

DRAINAGE REPORT
FOR
SITE DEVELOPMENT PLAN

SINGLE FAMILY SUBDIVISION
WOLF TRAILS SUBDIVISION
JONESBORO, AR 72401

JANUARY 24, 2024

Prepared by: Clarence W. "Mac" McAlister PE, PS
McAlister Engineering

Cesar Islas of Islas Investments, LLC, is seeking to construct a residential subdivision and associated infrastructure. The total area of the subdivision is 7.00 acres.

The property lies within the Turtle Creek Ditch drainage basin. The drainage analysis method used for this analysis is the Soil Conservation Service Technical Release 55, "Urban Hydrology for Small Watersheds". The rainfall distribution is Type II. Rainfall data is taken from Appendix B of TR55, and the rainfall intensities are as shown below. From the "Soil Survey of Craighead County, Arkansas" the soil type is C.

The development area is the entirety of Wolf Trails subdivision. The pre-development condition of this area, previously known as the "Black Diamond Grill" consists of a large building with a large pervious parking area, along with an open green area and a patch of woods. Due to a grade on the property (as seen on the plan), individual calculations were made for the **east** (4.37ac) and **west** (2.63ac) portions.

The pre-development condition of the **east** portion of the property yields a curve number of 85 and a time of concentration of 26.6 minutes. Using these parameters and the TR55, the pre-development peak 100-year discharge is found to be 24.59cfs.

The post-development condition of the **east** portion of the property yields a curve number of 85 and a time of concentration of 26.2 minutes. Using these parameters and the TR55, the pre-development peak 100-year discharge is found to be 24.59cfs.

Storm water runoff for this **east** portion will be contained by a pipe network and a swale to the south of the property leading to airport road ditch.

The pre-development condition of the **west** portion of the property yields a curve number of 81 and a time of concentration of 37.1 minutes. Using these parameters and the TR55, the pre-development peak 100-year discharge is found to be 10.68cfs.

The post-development condition of the **west** portion of the property yields a curve number of 87 and a time of concentration of 26.5 minutes. Using these parameters and the TR55, the pre-development peak 100-year discharge is found to be 15.24cfs.

The additional storm water runoff for this **west** portion will be contained by a retention pond at the southwest corner of the property where it will be released through an 18" pipe to a ditch near the west side of the property.

Technical data follows:

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 01 / 24 / 2024

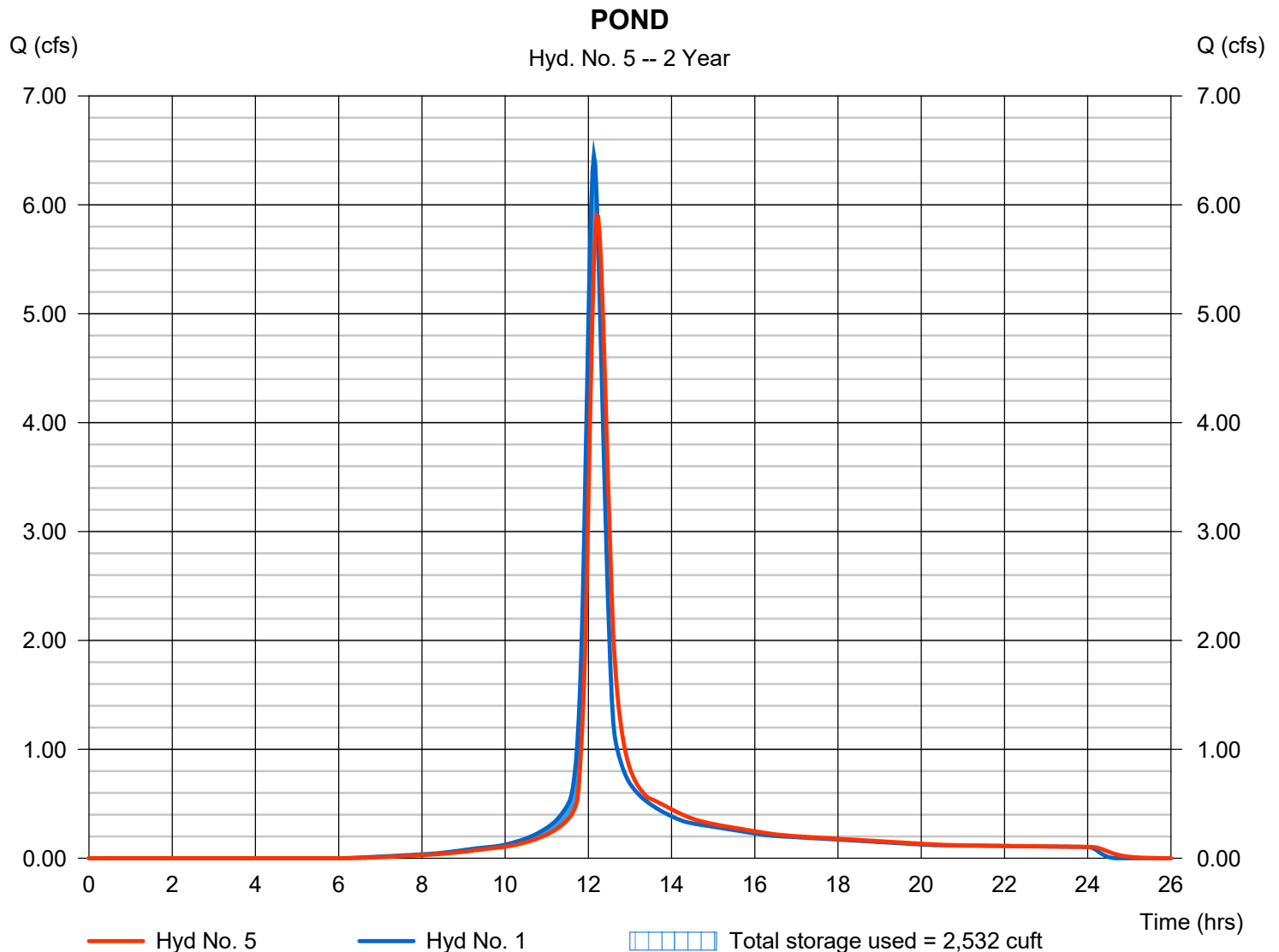
Hyd. No. 5

POND

Hydrograph type = Reservoir
 Storm frequency = 2 yrs
 Time interval = 2 min
 Inflow hyd. No. = 1 - POST WEST
 Reservoir name = <New Pond>

Peak discharge = 5.903 cfs
 Time to peak = 12.20 hrs
 Hyd. volume = 23,745 cuft
 Max. Elevation = 302.72 ft
 Max. Storage = 2,532 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

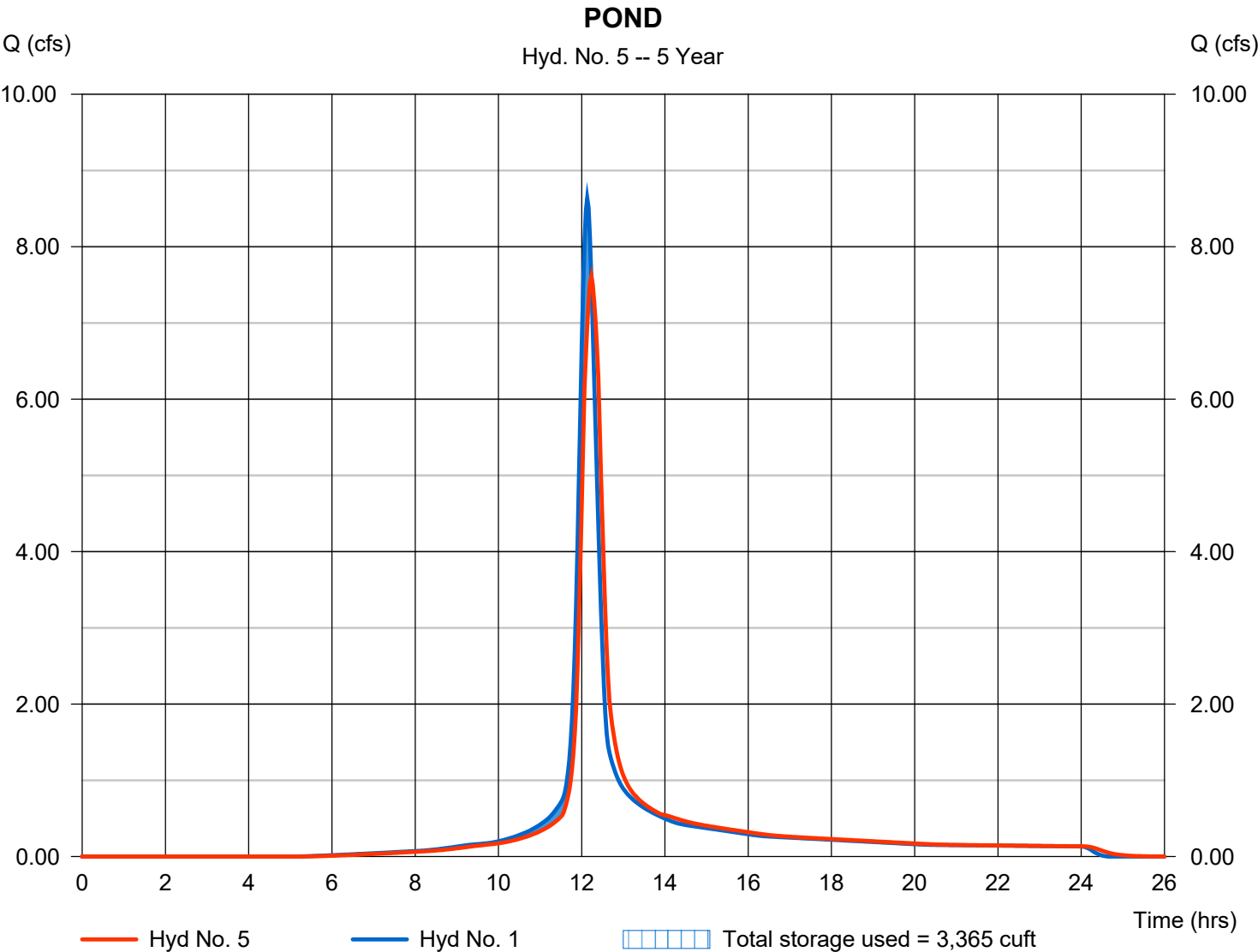
Wednesday, 01 / 24 / 2024

Hyd. No. 5

POND

Hydrograph type	= Reservoir	Peak discharge	= 7.610 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 32,021 cuft
Inflow hyd. No.	= 1 - POST WEST	Max. Elevation	= 303.13 ft
Reservoir name	= <New Pond>	Max. Storage	= 3,365 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

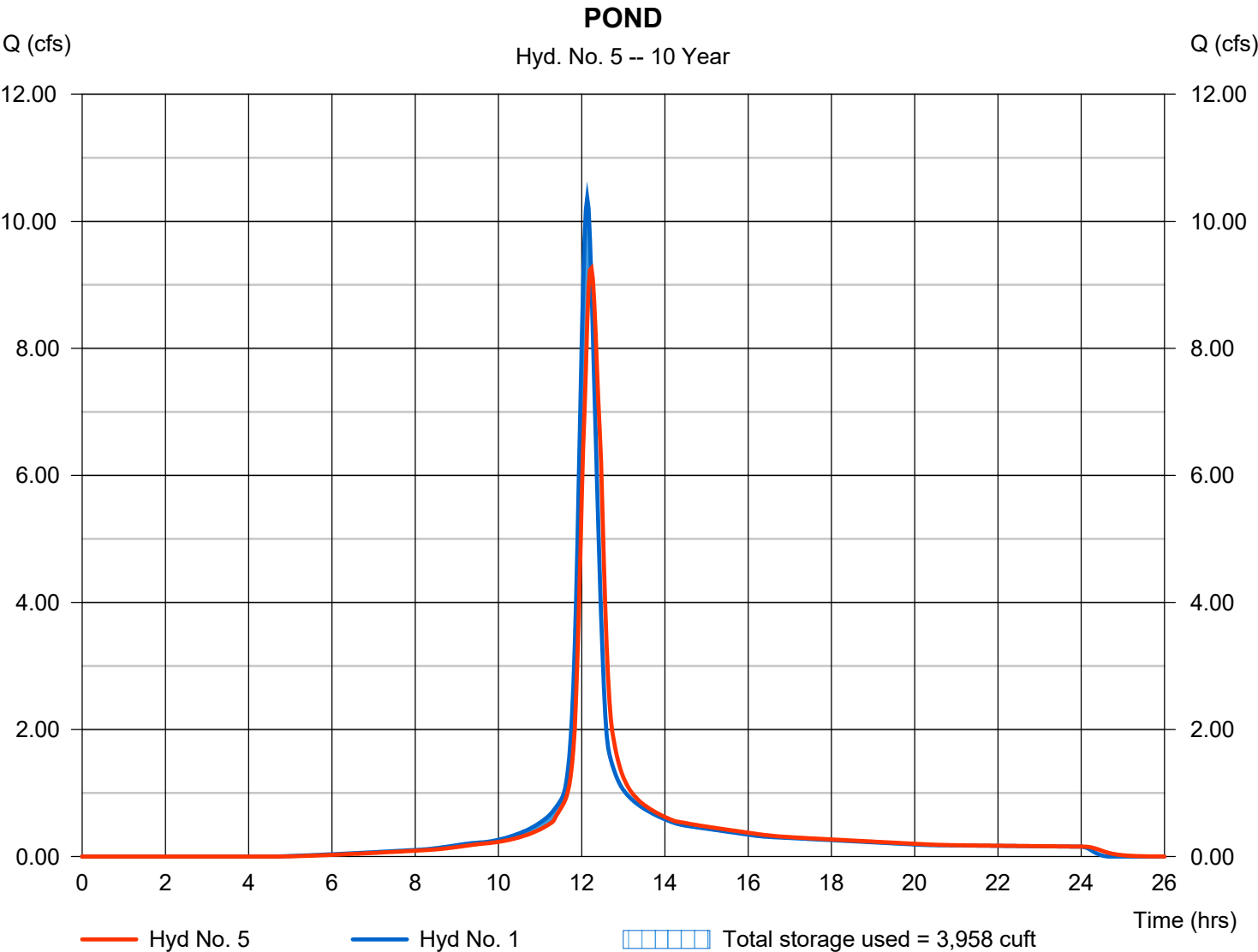
Wednesday, 01 / 24 / 2024

Hyd. No. 5

POND

Hydrograph type	= Reservoir	Peak discharge	= 9.261 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 38,684 cuft
Inflow hyd. No.	= 1 - POST WEST	Max. Elevation	= 303.43 ft
Reservoir name	= <New Pond>	Max. Storage	= 3,958 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

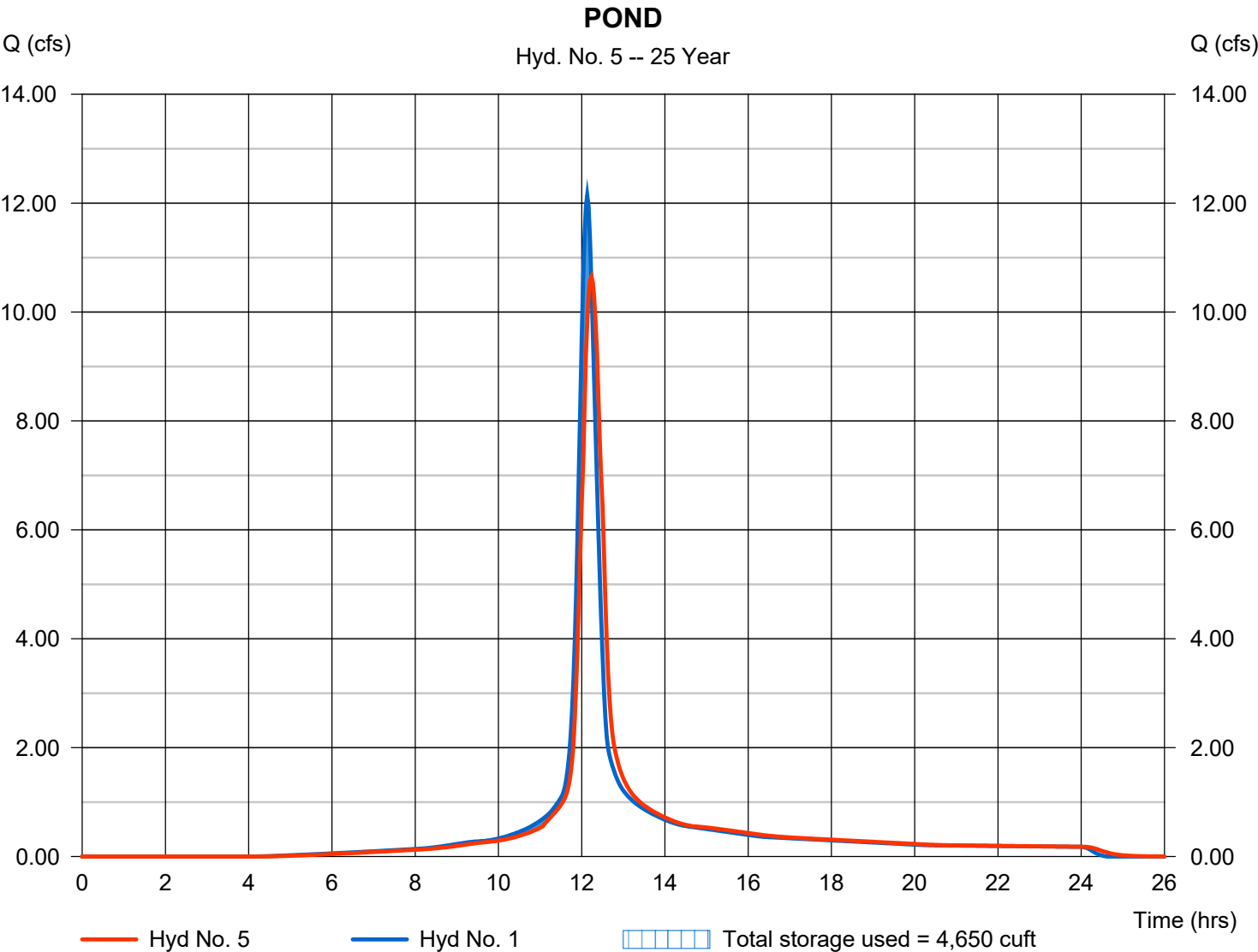
Wednesday, 01 / 24 / 2024

Hyd. No. 5

POND

Hydrograph type	= Reservoir	Peak discharge	= 10.65 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 45,604 cuft
Inflow hyd. No.	= 1 - POST WEST	Max. Elevation	= 303.77 ft
Reservoir name	= <New Pond>	Max. Storage	= 4,650 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

