81	0.35	0.16	61.00	4.09	3.41	0.00
11.00	1.06	0.56	0.31	62.00	4.09	3.41	0.00
12.00	1.96	1.36	<b>2.62</b>	63.00	4.09	3.41	0.00
13.00	3.03	2.38	<b>0.41</b>	64.00	4.09	3.41	0.00
14.00	3.28	2.62	0.21	65.00	4.09	3.41	0.00
15.00	3.44	2.78	0.14	66.00	4.09	3.41	0.00
16.00	3.56	2.89	0.12	67.00	4.09	3.41	0.00
17.00	3.66	2.99	0.10	68.00	4.09	3.41	0.00
18.00	3.74	3.07	0.08	69.00	4.09	3.41	0.00
19.00	3.81	3.14	0.07	70.00	4.09	3.41	0.00
20.00	3.88	3.20	0.07	71.00	4.09	3.41	0.00
21.00	3.94	3.26	0.06	72.00	4.09	3.41	0.00
22.00	3.99	3.32	0.06				
23.00	4.04	3.37	0.05				
24.00	<b>4.09</b>	<b>3.41</b>	0.05				
25.00	4.09	3.41	0.00				
26.00	4.09	3.41	0.00				
27.00	4.09	3.41	0.00				
28.00	4.09	3.41	0.00				
29.00	4.09	3.41	0.00				
30.00	4.09	3.41	0.00				
31.00	4.09	3.41	0.00				
32.00	4.09	3.41	0.00				
33.00	4.09	3.41	0.00				
34.00	4.09	3.41	0.00				
35.00	4.09	3.41	0.00				
36.00	4.09	3.41	0.00				
37.00	4.09	3.41	0.00				
38.00	4.09	3.41	0.00				
39.00	4.09	3.41	0.00				
40.00	4.09	3.41	0.00				
41.00	4.09	3.41	0.00				
42.00	4.09	3.41	0.00				
43.00	4.09	3.41	0.00				
44.00	4.09	3.41	0.00				
45.00	4.09	3.41	0.00				
46.00	4.09	3.41	0.00				
47.00	4.09	3.41	0.00				
48.00	4.09	3.41	0.00				
49.00	4.09	3.41	0.00				
50.00	4.09	3.41	0.00				

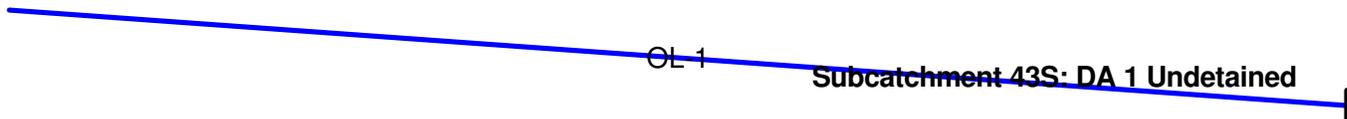
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.08 cfs @ 12.10 hrs, Volume= 221 cf, Depth= 1.81"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

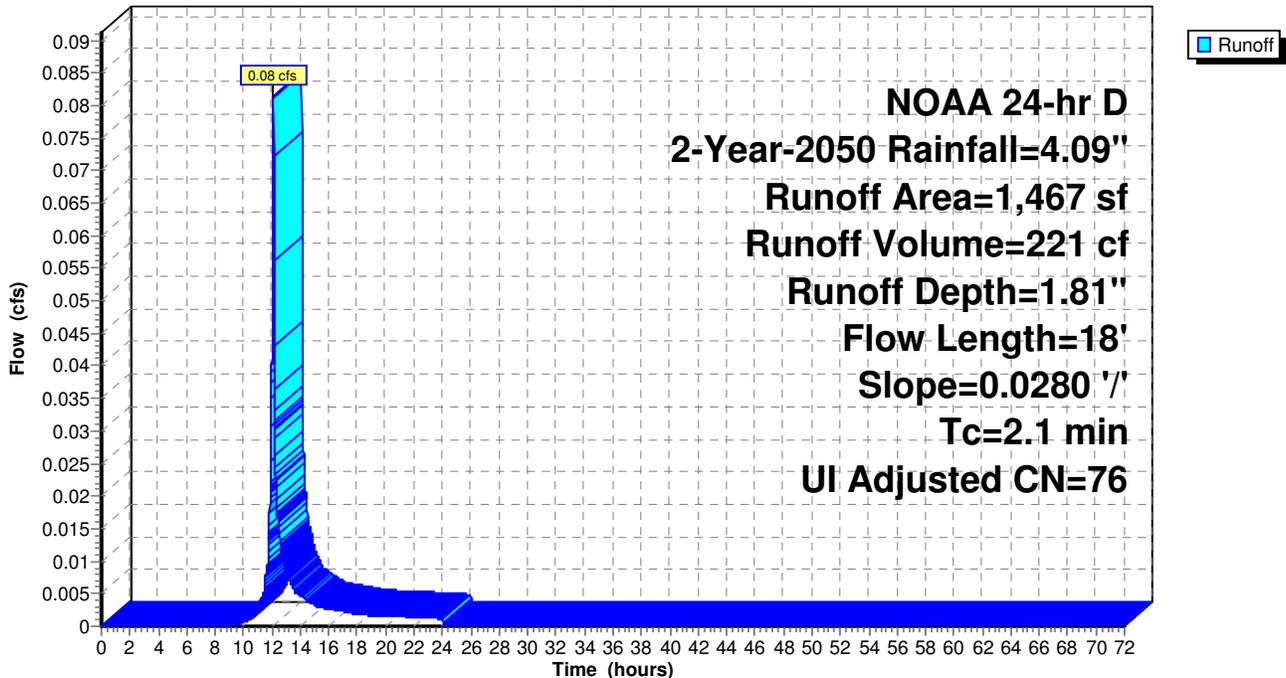
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	4.09	1.81	0.00
1.00	0.05	0.00	0.00	52.00	4.09	1.81	0.00
2.00	0.10	0.00	0.00	53.00	4.09	1.81	0.00
3.00	0.15	0.00	0.00	54.00	4.09	1.81	0.00
4.00	0.21	0.00	0.00	55.00	4.09	1.81	0.00
5.00	0.28	0.00	0.00	56.00	4.09	1.81	0.00
6.00	0.35	0.00	0.00	57.00	4.09	1.81	0.00
7.00	0.43	0.00	0.00	58.00	4.09	1.81	0.00
8.00	0.53	0.00	0.00	59.00	4.09	1.81	0.00
9.00	0.65	0.00	0.00	60.00	4.09	1.81	0.00
10.00	0.81	0.01	0.00	61.00	4.09	1.81	0.00
11.00	1.06	0.05	0.00	62.00	4.09	1.81	0.00
12.00	1.96	0.39	<b>0.04</b>	63.00	4.09	1.81	0.00
13.00	3.03	1.03	<b>0.01</b>	64.00	4.09	1.81	0.00
14.00	3.28	1.21	0.00	65.00	4.09	1.81	0.00
15.00	3.44	1.32	0.00	66.00	4.09	1.81	0.00
16.00	3.56	1.41	0.00	67.00	4.09	1.81	0.00
17.00	3.66	1.48	0.00	68.00	4.09	1.81	0.00
18.00	3.74	1.54	0.00	69.00	4.09	1.81	0.00
19.00	3.81	1.59	0.00	70.00	4.09	1.81	0.00
20.00	3.88	1.64	0.00	71.00	4.09	1.81	0.00
21.00	3.94	1.69	0.00	72.00	4.09	1.81	0.00
22.00	3.99	1.73	0.00				
23.00	4.04	1.77	0.00				
24.00	<b>4.09</b>	<b>1.81</b>	0.00				
25.00	4.09	1.81	0.00				
26.00	4.09	1.81	0.00				
27.00	4.09	1.81	0.00				
28.00	4.09	1.81	0.00				
29.00	4.09	1.81	0.00				
30.00	4.09	1.81	0.00				
31.00	4.09	1.81	0.00				
32.00	4.09	1.81	0.00				
33.00	4.09	1.81	0.00				
34.00	4.09	1.81	0.00				
35.00	4.09	1.81	0.00				
36.00	4.09	1.81	0.00				
37.00	4.09	1.81	0.00				
38.00	4.09	1.81	0.00				
39.00	4.09	1.81	0.00				
40.00	4.09	1.81	0.00				
41.00	4.09	1.81	0.00				
42.00	4.09	1.81	0.00				
43.00	4.09	1.81	0.00				
44.00	4.09	1.81	0.00				
45.00	4.09	1.81	0.00				
46.00	4.09	1.81	0.00				
47.00	4.09	1.81	0.00				
48.00	4.09	1.81	0.00				
49.00	4.09	1.81	0.00				
50.00	4.09	1.81	0.00				

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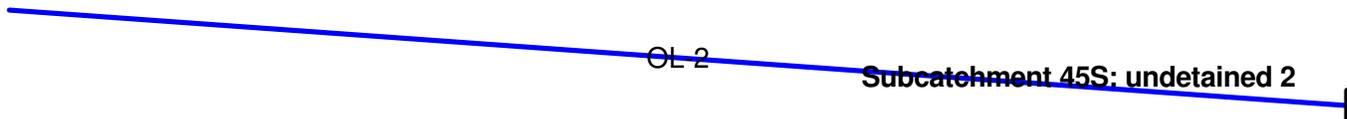
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.31 cfs @ 12.11 hrs, Volume= 858 cf, Depth= 2.45"  
 Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

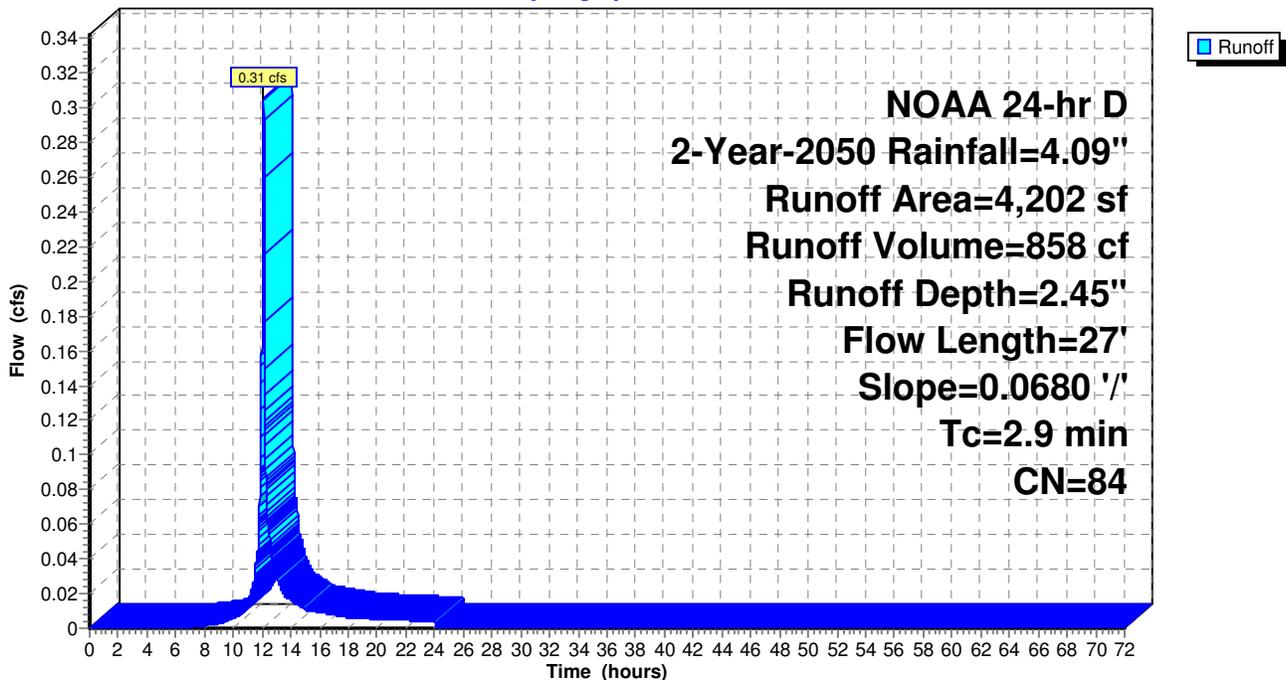
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	4.09	2.45	0.00
1.00	0.05	0.00	0.00	52.00	4.09	2.45	0.00
2.00	0.10	0.00	0.00	53.00	4.09	2.45	0.00
3.00	0.15	0.00	0.00	54.00	4.09	2.45	0.00
4.00	0.21	0.00	0.00	55.00	4.09	2.45	0.00
5.00	0.28	0.00	0.00	56.00	4.09	2.45	0.00
6.00	0.35	0.00	0.00	57.00	4.09	2.45	0.00
7.00	0.43	0.00	0.00	58.00	4.09	2.45	0.00
8.00	0.53	0.01	0.00	59.00	4.09	2.45	0.00
9.00	0.65	0.03	0.00	60.00	4.09	2.45	0.00
10.00	0.81	0.08	0.01	61.00	4.09	2.45	0.00
11.00	1.06	0.18	0.01	62.00	4.09	2.45	0.00
12.00	1.96	0.72	<b>0.17</b>	63.00	4.09	2.45	0.00
13.00	3.03	1.54	<b>0.03</b>	64.00	4.09	2.45	0.00
14.00	3.28	1.75	0.02	65.00	4.09	2.45	0.00
15.00	3.44	1.89	0.01	66.00	4.09	2.45	0.00
16.00	3.56	1.99	0.01	67.00	4.09	2.45	0.00
17.00	3.66	2.07	0.01	68.00	4.09	2.45	0.00
18.00	3.74	2.14	0.01	69.00	4.09	2.45	0.00
19.00	3.81	2.20	0.01	70.00	4.09	2.45	0.00
20.00	3.88	2.26	0.01	71.00	4.09	2.45	0.00
21.00	3.94	2.31	0.00	72.00	4.09	2.45	0.00
22.00	3.99	2.36	0.00				
23.00	4.04	2.41	0.00				
24.00	<b>4.09</b>	<b>2.45</b>	0.00				
25.00	4.09	2.45	0.00				
26.00	4.09	2.45	0.00				
27.00	4.09	2.45	0.00				
28.00	4.09	2.45	0.00				
29.00	4.09	2.45	0.00				
30.00	4.09	2.45	0.00				
31.00	4.09	2.45	0.00				
32.00	4.09	2.45	0.00				
33.00	4.09	2.45	0.00				
34.00	4.09	2.45	0.00				
35.00	4.09	2.45	0.00				
36.00	4.09	2.45	0.00				
37.00	4.09	2.45	0.00				
38.00	4.09	2.45	0.00				
39.00	4.09	2.45	0.00				
40.00	4.09	2.45	0.00				
41.00	4.09	2.45	0.00				
42.00	4.09	2.45	0.00				
43.00	4.09	2.45	0.00				
44.00	4.09	2.45	0.00				
45.00	4.09	2.45	0.00				
46.00	4.09	2.45	0.00				
47.00	4.09	2.45	0.00				
48.00	4.09	2.45	0.00				
49.00	4.09	2.45	0.00				
50.00	4.09	2.45	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 3.41" for 2-Year-2050 event  
 Inflow = 4.45 cfs @ 12.10 hrs, Volume= 13,613 cf  
 Outflow = 1.91 cfs @ 12.16 hrs, Volume= 13,613 cf, Atten= 57%, Lag= 3.7 min  
 Primary = 1.91 cfs @ 12.16 hrs, Volume= 13,613 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 404.54' @ 12.16 hrs Surf.Area= 1,945 sf Storage= 2,221 cf

Plug-Flow detention time= 15.0 min calculated for 13,611 cf (100% of inflow)  
 Center-of-Mass det. time= 15.0 min ( 795.4 - 780.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

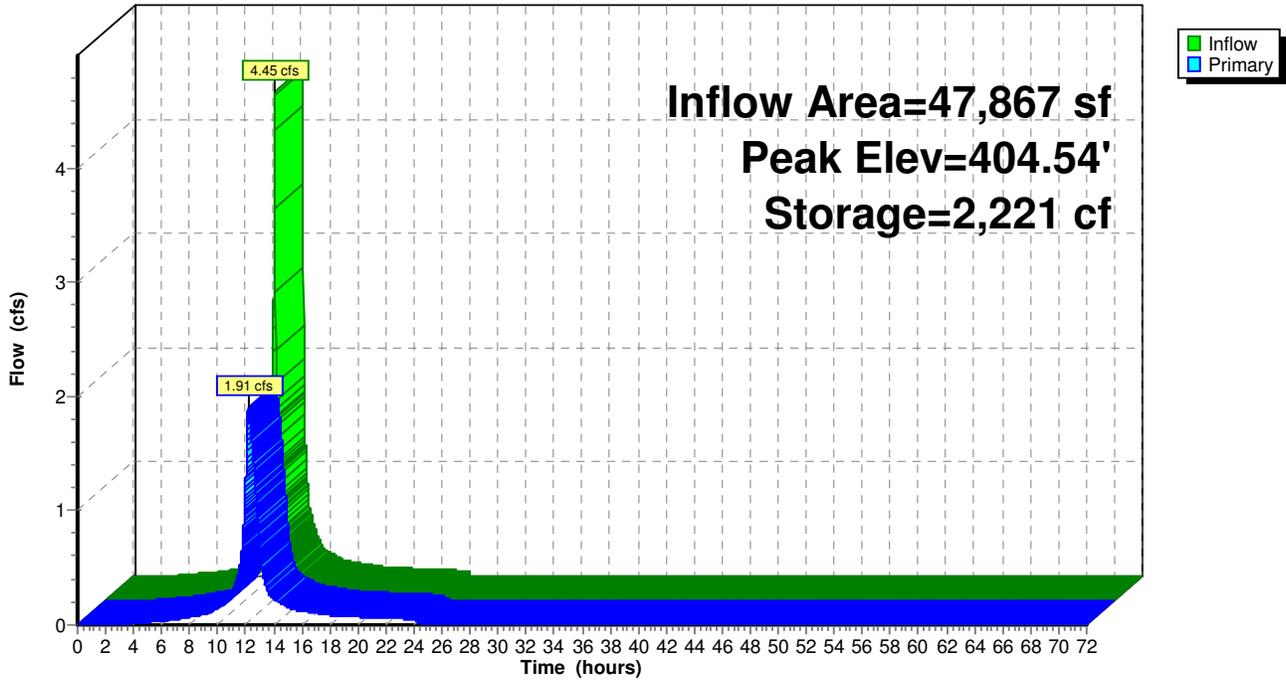
**Primary OutFlow** Max=1.91 cfs @ 12.16 hrs HW=404.54' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 1.84 cfs @ 5.28 fps)
- 2=Orifice/Grate (Orifice Controls 0.06 cfs @ 0.60 fps)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.00	0	403.00	0.00
4.00	0.02	17	403.05	0.01
6.00	0.04	39	403.09	0.03
8.00	0.07	70	403.14	0.07
10.00	0.16	128	403.21	0.15
12.00	<b>2.62</b>	<b>1,075</b>	<b>403.91</b>	<b>1.28</b>
14.00	<b>0.21</b>	<b>179</b>	<b>403.26</b>	<b>0.23</b>
16.00	0.12	109	403.19	0.12
18.00	0.08	81	403.16	0.08
20.00	0.07	70	403.14	0.07
22.00	0.06	62	403.13	0.06
24.00	0.05	54	403.12	0.05
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

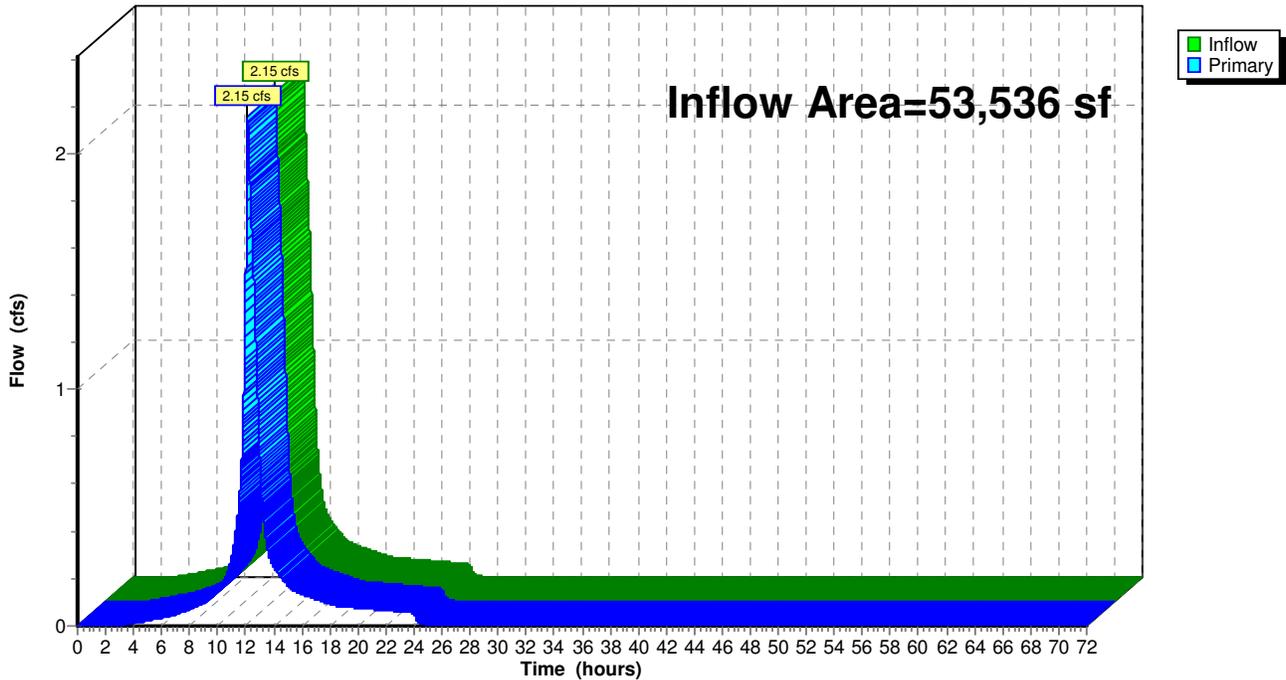
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 3.29" for 2-Year-2050 event  
Inflow = 2.15 cfs @ 12.12 hrs, Volume= 14,692 cf  
Primary = 2.15 cfs @ 12.12 hrs, Volume= 14,692 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	55.00	0.00	0.00	0.00
5.00	0.02	0.00	0.02	56.00	0.00	0.00	0.00
6.00	0.03	0.00	0.03	57.00	0.00	0.00	0.00
7.00	0.05	0.00	0.05	58.00	0.00	0.00	0.00
8.00	0.07	0.00	0.07	59.00	0.00	0.00	0.00
9.00	0.10	0.00	0.10	60.00	0.00	0.00	0.00
10.00	0.16	0.00	0.16	61.00	0.00	0.00	0.00
11.00	0.30	0.00	0.30	62.00	0.00	0.00	0.00
12.00	<b>1.49</b>	0.00	<b>1.49</b>	63.00	0.00	0.00	0.00
13.00	<b>0.71</b>	0.00	<b>0.71</b>	64.00	0.00	0.00	0.00
14.00	0.25	0.00	0.25	65.00	0.00	0.00	0.00
15.00	0.17	0.00	0.17	66.00	0.00	0.00	0.00
16.00	0.13	0.00	0.13	67.00	0.00	0.00	0.00
17.00	0.11	0.00	0.11	68.00	0.00	0.00	0.00
18.00	0.09	0.00	0.09	69.00	0.00	0.00	0.00
19.00	0.08	0.00	0.08	70.00	0.00	0.00	0.00
20.00	0.08	0.00	0.08	71.00	0.00	0.00	0.00
21.00	0.07	0.00	0.07	72.00	0.00	0.00	0.00
22.00	0.07	0.00	0.07				
23.00	0.06	0.00	0.06				
24.00	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