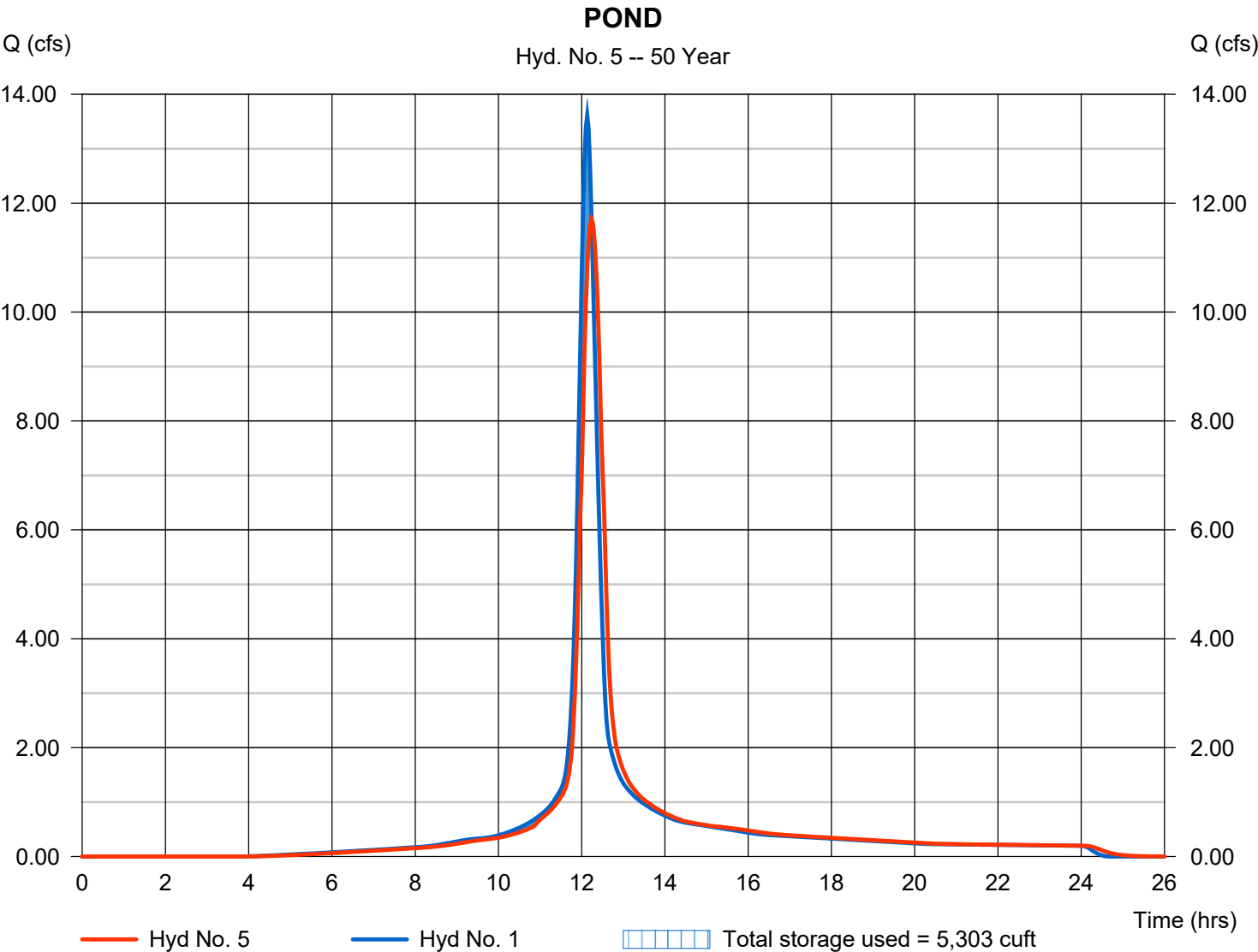
Wednesday, 01 / 24 / 2024

Hyd. No. 5

POND

Hydrograph type	= Reservoir	Peak discharge	= 11.70 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 51,401 cuft
Inflow hyd. No.	= 1 - POST WEST	Max. Elevation	= 304.10 ft
Reservoir name	= <New Pond>	Max. Storage	= 5,303 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

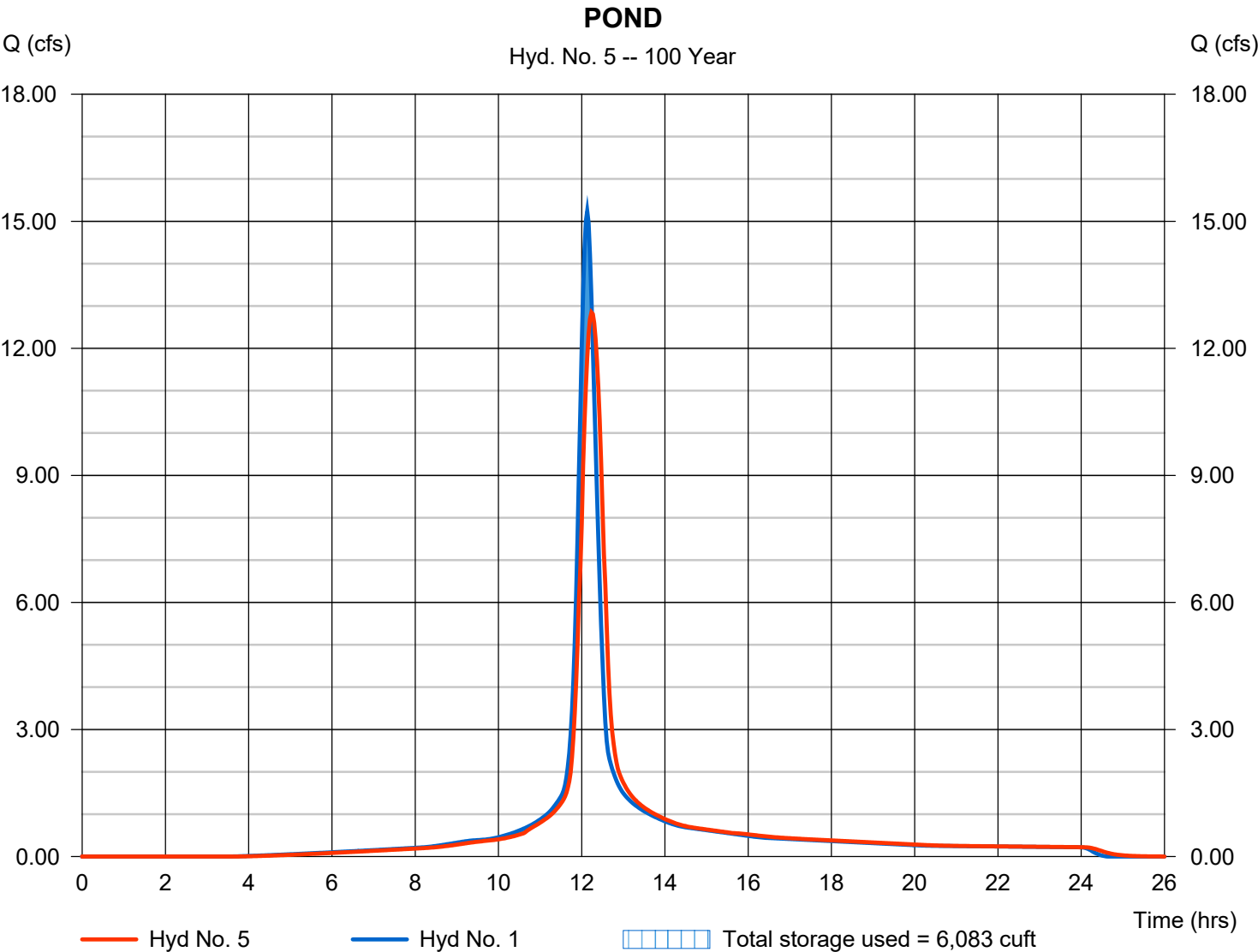
Wednesday, 01 / 24 / 2024

Hyd. No. 5

POND

Hydrograph type	= Reservoir	Peak discharge	= 12.85 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 57,869 cuft
Inflow hyd. No.	= 1 - POST WEST	Max. Elevation	= 304.49 ft
Reservoir name	= <New Pond>	Max. Storage	= 6,083 cuft

Storage Indication method used.



Pond No. 1 - <New Pond>

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 301.45 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	301.45	631	0	0
3.27	304.72	3,833	6,560	6,560
4.27	305.72	4,690	4,254	10,814

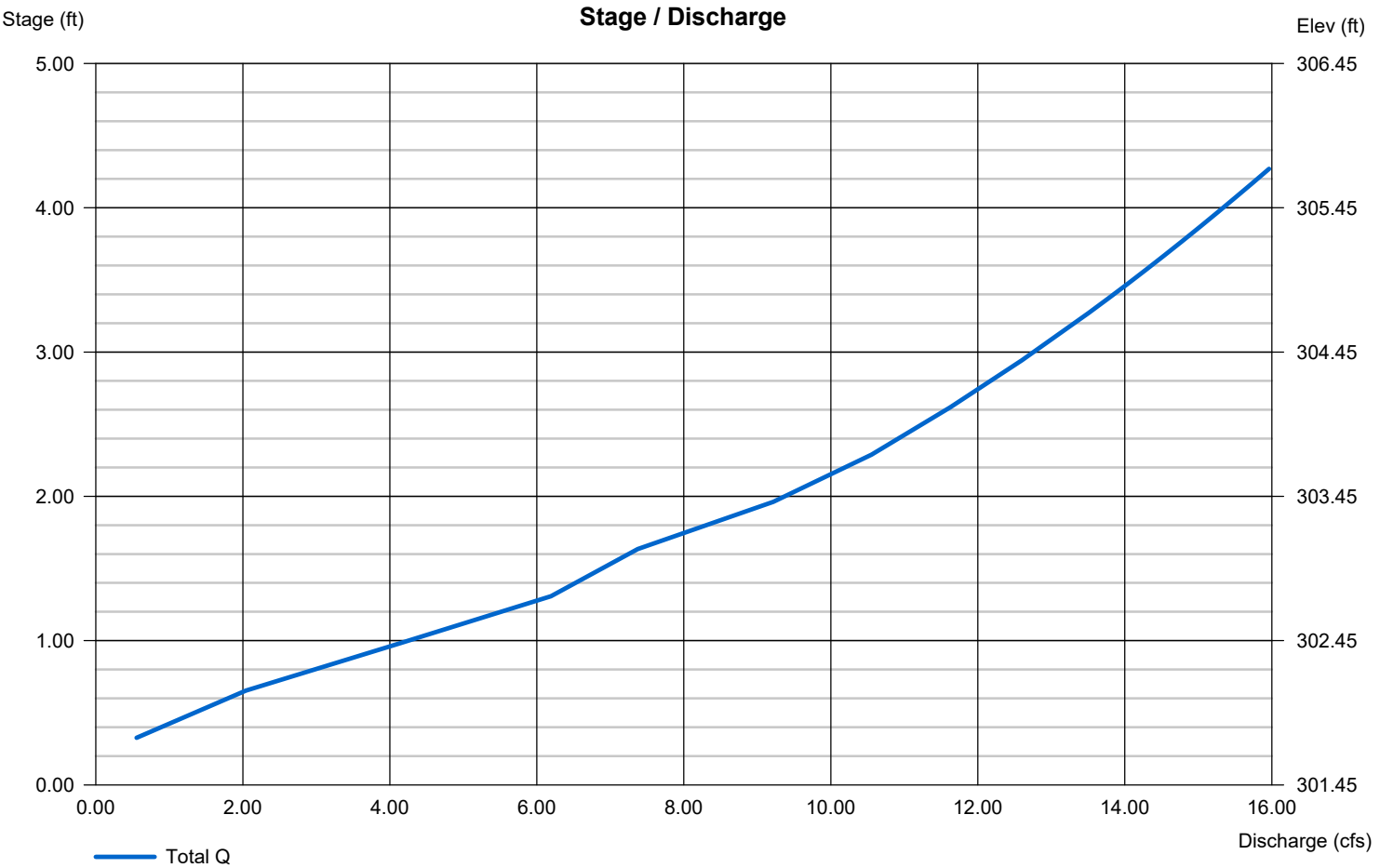
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 301.45	0.00	0.00	0.00
Length (ft)	= 36.00	0.00	0.00	0.00
Slope (%)	= 1.24	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

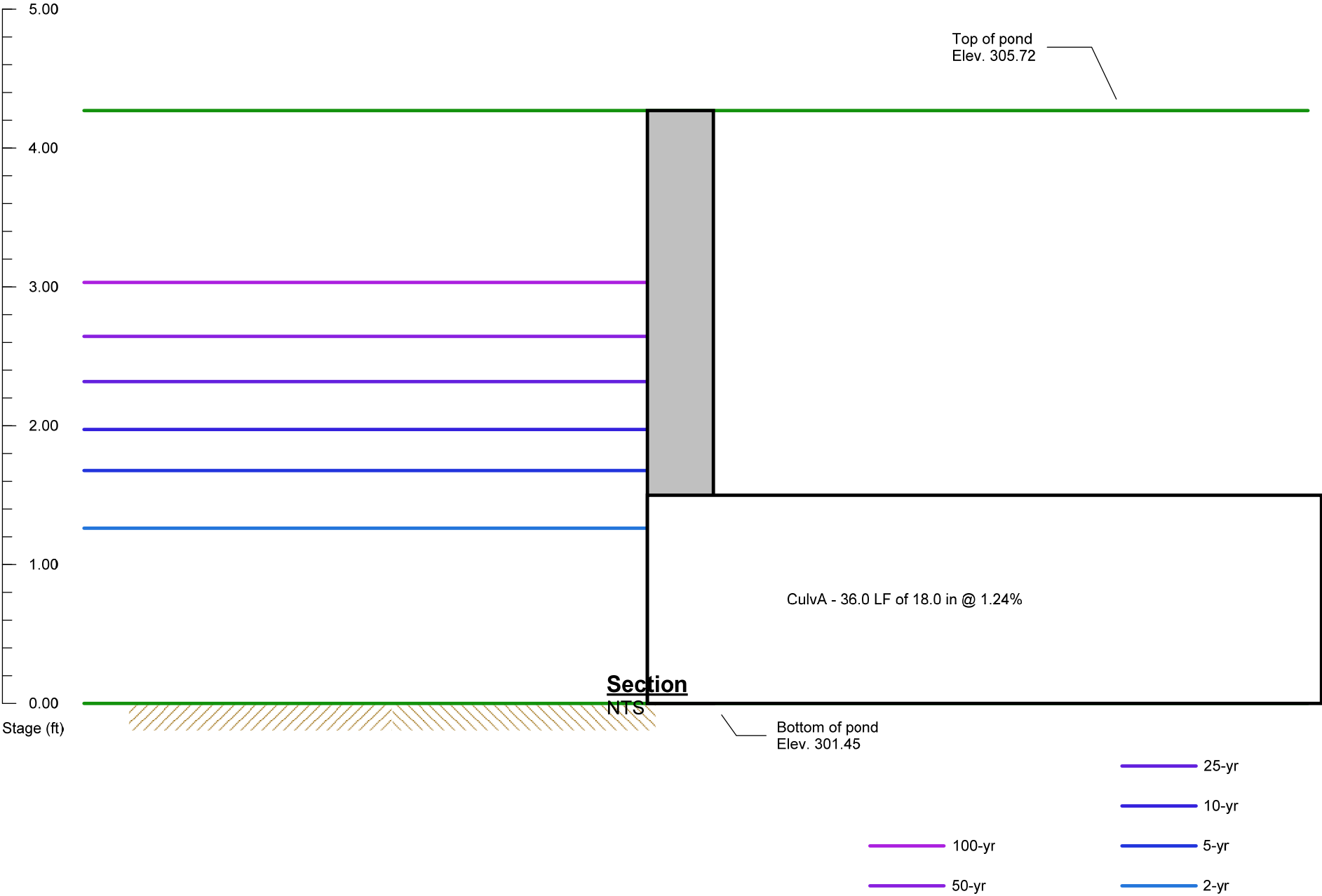
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond No. 1 - <New Pond>



Inflow hydrograph = 1. SCS Runoff - POST WEST

Project Description

File Name SSA4.SPF

Project Options

Flow Units CFS
Elevation Type Elevation
Hydrology Method SCS TR-55
Time of Concentration (TOC) Method SCS TR-55
Link Routing Method Hydrodynamic
Enable Overflow Ponding at Nodes YES
Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Jan 08, 2024 00:00:00
End Analysis On Jan 09, 2024 00:00:00
Start Reporting On Jan 08, 2024 00:00:00
Antecedent Dry Days 0 days
Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
Reporting Time Step 0 00:05:00 days hh:mm:ss
Routing Time Step 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins.....	13
Nodes.....	20
<i>Junctions</i>	2
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	15
<i>Storage Nodes</i>	1
Links.....	19
<i>Channels</i>	1
<i>Pipes</i>	16
<i>Pumps</i>	0
<i>Orifices</i>	0
<i>Weirs</i>	1
<i>Outlets</i>	1
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	Arkansas	Craighead	100	7.70	SCS Type II 24-hr

Subbasin Summary

SN	Subbasin ID	Area	Weighted Curve Number	Total Rainfall	Total Runoff	Total Runoff Volume	Peak Runoff	Time of Concentration
		(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1	CI 21	0.17	90.00	7.70	6.51	1.13	0.98	0 00:28:12
2	CI 24	0.10	90.00	7.70	6.51	0.65	0.58	0 00:28:12
3	CI-14	0.18	90.00	7.70	6.51	1.16	1.80	0 00:02:39
4	CI-15	0.14	90.00	7.70	6.51	0.92	1.42	0 00:02:39
5	CI-20	0.17	90.00	7.70	6.51	1.13	0.98	0 00:28:12
6	CI-22	0.17	90.00	7.70	6.51	1.13	0.98	0 00:28:12
7	CI-25	0.75	90.00	7.70	6.51	4.88	2.89	0 00:51:58
8	CI-26	0.10	90.00	7.70	6.51	0.65	0.99	0 00:04:43
9	CI-29	0.04	90.00	7.70	6.50	0.27	0.45	0 00:01:13
10	CI-30	0.04	90.00	7.70	6.50	0.27	0.45	0 00:01:13
11	FES 17	0.57	90.00	7.70	6.51	3.71	3.60	0 00:22:51
12	FES35	0.49	90.00	7.70	6.51	3.19	3.02	0 00:24:24
13	NORTH-FES	0.49	90.00	7.70	6.51	3.18	1.58	0 01:06:19

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-01	Junction	297.40	303.40	297.40	303.40	0.00	9.93	298.81	0.00	4.59	0 00:00	0.00	0.00
2	JUN-02	Junction	301.45	303.66	301.45	303.66	10.00	4.93	302.31	0.00	1.69	0 00:00	0.00	0.00
3	OUTFALL 1	Outfall	297.26					9.93	298.03					
4	OUTFALL PND	Outfall	301.00					4.93	301.68					
5	POND	Storage Node	301.45	304.72	0.00		0.00	5.25	302.87				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Reported	Surcharged Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-03	Pipe	Jun-01	OUTFALL 1	4.31	297.40	297.26	3.2500	18.000	0.0130	9.93	18.93	0.52	7.20	1.09	0.73	0.00	Calculated
2	Link-04	Pipe	CI-(20)	CI-(22)	58.19	318.34	316.22	3.6400	18.000	0.0150	0.05	17.38	0.00	1.01	0.30	0.20	0.00	Calculated
3	Link-07	Pipe	FES (36)	Jun-01	7.75	297.50	297.40	1.2900	18.000	0.0150	3.03	41.36	0.07	3.26	0.83	0.56	0.00	Calculated
4	Pipe - (83)	Pipe	CI-(22)	CI-(21)	39.48	316.22	316.02	0.5000	18.000	0.0130	1.95	6.30	0.31	4.42	0.50	0.33	0.00	Calculated
5	Pipe - (84)	Pipe	CI-(21)	CI-(24)	101.41	316.08	311.59	4.4300	18.000	0.0130	2.92	22.11	0.13	11.08	0.38	0.25	0.00	Calculated
6	Pipe - (85)	Pipe	FES-(23)	CI-(24)	114.10	314.00	311.49	2.2000	18.000	0.0130	1.57	15.58	0.10	5.43	0.36	0.24	0.00	Calculated
7	Pipe - (86)	Pipe	CI-(24)	CI-(25)	324.10	311.39	303.92	2.3000	18.000	0.0130	4.48	15.95	0.28	11.26	0.63	0.42	0.00	Calculated
8	Pipe - (87)	Pipe	CI-(25)	CI-(26)	42.72	303.82	302.41	3.3000	18.000	0.0130	7.00	19.08	0.37	24.54	0.72	0.48	0.00	Calculated
9	Pipe - (88)	Pipe	CI-(26)	Jun-01	116.11	302.31	297.40	4.2300	18.000	0.0130	7.13	21.60	0.33	8.37	1.00	0.67	0.00	Calculated
10	Pipe - (89)	Pipe	FES-(27)	CI-(25)	117.01	315.70	304.00	10.0000	18.000	0.0130	7.60	33.22	0.23	14.68	0.32	0.35	0.00	Calculated
11	Pipe - (90)	Pipe	FES-(35)	CI-(30)	4.17	312.50	312.40	2.4000	18.000	0.0130	2.95	16.27	0.18	2.95	0.83	0.55	0.00	Calculated
12	Pipe - (91)	Pipe	CI-(30)	CI-(29)	34.65	312.20	312.00	0.5800	18.000	0.0150	3.02	6.92	0.44	2.32	1.04	0.69	0.00	Calculated
13	Pipe - (94)	Pipe	JUN-02	OUTFALL PND	36.15	301.45	301.00	1.2400	18.000	0.0130	4.93	11.72	0.42	5.39	0.76	0.51	0.00	Calculated
14	Pipe - (95)	Pipe	CI-(14)	CI-(15)	34.98	302.04	301.86	0.5000	18.000	0.0130	4.26	7.43	0.57	2.73	1.26	0.84	0.00	Calculated
15	Pipe - (96)	Pipe	CI-(15)	POND	62.37	301.76	301.45	0.5000	18.000	0.0130	5.25	7.43	0.71	3.17	1.39	0.93	0.00	Calculated
16	Pipe - (97)	Pipe	CI-(17)	CI-(14)	6.13	302.62	302.52	1.6300	18.000	0.0130	3.59	13.42	0.27	6.07	0.82	0.55	0.00	Calculated
17	SWALE	Channel	CI-(29)	FES (36)	433.17	312.00	309.00	0.6900	18.000	0.0320	3.03	10.80	0.28	2.23	0.90	0.60	0.00	
18	Outlet-03	Outlet	CI-(20)	CI-(22)		318.34	316.22				1.43							
19	Weir-01	Weir	POND	JUN-02		301.45	301.45				4.93							

Inlet Summary

SN Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation	Max (Rim) Elevation	Initial Water Elevation	Ponded Area	Peak Flow	Peak Flow Intercepted	Peak Flow Bypassing	Inlet Efficiency during Peak	Allowable Spread	Max Gutter Spread during Peak	Max Gutter Water Elev. during Peak
					(ft)	(ft)	(ft)	(ft²)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
1 CI-(14)	FHWA HEC-22 GENERIC	N/A	On Sag	1	302.04	305.03	302.04	10.00	1.75	N/A	N/A	N/A	7.00	1.03	305.68
2 CI-(15)	FHWA HEC-22 GENERIC	N/A	On Sag	1	301.76	305.01	301.76	10.00	1.37	N/A	N/A	N/A	7.00	2.55	305.65
3 CI-(17)	FHWA HEC-22 GENERIC	N/A	On Sag	1	302.62	304.32	302.62	10.00	3.58	N/A	N/A	N/A	7.00	23.51	305.25
4 CI-(20)	FHWA HEC-22 GENERIC	N/A	On Sag	1	318.34	321.34	318.34	10.00	0.98	N/A	N/A	N/A	7.00	3.94	321.96
5 CI-(21)	FHWA HEC-22 GENERIC	N/A	On Sag	1	316.08	319.72	316.08	10.00	0.98	N/A	N/A	N/A	7.00	3.94	320.34
6 CI-(22)	FHWA HEC-22 GENERIC	N/A	On Sag	1	316.22	319.32	316.22	10.00	0.98	N/A	N/A	N/A	7.00	3.94	319.93
7 CI-(24)	FHWA HEC-22 GENERIC	N/A	On Sag	1	311.39	314.30	311.39	10.00	0.58	N/A	N/A	N/A	7.00	2.33	314.66
8 CI-(25)	FHWA HEC-22 GENERIC	N/A	On Sag	1	303.82	306.92	303.82	10.00	2.87	N/A	N/A	N/A	7.00	4.35	307.59
9 CI-(26)	FHWA HEC-22 GENERIC	N/A	On Sag	1	302.31	305.41	302.31	10.00	0.99	N/A	N/A	N/A	7.00	3.99	306.02
10 CI-(29)	FHWA HEC-22 GENERIC	N/A	On Sag	1	312.00	315.57	312.00	10.00	0.44	N/A	N/A	N/A	7.00	1.76	315.85
11 CI-(30)	FHWA HEC-22 GENERIC	N/A	On Sag	1	312.20	315.53	312.20	10.00	0.44	N/A	N/A	N/A	7.00	1.76	315.80
12 FES-(36)	FHWA HEC-22 GENERIC	N/A	On Sag	1	299.00	300.00	0.00	10.00	0.00	N/A	N/A	N/A	7.00	0.00	300.00
13 FES-(23)	FHWA HEC-22 GENERIC	N/A	On Sag	1	314.00	315.79	314.00	0.00	1.57	N/A	N/A	N/A	7.00	8.95	316.28
14 FES-(27)	FHWA HEC-22 GENERIC	N/A	On Sag	1	315.70	303.92	315.70	0.00	0.00	N/A	N/A	N/A	7.00	0.00	316.70
15 FES-(35)	FHWA HEC-22 GENERIC	N/A	On Sag	1	312.50	314.29	312.50	0.00	2.96	N/A	N/A	N/A	7.00	22.79	314.96

Subbasin Hydrology

Subbasin : CI 21

Input Data

Area (ac) 0.17
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.17	C	90.00
Composite Area & Weighted CN	0.17		90.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where :

T_c = Time of Concentration (hr)
n = Manning's roughness
L_f = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
S_f = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (S_f^{0.5}) (unpaved surface)
V = 20.3282 * (S_f^{0.5}) (paved surface)
V = 15.0 * (S_f^{0.5}) (grassed waterway surface)
V = 10.0 * (S_f^{0.5}) (nearly bare & untilled surface)
V = 9.0 * (S_f^{0.5}) (cultivated straight rows surface)
V = 7.0 * (S_f^{0.5}) (short grass pasture surface)
V = 5.0 * (S_f^{0.5}) (woodland surface)
V = 2.5 * (S_f^{0.5}) (forest w/heavy litter surface)
T_c = (L_f / V) / (3600 sec/hr)

Where:

T_c = Time of Concentration (hr)
L_f = Flow Length (ft)
V = Velocity (ft/sec)
S_f = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^{2/3})) * (S_f^{0.5}) / n
R = A_q / W_p
T_c = (L_f / V) / (3600 sec/hr)

Where :

T_c = Time of Concentration (hr)
L_f = Flow Length (ft)
R = Hydraulic Radius (ft)
A_q = Flow Area (ft²)
W_p = Wetted Perimeter (ft)
V = Velocity (ft/sec)
S_f = Slope (ft/ft)
n = Manning's roughness

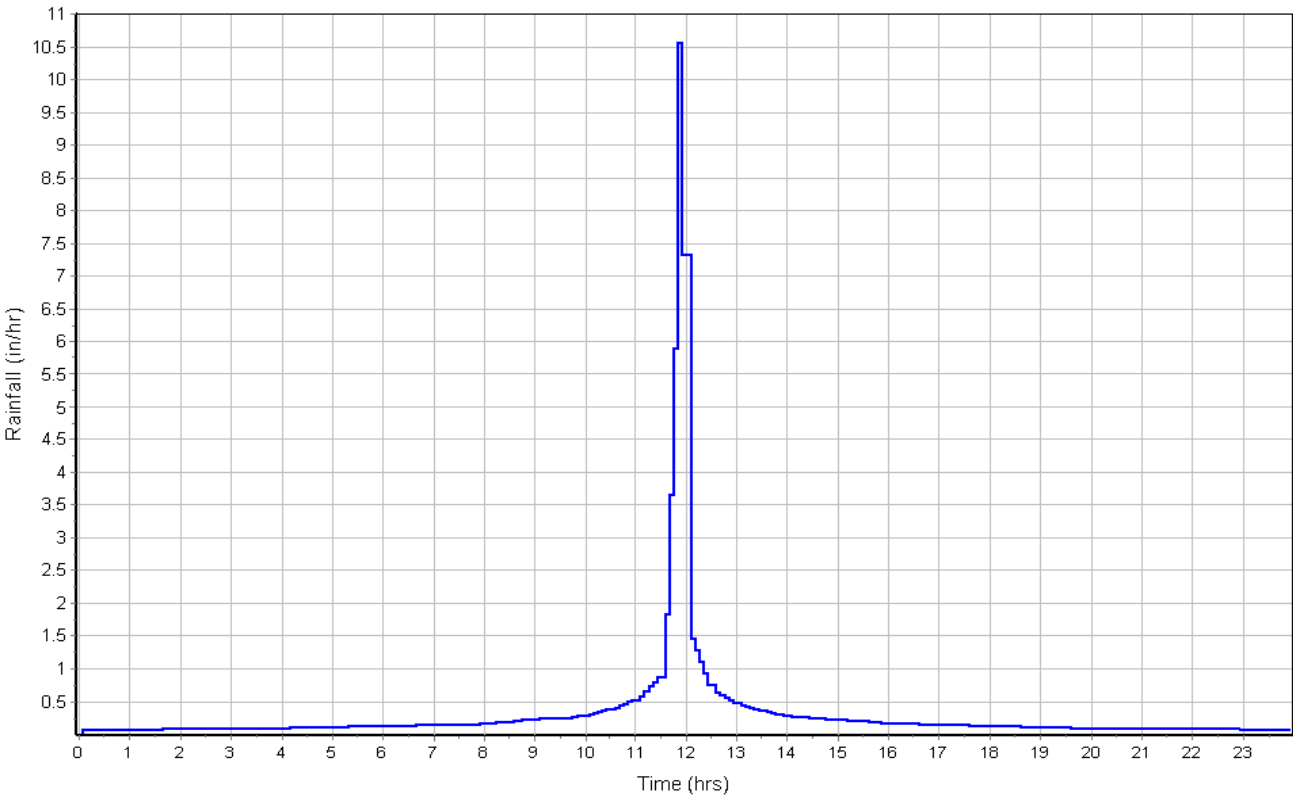
User-Defined TOC override (minutes): 28.21

Subbasin Runoff Results

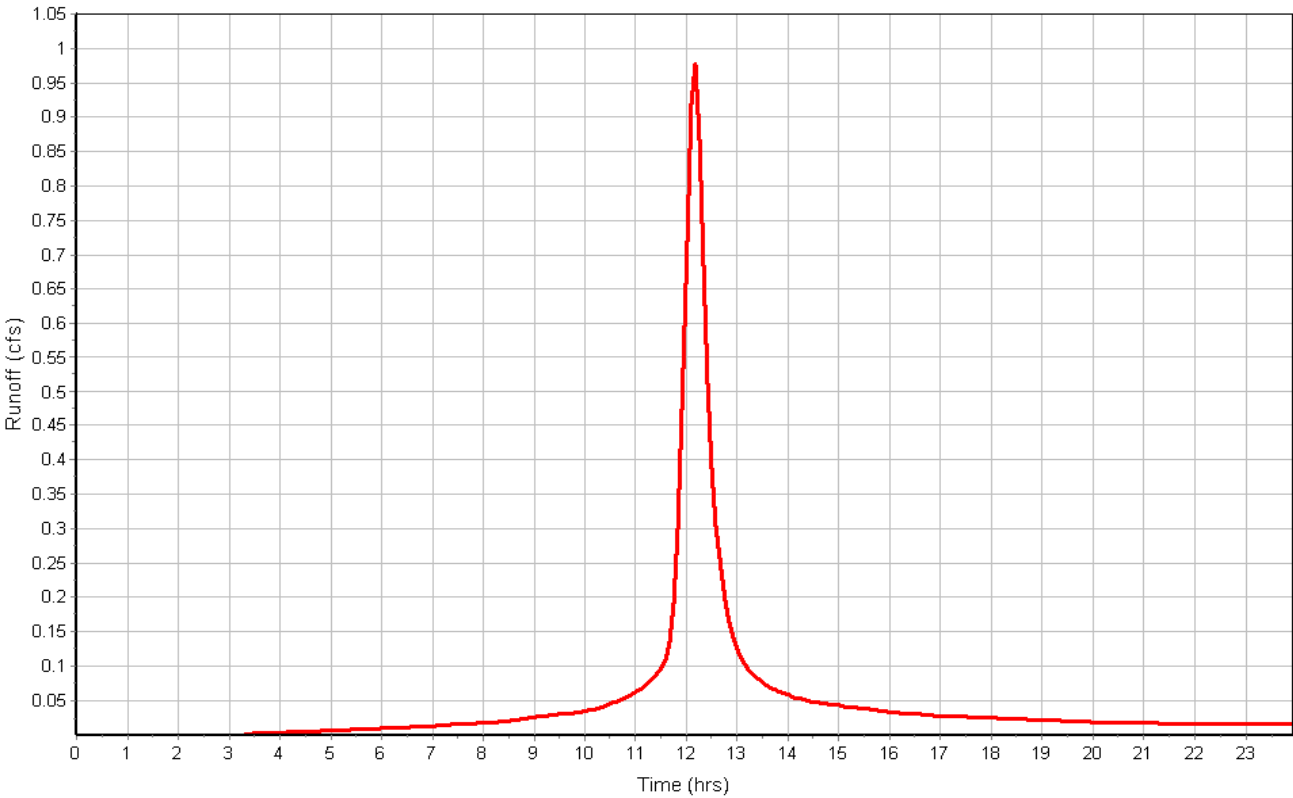
Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 0.98
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:28:13