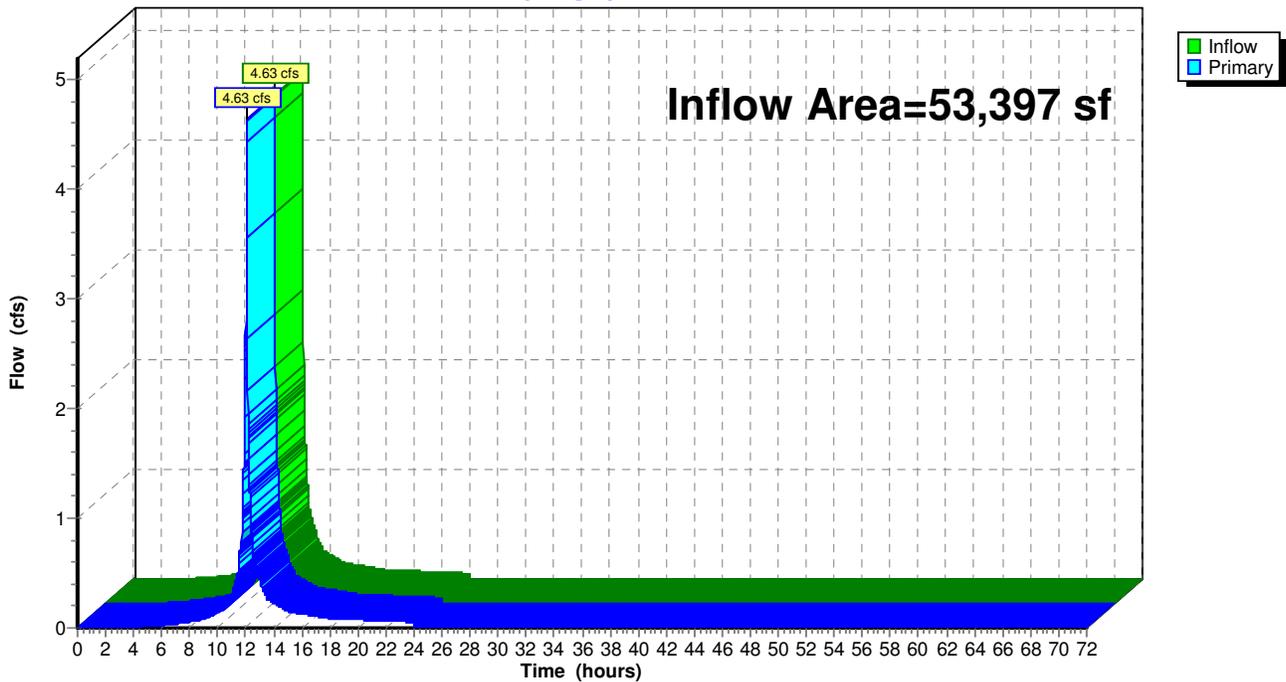
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 3.08" for 2-Year-2050 event  
Inflow = 4.63 cfs @ 12.10 hrs, Volume= 13,721 cf  
Primary = 4.63 cfs @ 12.10 hrs, Volume= 13,721 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
6.00	0.02	0.00	0.02	57.00	0.00	0.00	0.00
7.00	0.04	0.00	0.04	58.00	0.00	0.00	0.00
8.00	0.06	0.00	0.06	59.00	0.00	0.00	0.00
9.00	0.08	0.00	0.08	60.00	0.00	0.00	0.00
10.00	0.14	0.00	0.14	61.00	0.00	0.00	0.00
11.00	0.30	0.00	0.30	62.00	0.00	0.00	0.00
12.00	<b>2.67</b>	0.00	<b>2.67</b>	63.00	0.00	0.00	0.00
13.00	<b>0.44</b>	0.00	<b>0.44</b>	64.00	0.00	0.00	0.00
14.00	0.23	0.00	0.23	65.00	0.00	0.00	0.00
15.00	0.15	0.00	0.15	66.00	0.00	0.00	0.00
16.00	0.13	0.00	0.13	67.00	0.00	0.00	0.00
17.00	0.11	0.00	0.11	68.00	0.00	0.00	0.00
18.00	0.09	0.00	0.09	69.00	0.00	0.00	0.00
19.00	0.08	0.00	0.08	70.00	0.00	0.00	0.00
20.00	0.07	0.00	0.07	71.00	0.00	0.00	0.00
21.00	0.07	0.00	0.07	72.00	0.00	0.00	0.00
22.00	0.06	0.00	0.06				
23.00	0.06	0.00	0.06				
24.00	0.05	0.00	0.05				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

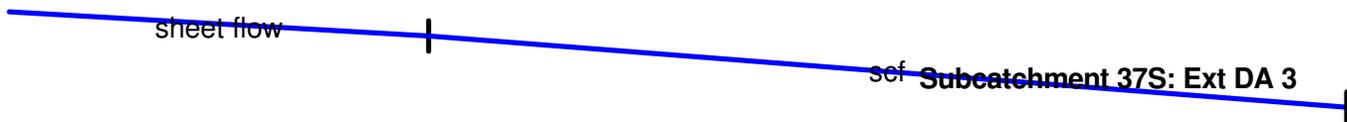
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 6.50 cfs @ 12.10 hrs, Volume= 19,557 cf, Depth= 5.21"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

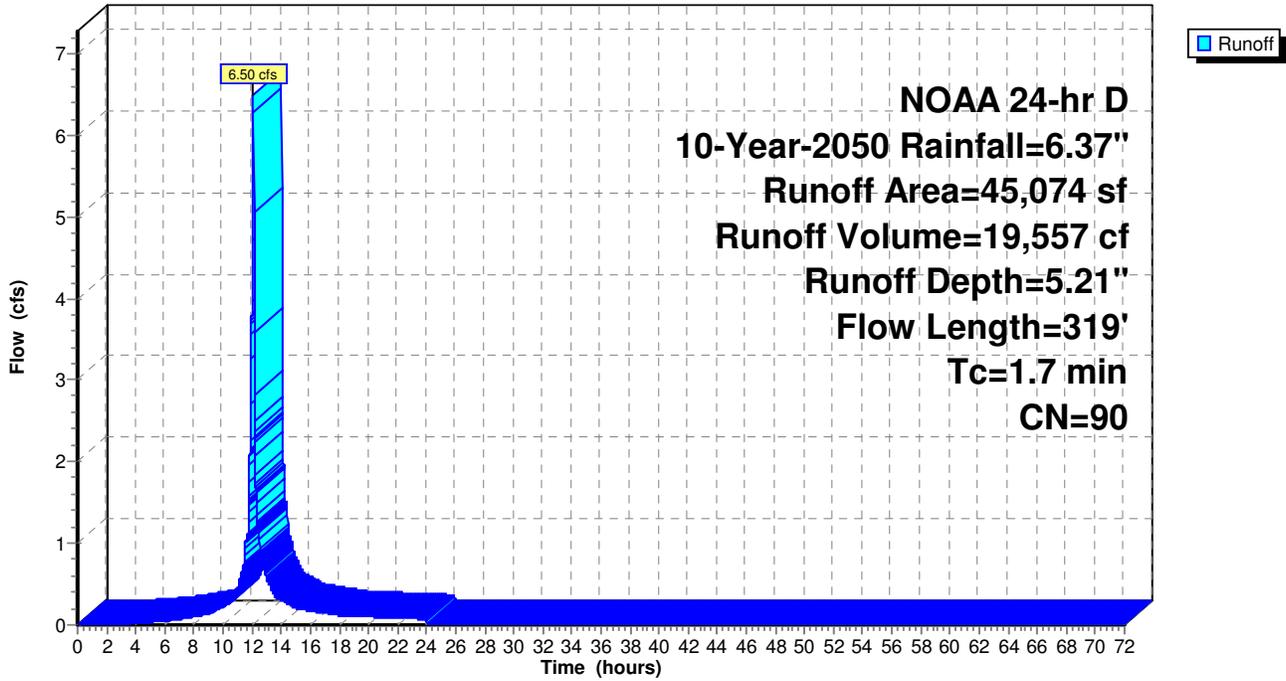
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



Subcatchment 37S: Ext DA 3

Hydrograph



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NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	6.37	5.21	0.00
1.00	0.07	0.00	0.00	52.00	6.37	5.21	0.00
2.00	0.15	0.00	0.00	53.00	6.37	5.21	0.00
3.00	0.24	0.00	0.00	54.00	6.37	5.21	0.00
4.00	0.33	0.01	0.02	55.00	6.37	5.21	0.00
5.00	0.44	0.03	0.03	56.00	6.37	5.21	0.00
6.00	0.54	0.07	0.05	57.00	6.37	5.21	0.00
7.00	0.67	0.13	0.07	58.00	6.37	5.21	0.00
8.00	0.83	0.21	0.10	59.00	6.37	5.21	0.00
9.00	1.01	0.33	0.13	60.00	6.37	5.21	0.00
10.00	1.26	0.50	0.23	61.00	6.37	5.21	0.00
11.00	1.66	0.81	0.45	62.00	6.37	5.21	0.00
12.00	3.05	2.03	<b>3.81</b>	63.00	6.37	5.21	0.00
13.00	4.71	3.60	<b>0.60</b>	64.00	6.37	5.21	0.00
14.00	5.11	3.98	0.31	65.00	6.37	5.21	0.00
15.00	5.36	4.22	0.21	66.00	6.37	5.21	0.00
16.00	5.54	4.40	0.17	67.00	6.37	5.21	0.00
17.00	5.70	4.55	0.14	68.00	6.37	5.21	0.00
18.00	5.83	4.68	0.12	69.00	6.37	5.21	0.00
19.00	5.93	4.78	0.11	70.00	6.37	5.21	0.00
20.00	6.04	4.88	0.10	71.00	6.37	5.21	0.00
21.00	6.13	4.97	0.09	72.00	6.37	5.21	0.00
22.00	6.22	5.06	0.09				
23.00	6.30	5.14	0.08				
24.00	<b>6.37</b>	<b>5.21</b>	0.07				
25.00	6.37	5.21	0.00				
26.00	6.37	5.21	0.00				
27.00	6.37	5.21	0.00				
28.00	6.37	5.21	0.00				
29.00	6.37	5.21	0.00				
30.00	6.37	5.21	0.00				
31.00	6.37	5.21	0.00				
32.00	6.37	5.21	0.00				
33.00	6.37	5.21	0.00				
34.00	6.37	5.21	0.00				
35.00	6.37	5.21	0.00				
36.00	6.37	5.21	0.00				
37.00	6.37	5.21	0.00				
38.00	6.37	5.21	0.00				
39.00	6.37	5.21	0.00				
40.00	6.37	5.21	0.00				
41.00	6.37	5.21	0.00				
42.00	6.37	5.21	0.00				
43.00	6.37	5.21	0.00				
44.00	6.37	5.21	0.00				
45.00	6.37	5.21	0.00				
46.00	6.37	5.21	0.00				
47.00	6.37	5.21	0.00				
48.00	6.37	5.21	0.00				
49.00	6.37	5.21	0.00				
50.00	6.37	5.21	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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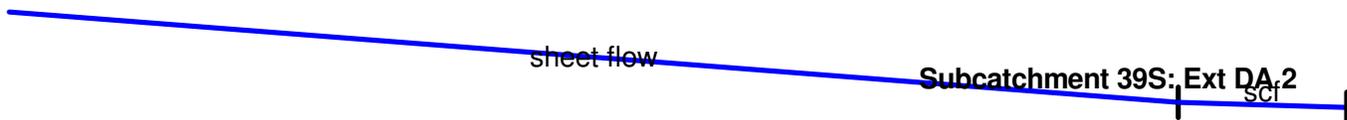
**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 2,305 cf, Depth= 6.13"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

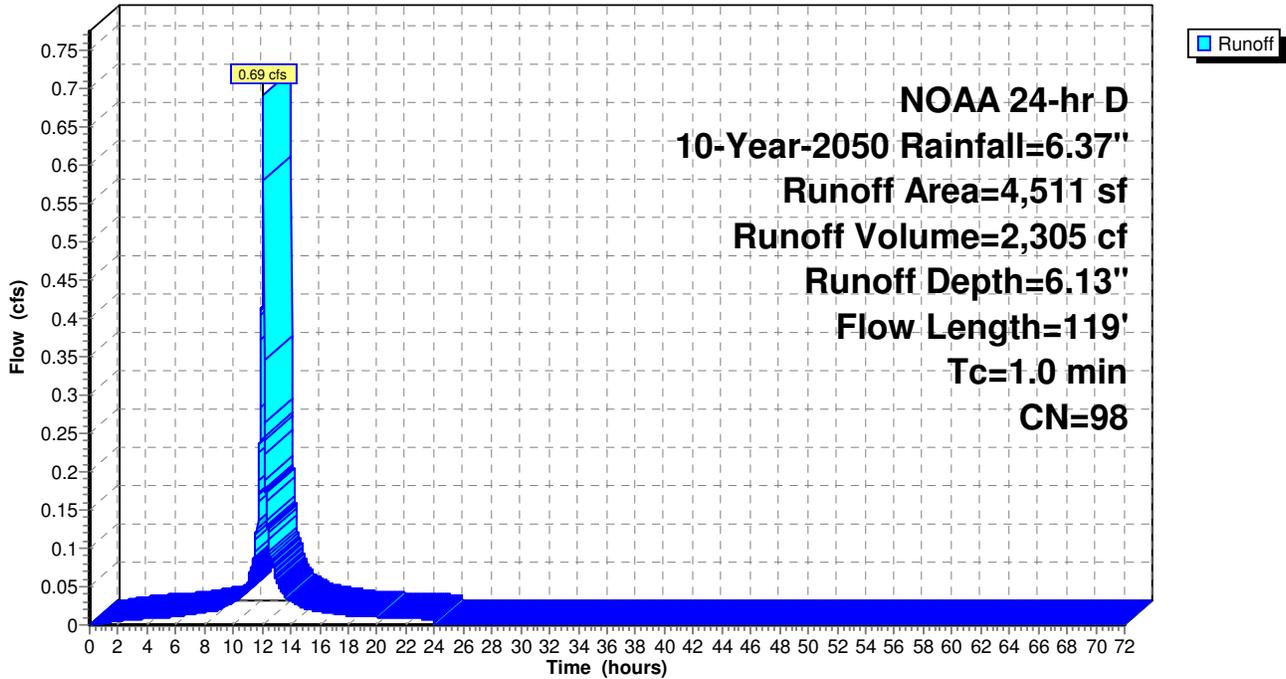
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



### Subcatchment 39S: Ext DA 2

Hydrograph



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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	6.37	6.13	0.00
1.00	0.07	0.00	0.00	52.00	6.37	6.13	0.00
2.00	0.15	0.04	0.01	53.00	6.37	6.13	0.00
3.00	0.24	0.10	0.01	54.00	6.37	6.13	0.00
4.00	0.33	0.17	0.01	55.00	6.37	6.13	0.00
5.00	0.44	0.26	0.01	56.00	6.37	6.13	0.00
6.00	0.54	0.36	0.01	57.00	6.37	6.13	0.00
7.00	0.67	0.48	0.01	58.00	6.37	6.13	0.00
8.00	0.83	0.62	0.02	59.00	6.37	6.13	0.00
9.00	1.01	0.80	0.02	60.00	6.37	6.13	0.00
10.00	1.26	1.05	0.03	61.00	6.37	6.13	0.00
11.00	1.66	1.43	0.05	62.00	6.37	6.13	0.00
12.00	3.05	2.82	<b>0.41</b>	63.00	6.37	6.13	0.00
13.00	4.71	4.48	<b>0.06</b>	64.00	6.37	6.13	0.00
14.00	5.11	4.87	0.03	65.00	6.37	6.13	0.00
15.00	5.36	5.12	0.02	66.00	6.37	6.13	0.00
16.00	5.54	5.31	0.02	67.00	6.37	6.13	0.00
17.00	5.70	5.46	0.01	68.00	6.37	6.13	0.00
18.00	5.83	5.59	0.01	69.00	6.37	6.13	0.00
19.00	5.93	5.70	0.01	70.00	6.37	6.13	0.00
20.00	6.04	5.80	0.01	71.00	6.37	6.13	0.00
21.00	6.13	5.89	0.01	72.00	6.37	6.13	0.00
22.00	6.22	5.98	0.01				
23.00	6.30	6.06	0.01				
24.00	<b>6.37</b>	<b>6.13</b>	0.01				
25.00	6.37	6.13	0.00				
26.00	6.37	6.13	0.00				
27.00	6.37	6.13	0.00				
28.00	6.37	6.13	0.00				
29.00	6.37	6.13	0.00				
30.00	6.37	6.13	0.00				
31.00	6.37	6.13	0.00				
32.00	6.37	6.13	0.00				
33.00	6.37	6.13	0.00				
34.00	6.37	6.13	0.00				
35.00	6.37	6.13	0.00				
36.00	6.37	6.13	0.00				
37.00	6.37	6.13	0.00				
38.00	6.37	6.13	0.00				
39.00	6.37	6.13	0.00				
40.00	6.37	6.13	0.00				
41.00	6.37	6.13	0.00				
42.00	6.37	6.13	0.00				
43.00	6.37	6.13	0.00				
44.00	6.37	6.13	0.00				
45.00	6.37	6.13	0.00				
46.00	6.37	6.13	0.00				
47.00	6.37	6.13	0.00				
48.00	6.37	6.13	0.00				
49.00	6.37	6.13	0.00				
50.00	6.37	6.13	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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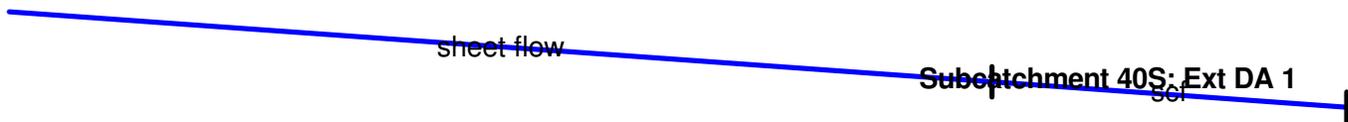
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.50 cfs @ 12.13 hrs, Volume= 1,690 cf, Depth= 5.32"  
 Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

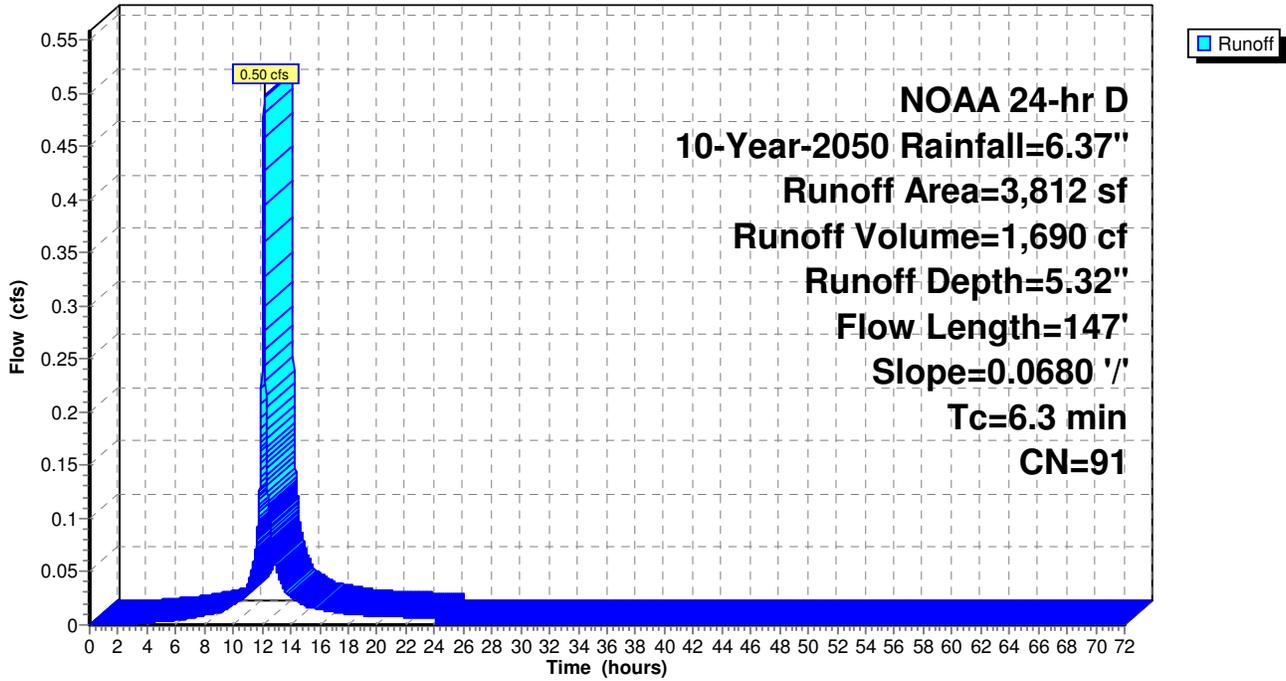
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



Subcatchment 40S: Ext DA 1

Hydrograph



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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	6.37	5.32	0.00
1.00	0.07	0.00	0.00	52.00	6.37	5.32	0.00
2.00	0.15	0.00	0.00	53.00	6.37	5.32	0.00
3.00	0.24	0.00	0.00	54.00	6.37	5.32	0.00
4.00	0.33	0.02	0.00	55.00	6.37	5.32	0.00
5.00	0.44	0.05	0.00	56.00	6.37	5.32	0.00
6.00	0.54	0.09	0.00	57.00	6.37	5.32	0.00
7.00	0.67	0.15	0.01	58.00	6.37	5.32	0.00
8.00	0.83	0.24	0.01	59.00	6.37	5.32	0.00
9.00	1.01	0.37	0.01	60.00	6.37	5.32	0.00
10.00	1.26	0.55	0.02	61.00	6.37	5.32	0.00
11.00	1.66	0.87	0.04	62.00	6.37	5.32	0.00
12.00	3.05	2.12	<b>0.27</b>	63.00	6.37	5.32	0.00
13.00	4.71	3.70	<b>0.05</b>	64.00	6.37	5.32	0.00
14.00	5.11	4.09	0.03	65.00	6.37	5.32	0.00
15.00	5.36	4.33	0.02	66.00	6.37	5.32	0.00
16.00	5.54	4.51	0.01	67.00	6.37	5.32	0.00
17.00	5.70	4.66	0.01	68.00	6.37	5.32	0.00
18.00	5.83	4.79	0.01	69.00	6.37	5.32	0.00
19.00	5.93	4.89	0.01	70.00	6.37	5.32	0.00
20.00	6.04	4.99	0.01	71.00	6.37	5.32	0.00
21.00	6.13	5.08	0.01	72.00	6.37	5.32	0.00
22.00	6.22	5.17	0.01				
23.00	6.30	5.25	0.01				
24.00	<b>6.37</b>	<b>5.32</b>	0.01				
25.00	6.37	5.32	0.00				
26.00	6.37	5.32	0.00				
27.00	6.37	5.32	0.00				
28.00	6.37	5.32	0.00				
29.00	6.37	5.32	0.00				
30.00	6.37	5.32	0.00				
31.00	6.37	5.32	0.00				
32.00	6.37	5.32	0.00				
33.00	6.37	5.32	0.00				
34.00	6.37	5.32	0.00				
35.00	6.37	5.32	0.00				
36.00	6.37	5.32	0.00				
37.00	6.37	5.32	0.00				
38.00	6.37	5.32	0.00				
39.00	6.37	5.32	0.00				
40.00	6.37	5.32	0.00				
41.00	6.37	5.32	0.00				
42.00	6.37	5.32	0.00				
43.00	6.37	5.32	0.00				
44.00	6.37	5.32	0.00				
45.00	6.37	5.32	0.00				
46.00	6.37	5.32	0.00				
47.00	6.37	5.32	0.00				
48.00	6.37	5.32	0.00				
49.00	6.37	5.32	0.00				
50.00	6.37	5.32	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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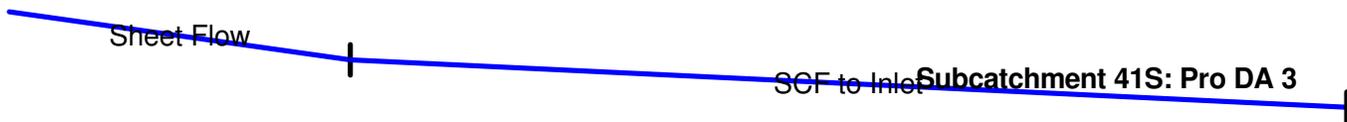
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 7.15 cfs @ 12.10 hrs, Volume= 22,590 cf, Depth= 5.66"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

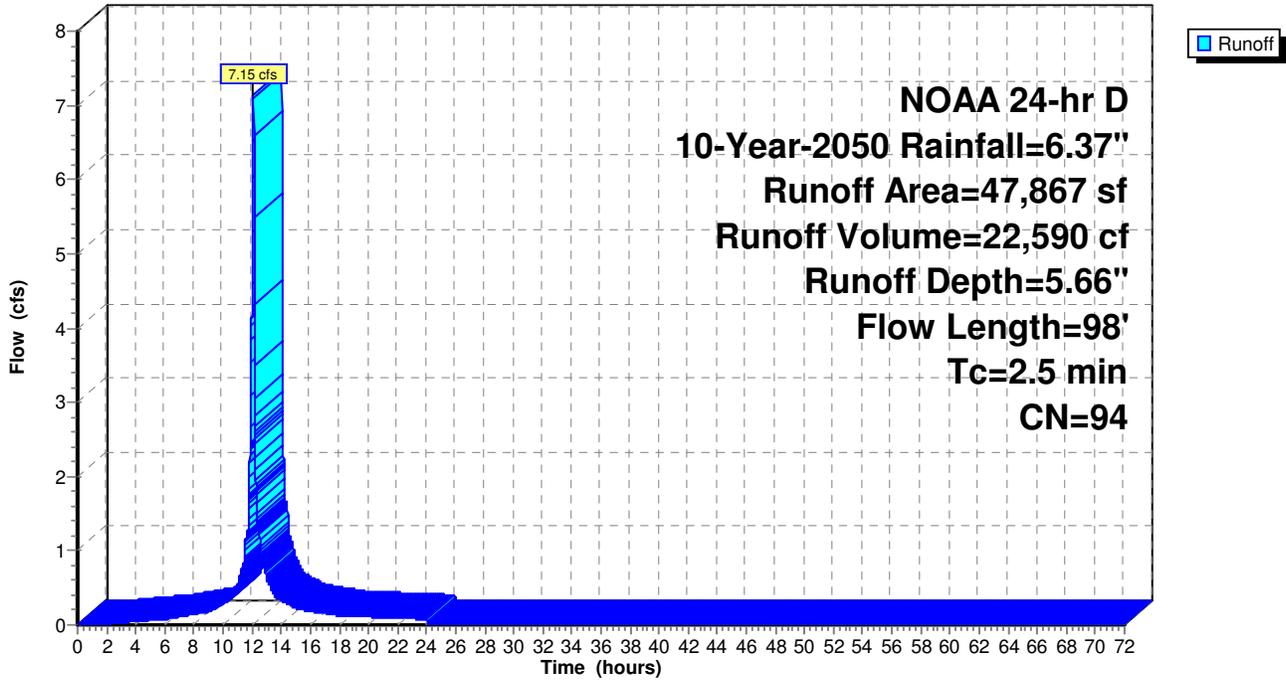
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



### Subcatchment 41S: Pro DA 3

Hydrograph



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NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	6.37	5.66	0.00
1.00	0.07	0.00	0.00	52.00	6.37	5.66	0.00
2.00	0.15	0.00	0.01	53.00	6.37	5.66	0.00
3.00	0.24	0.02	0.03	54.00	6.37	5.66	0.00
4.00	0.33	0.05	0.05	55.00	6.37	5.66	0.00
5.00	0.44	0.10	0.06	56.00	6.37	5.66	0.00
6.00	0.54	0.16	0.08	57.00	6.37	5.66	0.00
7.00	0.67	0.25	0.11	58.00	6.37	5.66	0.00
8.00	0.83	0.37	0.14	59.00	6.37	5.66	0.00
9.00	1.01	0.51	0.18	60.00	6.37	5.66	0.00
10.00	1.26	0.73	0.29	61.00	6.37	5.66	0.00
11.00	1.66	1.08	0.54	62.00	6.37	5.66	0.00
12.00	3.05	2.40	<b>4.24</b>	63.00	6.37	5.66	0.00
13.00	4.71	4.03	<b>0.65</b>	64.00	6.37	5.66	0.00
14.00	5.11	4.41	0.34	65.00	6.37	5.66	0.00
15.00	5.36	4.66	0.23	66.00	6.37	5.66	0.00
16.00	5.54	4.84	0.19	67.00	6.37	5.66	0.00
17.00	5.70	5.00	0.16	68.00	6.37	5.66	0.00
18.00	5.83	5.12	0.13	69.00	6.37	5.66	0.00
19.00	5.93	5.23	0.12	70.00	6.37	5.66	0.00
20.00	6.04	5.33	0.11	71.00	6.37	5.66	0.00
21.00	6.13	5.43	0.10	72.00	6.37	5.66	0.00
22.00	6.22	5.51	0.09				
23.00	6.30	5.59	0.08				
24.00	<b>6.37</b>	<b>5.66</b>	0.08				
25.00	6.37	5.66	0.00				
26.00	6.37	5.66	0.00				
27.00	6.37	5.66	0.00				
28.00	6.37	5.66	0.00				
29.00	6.37	5.66	0.00				
30.00	6.37	5.66	0.00				
31.00	6.37	5.66	0.00				
32.00	6.37	5.66	0.00				
33.00	6.37	5.66	0.00				
34.00	6.37	5.66	0.00				
35.00	6.37	5.66	0.00				
36.00	6.37	5.66	0.00				
37.00	6.37	5.66	0.00				
38.00	6.37	5.66	0.00				
39.00	6.37	5.66	0.00				
40.00	6.37	5.66	0.00				
41.00	6.37	5.66	0.00				
42.00	6.37	5.66	0.00				
43.00	6.37	5.66	0.00				
44.00	6.37	5.66	0.00				
45.00	6.37	5.66	0.00				
46.00	6.37	5.66	0.00				
47.00	6.37	5.66	0.00				
48.00	6.37	5.66	0.00				
49.00	6.37	5.66	0.00				
50.00	6.37	5.66	0.00				

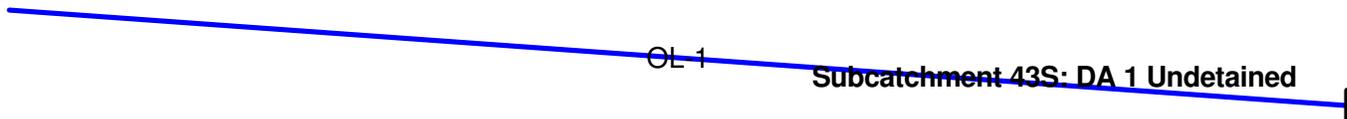
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.16 cfs @ 12.10 hrs, Volume= 453 cf, Depth= 3.70"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

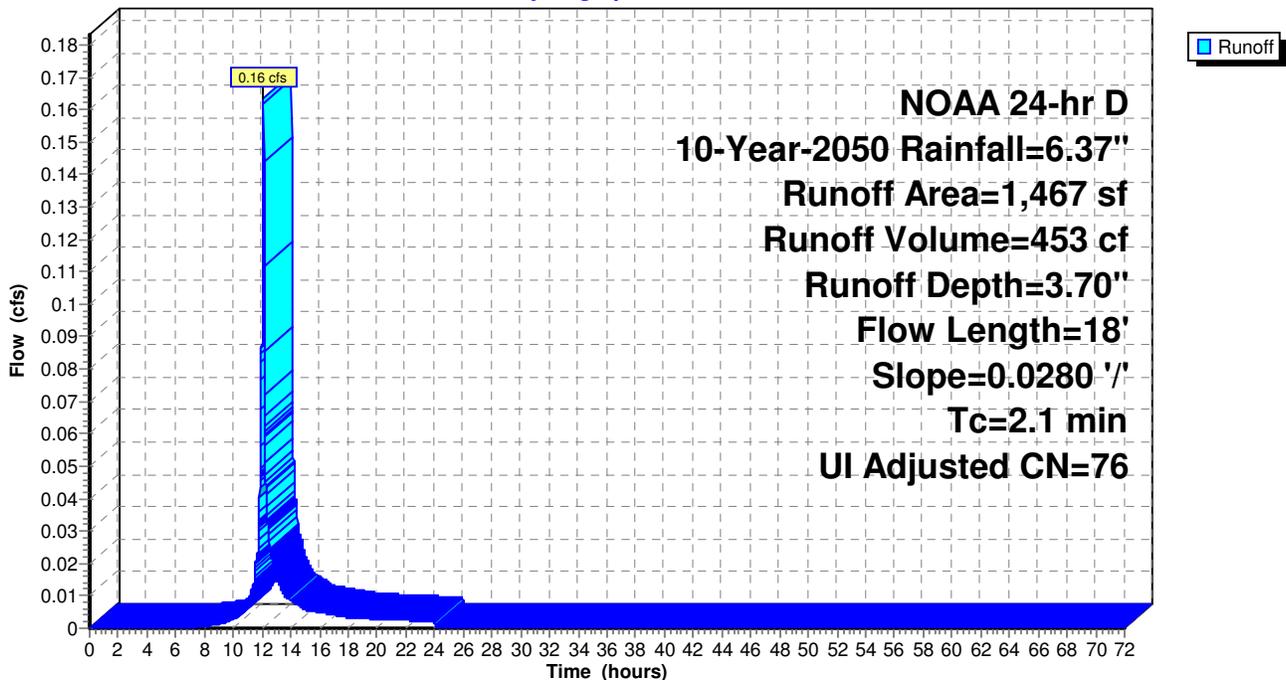
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	6.37	3.70	0.00
1.00	0.07	0.00	0.00	52.00	6.37	3.70	0.00
2.00	0.15	0.00	0.00	53.00	6.37	3.70	0.00
3.00	0.24	0.00	0.00	54.00	6.37	3.70	0.00
4.00	0.33	0.00	0.00	55.00	6.37	3.70	0.00
5.00	0.44	0.00	0.00	56.00	6.37	3.70	0.00
6.00	0.54	0.00	0.00	57.00	6.37	3.70	0.00
7.00	0.67	0.00	0.00	58.00	6.37	3.70	0.00
8.00	0.83	0.01	0.00	59.00	6.37	3.70	0.00
9.00	1.01	0.04	0.00	60.00	6.37	3.70	0.00
10.00	1.26	0.11	0.00	61.00	6.37	3.70	0.00
11.00	1.66	0.25	0.01	62.00	6.37	3.70	0.00
12.00	3.05	1.05	<b>0.09</b>	63.00	6.37	3.70	0.00
13.00	4.71	2.30	<b>0.02</b>	64.00	6.37	3.70	0.00
14.00	5.11	2.62	0.01	65.00	6.37	3.70	0.00
15.00	5.36	2.83	0.01	66.00	6.37	3.70	0.00
16.00	5.54	2.99	0.00	67.00	6.37	3.70	0.00
17.00	5.70	3.12	0.00	68.00	6.37	3.70	0.00
18.00	5.83	3.23	0.00	69.00	6.37	3.70	0.00
19.00	5.93	3.32	0.00	70.00	6.37	3.70	0.00
20.00	6.04	3.41	0.00	71.00	6.37	3.70	0.00
21.00	6.13	3.49	0.00	72.00	6.37	3.70	0.00
22.00	6.22	3.57	0.00				
23.00	6.30	3.64	0.00				
24.00	<b>6.37</b>	<b>3.70</b>	0.00				
25.00	6.37	3.70	0.00				
26.00	6.37	3.70	0.00				
27.00	6.37	3.70	0.00				
28.00	6.37	3.70	0.00				
29.00	6.37	3.70	0.00				
30.00	6.37	3.70	0.00				
31.00	6.37	3.70	0.00				
32.00	6.37	3.70	0.00				
33.00	6.37	3.70	0.00				
34.00	6.37	3.70	0.00				
35.00	6.37	3.70	0.00				
36.00	6.37	3.70	0.00				
37.00	6.37	3.70	0.00				
38.00	6.37	3.70	0.00				
39.00	6.37	3.70	0.00				
40.00	6.37	3.70	0.00				
41.00	6.37	3.70	0.00				
42.00	6.37	3.70	0.00				
43.00	6.37	3.70	0.00				
44.00	6.37	3.70	0.00				
45.00	6.37	3.70	0.00				
46.00	6.37	3.70	0.00				
47.00	6.37	3.70	0.00				
48.00	6.37	3.70	0.00				
49.00	6.37	3.70	0.00				
50.00	6.37	3.70	0.00				

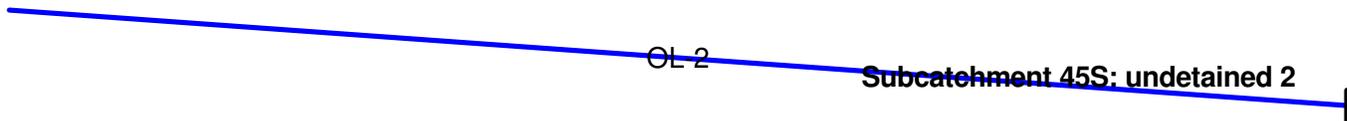
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.55 cfs @ 12.11 hrs, Volume= 1,591 cf, Depth= 4.54"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

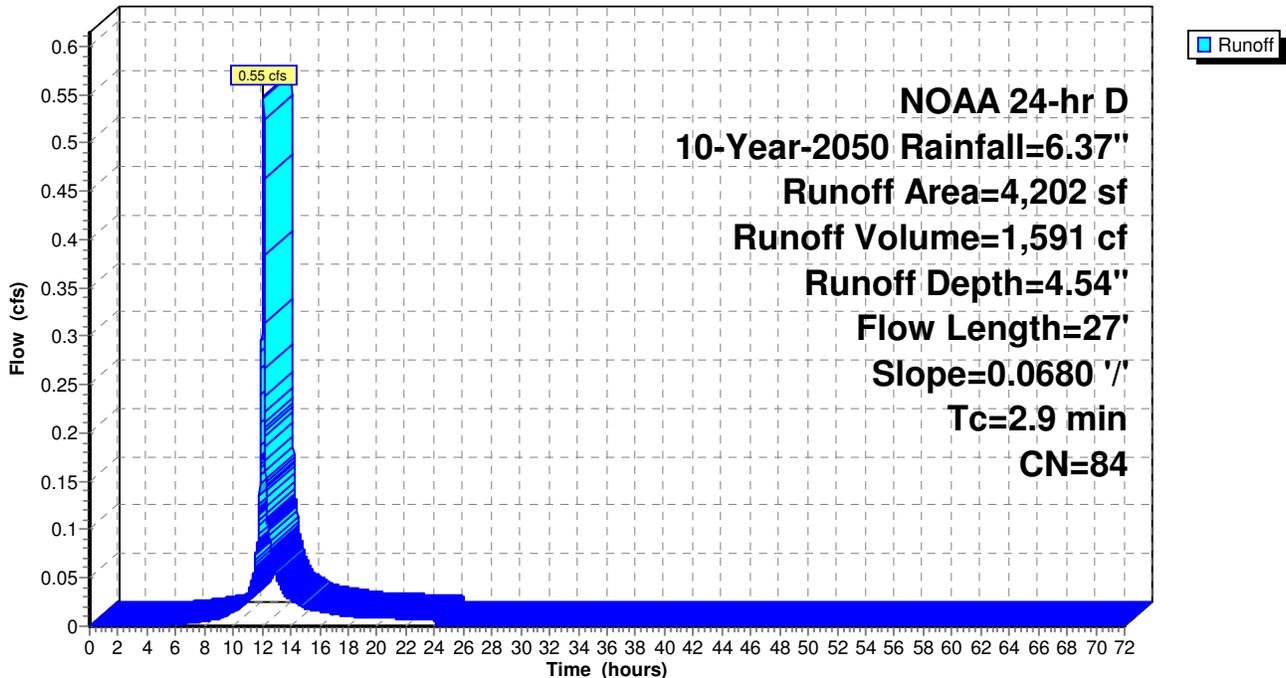
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms

NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	6.37	4.54	0.00
1.00	0.07	0.00	0.00	52.00	6.37	4.54	0.00
2.00	0.15	0.00	0.00	53.00	6.37	4.54	0.00
3.00	0.24	0.00	0.00	54.00	6.37	4.54	0.00
4.00	0.33	0.00	0.00	55.00	6.37	4.54	0.00
5.00	0.44	0.00	0.00	56.00	6.37	4.54	0.00
6.00	0.54	0.01	0.00	57.00	6.37	4.54	0.00
7.00	0.67	0.04	0.00	58.00	6.37	4.54	0.00
8.00	0.83	0.08	0.01	59.00	6.37	4.54	0.00
9.00	1.01	0.16	0.01	60.00	6.37	4.54	0.00
10.00	1.26	0.28	0.02	61.00	6.37	4.54	0.00
11.00	1.66	0.51	0.03	62.00	6.37	4.54	0.00
12.00	3.05	1.56	<b>0.31</b>	63.00	6.37	4.54	0.00
13.00	4.71	3.01	<b>0.05</b>	64.00	6.37	4.54	0.00
14.00	5.11	3.37	0.03	65.00	6.37	4.54	0.00
15.00	5.36	3.60	0.02	66.00	6.37	4.54	0.00
16.00	5.54	3.77	0.02	67.00	6.37	4.54	0.00
17.00	5.70	3.92	0.01	68.00	6.37	4.54	0.00
18.00	5.83	4.03	0.01	69.00	6.37	4.54	0.00
19.00	5.93	4.14	0.01	70.00	6.37	4.54	0.00
20.00	6.04	4.23	0.01	71.00	6.37	4.54	0.00
21.00	6.13	4.32	0.01	72.00	6.37	4.54	0.00
22.00	6.22	4.40	0.01				
23.00	6.30	4.48	0.01				
24.00	<b>6.37</b>	<b>4.54</b>	0.01				
25.00	6.37	4.54	0.00				
26.00	6.37	4.54	0.00				
27.00	6.37	4.54	0.00				
28.00	6.37	4.54	0.00				
29.00	6.37	4.54	0.00				
30.00	6.37	4.54	0.00				
31.00	6.37	4.54	0.00				
32.00	6.37	4.54	0.00				
33.00	6.37	4.54	0.00				
34.00	6.37	4.54	0.00				
35.00	6.37	4.54	0.00				
36.00	6.37	4.54	0.00				
37.00	6.37	4.54	0.00				
38.00	6.37	4.54	0.00				
39.00	6.37	4.54	0.00				
40.00	6.37	4.54	0.00				
41.00	6.37	4.54	0.00				
42.00	6.37	4.54	0.00				
43.00	6.37	4.54	0.00				
44.00	6.37	4.54	0.00				
45.00	6.37	4.54	0.00				
46.00	6.37	4.54	0.00				
47.00	6.37	4.54	0.00				
48.00	6.37	4.54	0.00				
49.00	6.37	4.54	0.00				
50.00	6.37	4.54	0.00				

### Summary for Pond 42P: Detention System

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 5.66" for 10-Year-2050 event  
 Inflow = 7.15 cfs @ 12.10 hrs, Volume= 22,590 cf  
 Outflow = 4.73 cfs @ 12.14 hrs, Volume= 22,590 cf, Atten= 34%, Lag= 2.3 min  
 Primary = 4.73 cfs @ 12.14 hrs, Volume= 22,590 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 405.10' @ 12.14 hrs Surf.Area= 1,997 sf Storage= 3,348 cf

Plug-Flow detention time= 14.1 min calculated for 22,587 cf (100% of inflow)  
 Center-of-Mass det. time= 14.1 min ( 780.7 - 766.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

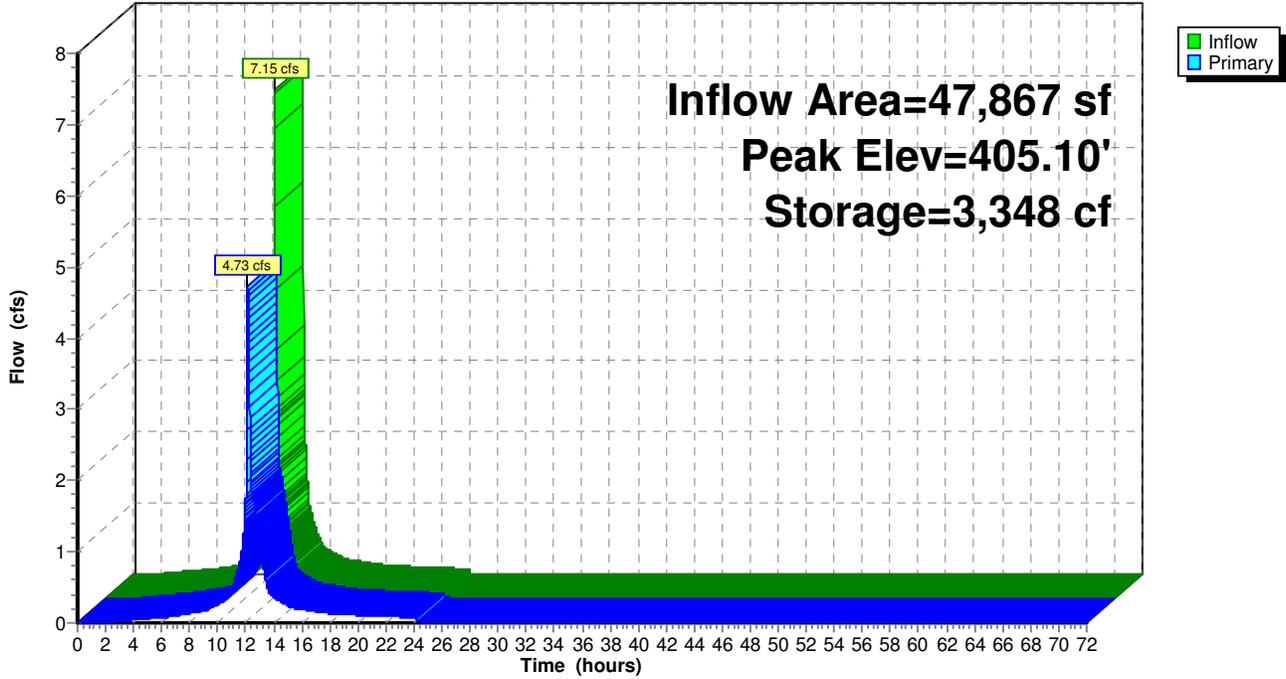
**Primary OutFlow** Max=4.72 cfs @ 12.14 hrs HW=405.10' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 2.23 cfs @ 6.40 fps)
- 2=Orifice/Grate (Orifice Controls 2.49 cfs @ 3.31 fps)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**Hillcrest Farms  
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.01	2	403.01	0.00
4.00	0.05	47	403.11	0.04
6.00	0.08	74	403.15	0.07
8.00	0.14	120	403.20	0.14
10.00	0.29	204	403.29	0.27
12.00	<b>4.24</b>	<b>1,956</b>	<b>404.40</b>	<b>1.73</b>
14.00	<b>0.34</b>	<b>260</b>	<b>403.34</b>	<b>0.36</b>
16.00	0.19	156	403.24	0.19
18.00	0.13	115	403.20	0.13
20.00	0.11	100	403.18	0.11
22.00	0.09	89	403.17	0.09
24.00	0.08	77	403.15	0.08
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

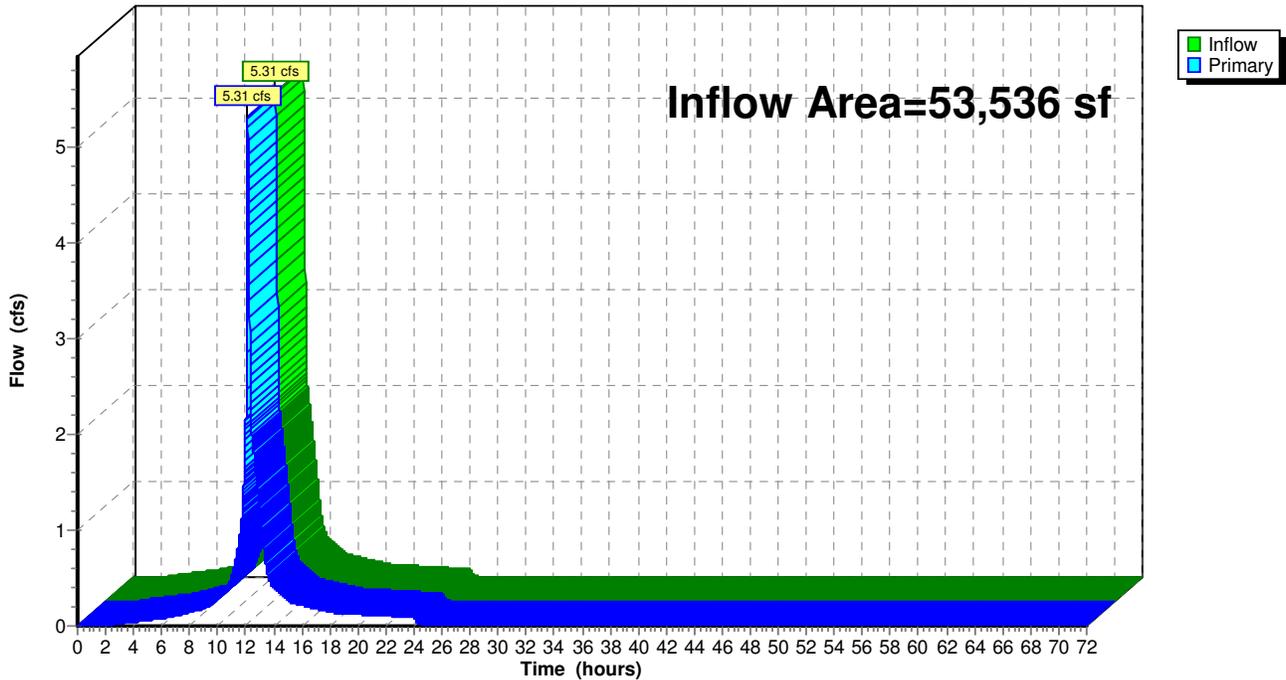
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 5.52" for 10-Year-2050 event  
Inflow = 5.31 cfs @ 12.12 hrs, Volume= 24,634 cf  
Primary = 5.31 cfs @ 12.12 hrs, Volume= 24,634 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