Subbasin : CI 21

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI 24

Input Data

Area (ac) 0.10
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.10	C	90.00
Composite Area & Weighted CN	0.10		90.00

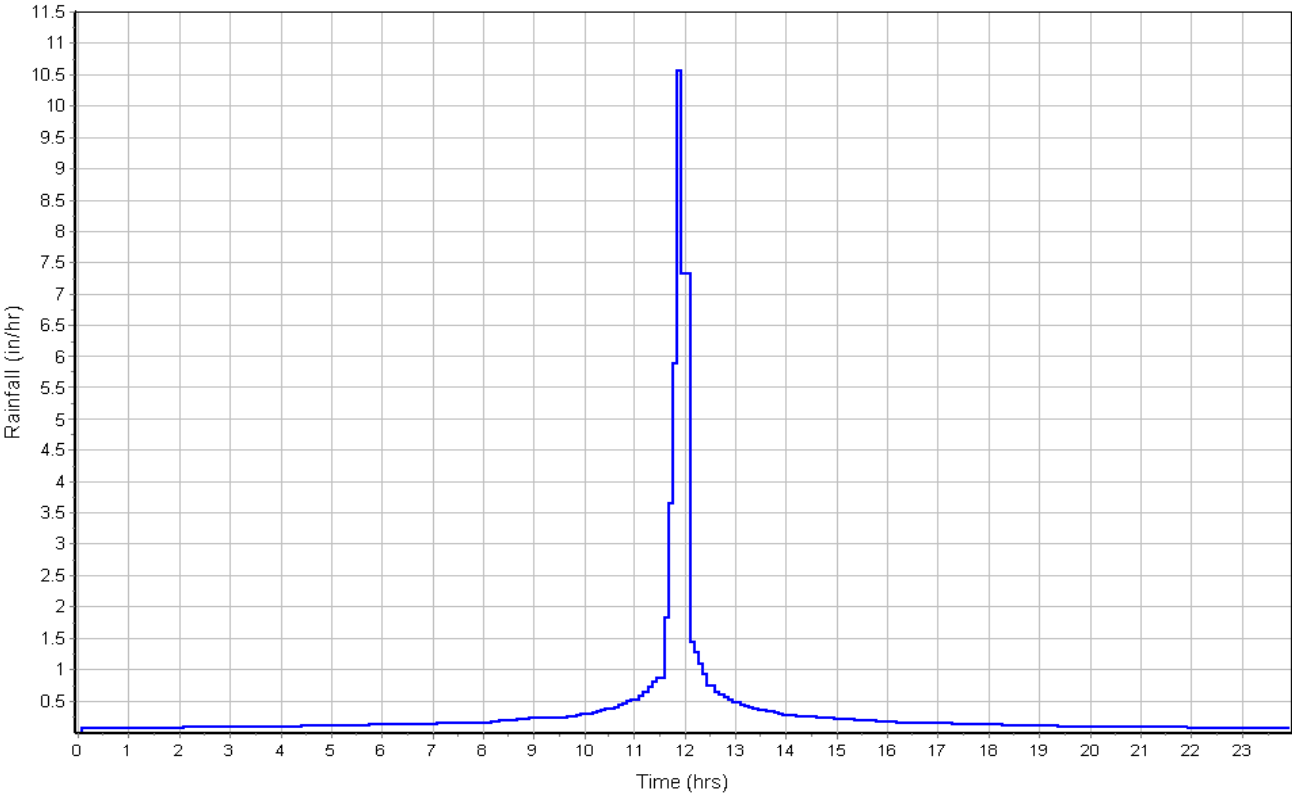
Time of Concentration

User-Defined TOC override (minutes): 28.21

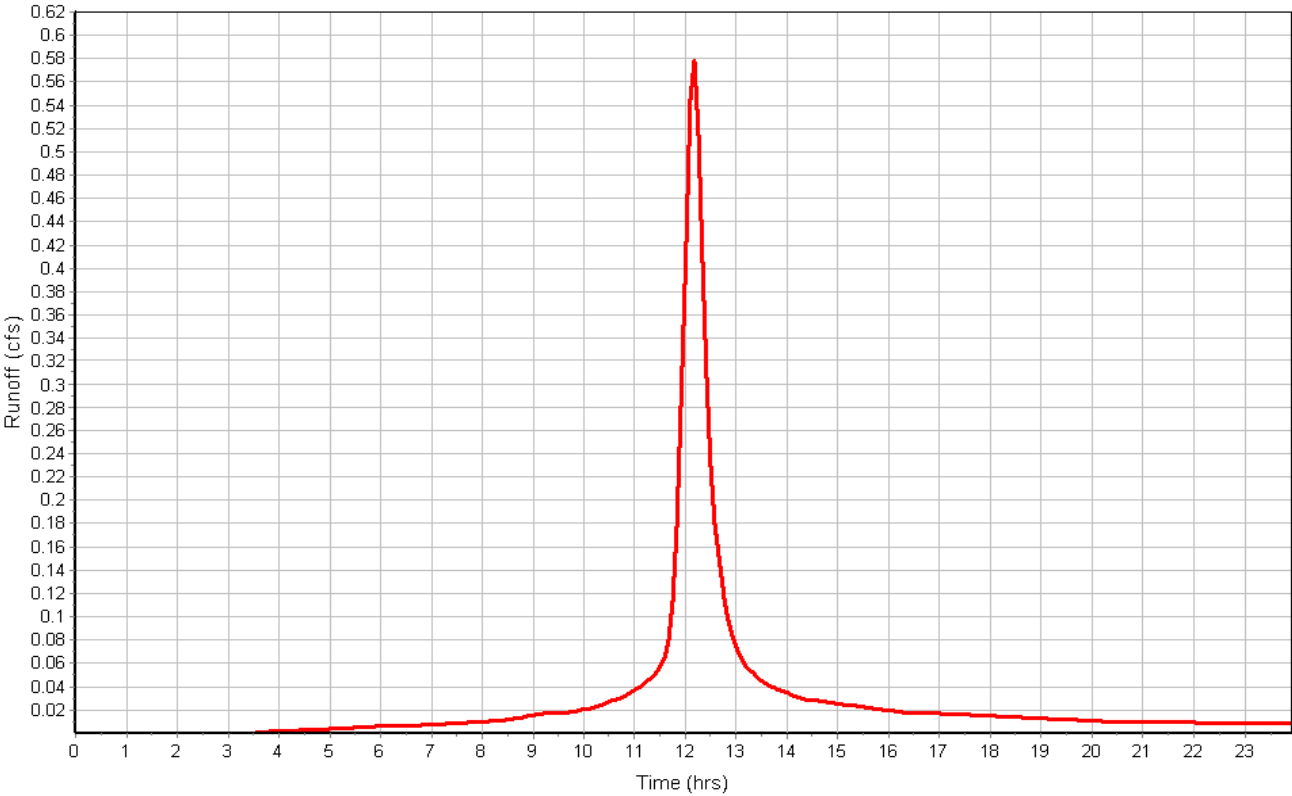
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 0.58
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:28:13

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-14

Input Data

Area (ac) 0.18
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	0.18	-	90.00
Composite Area & Weighted CN	0.18		90.00

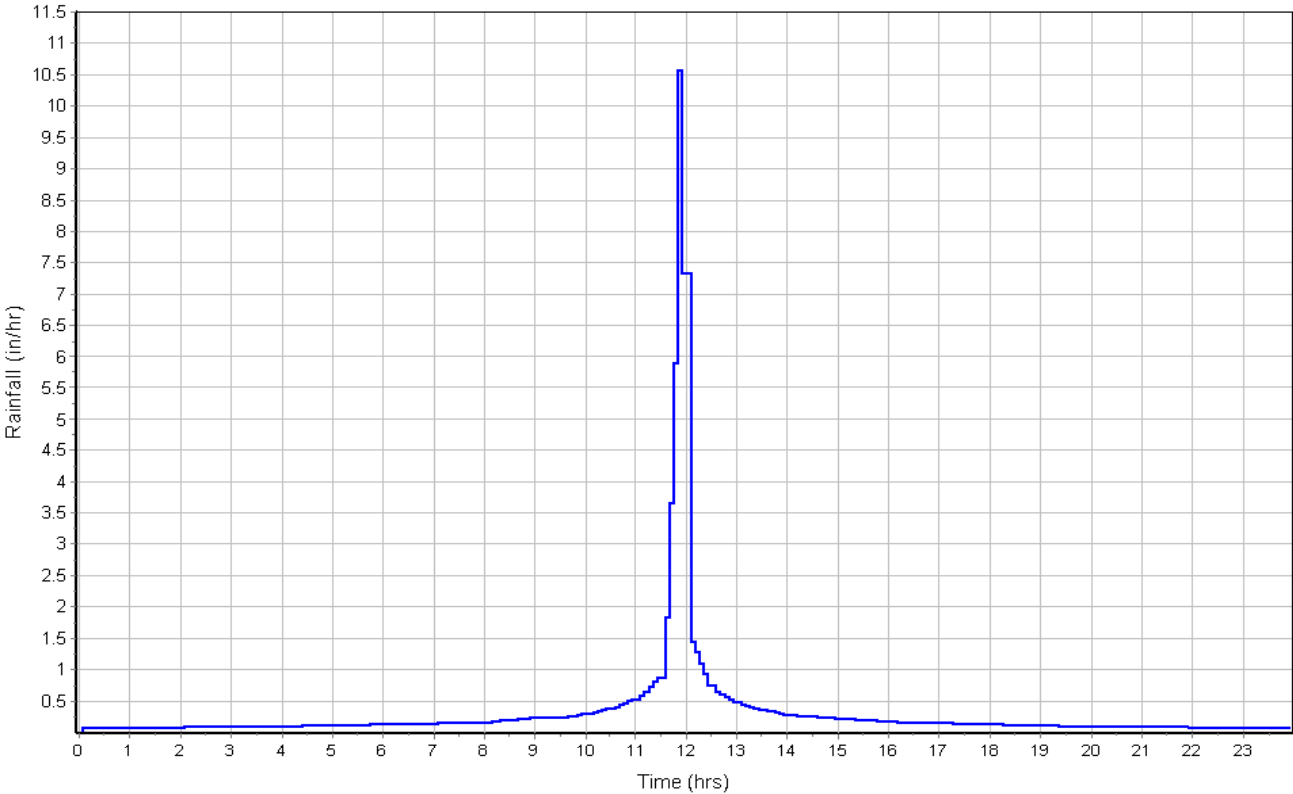
Time of Concentration

Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.015	0.00	0.00
Flow Length (ft) :	441.20	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	2.77	0.00	0.00
Computed Flow Time (min) :	2.66	0.00	0.00
Total TOC (min)	2.66		

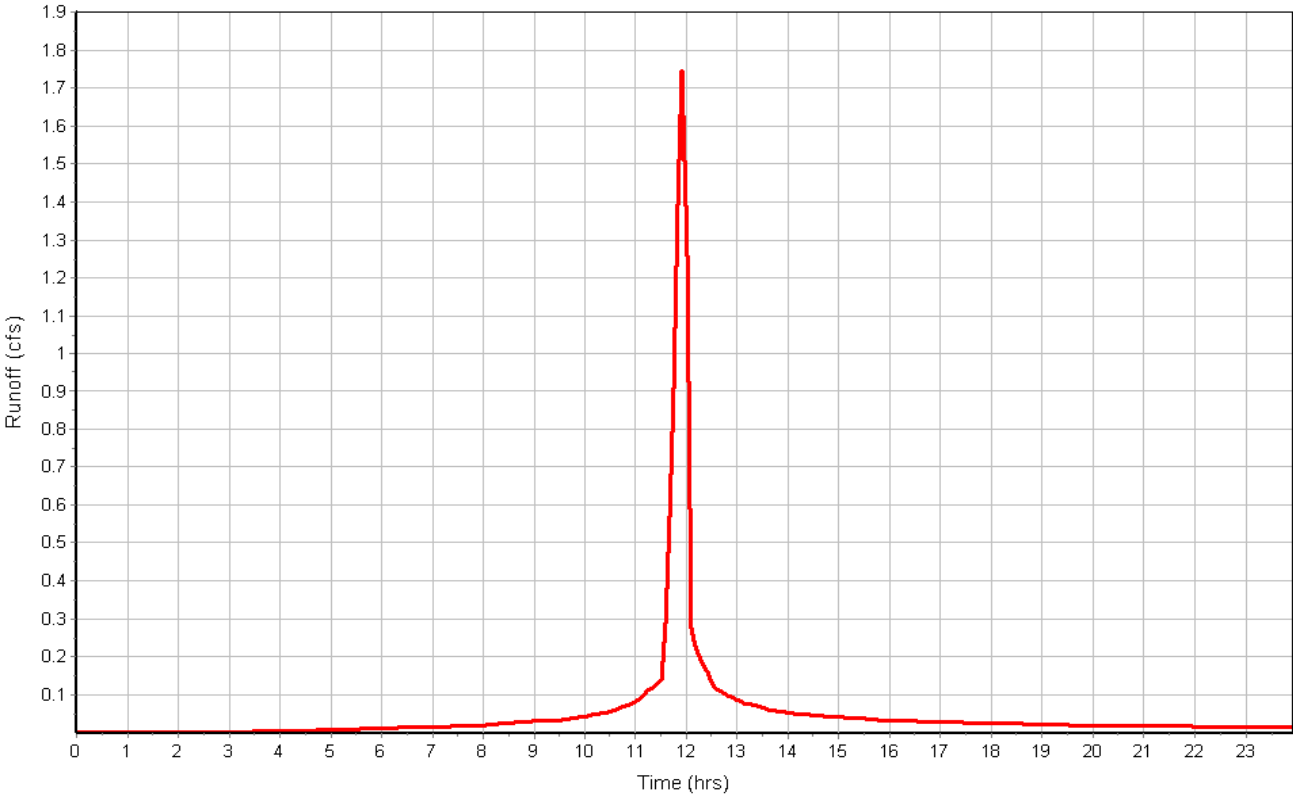
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 1.80
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:02:40

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-15

Input Data

Area (ac) 0.14
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	0.14	-	90.00
Composite Area & Weighted CN	0.14		90.00

Time of Concentration

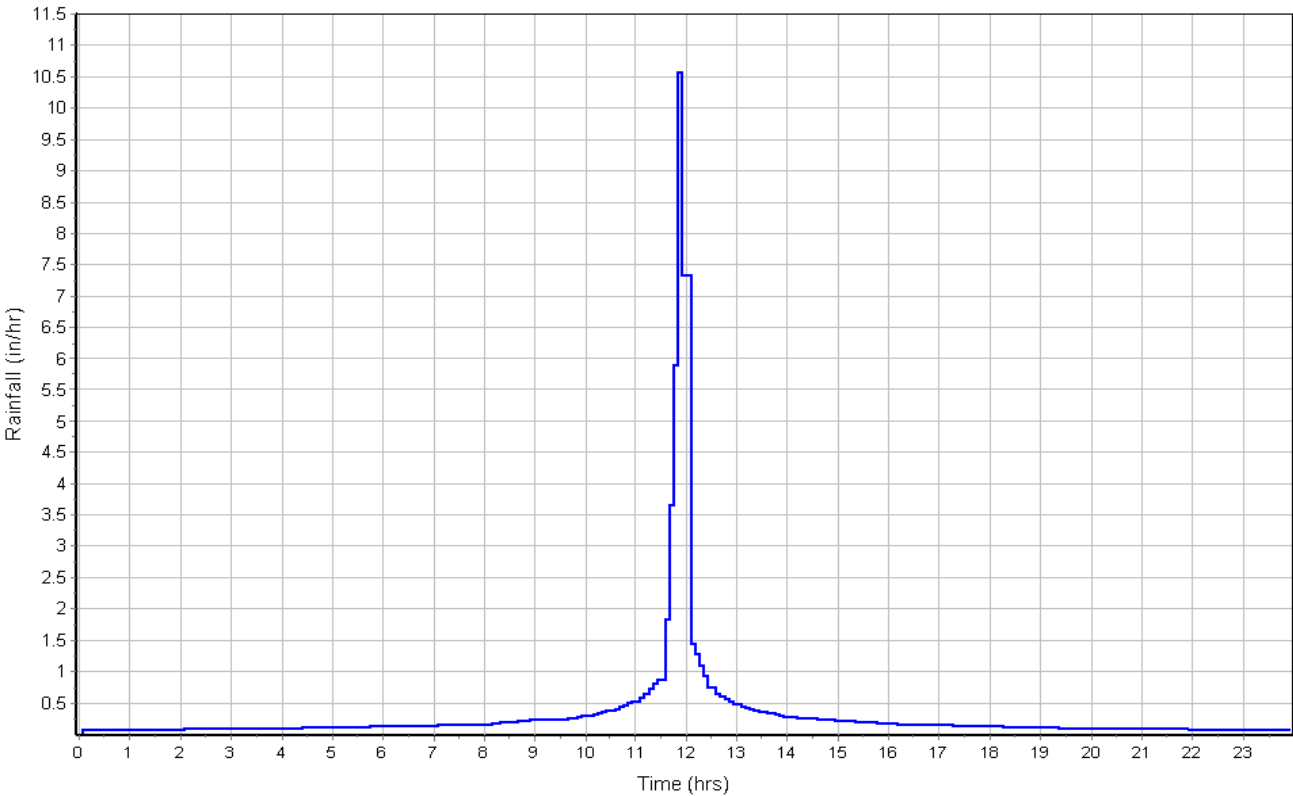
Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.015	0.00	0.00
Flow Length (ft) :	440	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	2.77	0.00	0.00
Computed Flow Time (min) :	2.65	0.00	0.00
Total TOC (min)	2.65		