Printed 11/25/2025

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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
3.00	0.02	0.00	0.02	54.00	0.00	0.00	0.00
4.00	0.04	0.00	0.04	55.00	0.00	0.00	0.00
5.00	0.06	0.00	0.06	56.00	0.00	0.00	0.00
6.00	0.08	0.00	0.08	57.00	0.00	0.00	0.00
7.00	0.11	0.00	0.11	58.00	0.00	0.00	0.00
8.00	0.14	0.00	0.14	59.00	0.00	0.00	0.00
9.00	0.18	0.00	0.18	60.00	0.00	0.00	0.00
10.00	0.29	0.00	0.29	61.00	0.00	0.00	0.00
11.00	0.52	0.00	0.52	62.00	0.00	0.00	0.00
12.00	<b>2.14</b>	0.00	<b>2.14</b>	63.00	0.00	0.00	0.00
13.00	<b>1.22</b>	0.00	<b>1.22</b>	64.00	0.00	0.00	0.00
14.00	0.40	0.00	0.40	65.00	0.00	0.00	0.00
15.00	0.27	0.00	0.27	66.00	0.00	0.00	0.00
16.00	0.21	0.00	0.21	67.00	0.00	0.00	0.00
17.00	0.18	0.00	0.18	68.00	0.00	0.00	0.00
18.00	0.14	0.00	0.14	69.00	0.00	0.00	0.00
19.00	0.13	0.00	0.13	70.00	0.00	0.00	0.00
20.00	0.12	0.00	0.12	71.00	0.00	0.00	0.00
21.00	0.11	0.00	0.11	72.00	0.00	0.00	0.00
22.00	0.10	0.00	0.10				
23.00	0.10	0.00	0.10				
24.00	0.09	0.00	0.09				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

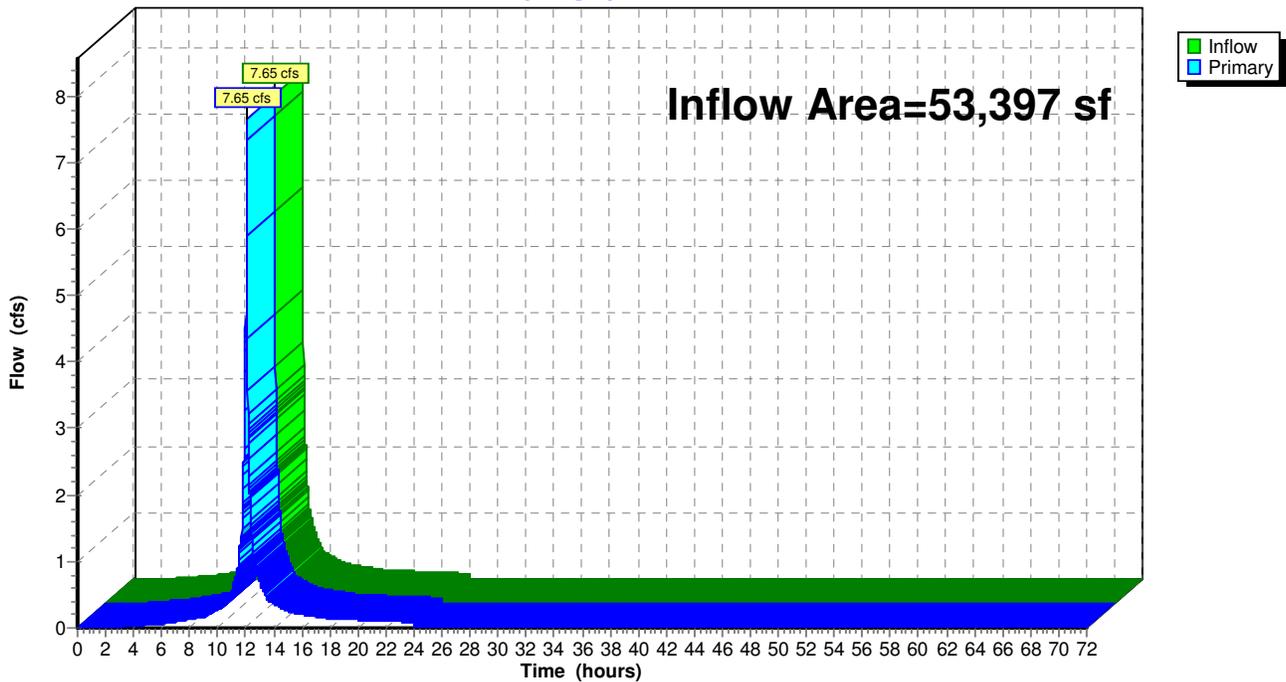
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 5.29" for 10-Year-2050 event  
Inflow = 7.65 cfs @ 12.10 hrs, Volume= 23,552 cf  
Primary = 7.65 cfs @ 12.10 hrs, Volume= 23,552 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms

NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	53.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	54.00	0.00	0.00	0.00
4.00	0.03	0.00	0.03	55.00	0.00	0.00	0.00
5.00	0.04	0.00	0.04	56.00	0.00	0.00	0.00
6.00	0.06	0.00	0.06	57.00	0.00	0.00	0.00
7.00	0.09	0.00	0.09	58.00	0.00	0.00	0.00
8.00	0.13	0.00	0.13	59.00	0.00	0.00	0.00
9.00	0.17	0.00	0.17	60.00	0.00	0.00	0.00
10.00	0.28	0.00	0.28	61.00	0.00	0.00	0.00
11.00	0.54	0.00	0.54	62.00	0.00	0.00	0.00
12.00	<b>4.49</b>	0.00	<b>4.49</b>	63.00	0.00	0.00	0.00
13.00	<b>0.71</b>	0.00	<b>0.71</b>	64.00	0.00	0.00	0.00
14.00	0.37	0.00	0.37	65.00	0.00	0.00	0.00
15.00	0.25	0.00	0.25	66.00	0.00	0.00	0.00
16.00	0.21	0.00	0.21	67.00	0.00	0.00	0.00
17.00	0.17	0.00	0.17	68.00	0.00	0.00	0.00
18.00	0.14	0.00	0.14	69.00	0.00	0.00	0.00
19.00	0.13	0.00	0.13	70.00	0.00	0.00	0.00
20.00	0.12	0.00	0.12	71.00	0.00	0.00	0.00
21.00	0.11	0.00	0.11	72.00	0.00	0.00	0.00
22.00	0.10	0.00	0.10				
23.00	0.09	0.00	0.09				
24.00	0.08	0.00	0.08				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

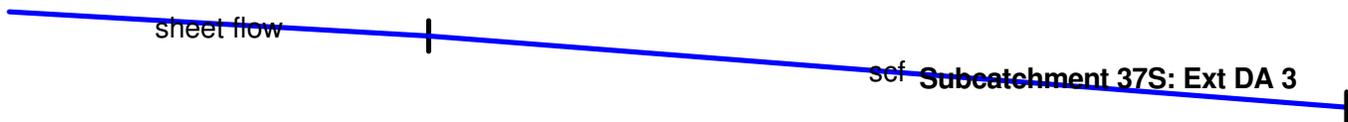
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 12.25 cfs @ 12.10 hrs, Volume= 38,637 cf, Depth=10.29"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

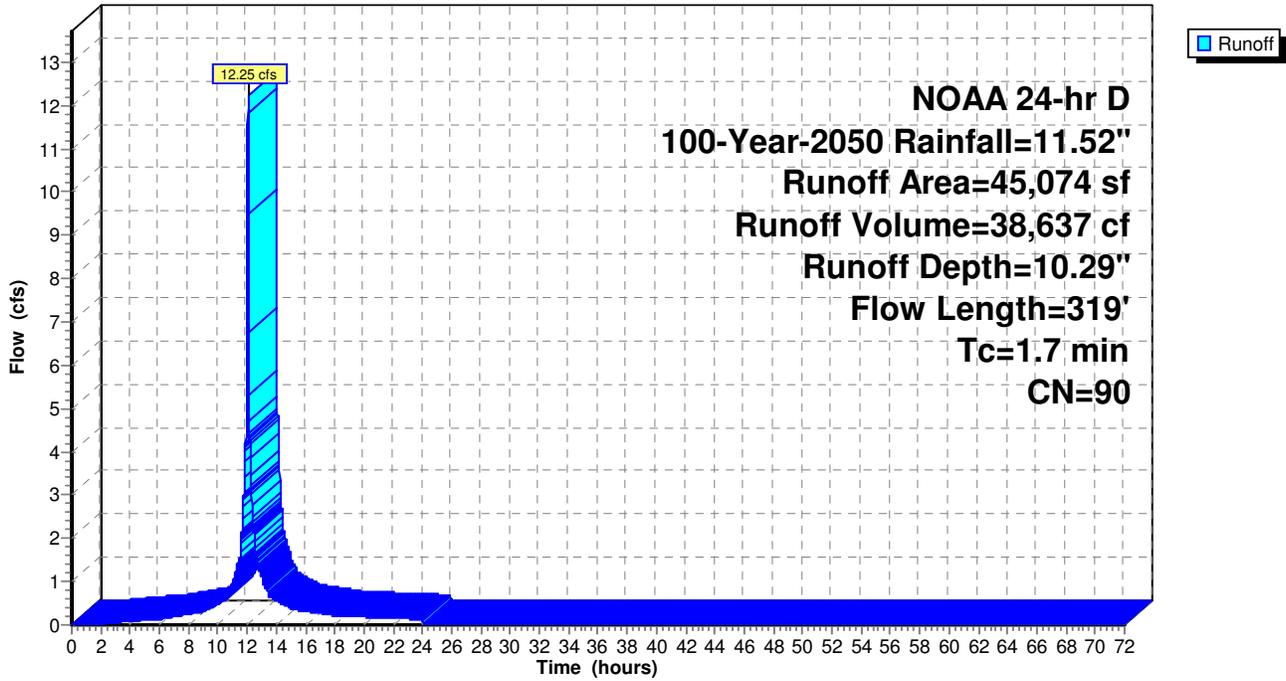
Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



### Subcatchment 37S: Ext DA 3

Hydrograph



**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	11.52	10.29	0.00
1.00	0.13	0.00	0.00	52.00	11.52	10.29	0.00
2.00	0.28	0.00	0.01	53.00	11.52	10.29	0.00
3.00	0.43	0.03	0.05	54.00	11.52	10.29	0.00
4.00	0.60	0.10	0.08	55.00	11.52	10.29	0.00
5.00	0.79	0.19	0.11	56.00	11.52	10.29	0.00
6.00	0.98	0.31	0.14	57.00	11.52	10.29	0.00
7.00	1.21	0.47	0.19	58.00	11.52	10.29	0.00
8.00	1.49	0.68	0.25	59.00	11.52	10.29	0.00
9.00	1.83	0.95	0.31	60.00	11.52	10.29	0.00
10.00	2.28	1.34	0.49	61.00	11.52	10.29	0.00
11.00	2.99	1.98	0.92	62.00	11.52	10.29	0.00
12.00	5.52	4.38	<b>7.28</b>	63.00	11.52	10.29	0.00
13.00	8.53	7.32	<b>1.11</b>	64.00	11.52	10.29	0.00
14.00	9.24	8.02	0.57	65.00	11.52	10.29	0.00
15.00	9.69	8.48	0.39	66.00	11.52	10.29	0.00
16.00	10.03	8.80	0.32	67.00	11.52	10.29	0.00
17.00	10.31	9.08	0.27	68.00	11.52	10.29	0.00
18.00	10.54	9.31	0.21	69.00	11.52	10.29	0.00
19.00	10.73	9.51	0.20	70.00	11.52	10.29	0.00
20.00	10.92	9.69	0.18	71.00	11.52	10.29	0.00
21.00	11.09	9.86	0.17	72.00	11.52	10.29	0.00
22.00	11.24	10.01	0.16				
23.00	11.39	10.16	0.14				
24.00	<b>11.52</b>	<b>10.29</b>	0.13				
25.00	11.52	10.29	0.00				
26.00	11.52	10.29	0.00				
27.00	11.52	10.29	0.00				
28.00	11.52	10.29	0.00				
29.00	11.52	10.29	0.00				
30.00	11.52	10.29	0.00				
31.00	11.52	10.29	0.00				
32.00	11.52	10.29	0.00				
33.00	11.52	10.29	0.00				
34.00	11.52	10.29	0.00				
35.00	11.52	10.29	0.00				
36.00	11.52	10.29	0.00				
37.00	11.52	10.29	0.00				
38.00	11.52	10.29	0.00				
39.00	11.52	10.29	0.00				
40.00	11.52	10.29	0.00				
41.00	11.52	10.29	0.00				
42.00	11.52	10.29	0.00				
43.00	11.52	10.29	0.00				
44.00	11.52	10.29	0.00				
45.00	11.52	10.29	0.00				
46.00	11.52	10.29	0.00				
47.00	11.52	10.29	0.00				
48.00	11.52	10.29	0.00				
49.00	11.52	10.29	0.00				
50.00	11.52	10.29	0.00				

**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 1.25 cfs @ 12.09 hrs, Volume= 4,240 cf, Depth=11.28"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

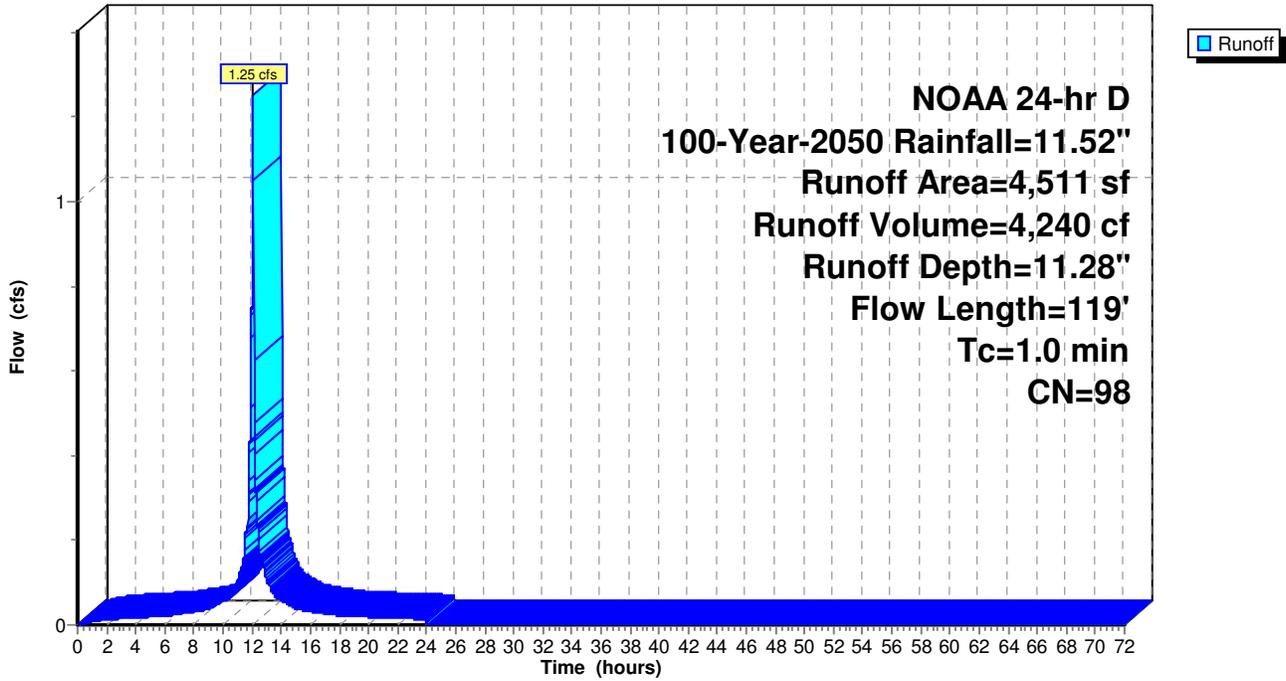
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



### Subcatchment 39S: Ext DA 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Prepared by Anderson Consulting Services

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Hillcrest Farms  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	11.52	11.28	0.00
1.00	0.13	0.03	0.01	52.00	11.52	11.28	0.00
2.00	0.28	0.13	0.01	53.00	11.52	11.28	0.00
3.00	0.43	0.26	0.01	54.00	11.52	11.28	0.00
4.00	0.60	0.41	0.02	55.00	11.52	11.28	0.00
5.00	0.79	0.59	0.02	56.00	11.52	11.28	0.00
6.00	0.98	0.77	0.02	57.00	11.52	11.28	0.00
7.00	1.21	1.00	0.03	58.00	11.52	11.28	0.00
8.00	1.49	1.28	0.03	59.00	11.52	11.28	0.00
9.00	1.83	1.60	0.04	60.00	11.52	11.28	0.00
10.00	2.28	2.06	0.06	61.00	11.52	11.28	0.00
11.00	2.99	2.76	0.10	62.00	11.52	11.28	0.00
12.00	5.52	5.28	<b>0.75</b>	63.00	11.52	11.28	0.00
13.00	8.53	8.29	<b>0.11</b>	64.00	11.52	11.28	0.00
14.00	9.24	9.00	0.06	65.00	11.52	11.28	0.00
15.00	9.69	9.45	0.04	66.00	11.52	11.28	0.00
16.00	10.03	9.78	0.03	67.00	11.52	11.28	0.00
17.00	10.31	10.07	0.03	68.00	11.52	11.28	0.00
18.00	10.54	10.30	0.02	69.00	11.52	11.28	0.00
19.00	10.73	10.49	0.02	70.00	11.52	11.28	0.00
20.00	10.92	10.67	0.02	71.00	11.52	11.28	0.00
21.00	11.09	10.84	0.02	72.00	11.52	11.28	0.00
22.00	11.24	11.00	0.02				
23.00	11.39	11.15	0.01				
24.00	<b>11.52</b>	<b>11.28</b>	0.01				
25.00	11.52	11.28	0.00				
26.00	11.52	11.28	0.00				
27.00	11.52	11.28	0.00				
28.00	11.52	11.28	0.00				
29.00	11.52	11.28	0.00				
30.00	11.52	11.28	0.00				
31.00	11.52	11.28	0.00				
32.00	11.52	11.28	0.00				
33.00	11.52	11.28	0.00				
34.00	11.52	11.28	0.00				
35.00	11.52	11.28	0.00				
36.00	11.52	11.28	0.00				
37.00	11.52	11.28	0.00				
38.00	11.52	11.28	0.00				
39.00	11.52	11.28	0.00				
40.00	11.52	11.28	0.00				
41.00	11.52	11.28	0.00				
42.00	11.52	11.28	0.00				
43.00	11.52	11.28	0.00				
44.00	11.52	11.28	0.00				
45.00	11.52	11.28	0.00				
46.00	11.52	11.28	0.00				
47.00	11.52	11.28	0.00				
48.00	11.52	11.28	0.00				
49.00	11.52	11.28	0.00				
50.00	11.52	11.28	0.00				

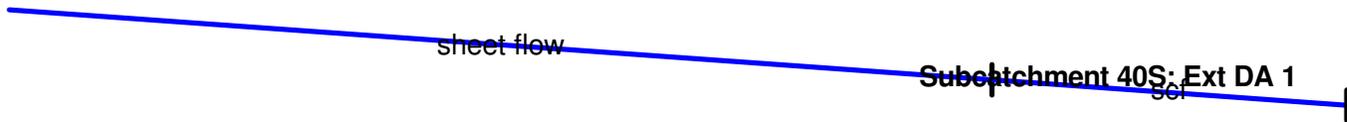
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.94 cfs @ 12.13 hrs, Volume= 3,308 cf, Depth=10.41"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

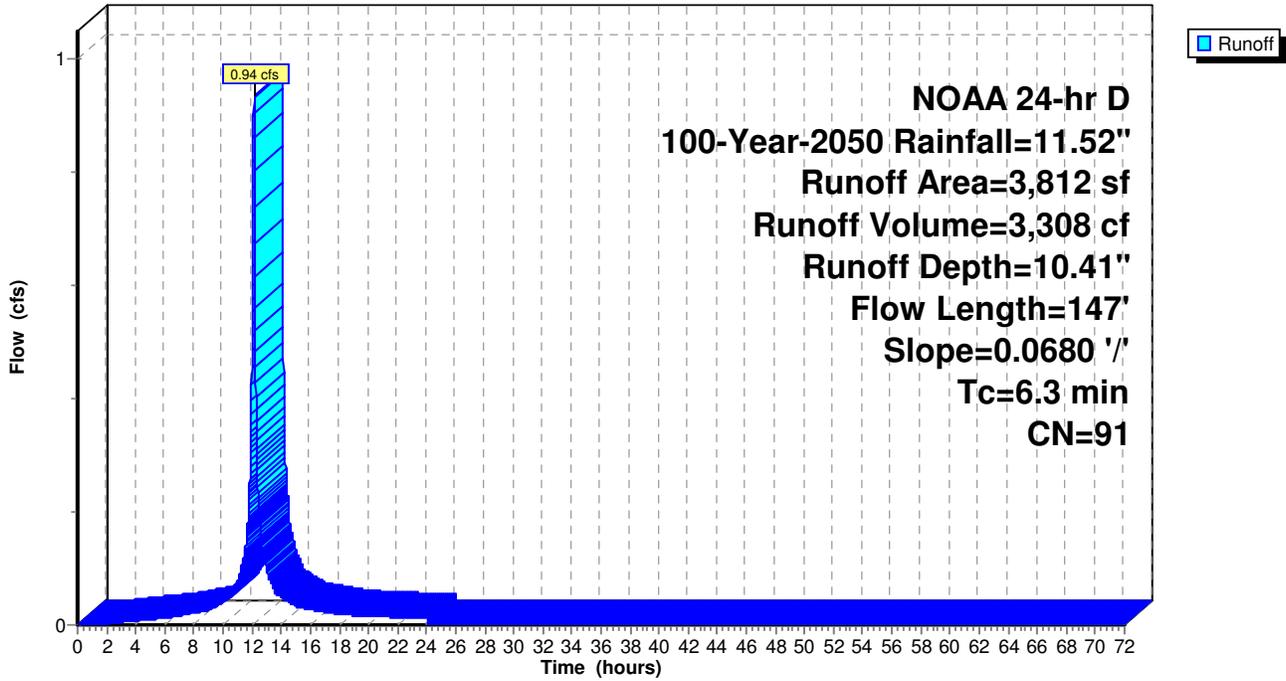
Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



### Subcatchment 40S: Ext DA 1

Hydrograph



**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	11.52	10.41	0.00
1.00	0.13	0.00	0.00	52.00	11.52	10.41	0.00
2.00	0.28	0.01	0.00	53.00	11.52	10.41	0.00
3.00	0.43	0.05	0.00	54.00	11.52	10.41	0.00
4.00	0.60	0.12	0.01	55.00	11.52	10.41	0.00
5.00	0.79	0.22	0.01	56.00	11.52	10.41	0.00
6.00	0.98	0.35	0.01	57.00	11.52	10.41	0.00
7.00	1.21	0.51	0.02	58.00	11.52	10.41	0.00
8.00	1.49	0.74	0.02	59.00	11.52	10.41	0.00
9.00	1.83	1.01	0.03	60.00	11.52	10.41	0.00
10.00	2.28	1.42	0.04	61.00	11.52	10.41	0.00
11.00	2.99	2.07	0.08	62.00	11.52	10.41	0.00
12.00	5.52	4.49	<b>0.51</b>	63.00	11.52	10.41	0.00
13.00	8.53	7.44	<b>0.10</b>	64.00	11.52	10.41	0.00
14.00	9.24	8.15	0.05	65.00	11.52	10.41	0.00
15.00	9.69	8.60	0.03	66.00	11.52	10.41	0.00
16.00	10.03	8.93	0.03	67.00	11.52	10.41	0.00
17.00	10.31	9.21	0.02	68.00	11.52	10.41	0.00
18.00	10.54	9.44	0.02	69.00	11.52	10.41	0.00
19.00	10.73	9.63	0.02	70.00	11.52	10.41	0.00
20.00	10.92	9.81	0.02	71.00	11.52	10.41	0.00
21.00	11.09	9.98	0.01	72.00	11.52	10.41	0.00
22.00	11.24	10.14	0.01				
23.00	11.39	10.28	0.01				
24.00	<b>11.52</b>	<b>10.41</b>	0.01				
25.00	11.52	10.41	0.00				
26.00	11.52	10.41	0.00				
27.00	11.52	10.41	0.00				
28.00	11.52	10.41	0.00				
29.00	11.52	10.41	0.00				
30.00	11.52	10.41	0.00				
31.00	11.52	10.41	0.00				
32.00	11.52	10.41	0.00				
33.00	11.52	10.41	0.00				
34.00	11.52	10.41	0.00				
35.00	11.52	10.41	0.00				
36.00	11.52	10.41	0.00				
37.00	11.52	10.41	0.00				
38.00	11.52	10.41	0.00				
39.00	11.52	10.41	0.00				
40.00	11.52	10.41	0.00				
41.00	11.52	10.41	0.00				
42.00	11.52	10.41	0.00				
43.00	11.52	10.41	0.00				
44.00	11.52	10.41	0.00				
45.00	11.52	10.41	0.00				
46.00	11.52	10.41	0.00				
47.00	11.52	10.41	0.00				
48.00	11.52	10.41	0.00				
49.00	11.52	10.41	0.00				
50.00	11.52	10.41	0.00				

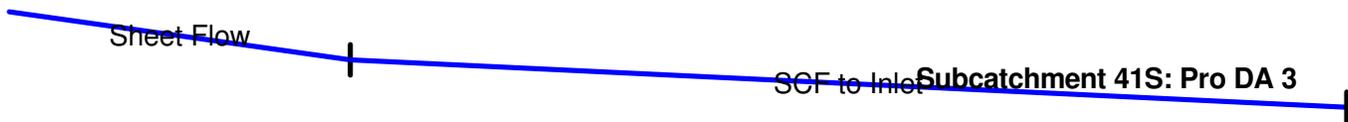
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 13.15 cfs @ 12.10 hrs, Volume= 43,032 cf, Depth=10.79"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

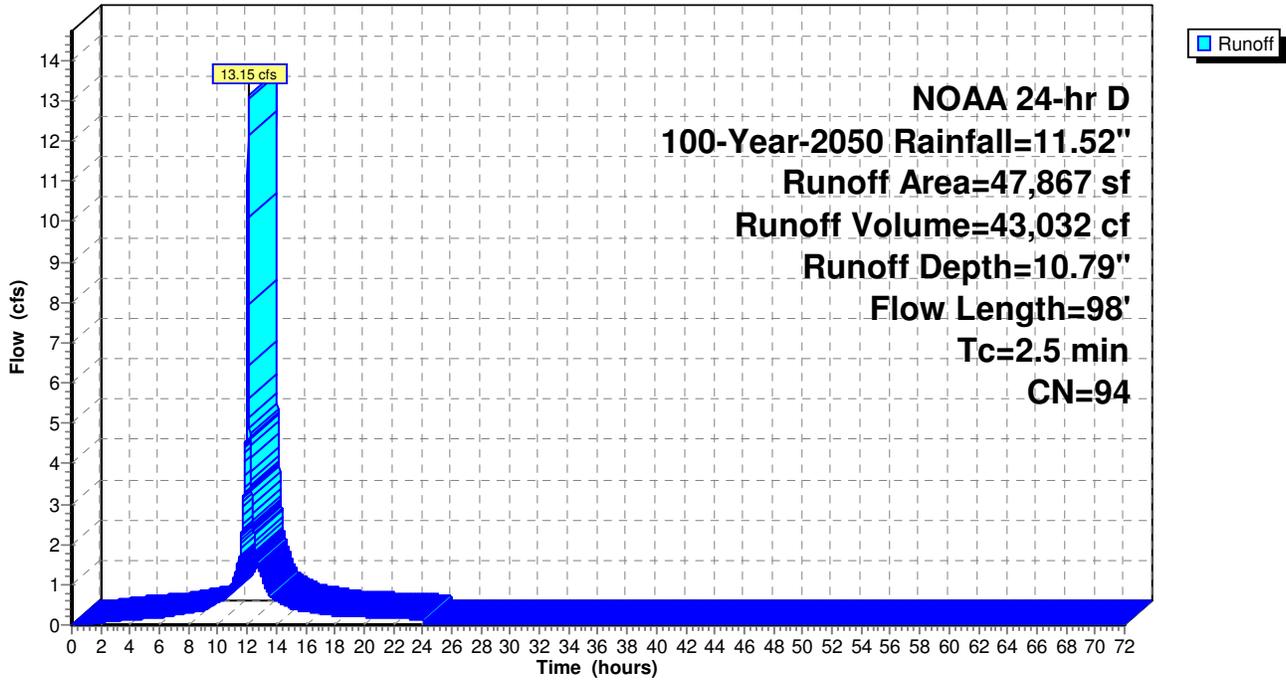
Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



### Subcatchment 41S: Pro DA 3

Hydrograph



**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	11.52	10.79	0.00
1.00	0.13	0.00	0.00	52.00	11.52	10.79	0.00
2.00	0.28	0.03	0.06	53.00	11.52	10.79	0.00
3.00	0.43	0.10	0.10	54.00	11.52	10.79	0.00
4.00	0.60	0.20	0.13	55.00	11.52	10.79	0.00
5.00	0.79	0.34	0.16	56.00	11.52	10.79	0.00
6.00	0.98	0.49	0.18	57.00	11.52	10.79	0.00
7.00	1.21	0.68	0.24	58.00	11.52	10.79	0.00
8.00	1.49	0.93	0.30	59.00	11.52	10.79	0.00
9.00	1.83	1.24	0.36	60.00	11.52	10.79	0.00
10.00	2.28	1.66	0.56	61.00	11.52	10.79	0.00
11.00	2.99	2.34	1.03	62.00	11.52	10.79	0.00
12.00	5.52	4.82	<b>7.85</b>	63.00	11.52	10.79	0.00
13.00	8.53	7.80	<b>1.19</b>	64.00	11.52	10.79	0.00
14.00	9.24	8.51	0.61	65.00	11.52	10.79	0.00
15.00	9.69	8.97	0.41	66.00	11.52	10.79	0.00
16.00	10.03	9.30	0.34	67.00	11.52	10.79	0.00
17.00	10.31	9.58	0.29	68.00	11.52	10.79	0.00
18.00	10.54	9.81	0.23	69.00	11.52	10.79	0.00
19.00	10.73	10.00	0.21	70.00	11.52	10.79	0.00
20.00	10.92	10.19	0.20	71.00	11.52	10.79	0.00
21.00	11.09	10.36	0.18	72.00	11.52	10.79	0.00
22.00	11.24	10.51	0.17				
23.00	11.39	10.66	0.15				
24.00	<b>11.52</b>	<b>10.79</b>	0.14				
25.00	11.52	10.79	0.00				
26.00	11.52	10.79	0.00				
27.00	11.52	10.79	0.00				
28.00	11.52	10.79	0.00				
29.00	11.52	10.79	0.00				
30.00	11.52	10.79	0.00				
31.00	11.52	10.79	0.00				
32.00	11.52	10.79	0.00				
33.00	11.52	10.79	0.00				
34.00	11.52	10.79	0.00				
35.00	11.52	10.79	0.00				
36.00	11.52	10.79	0.00				
37.00	11.52	10.79	0.00				
38.00	11.52	10.79	0.00				
39.00	11.52	10.79	0.00				
40.00	11.52	10.79	0.00				
41.00	11.52	10.79	0.00				
42.00	11.52	10.79	0.00				
43.00	11.52	10.79	0.00				
44.00	11.52	10.79	0.00				
45.00	11.52	10.79	0.00				
46.00	11.52	10.79	0.00				
47.00	11.52	10.79	0.00				
48.00	11.52	10.79	0.00				
49.00	11.52	10.79	0.00				
50.00	11.52	10.79	0.00				

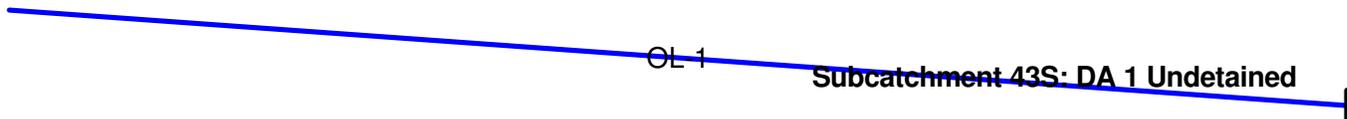
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.36 cfs @ 12.10 hrs, Volume= 1,032 cf, Depth= 8.44"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

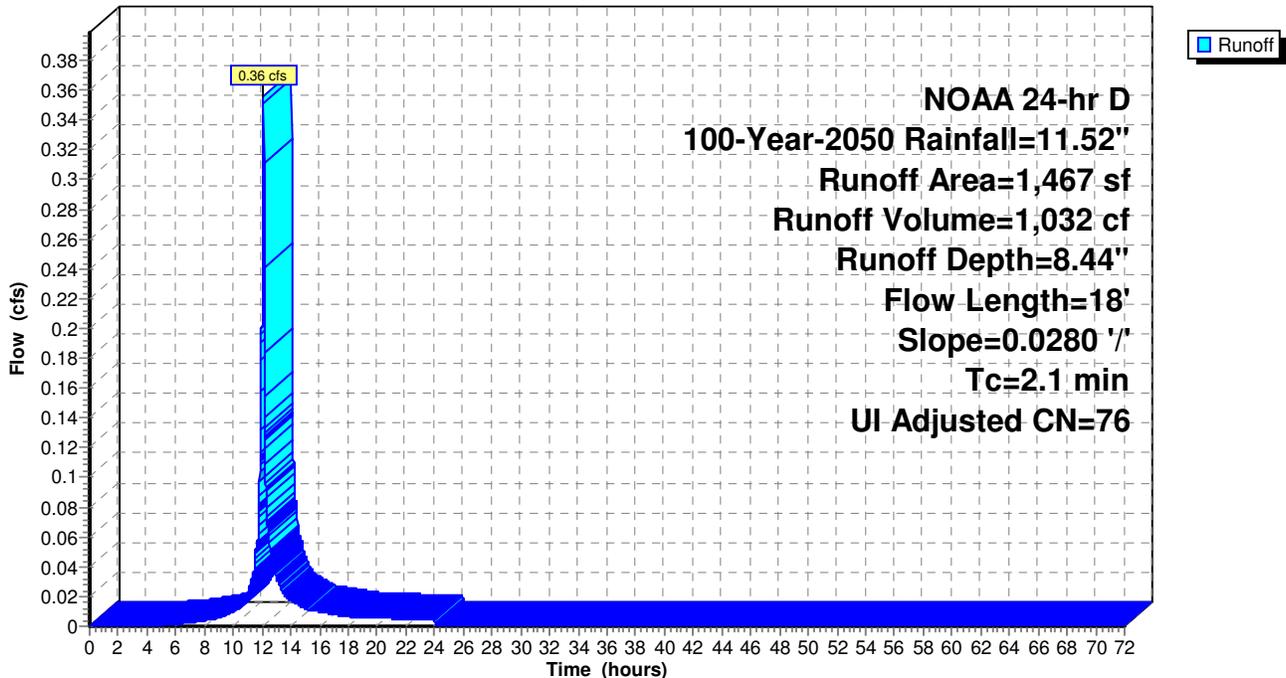
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	11.52	8.44	0.00
1.00	0.13	0.00	0.00	52.00	11.52	8.44	0.00
2.00	0.28	0.00	0.00	53.00	11.52	8.44	0.00
3.00	0.43	0.00	0.00	54.00	11.52	8.44	0.00
4.00	0.60	0.00	0.00	55.00	11.52	8.44	0.00
5.00	0.79	0.01	0.00	56.00	11.52	8.44	0.00
6.00	0.98	0.04	0.00	57.00	11.52	8.44	0.00
7.00	1.21	0.09	0.00	58.00	11.52	8.44	0.00
8.00	1.49	0.19	0.00	59.00	11.52	8.44	0.00
9.00	1.83	0.33	0.01	60.00	11.52	8.44	0.00
10.00	2.28	0.57	0.01	61.00	11.52	8.44	0.00
11.00	2.99	1.01	0.02	62.00	11.52	8.44	0.00
12.00	5.52	2.97	<b>0.20</b>	63.00	11.52	8.44	0.00
13.00	8.53	5.64	<b>0.03</b>	64.00	11.52	8.44	0.00
14.00	9.24	6.29	0.02	65.00	11.52	8.44	0.00
15.00	9.69	6.72	0.01	66.00	11.52	8.44	0.00
16.00	10.03	7.03	0.01	67.00	11.52	8.44	0.00
17.00	10.31	7.29	0.01	68.00	11.52	8.44	0.00
18.00	10.54	7.51	0.01	69.00	11.52	8.44	0.00
19.00	10.73	7.70	0.01	70.00	11.52	8.44	0.00
20.00	10.92	7.87	0.01	71.00	11.52	8.44	0.00
21.00	11.09	8.03	0.01	72.00	11.52	8.44	0.00
22.00	11.24	8.18	0.00				
23.00	11.39	8.32	0.00				
24.00	<b>11.52</b>	<b>8.44</b>	0.00				
25.00	11.52	8.44	0.00				
26.00	11.52	8.44	0.00				
27.00	11.52	8.44	0.00				
28.00	11.52	8.44	0.00				
29.00	11.52	8.44	0.00				
30.00	11.52	8.44	0.00				
31.00	11.52	8.44	0.00				
32.00	11.52	8.44	0.00				
33.00	11.52	8.44	0.00				
34.00	11.52	8.44	0.00				
35.00	11.52	8.44	0.00				
36.00	11.52	8.44	0.00				
37.00	11.52	8.44	0.00				
38.00	11.52	8.44	0.00				
39.00	11.52	8.44	0.00				
40.00	11.52	8.44	0.00				
41.00	11.52	8.44	0.00				
42.00	11.52	8.44	0.00				
43.00	11.52	8.44	0.00				
44.00	11.52	8.44	0.00				
45.00	11.52	8.44	0.00				
46.00	11.52	8.44	0.00				
47.00	11.52	8.44	0.00				
48.00	11.52	8.44	0.00				
49.00	11.52	8.44	0.00				
50.00	11.52	8.44	0.00				

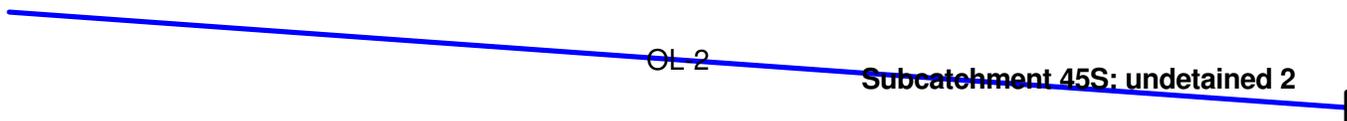
### Summary for Subcatchment 45S: undetained 2

Runoff = 1.09 cfs @ 12.10 hrs, Volume= 3,331 cf, Depth= 9.51"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

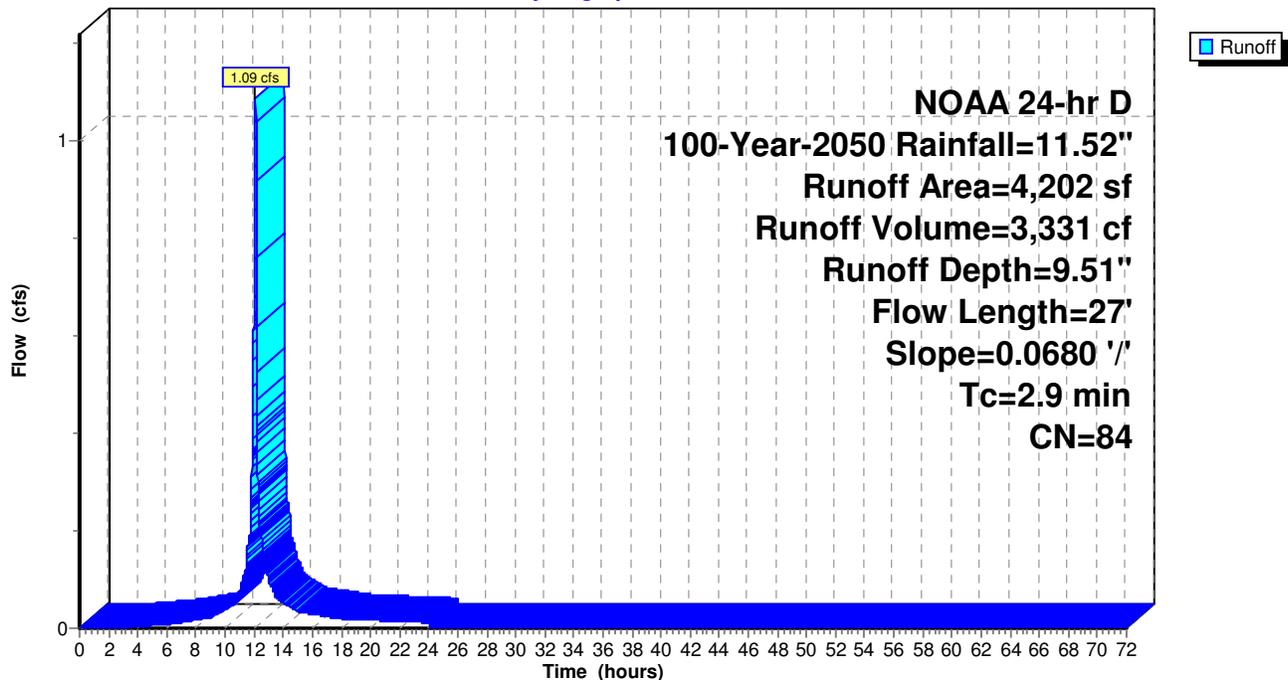
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



### Subcatchment 45S: undetained 2

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

Hillcrest Farms  
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

Prepared by Anderson Consulting Services

Printed 11/25/2025

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	11.52	9.51	0.00
1.00	0.13	0.00	0.00	52.00	11.52	9.51	0.00
2.00	0.28	0.00	0.00	53.00	11.52	9.51	0.00
3.00	0.43	0.00	0.00	54.00	11.52	9.51	0.00
4.00	0.60	0.02	0.00	55.00	11.52	9.51	0.00
5.00	0.79	0.07	0.01	56.00	11.52	9.51	0.00
6.00	0.98	0.14	0.01	57.00	11.52	9.51	0.00
7.00	1.21	0.25	0.01	58.00	11.52	9.51	0.00
8.00	1.49	0.41	0.02	59.00	11.52	9.51	0.00
9.00	1.83	0.62	0.02	60.00	11.52	9.51	0.00
10.00	2.28	0.95	0.04	61.00	11.52	9.51	0.00
11.00	2.99	1.51	0.08	62.00	11.52	9.51	0.00
12.00	5.52	3.75	<b>0.64</b>	63.00	11.52	9.51	0.00
13.00	8.53	6.60	<b>0.10</b>	64.00	11.52	9.51	0.00
14.00	9.24	7.29	0.05	65.00	11.52	9.51	0.00
15.00	9.69	7.73	0.04	66.00	11.52	9.51	0.00
16.00	10.03	8.05	0.03	67.00	11.52	9.51	0.00
17.00	10.31	8.33	0.02	68.00	11.52	9.51	0.00
18.00	10.54	8.55	0.02	69.00	11.52	9.51	0.00
19.00	10.73	8.74	0.02	70.00	11.52	9.51	0.00
20.00	10.92	8.92	0.02	71.00	11.52	9.51	0.00
21.00	11.09	9.09	0.02	72.00	11.52	9.51	0.00
22.00	11.24	9.24	0.01				
23.00	11.39	9.38	0.01				
24.00	<b>11.52</b>	<b>9.51</b>	0.01				
25.00	11.52	9.51	0.00				
26.00	11.52	9.51	0.00				
27.00	11.52	9.51	0.00				
28.00	11.52	9.51	0.00				
29.00	11.52	9.51	0.00				
30.00	11.52	9.51	0.00				
31.00	11.52	9.51	0.00				
32.00	11.52	9.51	0.00				
33.00	11.52	9.51	0.00				
34.00	11.52	9.51	0.00				
35.00	11.52	9.51	0.00				
36.00	11.52	9.51	0.00				
37.00	11.52	9.51	0.00				
38.00	11.52	9.51	0.00				
39.00	11.52	9.51	0.00				
40.00	11.52	9.51	0.00				
41.00	11.52	9.51	0.00				
42.00	11.52	9.51	0.00				
43.00	11.52	9.51	0.00				
44.00	11.52	9.51	0.00				
45.00	11.52	9.51	0.00				
46.00	11.52	9.51	0.00				
47.00	11.52	9.51	0.00				
48.00	11.52	9.51	0.00				
49.00	11.52	9.51	0.00				
50.00	11.52	9.51	0.00				

**Summary for Pond 42P: Detention System**

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 10.79" for 100-Year-2050 event  
 Inflow = 13.15 cfs @ 12.10 hrs, Volume= 43,032 cf  
 Outflow = 9.53 cfs @ 12.13 hrs, Volume= 43,032 cf, Atten= 28%, Lag= 2.0 min  
 Primary = 9.53 cfs @ 12.13 hrs, Volume= 43,032 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 406.30' @ 12.13 hrs Surf.Area= 1,522 sf Storage= 5,541 cf

Plug-Flow detention time= 13.0 min calculated for 43,026 cf (100% of inflow)  
 Center-of-Mass det. time= 13.1 min ( 765.1 - 752.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

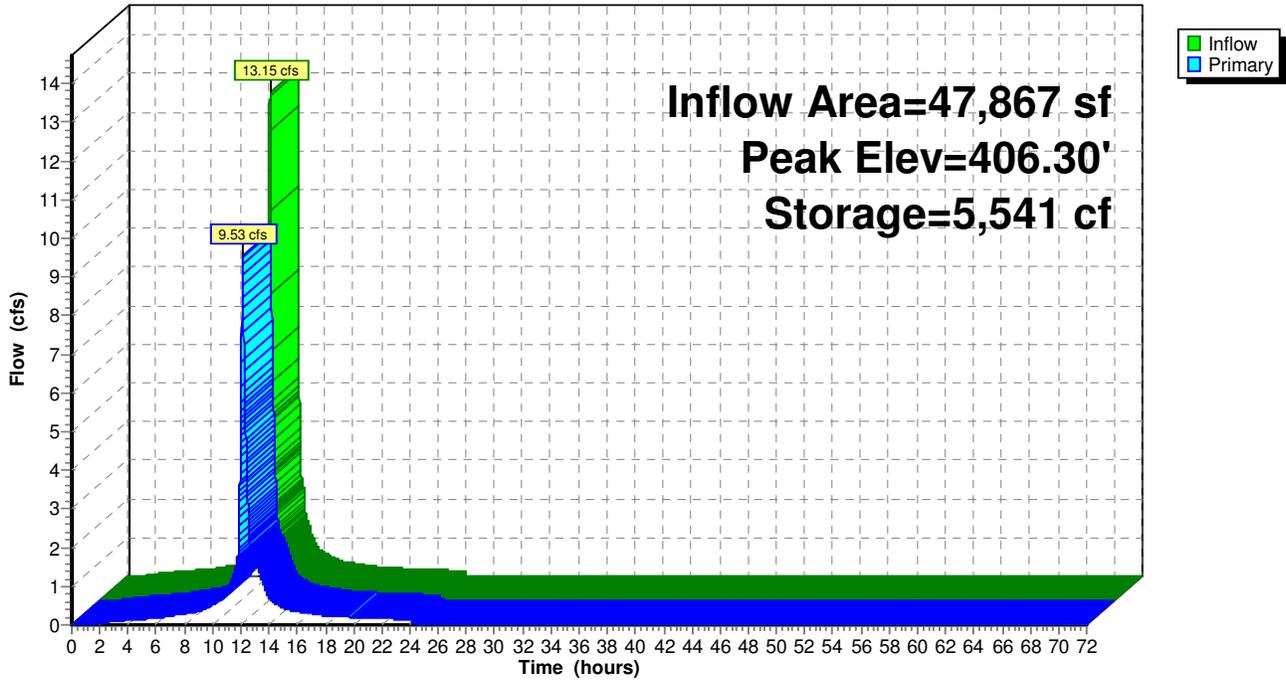
**Primary OutFlow** Max=9.52 cfs @ 12.13 hrs HW=406.29' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 2.89 cfs @ 8.28 fps)
- 2=Orifice/Grate (Orifice Controls 4.66 cfs @ 6.22 fps)
- 3=Orifice/Grate (Orifice Controls 1.96 cfs @ 3.93 fps)



### Pond 42P: Detention System

Hydrograph



**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	403.00	0.00
2.00	0.06	47	403.11	0.04
4.00	0.13	110	403.19	0.12
6.00	0.18	147	403.23	0.18
8.00	0.30	219	403.30	0.29
10.00	0.56	365	403.43	0.53
12.00	<b>7.85</b>	<b>3,563</b>	<b>405.21</b>	<b>5.06</b>
14.00	<b>0.61</b>	<b>475</b>	<b>403.52</b>	<b>0.71</b>
16.00	0.34	255	403.34	0.35
18.00	0.23	185	403.27	0.24
20.00	0.20	160	403.25	0.20
22.00	0.17	142	403.23	0.17
24.00	0.14	123	403.21	0.14
26.00	0.00	1	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