Subbasin Runoff Results

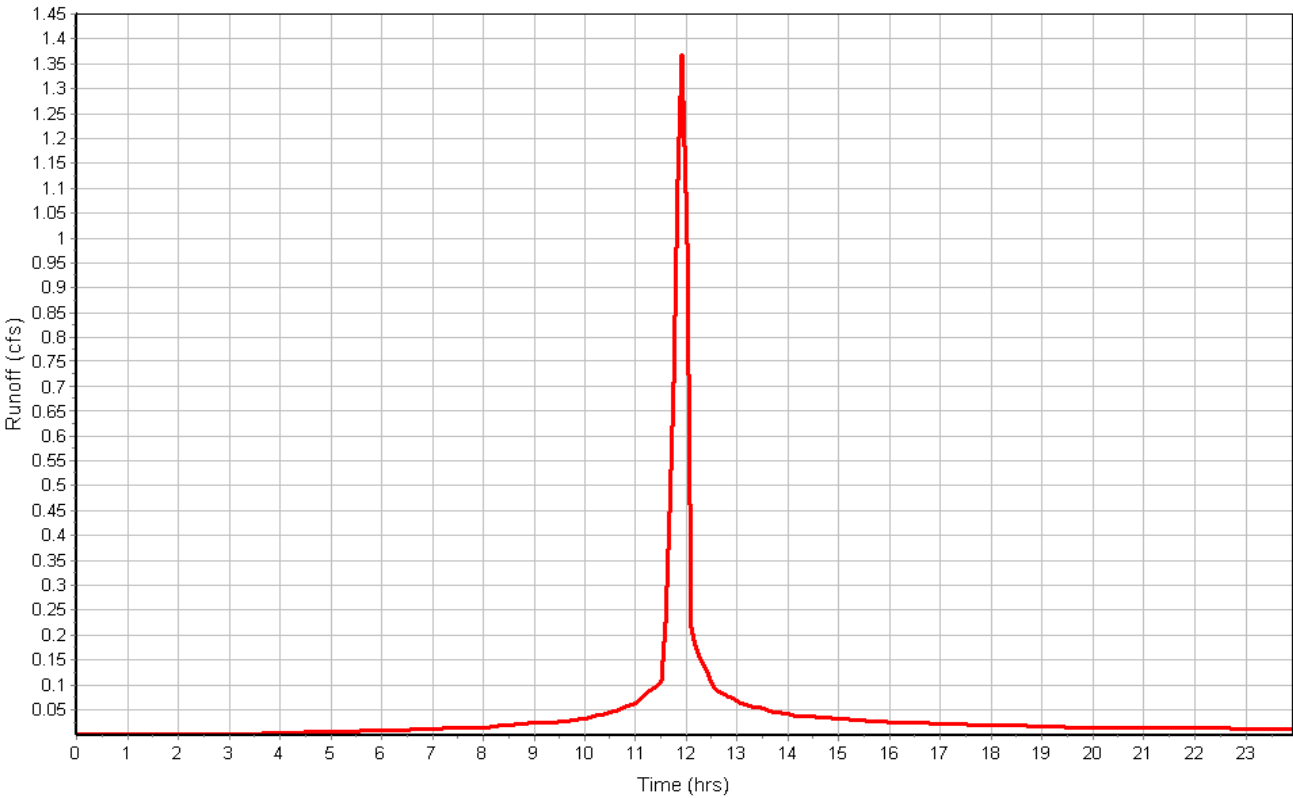
Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 1.42
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:02:39

Subbasin : CI-15

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-20

Input Data

Area (ac) 0.17
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.17	C	90.00
Composite Area & Weighted CN	0.17		90.00

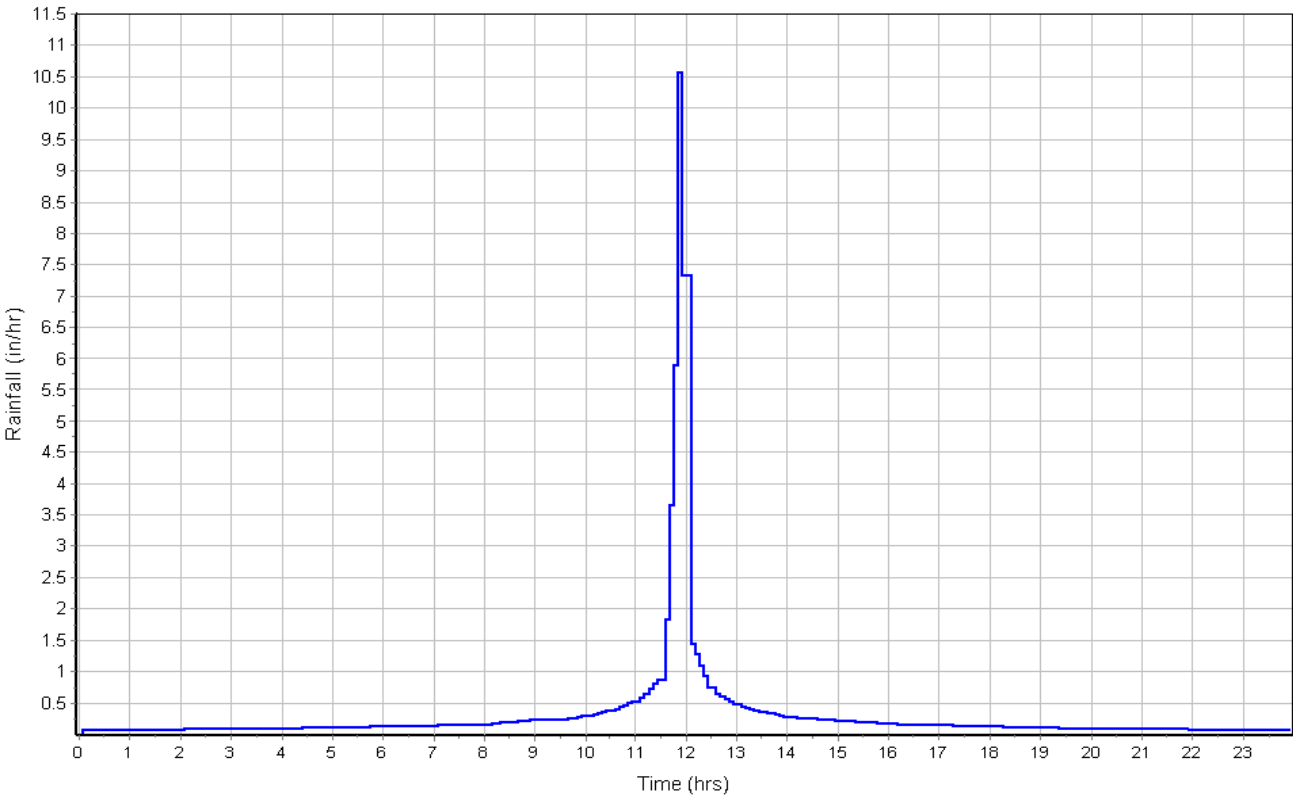
Time of Concentration

Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	1.04	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	0.07	0.00	0.00
Computed Flow Time (min) :	25.33	0.00	0.00
Shallow Concentrated Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Flow Length (ft) :	285	0.00	0.00
Slope (%) :	1.04	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	1.65	0.00	0.00
Computed Flow Time (min) :	2.88	0.00	0.00
Total TOC (min)	28.21		

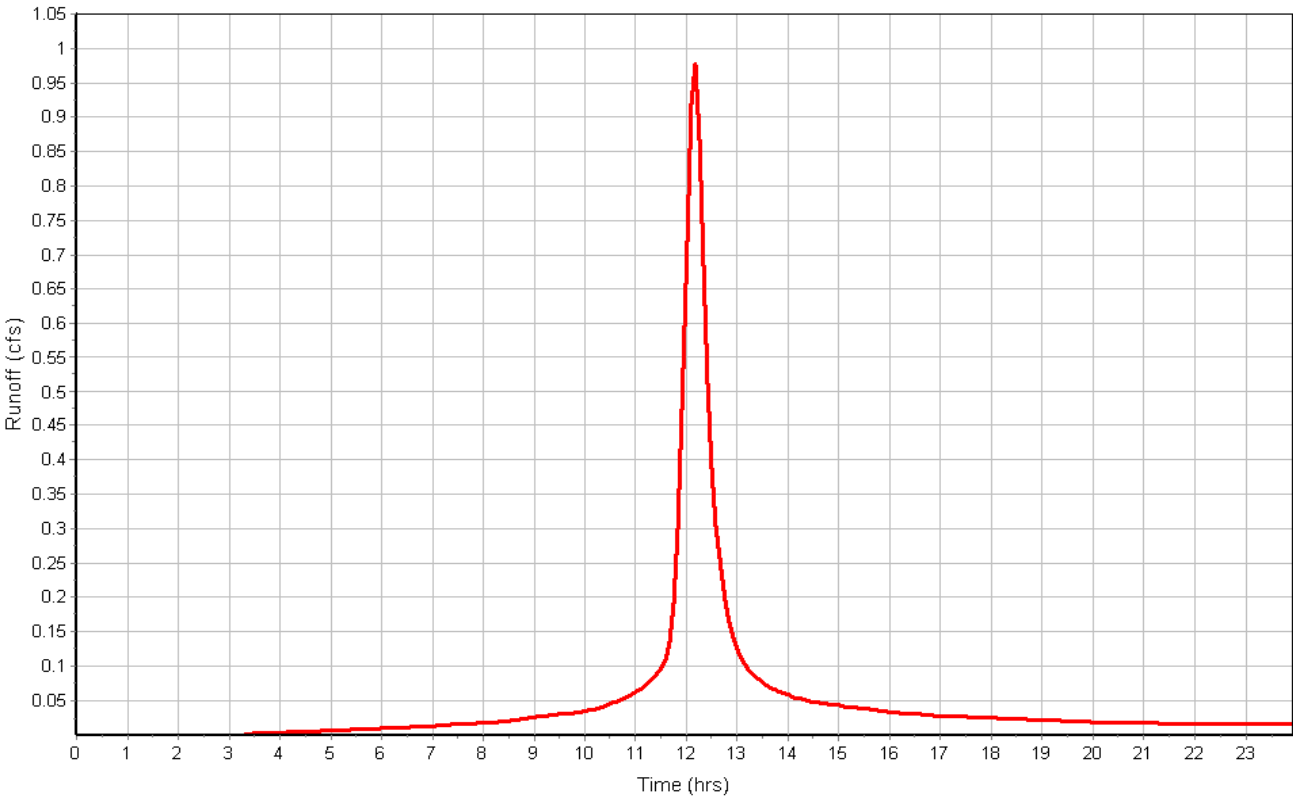
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 0.98
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:28:13

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-22

Input Data

Area (ac) 0.17
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.17	C	90.00
Composite Area & Weighted CN	0.17		90.00

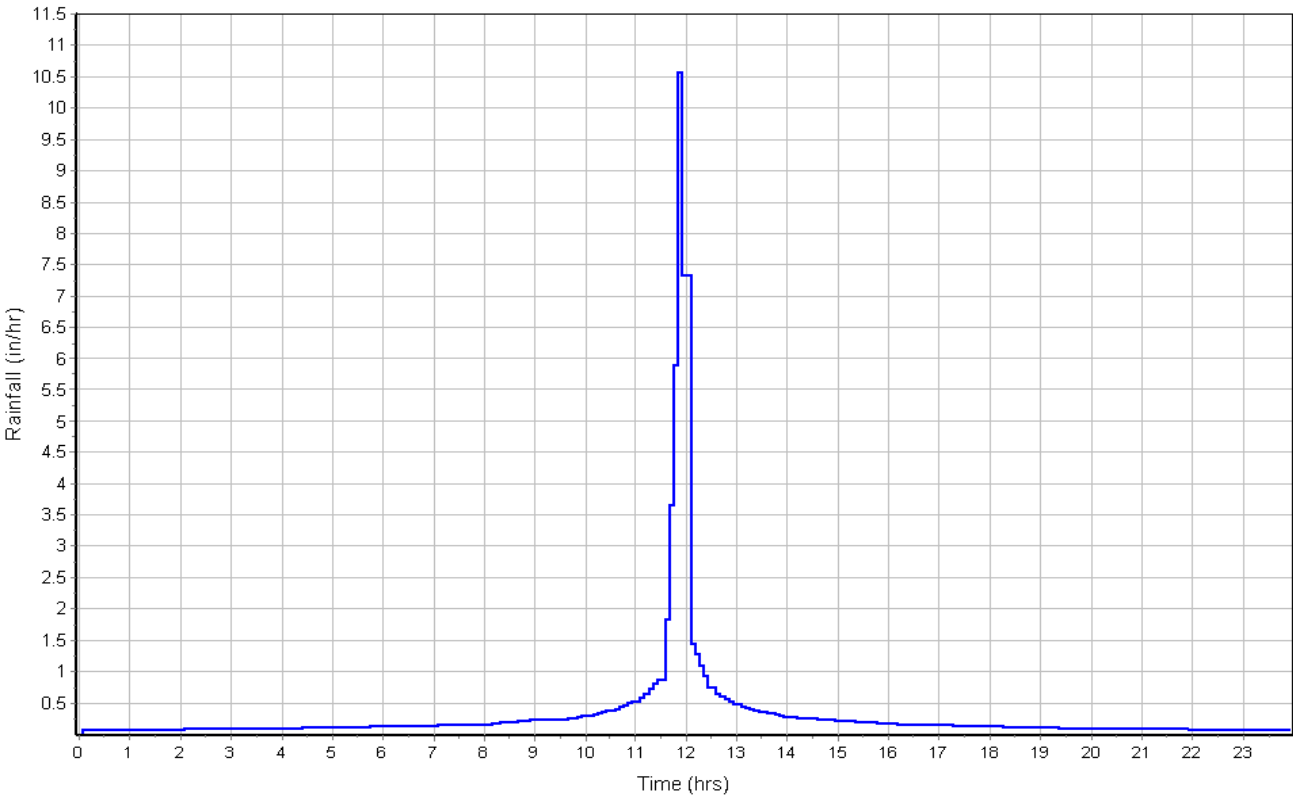
Time of Concentration

User-Defined TOC override (minutes): 28.21

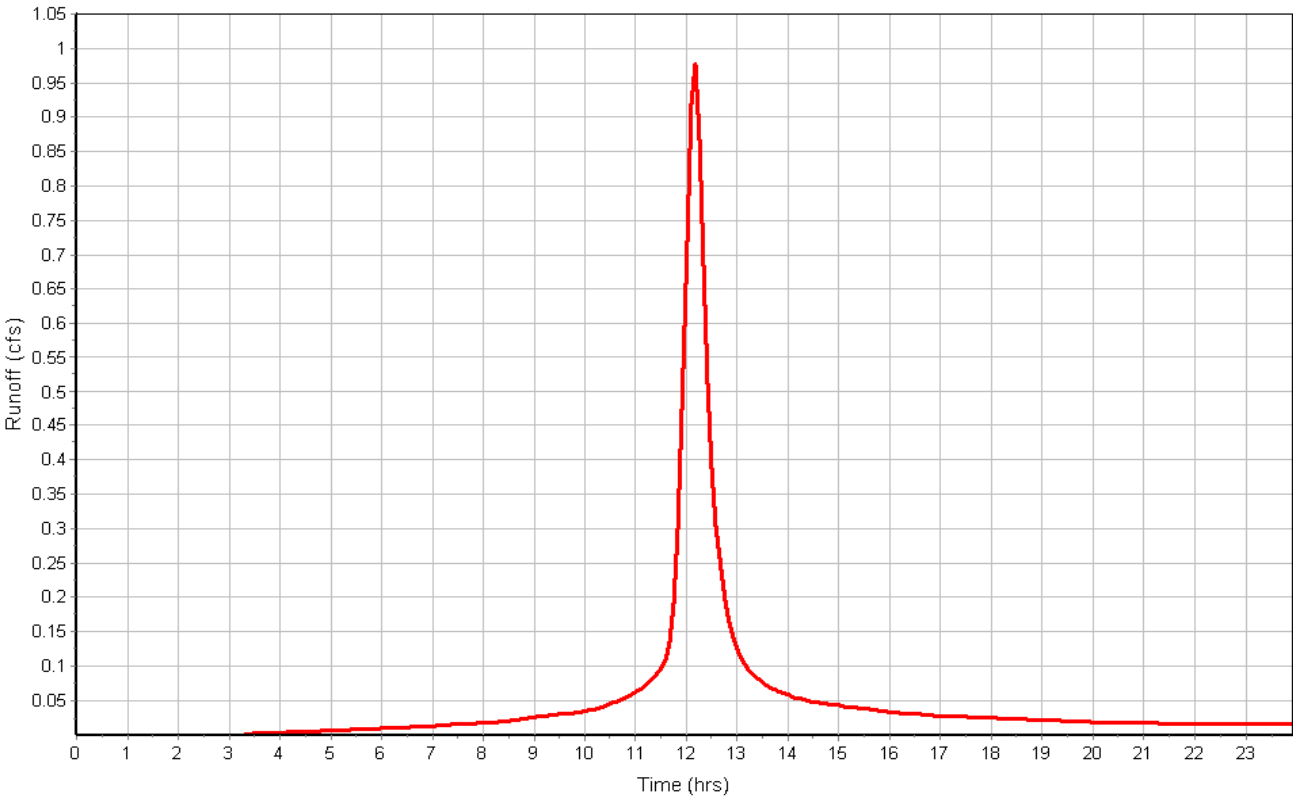
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 0.98
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:28:13