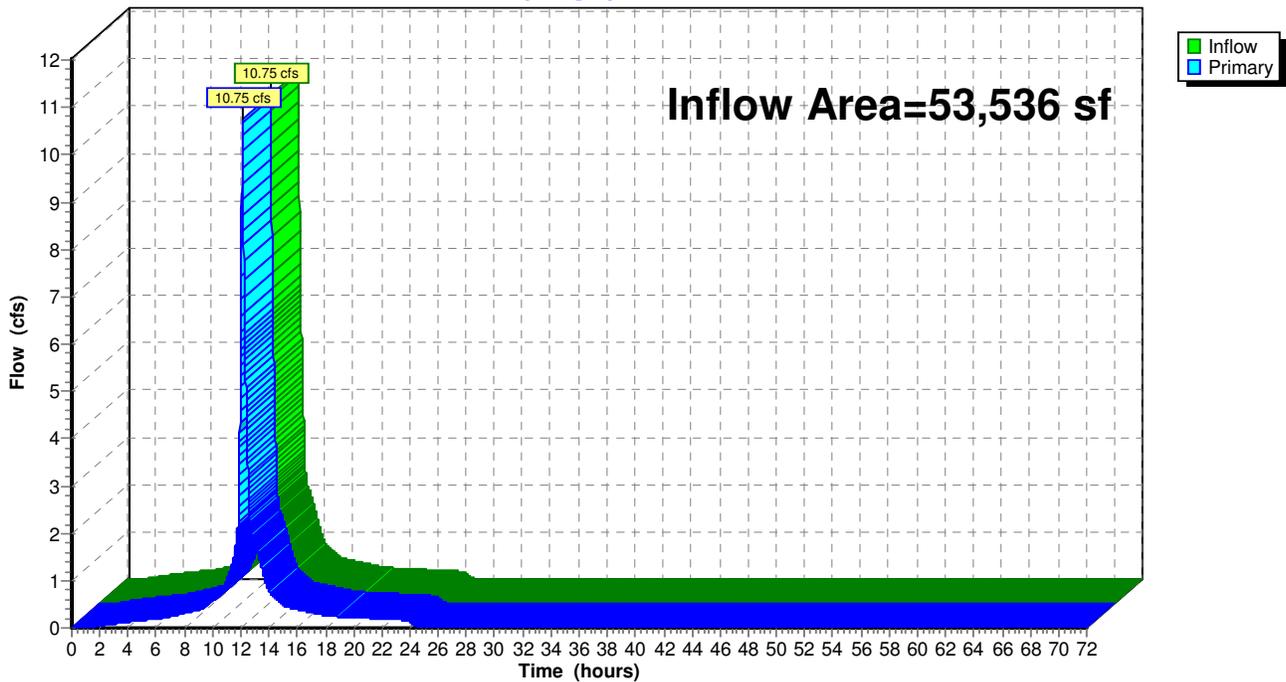
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 10.62" for 100-Year-2050 event  
Inflow = 10.75 cfs @ 12.12 hrs, Volume= 47,395 cf  
Primary = 10.75 cfs @ 12.12 hrs, Volume= 47,395 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
2.00	0.04	0.00	0.04	53.00	0.00	0.00	0.00
3.00	0.09	0.00	0.09	54.00	0.00	0.00	0.00
4.00	0.13	0.00	0.13	55.00	0.00	0.00	0.00
5.00	0.16	0.00	0.16	56.00	0.00	0.00	0.00
6.00	0.19	0.00	0.19	57.00	0.00	0.00	0.00
7.00	0.25	0.00	0.25	58.00	0.00	0.00	0.00
8.00	0.31	0.00	0.31	59.00	0.00	0.00	0.00
9.00	0.38	0.00	0.38	60.00	0.00	0.00	0.00
10.00	0.58	0.00	0.58	61.00	0.00	0.00	0.00
11.00	1.00	0.00	1.00	62.00	0.00	0.00	0.00
12.00	<b>5.90</b>	0.00	<b>5.90</b>	63.00	0.00	0.00	0.00
13.00	<b>1.80</b>	0.00	<b>1.80</b>	64.00	0.00	0.00	0.00
14.00	0.78	0.00	0.78	65.00	0.00	0.00	0.00
15.00	0.49	0.00	0.49	66.00	0.00	0.00	0.00
16.00	0.39	0.00	0.39	67.00	0.00	0.00	0.00
17.00	0.33	0.00	0.33	68.00	0.00	0.00	0.00
18.00	0.26	0.00	0.26	69.00	0.00	0.00	0.00
19.00	0.24	0.00	0.24	70.00	0.00	0.00	0.00
20.00	0.22	0.00	0.22	71.00	0.00	0.00	0.00
21.00	0.21	0.00	0.21	72.00	0.00	0.00	0.00
22.00	0.19	0.00	0.19				
23.00	0.17	0.00	0.17				
24.00	0.16	0.00	0.16				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

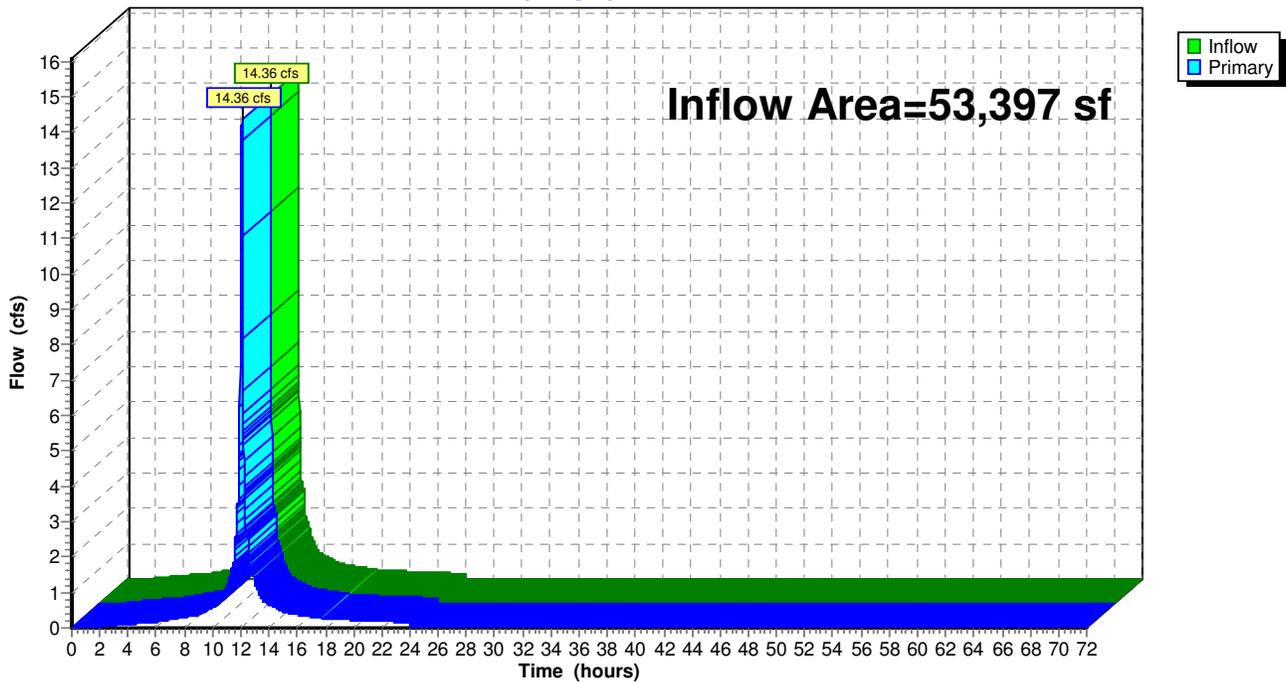
### Summary for Link 45L: existing total discharge

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 10.38" for 100-Year-2050 event  
Inflow = 14.36 cfs @ 12.10 hrs, Volume= 46,184 cf  
Primary = 14.36 cfs @ 12.10 hrs, Volume= 46,184 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 45L: existing total discharge

Hydrograph



**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.01	0.00	0.01	52.00	0.00	0.00	0.00
2.00	0.03	0.00	0.03	53.00	0.00	0.00	0.00
3.00	0.07	0.00	0.07	54.00	0.00	0.00	0.00
4.00	0.11	0.00	0.11	55.00	0.00	0.00	0.00
5.00	0.14	0.00	0.14	56.00	0.00	0.00	0.00
6.00	0.17	0.00	0.17	57.00	0.00	0.00	0.00
7.00	0.23	0.00	0.23	58.00	0.00	0.00	0.00
8.00	0.30	0.00	0.30	59.00	0.00	0.00	0.00
9.00	0.37	0.00	0.37	60.00	0.00	0.00	0.00
10.00	0.59	0.00	0.59	61.00	0.00	0.00	0.00
11.00	1.10	0.00	1.10	62.00	0.00	0.00	0.00
12.00	<b>8.55</b>	0.00	<b>8.55</b>	63.00	0.00	0.00	0.00
13.00	<b>1.32</b>	0.00	<b>1.32</b>	64.00	0.00	0.00	0.00
14.00	0.68	0.00	0.68	65.00	0.00	0.00	0.00
15.00	0.46	0.00	0.46	66.00	0.00	0.00	0.00
16.00	0.38	0.00	0.38	67.00	0.00	0.00	0.00
17.00	0.32	0.00	0.32	68.00	0.00	0.00	0.00
18.00	0.25	0.00	0.25	69.00	0.00	0.00	0.00
19.00	0.23	0.00	0.23	70.00	0.00	0.00	0.00
20.00	0.22	0.00	0.22	71.00	0.00	0.00	0.00
21.00	0.20	0.00	0.20	72.00	0.00	0.00	0.00
22.00	0.19	0.00	0.19				
23.00	0.17	0.00	0.17				
24.00	0.16	0.00	0.16				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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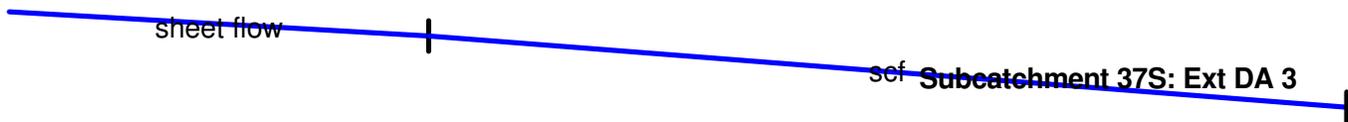
**Summary for Subcatchment 37S: Ext DA 3**

Runoff = 1.93 cfs @ 1.09 hrs, Volume= 1,855 cf, Depth= 0.49"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NJ DEP 2-hr WQ Rainfall=1.25"

Area (sf)	CN	Description
30,716	98	Paved parking, HSG C
14,358	74	>75% Grass cover, Good, HSG C
45,074	90	Weighted Average
14,358		31.85% Pervious Area
30,716		68.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0420	1.93		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.8	219	0.0570	4.85		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.7	319	Total			



**2025-09-22 HydroCad - hillcrest farms A**

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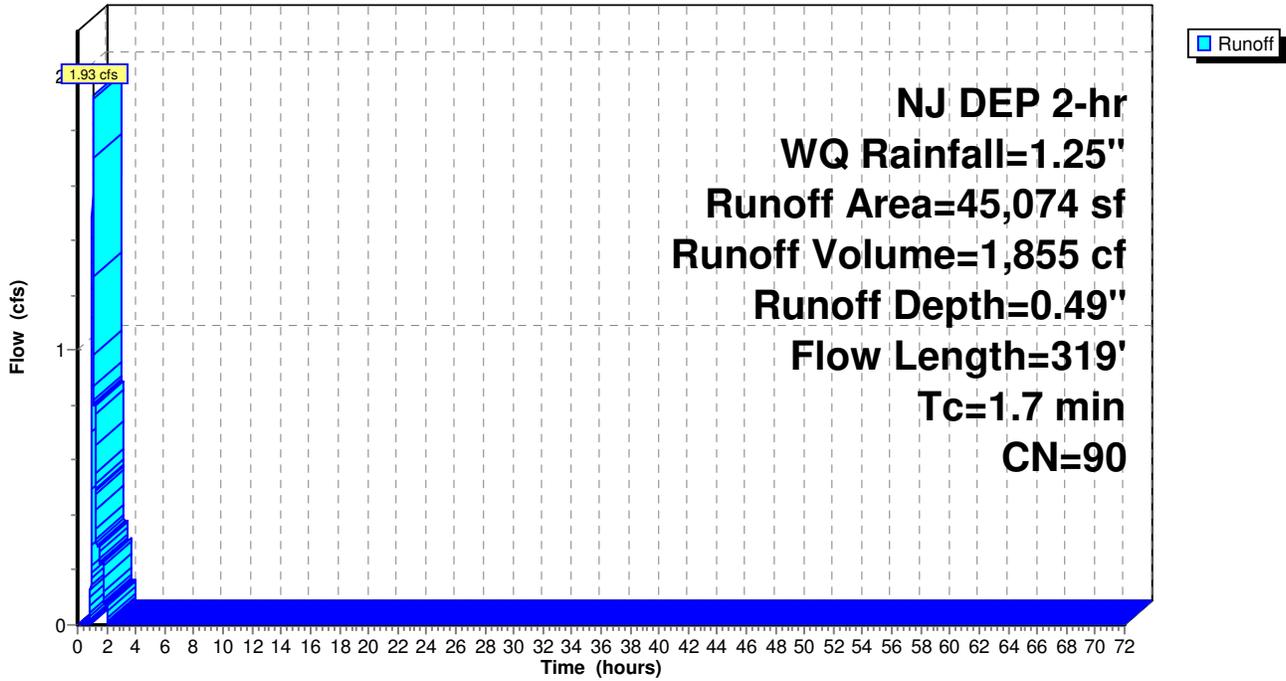
Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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**Subcatchment 37S: Ext DA 3**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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**Hydrograph for Subcatchment 37S: Ext DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	1.25	0.49	0.00
1.00	0.63	0.11	<b>1.32</b>	52.00	1.25	0.49	0.00
2.00	<b>1.25</b>	<b>0.49</b>	<b>0.08</b>	53.00	1.25	0.49	0.00
3.00	1.25	0.49	0.00	54.00	1.25	0.49	0.00
4.00	1.25	0.49	0.00	55.00	1.25	0.49	0.00
5.00	1.25	0.49	0.00	56.00	1.25	0.49	0.00
6.00	1.25	0.49	0.00	57.00	1.25	0.49	0.00
7.00	1.25	0.49	0.00	58.00	1.25	0.49	0.00
8.00	1.25	0.49	0.00	59.00	1.25	0.49	0.00
9.00	1.25	0.49	0.00	60.00	1.25	0.49	0.00
10.00	1.25	0.49	0.00	61.00	1.25	0.49	0.00
11.00	1.25	0.49	0.00	62.00	1.25	0.49	0.00
12.00	1.25	0.49	0.00	63.00	1.25	0.49	0.00
13.00	1.25	0.49	0.00	64.00	1.25	0.49	0.00
14.00	1.25	0.49	0.00	65.00	1.25	0.49	0.00
15.00	1.25	0.49	0.00	66.00	1.25	0.49	0.00
16.00	1.25	0.49	0.00	67.00	1.25	0.49	0.00
17.00	1.25	0.49	0.00	68.00	1.25	0.49	0.00
18.00	1.25	0.49	0.00	69.00	1.25	0.49	0.00
19.00	1.25	0.49	0.00	70.00	1.25	0.49	0.00
20.00	1.25	0.49	0.00	71.00	1.25	0.49	0.00
21.00	1.25	0.49	0.00	72.00	1.25	0.49	0.00
22.00	1.25	0.49	0.00				
23.00	1.25	0.49	0.00				
24.00	1.25	0.49	0.00				
25.00	1.25	0.49	0.00				
26.00	1.25	0.49	0.00				
27.00	1.25	0.49	0.00				
28.00	1.25	0.49	0.00				
29.00	1.25	0.49	0.00				
30.00	1.25	0.49	0.00				
31.00	1.25	0.49	0.00				
32.00	1.25	0.49	0.00				
33.00	1.25	0.49	0.00				
34.00	1.25	0.49	0.00				
35.00	1.25	0.49	0.00				
36.00	1.25	0.49	0.00				
37.00	1.25	0.49	0.00				
38.00	1.25	0.49	0.00				
39.00	1.25	0.49	0.00				
40.00	1.25	0.49	0.00				
41.00	1.25	0.49	0.00				
42.00	1.25	0.49	0.00				
43.00	1.25	0.49	0.00				
44.00	1.25	0.49	0.00				
45.00	1.25	0.49	0.00				
46.00	1.25	0.49	0.00				
47.00	1.25	0.49	0.00				
48.00	1.25	0.49	0.00				
49.00	1.25	0.49	0.00				
50.00	1.25	0.49	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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**Summary for Subcatchment 39S: Ext DA 2**

Runoff = 0.32 cfs @ 1.08 hrs, Volume= 389 cf, Depth= 1.03"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NJ DEP 2-hr WQ Rainfall=1.25"

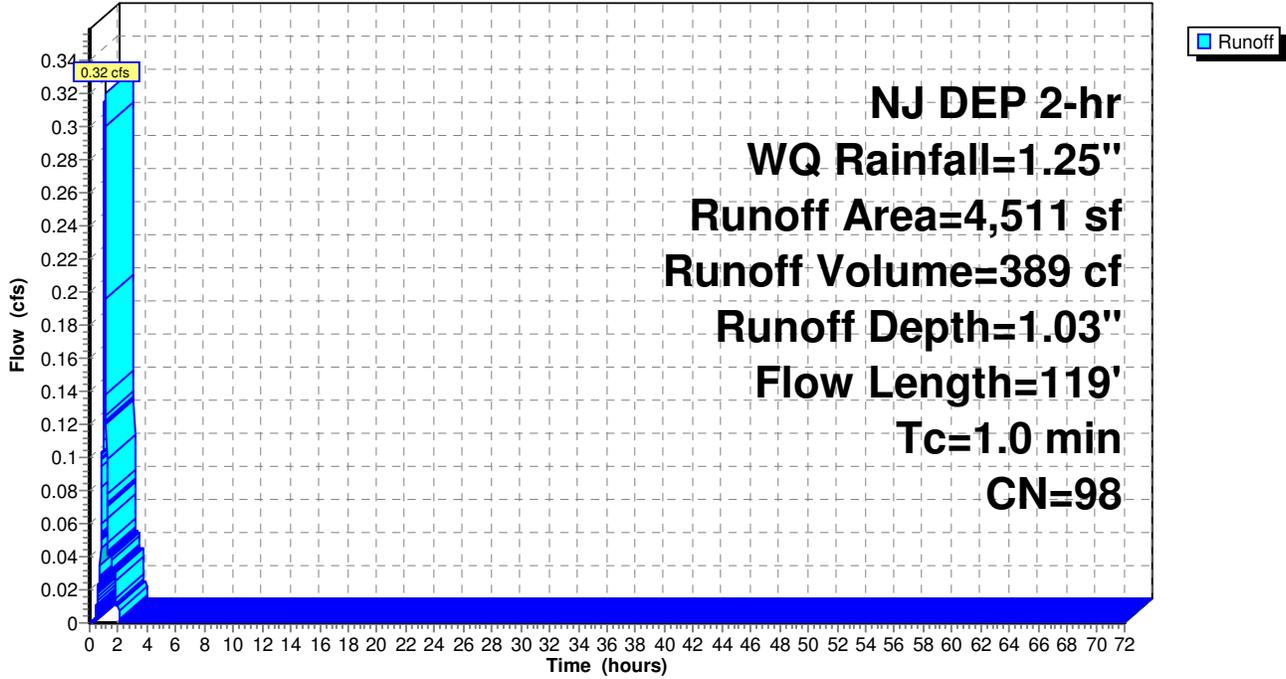
Area (sf)	CN	Description
4,185	98	Paved parking, HSG C
326	98	Paved parking, HSG C
4,511	98	Weighted Average
4,511		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	104	0.0385	1.88		<b>Sheet Flow, sheet flow</b> Smooth surfaces n= 0.011 P2= 3.47"
0.1	15	0.0150	2.49		<b>Shallow Concentrated Flow, scf</b> Paved Kv= 20.3 fps
1.0	119	Total			



Subcatchment 39S: Ext DA 2

Hydrograph



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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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**Hydrograph for Subcatchment 39S: Ext DA 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	1.25	1.03	0.00
1.00	0.63	0.43	<b>0.31</b>	52.00	1.25	1.03	0.00
2.00	<b>1.25</b>	<b>1.03</b>	<b>0.01</b>	53.00	1.25	1.03	0.00
3.00	1.25	1.03	0.00	54.00	1.25	1.03	0.00
4.00	1.25	1.03	0.00	55.00	1.25	1.03	0.00
5.00	1.25	1.03	0.00	56.00	1.25	1.03	0.00
6.00	1.25	1.03	0.00	57.00	1.25	1.03	0.00
7.00	1.25	1.03	0.00	58.00	1.25	1.03	0.00
8.00	1.25	1.03	0.00	59.00	1.25	1.03	0.00
9.00	1.25	1.03	0.00	60.00	1.25	1.03	0.00
10.00	1.25	1.03	0.00	61.00	1.25	1.03	0.00
11.00	1.25	1.03	0.00	62.00	1.25	1.03	0.00
12.00	1.25	1.03	0.00	63.00	1.25	1.03	0.00
13.00	1.25	1.03	0.00	64.00	1.25	1.03	0.00
14.00	1.25	1.03	0.00	65.00	1.25	1.03	0.00
15.00	1.25	1.03	0.00	66.00	1.25	1.03	0.00
16.00	1.25	1.03	0.00	67.00	1.25	1.03	0.00
17.00	1.25	1.03	0.00	68.00	1.25	1.03	0.00
18.00	1.25	1.03	0.00	69.00	1.25	1.03	0.00
19.00	1.25	1.03	0.00	70.00	1.25	1.03	0.00
20.00	1.25	1.03	0.00	71.00	1.25	1.03	0.00
21.00	1.25	1.03	0.00	72.00	1.25	1.03	0.00
22.00	1.25	1.03	0.00				
23.00	1.25	1.03	0.00				
24.00	1.25	1.03	0.00				
25.00	1.25	1.03	0.00				
26.00	1.25	1.03	0.00				
27.00	1.25	1.03	0.00				
28.00	1.25	1.03	0.00				
29.00	1.25	1.03	0.00				
30.00	1.25	1.03	0.00				
31.00	1.25	1.03	0.00				
32.00	1.25	1.03	0.00				
33.00	1.25	1.03	0.00				
34.00	1.25	1.03	0.00				
35.00	1.25	1.03	0.00				
36.00	1.25	1.03	0.00				
37.00	1.25	1.03	0.00				
38.00	1.25	1.03	0.00				
39.00	1.25	1.03	0.00				
40.00	1.25	1.03	0.00				
41.00	1.25	1.03	0.00				
42.00	1.25	1.03	0.00				
43.00	1.25	1.03	0.00				
44.00	1.25	1.03	0.00				
45.00	1.25	1.03	0.00				
46.00	1.25	1.03	0.00				
47.00	1.25	1.03	0.00				
48.00	1.25	1.03	0.00				
49.00	1.25	1.03	0.00				
50.00	1.25	1.03	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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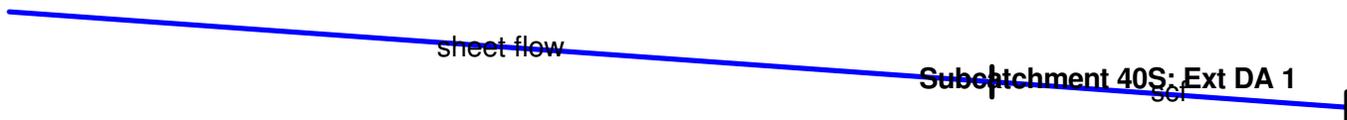
**Summary for Subcatchment 40S: Ext DA 1**

Runoff = 0.15 cfs @ 1.12 hrs, Volume= 172 cf, Depth= 0.54"  
Routed to Link 45L : existing total discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NJ DEP 2-hr WQ Rainfall=1.25"

Area (sf)	CN	Description
1,374	98	Paved parking, HSG C
2,438	87	Dirt roads, HSG C
3,812	91	Weighted Average
2,438		63.96% Pervious Area
1,374		36.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	108	0.0680	0.29		<b>Sheet Flow, sheet flow</b> Grass: Short n= 0.150 P2= 3.47"
0.2	39	0.0680	4.20		<b>Shallow Concentrated Flow, scf</b> Unpaved Kv= 16.1 fps
6.3	147	Total			



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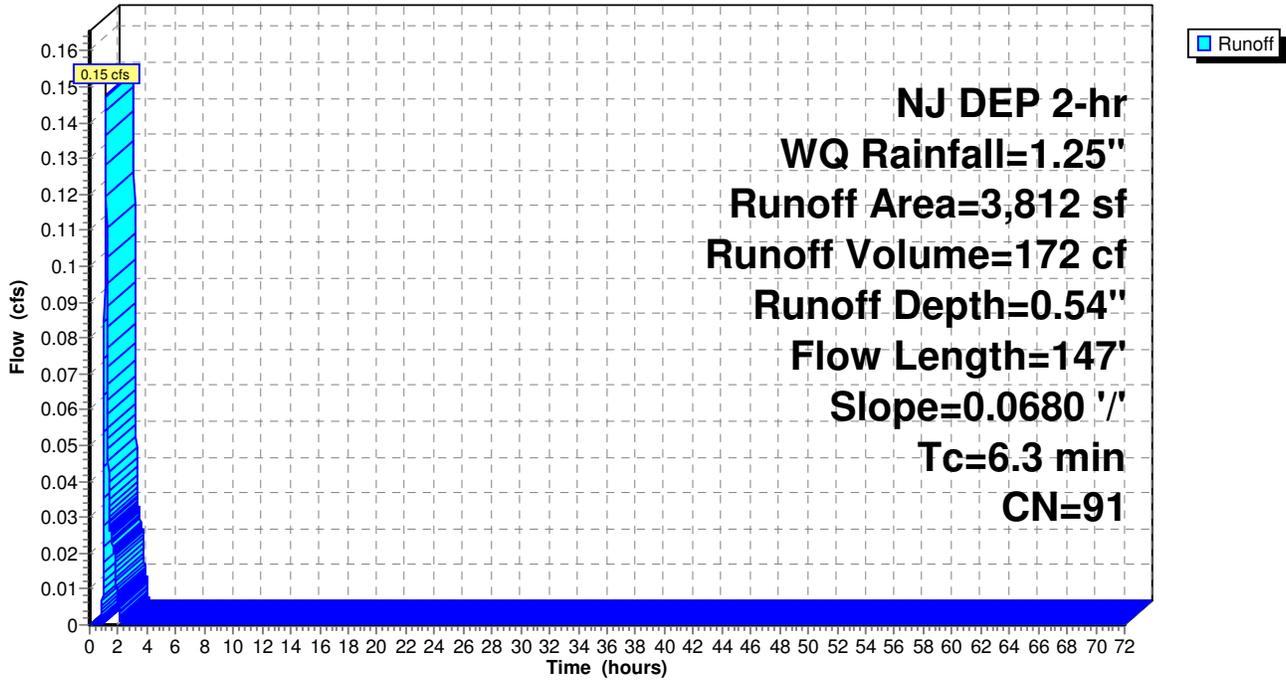
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NJ DEP 2-hr WQ Rainfall=1.25"

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**Subcatchment 40S: Ext DA 1**

Hydrograph



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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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**Hydrograph for Subcatchment 40S: Ext DA 1**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	1.25	0.54	0.00
1.00	0.63	0.13	<b>0.05</b>	52.00	1.25	0.54	0.00
2.00	<b>1.25</b>	<b>0.54</b>	<b>0.01</b>	53.00	1.25	0.54	0.00
3.00	1.25	0.54	0.00	54.00	1.25	0.54	0.00
4.00	1.25	0.54	0.00	55.00	1.25	0.54	0.00
5.00	1.25	0.54	0.00	56.00	1.25	0.54	0.00
6.00	1.25	0.54	0.00	57.00	1.25	0.54	0.00
7.00	1.25	0.54	0.00	58.00	1.25	0.54	0.00
8.00	1.25	0.54	0.00	59.00	1.25	0.54	0.00
9.00	1.25	0.54	0.00	60.00	1.25	0.54	0.00
10.00	1.25	0.54	0.00	61.00	1.25	0.54	0.00
11.00	1.25	0.54	0.00	62.00	1.25	0.54	0.00
12.00	1.25	0.54	0.00	63.00	1.25	0.54	0.00
13.00	1.25	0.54	0.00	64.00	1.25	0.54	0.00
14.00	1.25	0.54	0.00	65.00	1.25	0.54	0.00
15.00	1.25	0.54	0.00	66.00	1.25	0.54	0.00
16.00	1.25	0.54	0.00	67.00	1.25	0.54	0.00
17.00	1.25	0.54	0.00	68.00	1.25	0.54	0.00
18.00	1.25	0.54	0.00	69.00	1.25	0.54	0.00
19.00	1.25	0.54	0.00	70.00	1.25	0.54	0.00
20.00	1.25	0.54	0.00	71.00	1.25	0.54	0.00
21.00	1.25	0.54	0.00	72.00	1.25	0.54	0.00
22.00	1.25	0.54	0.00				
23.00	1.25	0.54	0.00				
24.00	1.25	0.54	0.00				
25.00	1.25	0.54	0.00				
26.00	1.25	0.54	0.00				
27.00	1.25	0.54	0.00				
28.00	1.25	0.54	0.00				
29.00	1.25	0.54	0.00				
30.00	1.25	0.54	0.00				
31.00	1.25	0.54	0.00				
32.00	1.25	0.54	0.00				
33.00	1.25	0.54	0.00				
34.00	1.25	0.54	0.00				
35.00	1.25	0.54	0.00				
36.00	1.25	0.54	0.00				
37.00	1.25	0.54	0.00				
38.00	1.25	0.54	0.00				
39.00	1.25	0.54	0.00				
40.00	1.25	0.54	0.00				
41.00	1.25	0.54	0.00				
42.00	1.25	0.54	0.00				
43.00	1.25	0.54	0.00				
44.00	1.25	0.54	0.00				
45.00	1.25	0.54	0.00				
46.00	1.25	0.54	0.00				
47.00	1.25	0.54	0.00				
48.00	1.25	0.54	0.00				
49.00	1.25	0.54	0.00				
50.00	1.25	0.54	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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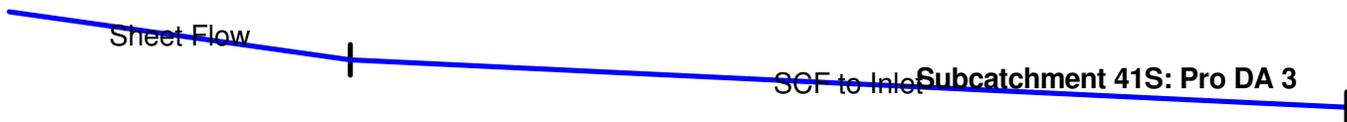
**Summary for Subcatchment 41S: Pro DA 3**

Runoff = 2.68 cfs @ 1.09 hrs, Volume= 2,854 cf, Depth= 0.72"  
Routed to Pond 42P : Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NJ DEP 2-hr WQ Rainfall=1.25"

Area (sf)	CN	Description
38,903	98	Paved parking, HSG C
8,964	74	>75% Grass cover, Good, HSG C
47,867	94	Weighted Average
8,964		18.73% Pervious Area
38,903		81.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0560	0.20		<b>Sheet Flow, Sheet Flow</b> Grass: Short n= 0.150 P2= 3.47"
0.4	73	0.0190	2.80		<b>Shallow Concentrated Flow, SCF to Inlet</b> Paved Kv= 20.3 fps
2.5	98	Total			



**2025-09-22 HydroCad - hillcrest farms A**

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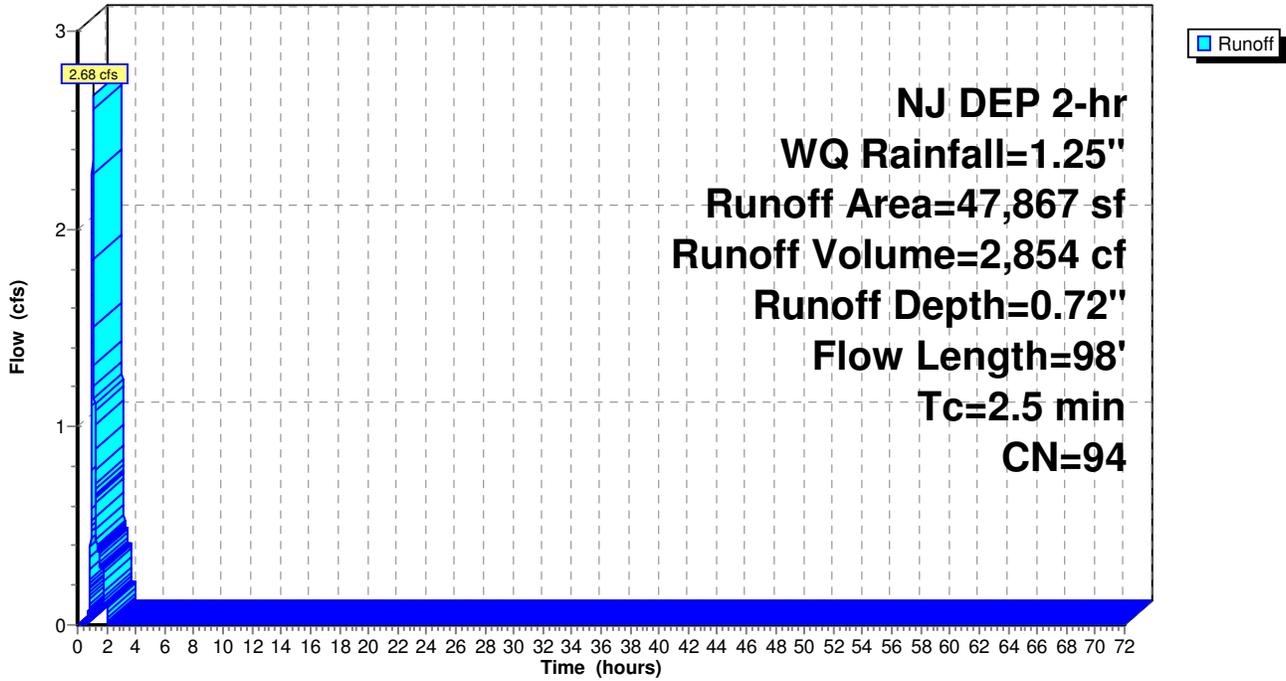
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NJ DEP 2-hr WQ Rainfall=1.25"

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**Subcatchment 41S: Pro DA 3**

Hydrograph



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**Hydrograph for Subcatchment 41S: Pro DA 3**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	1.25	0.72	0.00
1.00	0.63	0.22	<b>2.10</b>	52.00	1.25	0.72	0.00
2.00	<b>1.25</b>	<b>0.72</b>	<b>0.10</b>	53.00	1.25	0.72	0.00
3.00	1.25	0.72	0.00	54.00	1.25	0.72	0.00
4.00	1.25	0.72	0.00	55.00	1.25	0.72	0.00
5.00	1.25	0.72	0.00	56.00	1.25	0.72	0.00
6.00	1.25	0.72	0.00	57.00	1.25	0.72	0.00
7.00	1.25	0.72	0.00	58.00	1.25	0.72	0.00
8.00	1.25	0.72	0.00	59.00	1.25	0.72	0.00
9.00	1.25	0.72	0.00	60.00	1.25	0.72	0.00
10.00	1.25	0.72	0.00	61.00	1.25	0.72	0.00
11.00	1.25	0.72	0.00	62.00	1.25	0.72	0.00
12.00	1.25	0.72	0.00	63.00	1.25	0.72	0.00
13.00	1.25	0.72	0.00	64.00	1.25	0.72	0.00
14.00	1.25	0.72	0.00	65.00	1.25	0.72	0.00
15.00	1.25	0.72	0.00	66.00	1.25	0.72	0.00
16.00	1.25	0.72	0.00	67.00	1.25	0.72	0.00
17.00	1.25	0.72	0.00	68.00	1.25	0.72	0.00
18.00	1.25	0.72	0.00	69.00	1.25	0.72	0.00
19.00	1.25	0.72	0.00	70.00	1.25	0.72	0.00
20.00	1.25	0.72	0.00	71.00	1.25	0.72	0.00
21.00	1.25	0.72	0.00	72.00	1.25	0.72	0.00
22.00	1.25	0.72	0.00				
23.00	1.25	0.72	0.00				
24.00	1.25	0.72	0.00				
25.00	1.25	0.72	0.00				
26.00	1.25	0.72	0.00				
27.00	1.25	0.72	0.00				
28.00	1.25	0.72	0.00				
29.00	1.25	0.72	0.00				
30.00	1.25	0.72	0.00				
31.00	1.25	0.72	0.00				
32.00	1.25	0.72	0.00				
33.00	1.25	0.72	0.00				
34.00	1.25	0.72	0.00				
35.00	1.25	0.72	0.00				
36.00	1.25	0.72	0.00				
37.00	1.25	0.72	0.00				
38.00	1.25	0.72	0.00				
39.00	1.25	0.72	0.00				
40.00	1.25	0.72	0.00				
41.00	1.25	0.72	0.00				
42.00	1.25	0.72	0.00				
43.00	1.25	0.72	0.00				
44.00	1.25	0.72	0.00				
45.00	1.25	0.72	0.00				
46.00	1.25	0.72	0.00				
47.00	1.25	0.72	0.00				
48.00	1.25	0.72	0.00				
49.00	1.25	0.72	0.00				
50.00	1.25	0.72	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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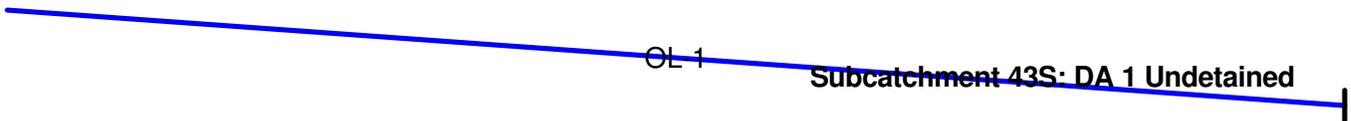
**Summary for Subcatchment 43S: DA 1 Undetained**

Runoff = 0.01 cfs @ 1.10 hrs, Volume= 12 cf, Depth= 0.10"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NJ DEP 2-hr WQ Rainfall=1.25"

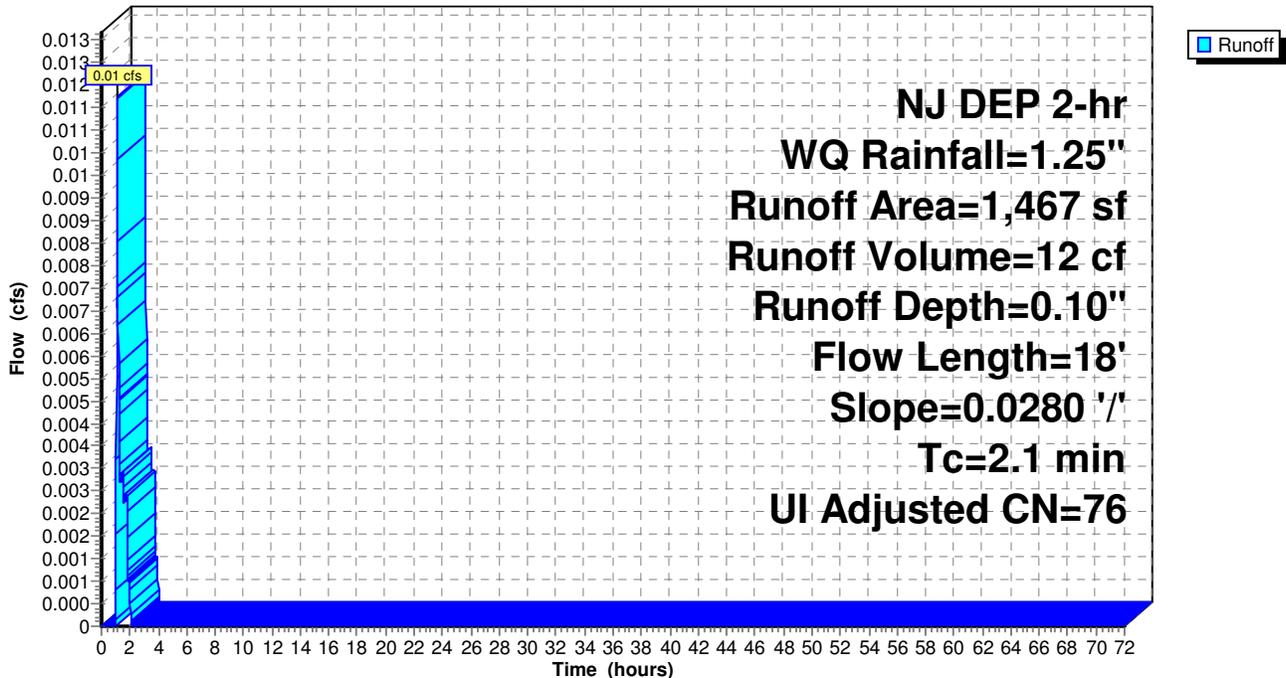
Area (sf)	CN	Adj	Description
1,255	74		>75% Grass cover, Good, HSG C
212	98		Unconnected roofs, HSG C
1,467	77	76	Weighted Average, UI Adjusted
1,255			85.55% Pervious Area
212			14.45% Impervious Area
212			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	18	0.0280	0.14		<b>Sheet Flow, OL-1</b> n= 0.150 P2= 3.47"



**Subcatchment 43S: DA 1 Undetained**

Hydrograph



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NJ DEP 2-hr WQ Rainfall=1.25"

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**Hydrograph for Subcatchment 43S: DA 1 Undetained**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	1.25	0.10	0.00
1.00	0.63	0.00	<b>0.00</b>	52.00	1.25	0.10	0.00
2.00	<b>1.25</b>	<b>0.10</b>	<b>0.00</b>	53.00	1.25	0.10	0.00
3.00	1.25	0.10	0.00	54.00	1.25	0.10	0.00
4.00	1.25	0.10	0.00	55.00	1.25	0.10	0.00
5.00	1.25	0.10	0.00	56.00	1.25	0.10	0.00
6.00	1.25	0.10	0.00	57.00	1.25	0.10	0.00
7.00	1.25	0.10	0.00	58.00	1.25	0.10	0.00
8.00	1.25	0.10	0.00	59.00	1.25	0.10	0.00
9.00	1.25	0.10	0.00	60.00	1.25	0.10	0.00
10.00	1.25	0.10	0.00	61.00	1.25	0.10	0.00
11.00	1.25	0.10	0.00	62.00	1.25	0.10	0.00
12.00	1.25	0.10	0.00	63.00	1.25	0.10	0.00
13.00	1.25	0.10	0.00	64.00	1.25	0.10	0.00
14.00	1.25	0.10	0.00	65.00	1.25	0.10	0.00
15.00	1.25	0.10	0.00	66.00	1.25	0.10	0.00
16.00	1.25	0.10	0.00	67.00	1.25	0.10	0.00
17.00	1.25	0.10	0.00	68.00	1.25	0.10	0.00
18.00	1.25	0.10	0.00	69.00	1.25	0.10	0.00
19.00	1.25	0.10	0.00	70.00	1.25	0.10	0.00
20.00	1.25	0.10	0.00	71.00	1.25	0.10	0.00
21.00	1.25	0.10	0.00	72.00	1.25	0.10	0.00
22.00	1.25	0.10	0.00				
23.00	1.25	0.10	0.00				
24.00	1.25	0.10	0.00				
25.00	1.25	0.10	0.00				
26.00	1.25	0.10	0.00				
27.00	1.25	0.10	0.00				
28.00	1.25	0.10	0.00				
29.00	1.25	0.10	0.00				
30.00	1.25	0.10	0.00				
31.00	1.25	0.10	0.00				
32.00	1.25	0.10	0.00				
33.00	1.25	0.10	0.00				
34.00	1.25	0.10	0.00				
35.00	1.25	0.10	0.00				
36.00	1.25	0.10	0.00				
37.00	1.25	0.10	0.00				
38.00	1.25	0.10	0.00				
39.00	1.25	0.10	0.00				
40.00	1.25	0.10	0.00				
41.00	1.25	0.10	0.00				
42.00	1.25	0.10	0.00				
43.00	1.25	0.10	0.00				
44.00	1.25	0.10	0.00				
45.00	1.25	0.10	0.00				
46.00	1.25	0.10	0.00				
47.00	1.25	0.10	0.00				
48.00	1.25	0.10	0.00				
49.00	1.25	0.10	0.00				
50.00	1.25	0.10	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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Hillcrest Farms  
NJ DEP 2-hr WQ Rainfall=1.25"

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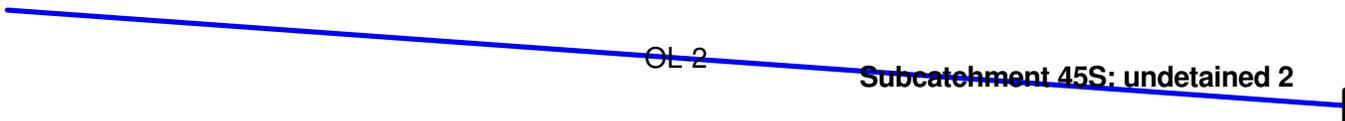
**Summary for Subcatchment 45S: undetained 2**

Runoff = 0.10 cfs @ 1.10 hrs, Volume= 95 cf, Depth= 0.27"  
Routed to Link 44L : Overall discharge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
NJ DEP 2-hr WQ Rainfall=1.25"

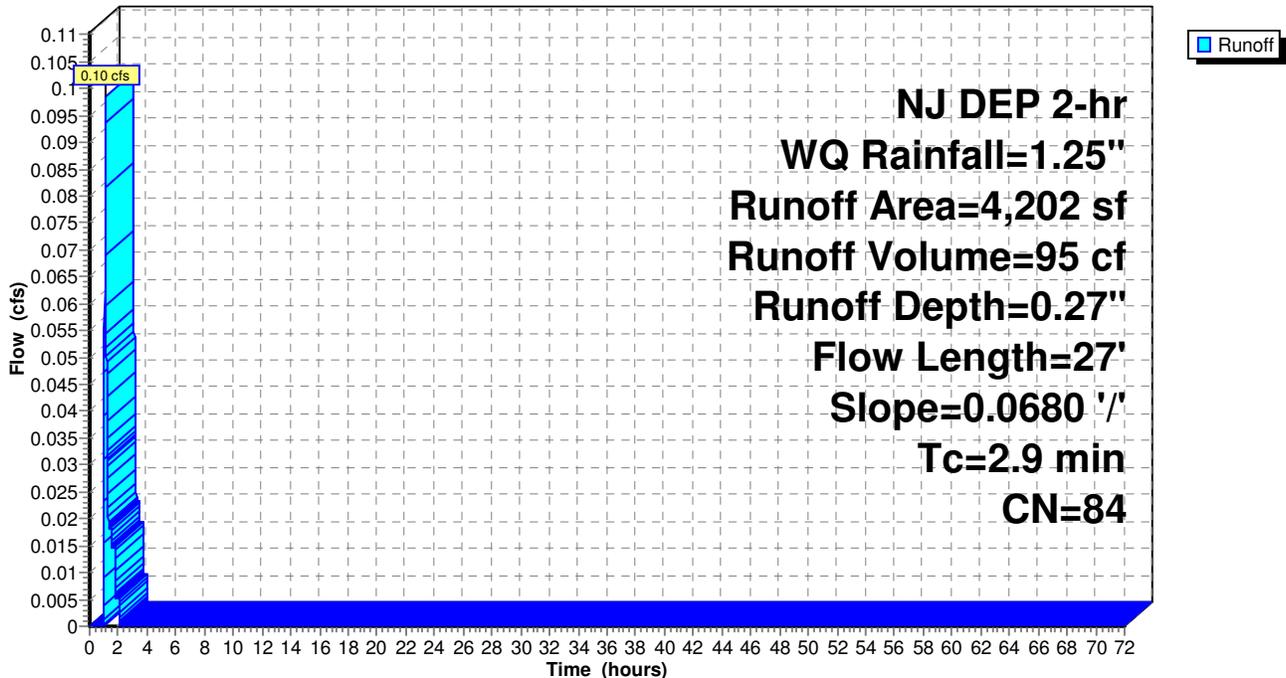
Area (sf)	CN	Description
1,802	98	Unconnected pavement, HSG C
2,400	74	>75% Grass cover, Good, HSG C
4,202	84	Weighted Average
2,400		57.12% Pervious Area
1,802		42.88% Impervious Area
1,802		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	27	0.0680	0.15		<b>Sheet Flow, OL-2</b> Grass: Dense n= 0.240 P2= 3.47"



**Subcatchment 45S: undetained 2**

Hydrograph



**2025-09-22 HydroCad - hillcrest farms A**

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**Hydrograph for Subcatchment 45S: undetained 2**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	51.00	1.25	0.27	0.00
1.00	0.63	0.03	<b>0.03</b>	52.00	1.25	0.27	0.00
2.00	<b>1.25</b>	<b>0.27</b>	<b>0.01</b>	53.00	1.25	0.27	0.00
3.00	1.25	0.27	0.00	54.00	1.25	0.27	0.00
4.00	1.25	0.27	0.00	55.00	1.25	0.27	0.00
5.00	1.25	0.27	0.00	56.00	1.25	0.27	0.00
6.00	1.25	0.27	0.00	57.00	1.25	0.27	0.00
7.00	1.25	0.27	0.00	58.00	1.25	0.27	0.00
8.00	1.25	0.27	0.00	59.00	1.25	0.27	0.00
9.00	1.25	0.27	0.00	60.00	1.25	0.27	0.00
10.00	1.25	0.27	0.00	61.00	1.25	0.27	0.00
11.00	1.25	0.27	0.00	62.00	1.25	0.27	0.00
12.00	1.25	0.27	0.00	63.00	1.25	0.27	0.00
13.00	1.25	0.27	0.00	64.00	1.25	0.27	0.00
14.00	1.25	0.27	0.00	65.00	1.25	0.27	0.00
15.00	1.25	0.27	0.00	66.00	1.25	0.27	0.00
16.00	1.25	0.27	0.00	67.00	1.25	0.27	0.00
17.00	1.25	0.27	0.00	68.00	1.25	0.27	0.00
18.00	1.25	0.27	0.00	69.00	1.25	0.27	0.00
19.00	1.25	0.27	0.00	70.00	1.25	0.27	0.00
20.00	1.25	0.27	0.00	71.00	1.25	0.27	0.00
21.00	1.25	0.27	0.00	72.00	1.25	0.27	0.00
22.00	1.25	0.27	0.00				
23.00	1.25	0.27	0.00				
24.00	1.25	0.27	0.00				
25.00	1.25	0.27	0.00				
26.00	1.25	0.27	0.00				
27.00	1.25	0.27	0.00				
28.00	1.25	0.27	0.00				
29.00	1.25	0.27	0.00				
30.00	1.25	0.27	0.00				
31.00	1.25	0.27	0.00				
32.00	1.25	0.27	0.00				
33.00	1.25	0.27	0.00				
34.00	1.25	0.27	0.00				
35.00	1.25	0.27	0.00				
36.00	1.25	0.27	0.00				
37.00	1.25	0.27	0.00				
38.00	1.25	0.27	0.00				
39.00	1.25	0.27	0.00				
40.00	1.25	0.27	0.00				
41.00	1.25	0.27	0.00				
42.00	1.25	0.27	0.00				
43.00	1.25	0.27	0.00				
44.00	1.25	0.27	0.00				
45.00	1.25	0.27	0.00				
46.00	1.25	0.27	0.00				
47.00	1.25	0.27	0.00				
48.00	1.25	0.27	0.00				
49.00	1.25	0.27	0.00				
50.00	1.25	0.27	0.00				