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-25

Input Data

Area (ac) 0.75
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	0.75	-	90.00
Composite Area & Weighted CN	0.75		90.00

Time of Concentration

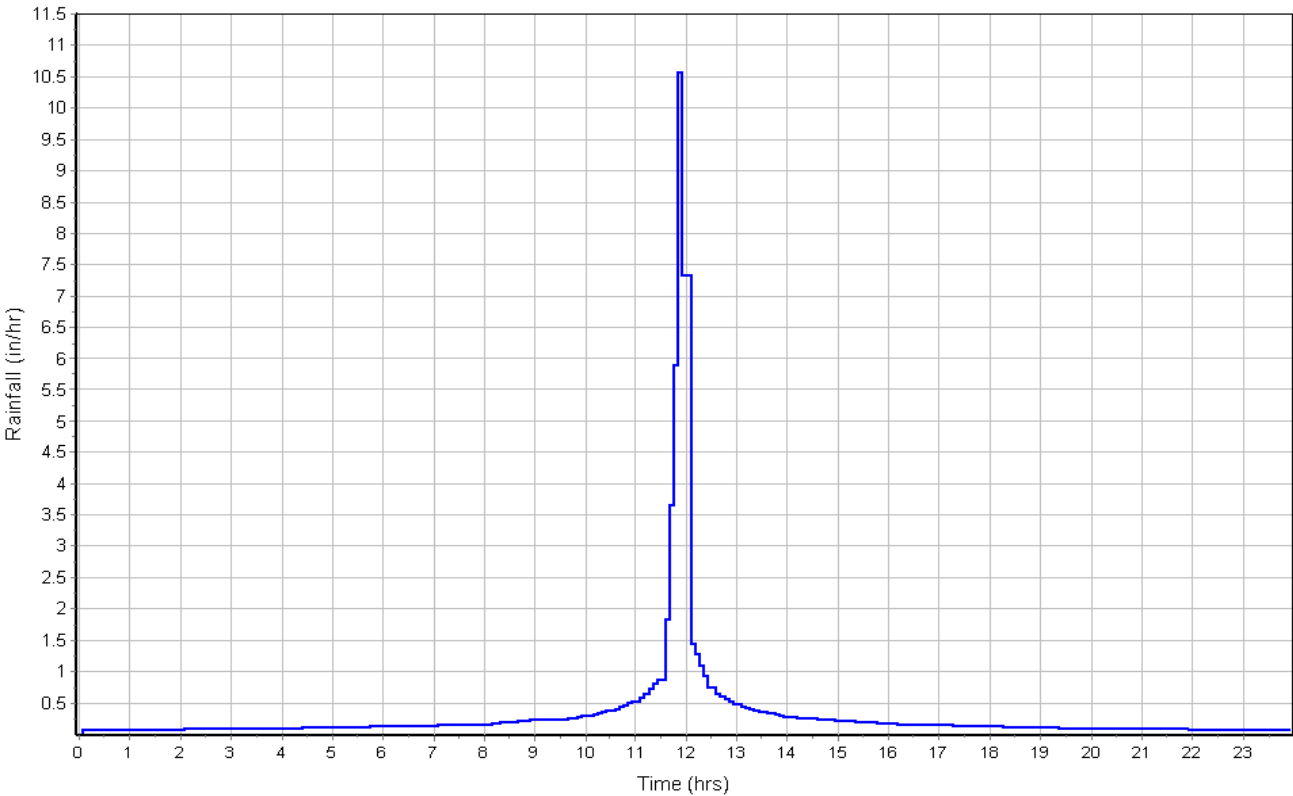
Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.3	0.00	0.00
Flow Length (ft) :	351.63	0.00	0.00
Slope (%) :	1.2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	0.11	0.00	0.00
Computed Flow Time (min) :	51.97	0.00	0.00
Total TOC (min)	51.97		

Subbasin Runoff Results

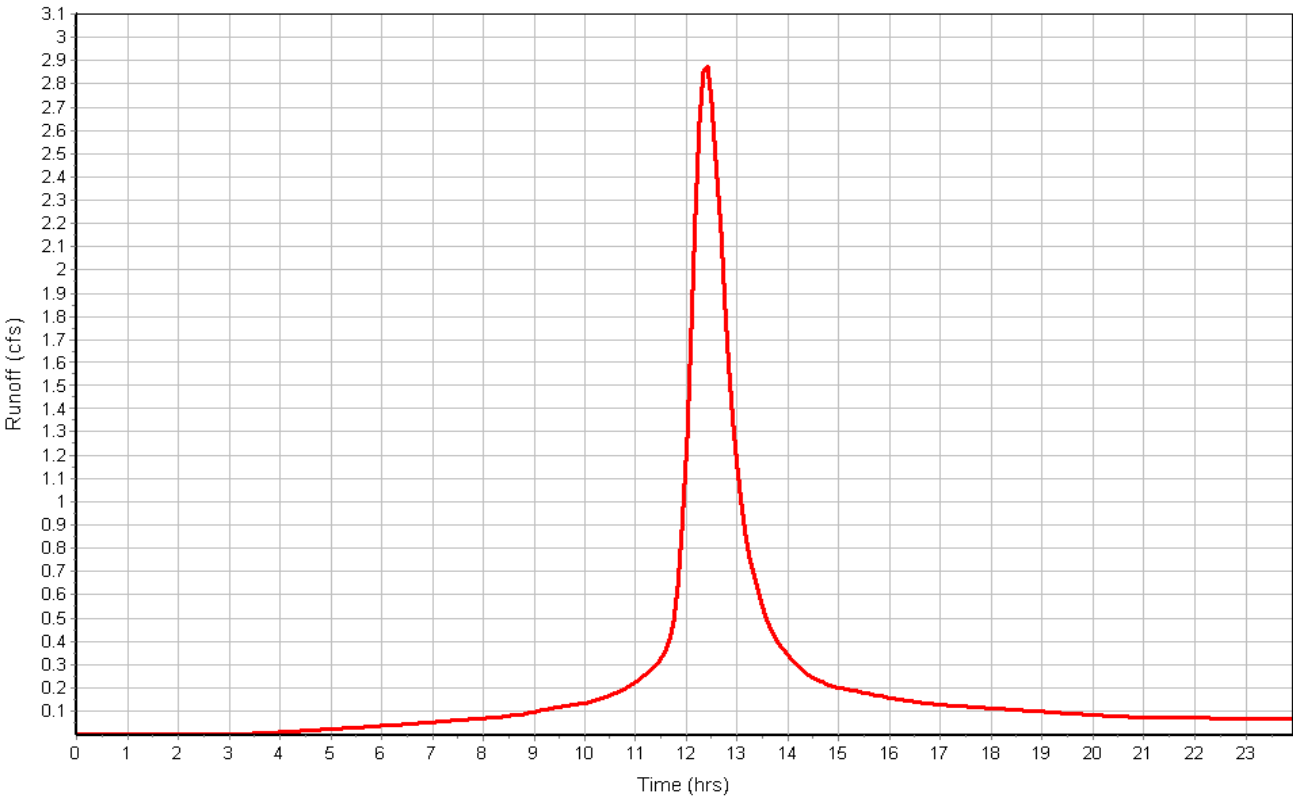
Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 2.89
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:51:58

Subbasin : CI-25

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-26

Input Data

Area (ac) 0.10
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	0.75	-	90.00
Composite Area & Weighted CN	0.75		90.00

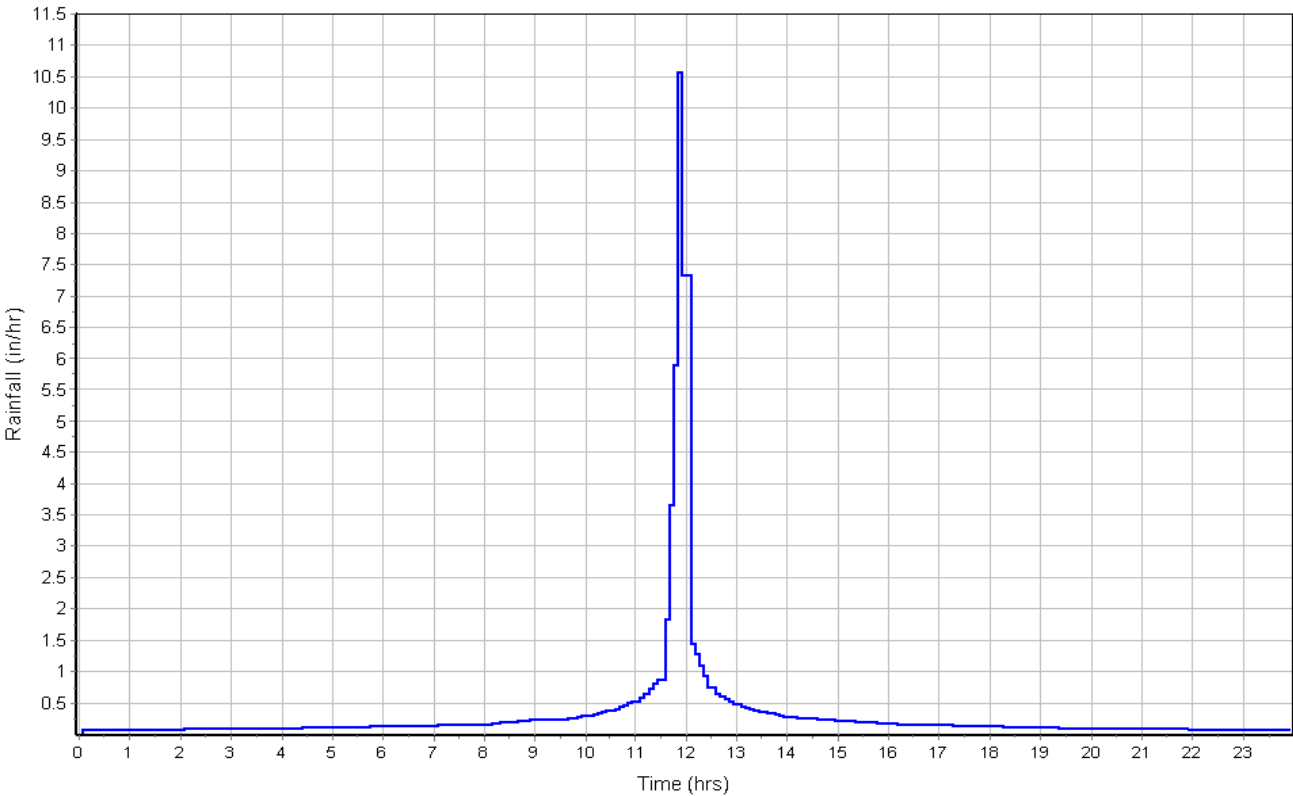
Time of Concentration

Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.015	0.00	0.00
Flow Length (ft) :	351.63	0.00	0.00
Slope (%) :	1.2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	4.73	0.00	0.00
Total TOC (min)	4.73		

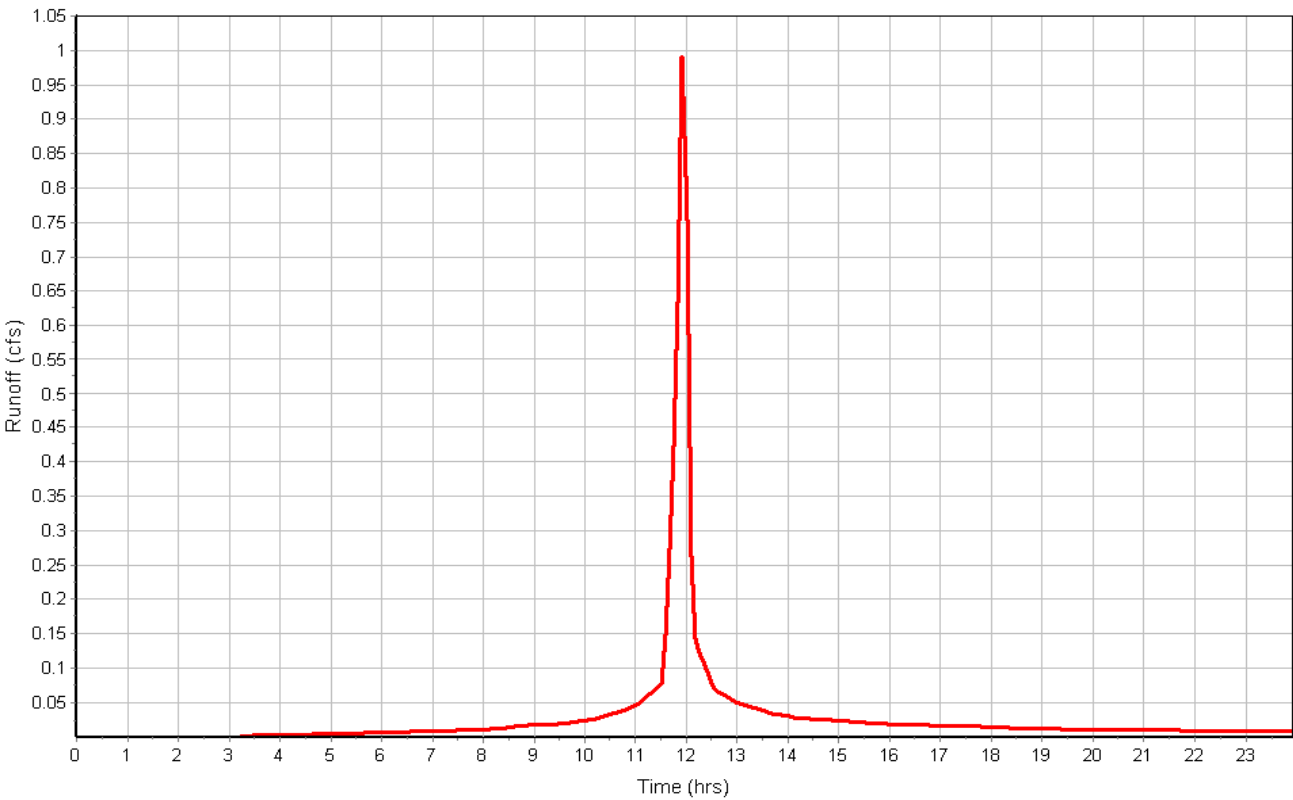
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 0.99
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:04:44

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-29

Input Data

Area (ac) 0.04
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	5.00	C	90.00
Composite Area & Weighted CN	5.00		90.00