**2025-09-22 HydroCad - hillcrest farms A**

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NJ DEP 2-hr WQ Rainfall=1.25"

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**Summary for Pond 42P: Detention System**

Inflow Area = 47,867 sf, 81.27% Impervious, Inflow Depth = 0.72" for WQ event  
 Inflow = 2.68 cfs @ 1.09 hrs, Volume= 2,854 cf  
 Outflow = 1.26 cfs @ 1.14 hrs, Volume= 2,854 cf, Atten= 53%, Lag= 3.4 min  
 Primary = 1.26 cfs @ 1.14 hrs, Volume= 2,854 cf  
 Routed to Link 44L : Overall discharge

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 403.90' @ 1.14 hrs Surf.Area= 1,670 sf Storage= 1,057 cf

Plug-Flow detention time= 12.8 min calculated for 2,853 cf (100% of inflow)  
 Center-of-Mass det. time= 12.8 min ( 83.8 - 71.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	6,283 cf	<b>48.0" Round Pipe Storage</b> L= 500.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	403.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	404.50'	<b>36.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Primary	405.50'	<b>24.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

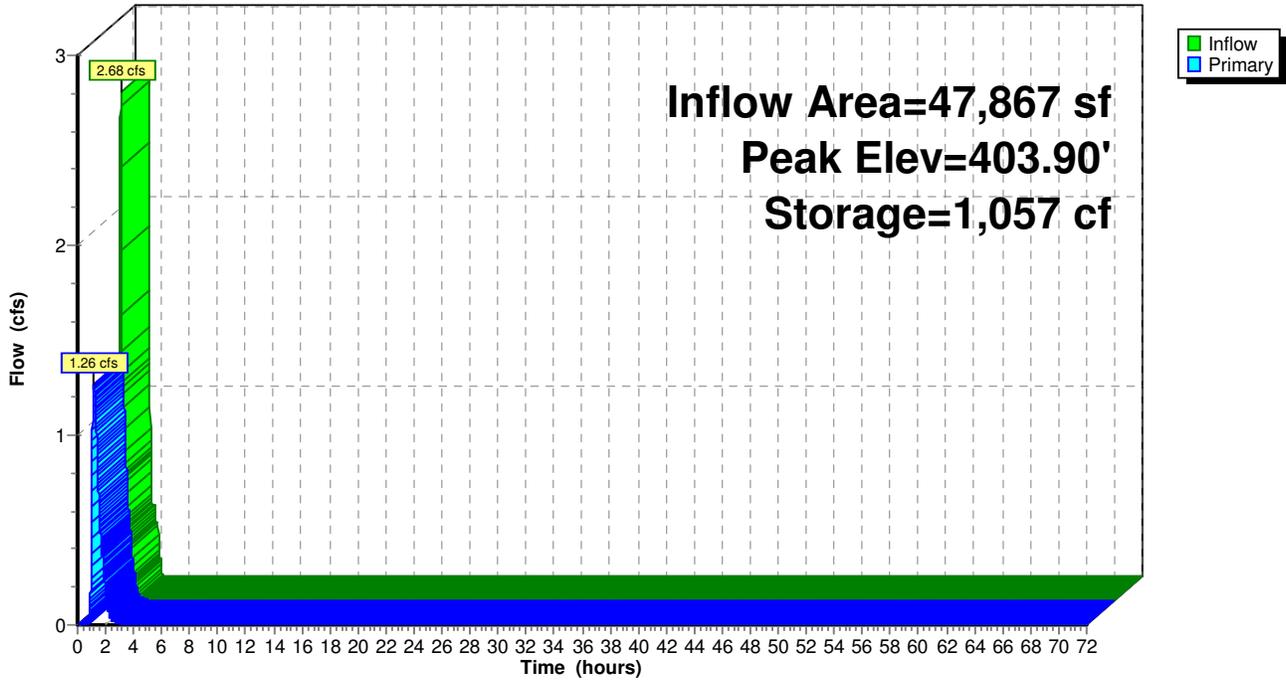
**Primary OutFlow** Max=1.26 cfs @ 1.14 hrs HW=403.90' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 1.26 cfs @ 3.62 fps)
- 2=Orifice/Grate ( Controls 0.00 cfs)
- 3=Orifice/Grate ( Controls 0.00 cfs)



### Pond 42P: Detention System

Hydrograph



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**Hydrograph for Pond 42P: Detention System**

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	<b>0.00</b>	<b>0</b>	<b>403.00</b>	<b>0.00</b>
2.00	<b>0.10</b>	<b>145</b>	<b>403.23</b>	<b>0.18</b>
4.00	0.00	1	403.00	0.00
6.00	0.00	0	403.00	0.00
8.00	0.00	0	403.00	0.00
10.00	0.00	0	403.00	0.00
12.00	0.00	0	403.00	0.00
14.00	0.00	0	403.00	0.00
16.00	0.00	0	403.00	0.00
18.00	0.00	0	403.00	0.00
20.00	0.00	0	403.00	0.00
22.00	0.00	0	403.00	0.00
24.00	0.00	0	403.00	0.00
26.00	0.00	0	403.00	0.00
28.00	0.00	0	403.00	0.00
30.00	0.00	0	403.00	0.00
32.00	0.00	0	403.00	0.00
34.00	0.00	0	403.00	0.00
36.00	0.00	0	403.00	0.00
38.00	0.00	0	403.00	0.00
40.00	0.00	0	403.00	0.00
42.00	0.00	0	403.00	0.00
44.00	0.00	0	403.00	0.00
46.00	0.00	0	403.00	0.00
48.00	0.00	0	403.00	0.00
50.00	0.00	0	403.00	0.00
52.00	0.00	0	403.00	0.00
54.00	0.00	0	403.00	0.00
56.00	0.00	0	403.00	0.00
58.00	0.00	0	403.00	0.00
60.00	0.00	0	403.00	0.00
62.00	0.00	0	403.00	0.00
64.00	0.00	0	403.00	0.00
66.00	0.00	0	403.00	0.00
68.00	0.00	0	403.00	0.00
70.00	0.00	0	403.00	0.00
72.00	0.00	0	403.00	0.00

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**Stage-Discharge for Pond 42P: Detention System**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
403.00	0.00	404.02	1.39	405.04	4.51	406.06	8.68
403.02	0.00	404.04	1.41	405.06	4.58	406.08	8.76
403.04	0.01	404.06	1.43	405.08	4.65	406.10	8.83
403.06	0.01	404.08	1.45	405.10	4.72	406.12	8.91
403.08	0.02	404.10	1.47	405.12	4.78	406.14	8.98
403.10	0.04	404.12	1.49	405.14	4.84	406.16	9.06
403.12	0.05	404.14	1.51	405.16	4.91	406.18	9.13
403.14	0.07	404.16	1.53	405.18	4.97	406.20	9.20
403.16	0.09	404.18	1.55	405.20	5.03	406.22	9.27
403.18	0.11	404.20	1.56	405.22	5.09	406.24	9.34
403.20	0.13	404.22	1.58	405.24	5.15	406.26	9.41
403.22	0.16	404.24	1.60	405.26	5.21	406.28	9.48
403.24	0.19	404.26	1.62	405.28	5.26	406.30	9.54
403.26	0.22	404.28	1.64	405.30	5.32	406.32	9.61
403.28	0.25	404.30	1.65	405.32	5.38	406.34	9.68
403.30	0.28	404.32	1.67	405.34	5.43	406.36	9.74
403.32	0.32	404.34	1.69	405.36	5.48	406.38	9.81
403.34	0.36	404.36	1.70	405.38	5.54	406.40	9.87
403.36	0.39	404.38	1.72	405.40	5.59	406.42	9.93
403.38	0.43	404.40	1.74	405.42	5.64	406.44	10.00
403.40	0.47	404.42	1.75	405.44	5.70	406.46	10.06
403.42	0.51	404.44	1.77	405.46	5.75	406.48	10.12
403.44	0.55	404.46	1.78	405.48	5.80	406.50	10.18
403.46	0.59	404.48	1.80	405.50	5.85	406.52	10.25
403.48	0.63	404.50	1.82	405.52	5.92	406.54	10.31
403.50	0.68	404.52	1.86	405.54	6.00	406.56	10.37
403.52	0.72	404.54	1.92	405.56	6.09	406.58	10.43
403.54	0.76	404.56	2.00	405.58	6.19	406.60	10.49
403.56	0.80	404.58	2.09	405.60	6.30	406.62	10.55
403.58	0.84	404.60	2.20	405.62	6.41	406.64	10.61
403.60	0.87	404.62	2.31	405.64	6.52	406.66	10.66
403.62	0.91	404.64	2.43	405.66	6.65	406.68	10.72
403.64	0.94	404.66	2.55	405.68	6.77	406.70	10.78
403.66	0.96	404.68	2.69	405.70	6.90	406.72	10.84
403.68	0.99	404.70	2.83	405.72	7.04	406.74	10.89
403.70	1.02	404.72	2.97	405.74	7.17	406.76	10.95
403.72	1.05	404.74	3.13	405.76	7.31	406.78	11.01
403.74	1.07	404.76	3.27	405.78	7.43	406.80	11.06
403.76	1.10	404.78	3.40	405.80	7.54	406.82	11.12
403.78	1.12	404.80	3.51	405.82	7.64	406.84	11.17
403.80	1.15	404.82	3.61	405.84	7.74	406.86	11.23
403.82	1.17	404.84	3.71	405.86	7.84	406.88	11.28
403.84	1.20	404.86	3.81	405.88	7.93	406.90	11.34
403.86	1.22	404.88	3.89	405.90	8.02	406.92	11.39
403.88	1.24	404.90	3.98	405.92	8.11	406.94	11.45
403.90	1.27	404.92	4.06	405.94	8.20	406.96	11.50
403.92	1.29	404.94	4.14	405.96	8.28	406.98	11.55
403.94	1.31	404.96	4.22	405.98	8.36	407.00	<b>11.61</b>
403.96	1.33	404.98	4.30	406.00	8.45		
403.98	1.35	405.00	4.37	406.02	8.53		
404.00	1.37	405.02	4.44	406.04	8.60		

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**Stage-Area-Storage for Pond 42P: Detention System**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
403.00	0	405.55	4,228
403.05	15	405.60	4,323
403.10	42	405.65	4,418
403.15	77	405.70	4,512
403.20	117	405.75	4,606
403.25	164	405.80	4,698
403.30	214	405.85	4,789
403.35	269	405.90	4,879
403.40	327	405.95	4,968
403.45	389	406.00	5,055
403.50	453	406.05	5,141
403.55	521	406.10	5,225
403.60	591	406.15	5,308
403.65	664	406.20	5,389
403.70	739	406.25	5,468
403.75	816	406.30	5,545
403.80	895	406.35	5,620
403.85	976	406.40	5,692
403.90	1,058	406.45	5,762
403.95	1,143	406.50	5,830
404.00	1,228	406.55	5,895
404.05	1,316	406.60	5,956
404.10	1,404	406.65	6,014
404.15	1,494	406.70	6,069
404.20	1,585	406.75	6,120
404.25	1,678	406.80	6,166
404.30	1,771	406.85	6,207
404.35	1,865	406.90	6,241
404.40	1,960	406.95	6,268
404.45	2,056	407.00	<b>6,283</b>
404.50	2,152		
404.55	2,249		
404.60	2,347		
404.65	2,445		
404.70	2,544		
404.75	2,643		
404.80	2,742		
404.85	2,842		
404.90	2,942		
404.95	3,042		
405.00	3,142		
405.05	3,242		
405.10	3,342		
405.15	3,441		
405.20	3,541		
405.25	3,640		
405.30	3,739		
405.35	3,838		
405.40	3,936		
405.45	4,034		
405.50	4,131		

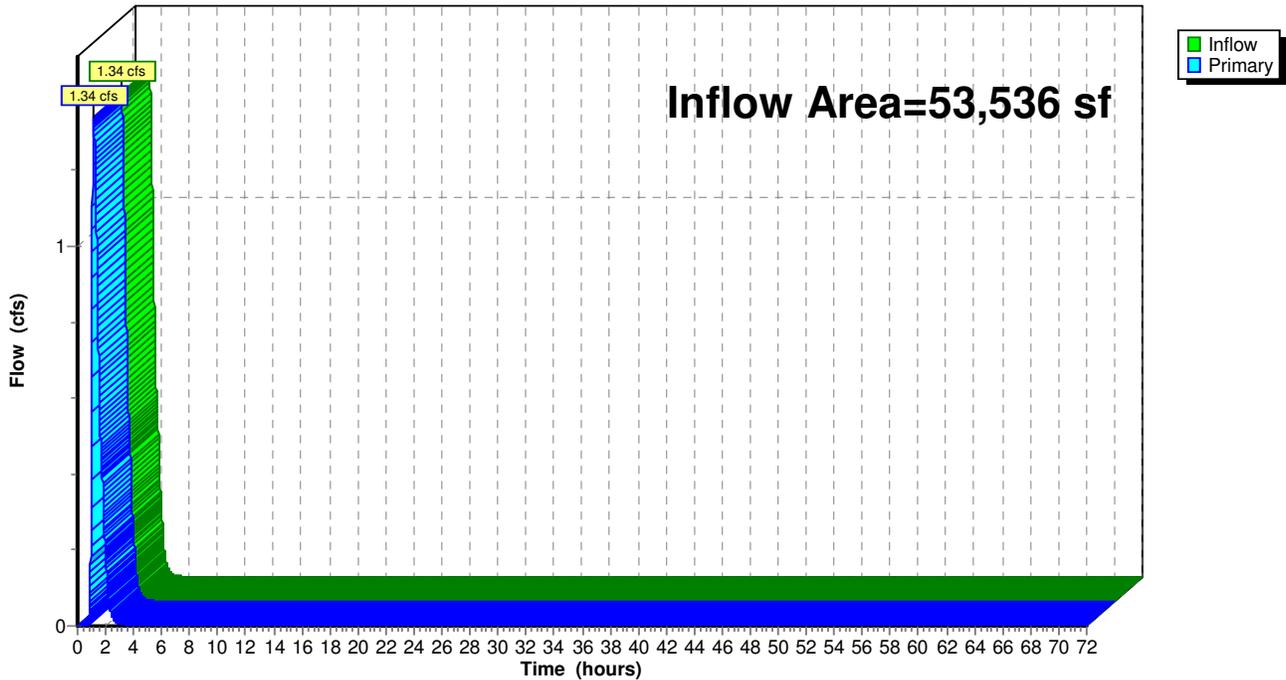
### Summary for Link 44L: Overall discharge

Inflow Area = 53,536 sf, 76.43% Impervious, Inflow Depth = 0.66" for WQ event  
Inflow = 1.34 cfs @ 1.12 hrs, Volume= 2,962 cf  
Primary = 1.34 cfs @ 1.12 hrs, Volume= 2,962 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

### Link 44L: Overall discharge

Hydrograph



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**Hydrograph for Link 44L: Overall discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	0.66	0.00	0.66	52.00	0.00	0.00	0.00
2.00	0.18	0.00	0.18	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
13.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

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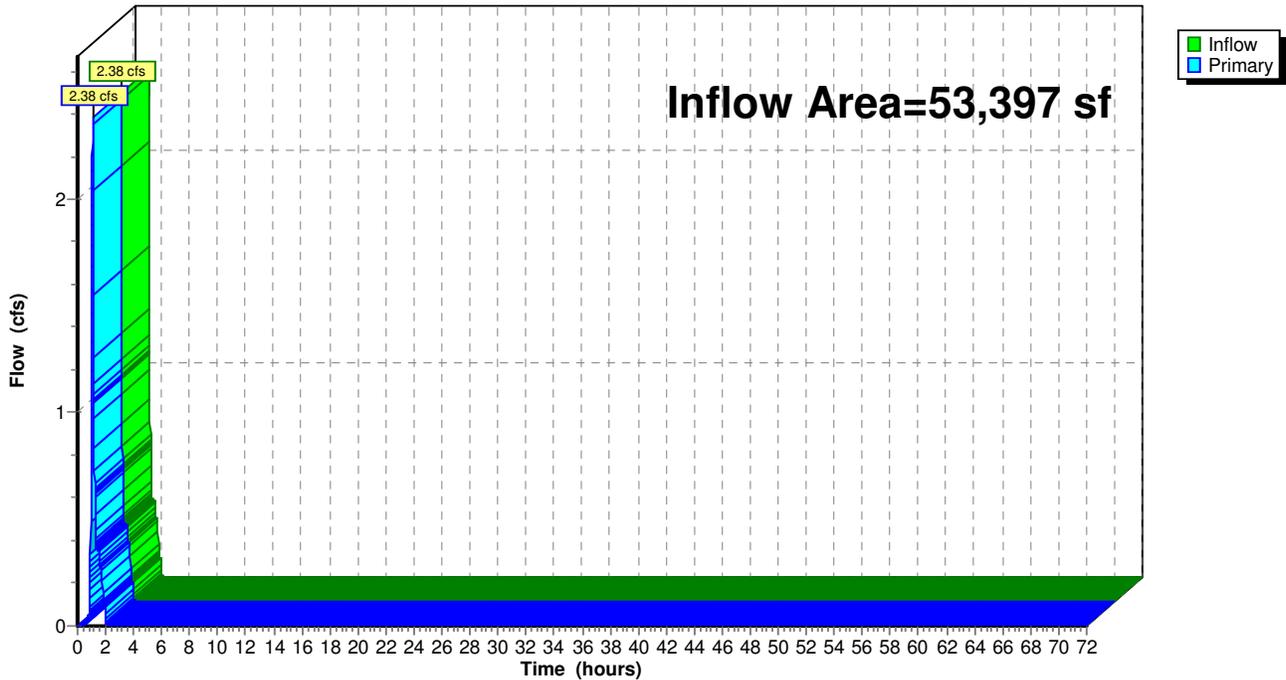
**Summary for Link 45L: existing total discharge**

Inflow Area = 53,397 sf, 68.55% Impervious, Inflow Depth = 0.54" for WQ event  
Inflow = 2.38 cfs @ 1.09 hrs, Volume= 2,416 cf  
Primary = 2.38 cfs @ 1.09 hrs, Volume= 2,416 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

**Link 45L: existing total discharge**

Hydrograph



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NJ DEP 2-hr WQ Rainfall=1.25"

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**Hydrograph for Link 45L: existing total discharge**

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00
1.00	1.68	0.00	1.68	52.00	0.00	0.00	0.00
2.00	0.09	0.00	0.09	53.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00	57.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00	59.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	61.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	63.00	0.00	0.00	0.00
13.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
14.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00
15.00	0.00	0.00	0.00	66.00	0.00	0.00	0.00
16.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00
17.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00
18.00	0.00	0.00	0.00	69.00	0.00	0.00	0.00
19.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	71.00	0.00	0.00	0.00
21.00	0.00	0.00	0.00	72.00	0.00	0.00	0.00
22.00	0.00	0.00	0.00				
23.00	0.00	0.00	0.00				
24.00	0.00	0.00	0.00				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				

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**Events for Subcatchment 37S: Ext DA 3**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
2-Year-2000	3.44	3.16	8,984	2.39
10-Year-2000	5.22	5.19	15,358	4.09
100-Year-2000	8.66	9.07	28,006	7.46
2-Year-2020	3.47	3.19	9,090	2.42
10-Year-2020	5.38	5.38	15,940	4.24
100-Year-2020	9.18	9.65	29,934	7.97
2-Year-2050	4.09	3.90	11,286	3.00
10-Year-2050	6.37	6.50	19,557	5.21
100-Year-2050	<b>11.52</b>	<b>12.25</b>	<b>38,637</b>	<b>10.29</b>
WQ	1.25	1.93	1,855	0.49

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**Events for Subcatchment 39S: Ext DA 2**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
2-Year-2000	3.44	0.37	1,205	3.21
10-Year-2000	5.22	0.57	1,873	4.98
100-Year-2000	8.66	0.94	3,165	8.42
2-Year-2020	3.47	0.37	1,217	3.24
10-Year-2020	5.38	0.58	1,933	5.14
100-Year-2020	9.18	1.00	3,361	8.94
2-Year-2050	4.09	0.44	1,449	3.85
10-Year-2050	6.37	0.69	2,305	6.13
100-Year-2050	<b>11.52</b>	<b>1.25</b>	<b>4,240</b>	<b>11.28</b>
WQ	1.25	0.32	389	1.03

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## Events for Subcatchment 40S: Ext DA 1

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
2-Year-2000	3.44	0.24	789	2.48
10-Year-2000	5.22	0.40	1,333	4.20
100-Year-2000	8.66	0.69	2,407	7.58
2-Year-2020	3.47	0.25	798	2.51
10-Year-2020	5.38	0.41	1,382	4.35
100-Year-2020	9.18	0.74	2,570	8.09
2-Year-2050	4.09	0.30	986	3.10
10-Year-2050	6.37	0.50	1,690	5.32
100-Year-2050	<b>11.52</b>	<b>0.94</b>	<b>3,308</b>	<b>10.41</b>
WQ	1.25	0.15	172	0.54

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### Events for Subcatchment 41S: Pro DA 3

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
2-Year-2000	3.44	3.68	11,078	2.78
10-Year-2000	5.22	5.79	18,050	4.53
100-Year-2000	8.66	9.83	31,666	7.94
2-Year-2020	3.47	3.71	11,194	2.81
10-Year-2020	5.38	5.98	18,681	4.68
100-Year-2020	9.18	10.43	33,731	8.46
2-Year-2050	4.09	4.45	13,613	3.41
10-Year-2050	6.37	7.15	22,590	5.66
100-Year-2050	<b>11.52</b>	<b>13.15</b>	<b>43,032</b>	<b>10.79</b>
WQ	1.25	2.68	2,854	0.72

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### Events for Subcatchment 43S: DA 1 Undetained

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
2-Year-2000	3.44	0.06	162	1.32
10-Year-2000	5.22	0.12	332	2.72
100-Year-2000	8.66	0.25	704	5.76
2-Year-2020	3.47	0.06	164	1.34
10-Year-2020	5.38	0.13	349	2.85
100-Year-2020	9.18	0.27	763	6.24
2-Year-2050	4.09	0.08	221	1.81
10-Year-2050	6.37	0.16	453	3.70
100-Year-2050	<b>11.52</b>	<b>0.36</b>	<b>1,032</b>	<b>8.44</b>
WQ	1.25	0.01	12	0.10

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**Events for Subcatchment 45S: undetained 2**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
2-Year-2000	3.44	0.24	660	1.89
10-Year-2000	5.22	0.43	1,216	3.47
100-Year-2000	8.66	0.79	2,357	6.73
2-Year-2020	3.47	0.24	669	1.91
10-Year-2020	5.38	0.44	1,268	3.62
100-Year-2020	9.18	0.84	2,533	7.23
2-Year-2050	4.09	0.31	858	2.45
10-Year-2050	6.37	0.55	1,591	4.54
100-Year-2050	<b>11.52</b>	<b>1.09</b>	<b>3,331</b>	<b>9.51</b>
WQ	1.25	0.10	95	0.27

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**Events for Pond 42P: Detention System**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
2-Year-2000	3.68	1.64	404.29	1,748
10-Year-2000	5.79	3.67	404.83	2,806
100-Year-2000	9.83	6.63	405.66	4,431
2-Year-2020	3.71	1.65	404.30	1,769
10-Year-2020	5.98	3.85	404.87	2,880
100-Year-2020	10.43	7.36	405.77	4,641
2-Year-2050	4.45	1.91	404.54	2,221
10-Year-2050	7.15	4.73	405.10	3,348
100-Year-2050	<b>13.15</b>	<b>9.53</b>	<b>406.30</b>	<b>5,541</b>
WQ	2.68	1.26	403.90	1,057

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### Events for Link 44L: Overall discharge

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-2000	1.87	1.87	<b>0.00</b>
10-Year-2000	4.09	4.09	0.00
100-Year-2000	7.44	7.44	0.00
2-Year-2020	1.89	1.89	0.00
10-Year-2020	4.28	4.28	0.00
100-Year-2020	8.25	8.25	0.00
2-Year-2050	2.15	2.15	0.00
10-Year-2050	5.31	5.31	0.00
100-Year-2050	<b>10.75</b>	<b>10.75</b>	0.00
WQ	1.34	1.34	0.00

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### Events for Link 45L: existing total discharge

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-2000	3.76	3.76	<b>0.00</b>
10-Year-2000	6.15	6.15	0.00
100-Year-2000	10.65	10.65	0.00
2-Year-2020	3.80	3.80	0.00
10-Year-2020	6.36	6.36	0.00
100-Year-2020	11.33	11.33	0.00
2-Year-2050	4.63	4.63	0.00
10-Year-2050	7.65	7.65	0.00
100-Year-2050	<b>14.36</b>	<b>14.36</b>	0.00
WQ	2.38	2.38	0.00