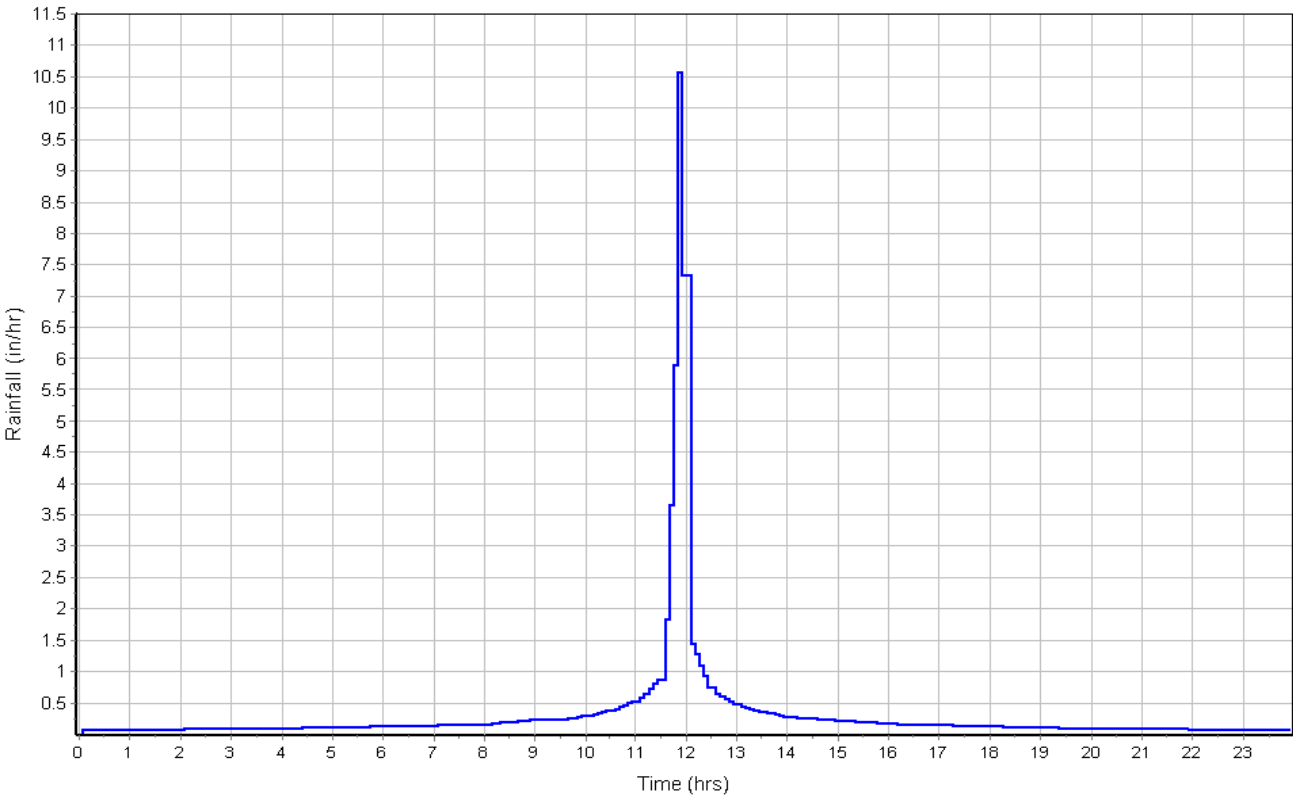
Time of Concentration

User-Defined TOC override (minutes): 1.22

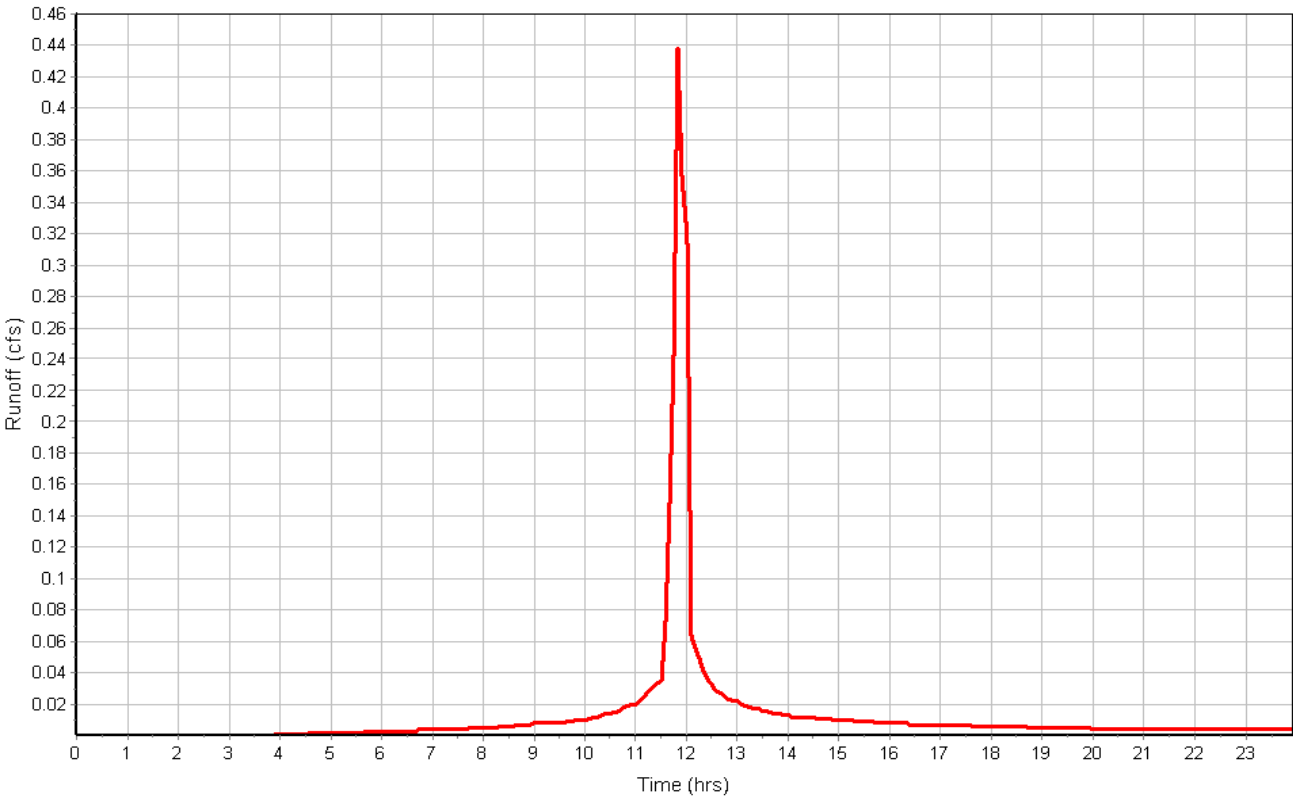
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.50
Peak Runoff (cfs) 0.45
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:01:13

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : CI-30

Input Data

Area (ac) 0.04
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.08	C	90.00
Composite Area & Weighted CN	0.08		90.00

Time of Concentration

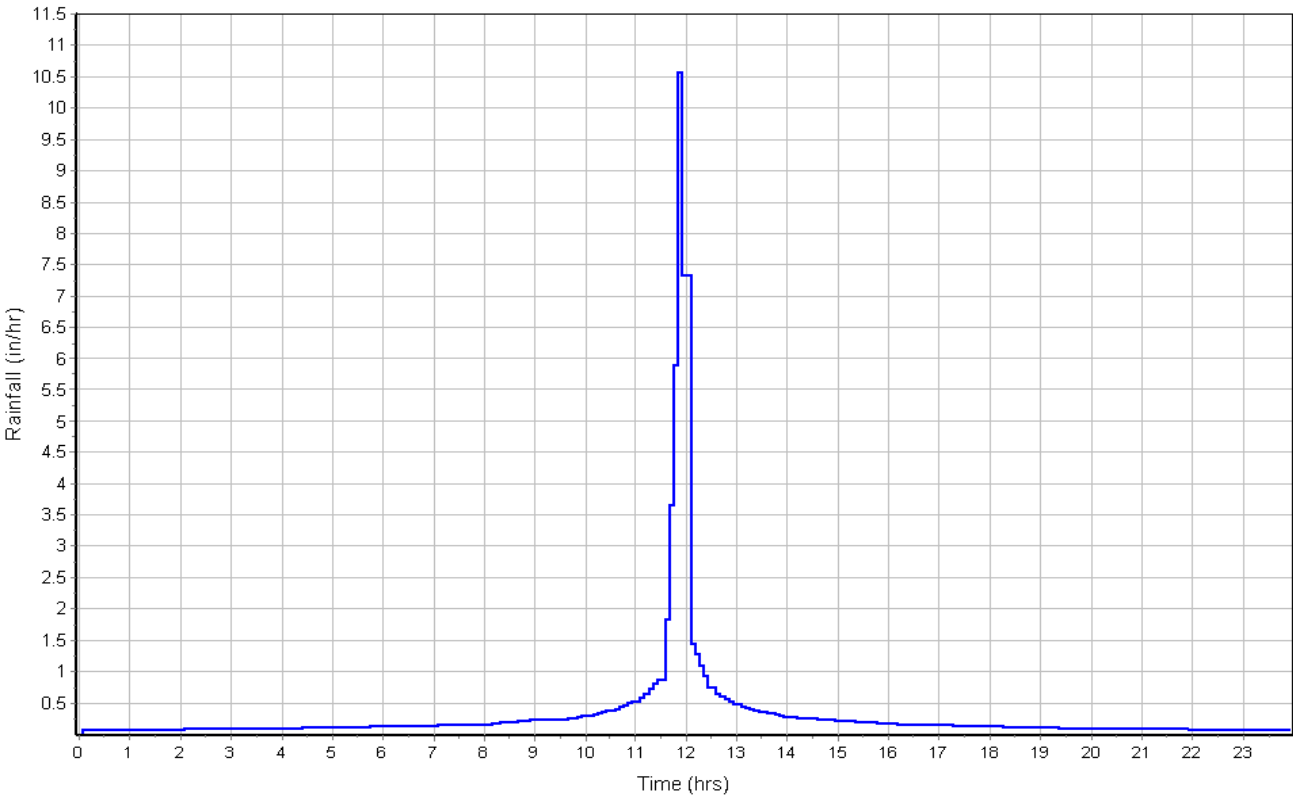
Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.015	0.00	0.00
Flow Length (ft) :	120	0.00	0.00
Slope (%) :	4.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00
Total TOC (min)	1.22		

Subbasin Runoff Results

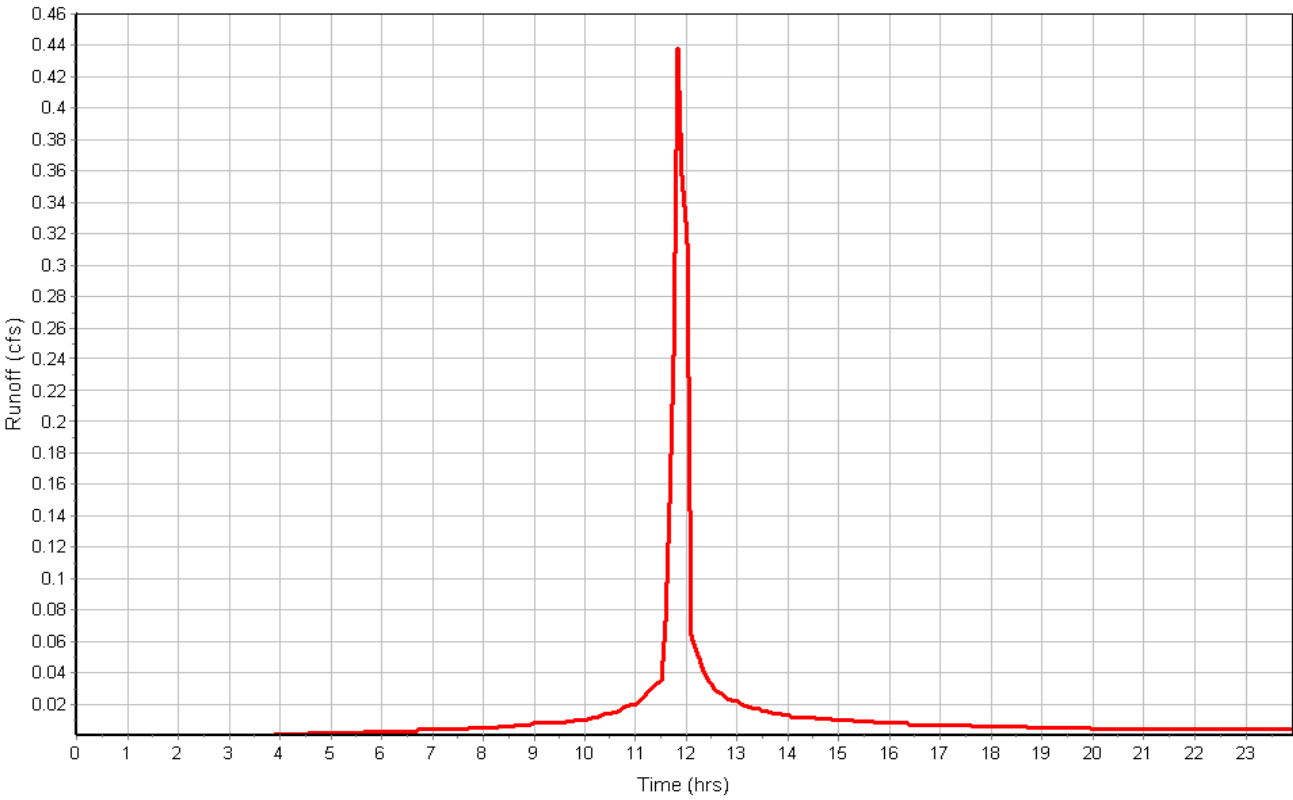
Total Rainfall (in) 7.70
Total Runoff (in) 6.50
Peak Runoff (cfs) 0.45
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:01:13

Subbasin : CI-30

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : FES 17

Input Data

Area (ac) 0.57
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.57	C	90.00
Composite Area & Weighted CN	0.57		90.00

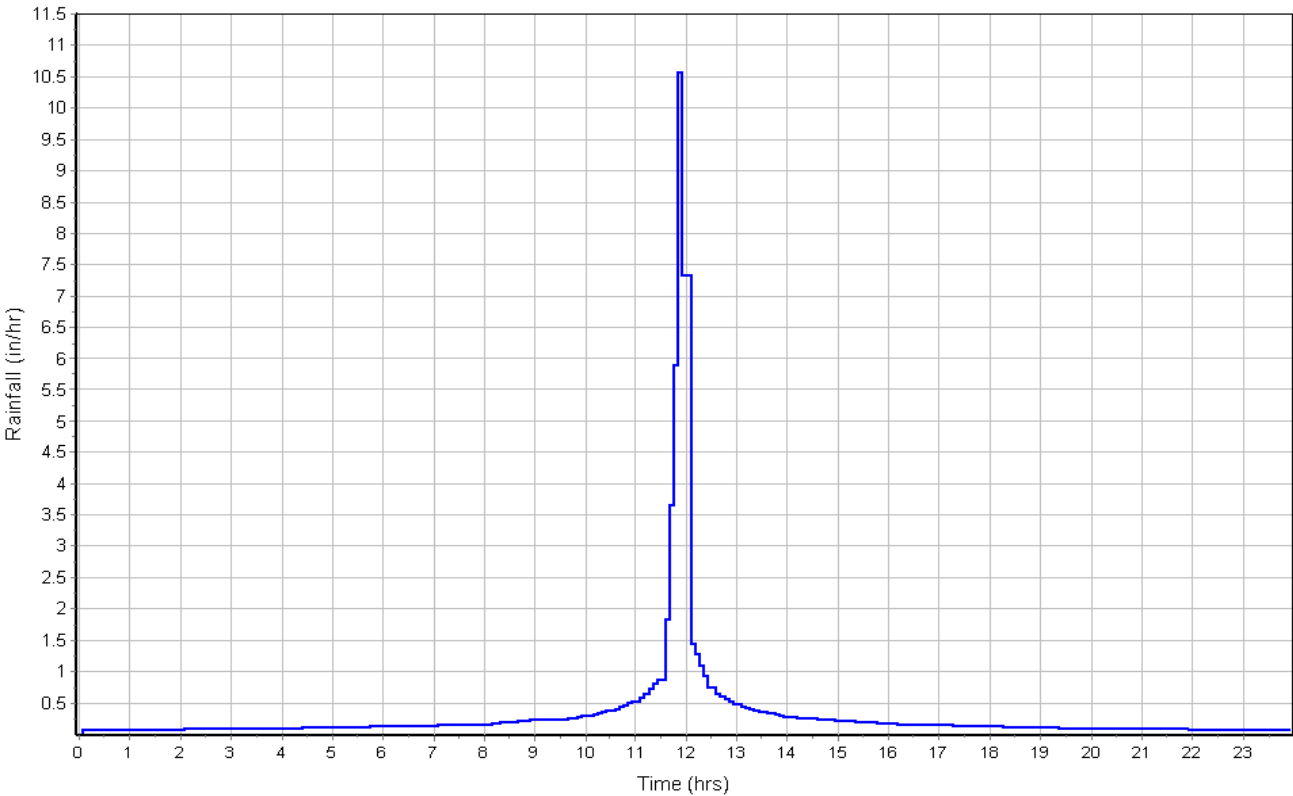
Time of Concentration

Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	250	0.00	0.00
Slope (%) :	8.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	0.18	0.00	0.00
Computed Flow Time (min) :	22.86	0.00	0.00
Total TOC (min)	22.86		

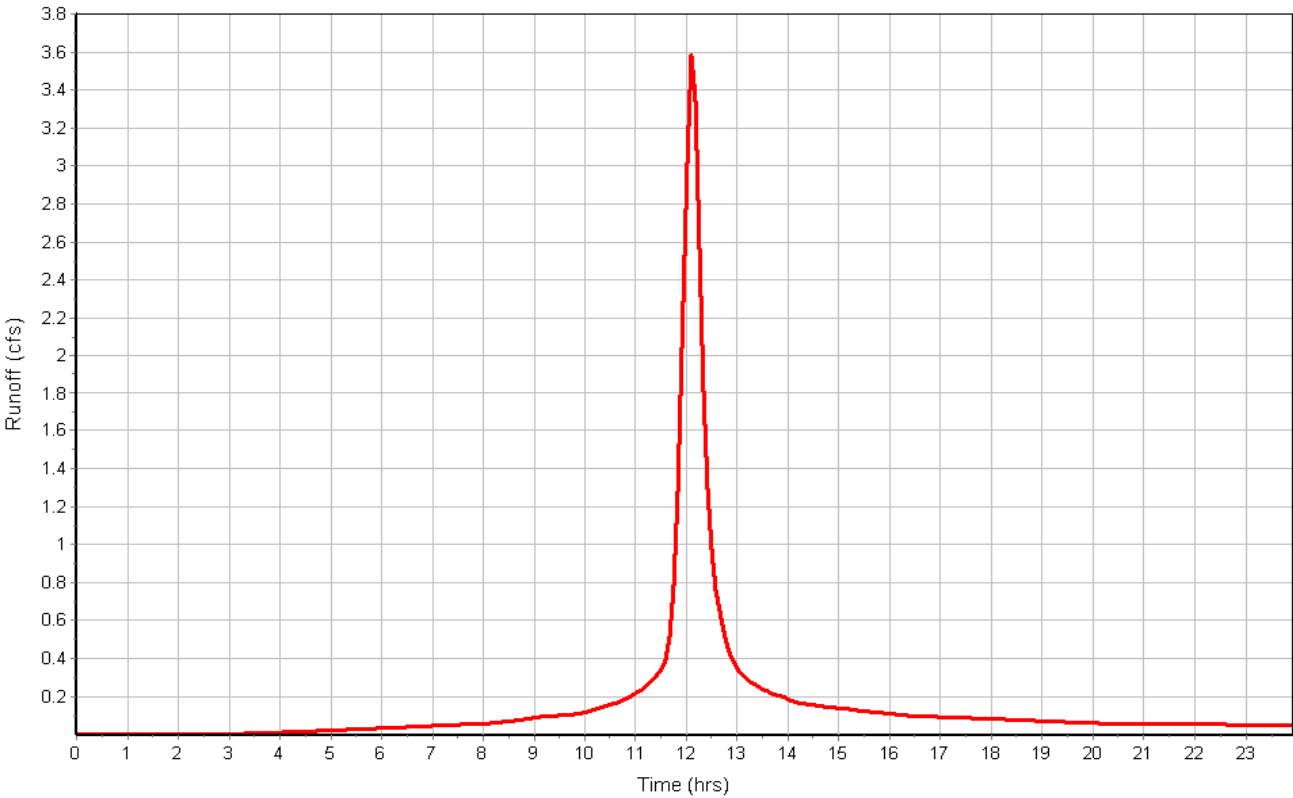
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 3.60
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:22:52

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : FES35

Input Data

Area (ac) 0.49
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.49	C	90.00
Composite Area & Weighted CN	0.49		90.00

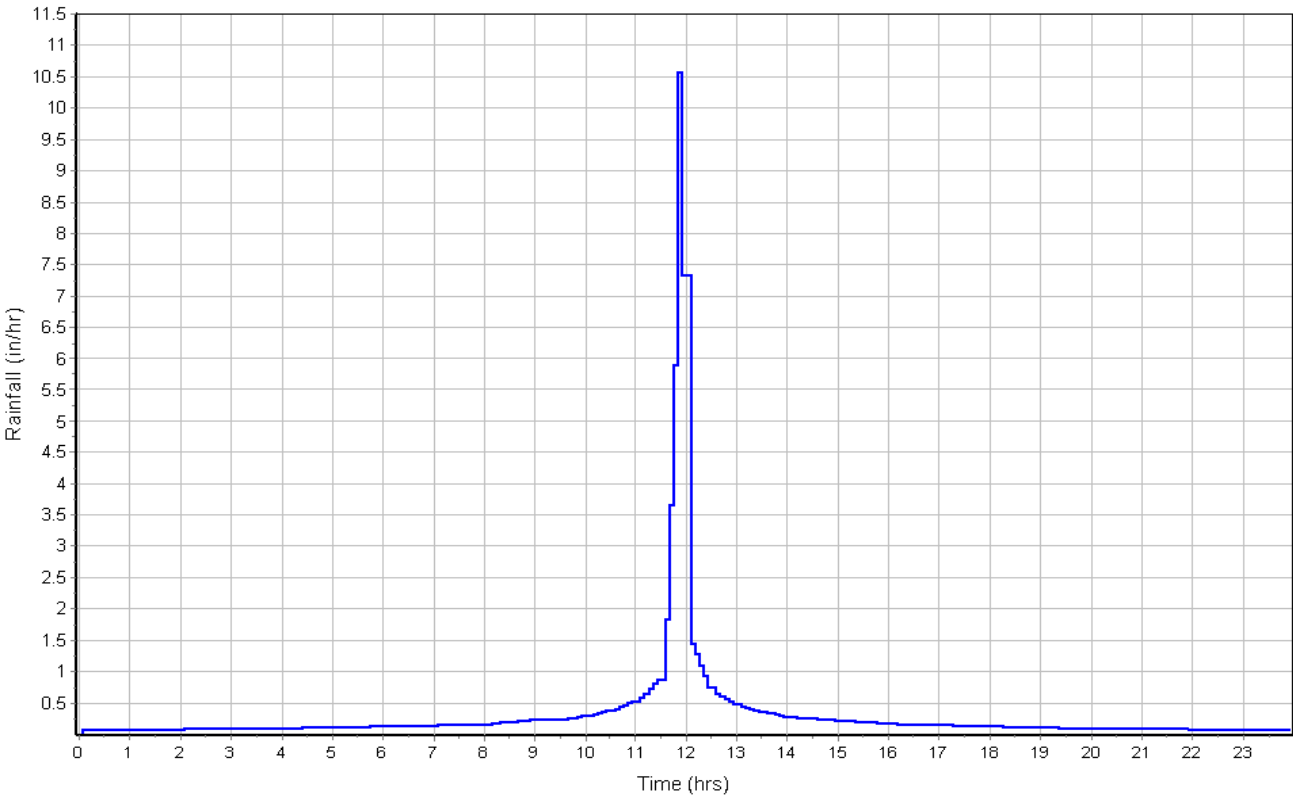
Time of Concentration

Sheet Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	0.08	0.00	0.00
Computed Flow Time (min) :	21.88	0.00	0.00
Shallow Concentrated Flow Computations	Subarea	Subarea	Subarea
	A	B	C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	1.98	0.00	0.00
Computed Flow Time (min) :	2.53	0.00	0.00
Total TOC (min)	24.41		

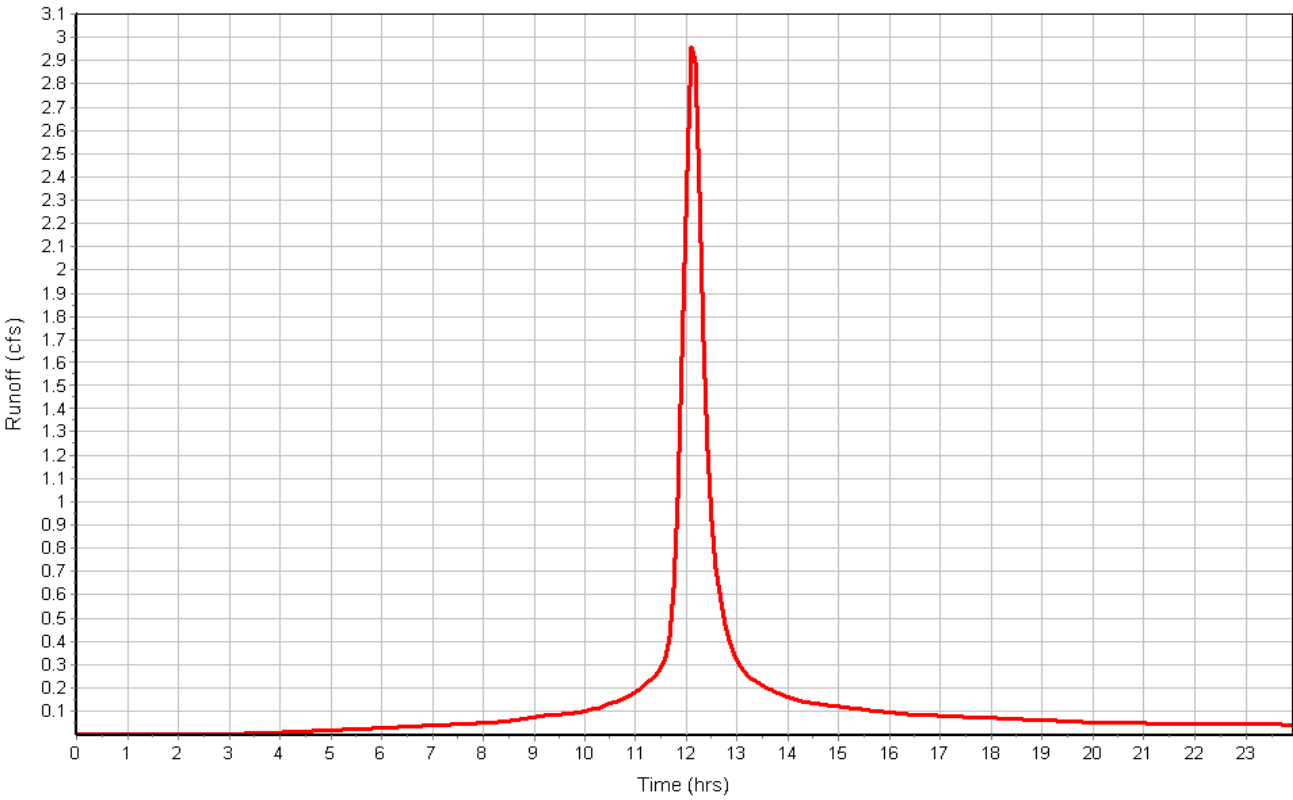
Subbasin Runoff Results

Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 3.02
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 00:24:25

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : NORTH-FES

Input Data

Area (ac) 0.49
Weighted Curve Number 90.00
Rain Gage ID Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
1/8 acre lots, 65% impervious	0.49	C	90.00
Composite Area & Weighted CN	0.49		90.00

Time of Concentration

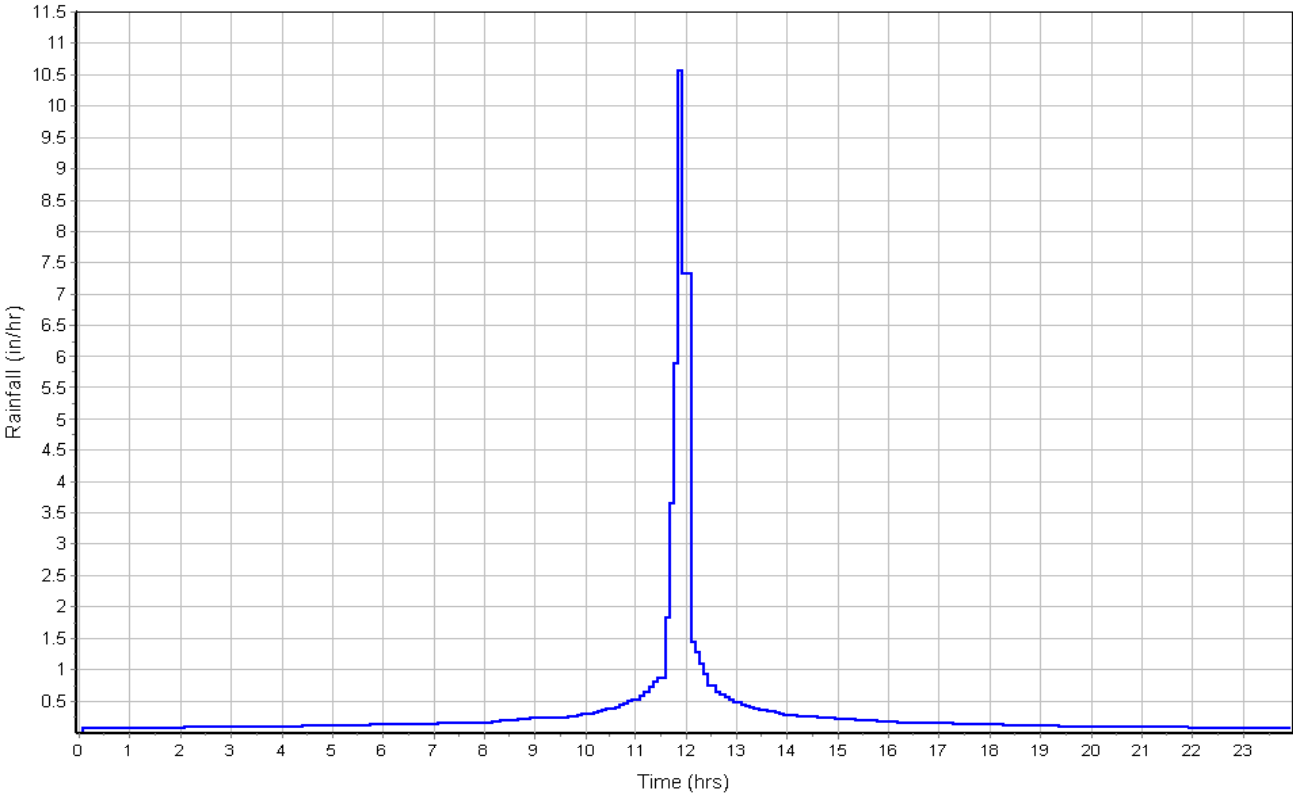
	Subarea A	Subarea B	Subarea C
Sheet Flow Computations			
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	400	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.88	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	66.33	0.00	0.00
Total TOC (min)66.33			

Subbasin Runoff Results

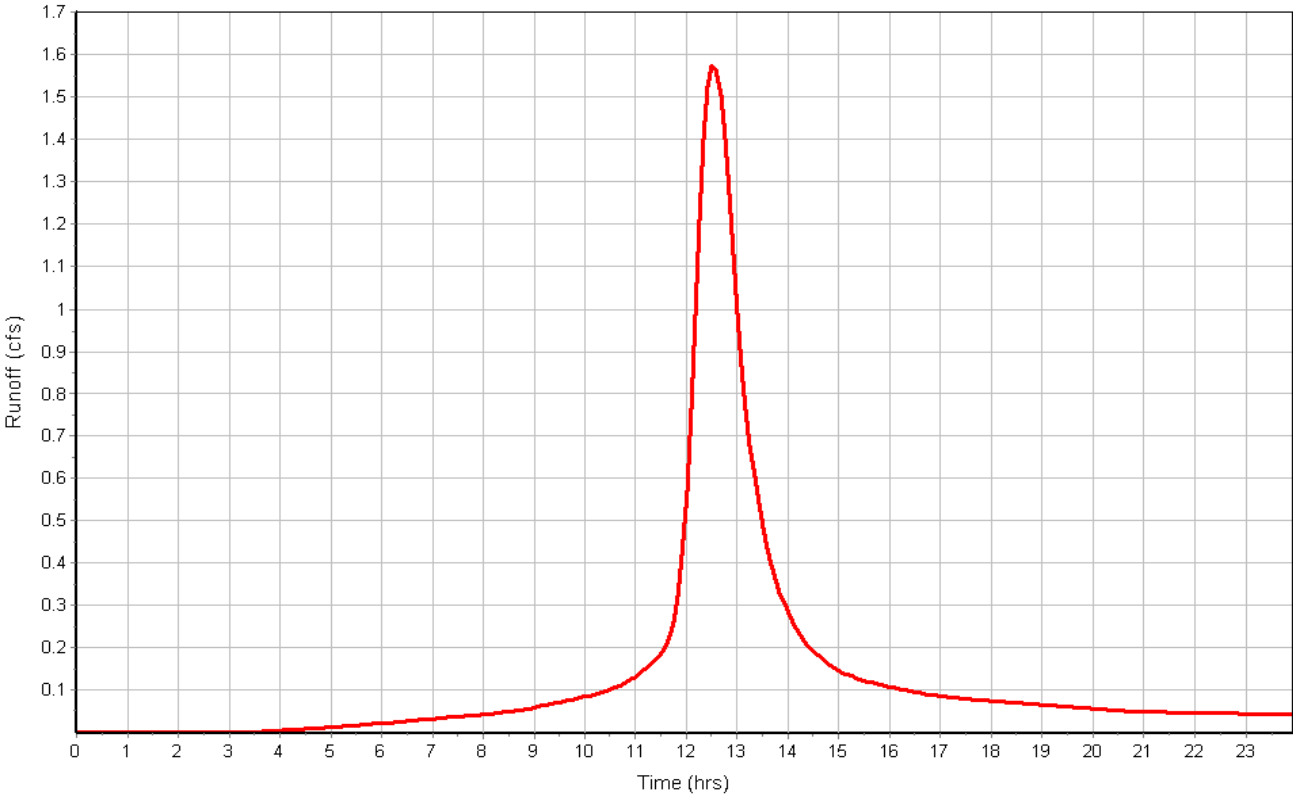
Total Rainfall (in) 7.70
Total Runoff (in) 6.51
Peak Runoff (cfs) 1.58
Weighted Curve Number 90.00
Time of Concentration (days hh:mm:ss) 0 01:06:20

Subbasin : NORTH-FES

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft²)	Minimum Pipe Cover (in)
1	Jun-01	297.40	303.40	6.00	297.40	0.00	303.40	0.00	0.00	0.00
2	JUN-02	301.45	303.66	2.21	301.45	0.00	303.66	0.00	10.00	0.00

Junction Results

SN	Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
		(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1	Jun-01	9.93	0.00	298.81	1.41	0.00	4.59	297.98	0.58	0 12:17	0 00:00	0.00	0.00
2	JUN-02	4.93	0.00	302.31	0.86	0.00	1.69	301.73	0.28	0 12:06	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Shape	Height	Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)		(ft)	(ft)					(cfs)	
1	SWALE	433.17	312.00	0.00	309.00	10.00	3.00	0.6900	Triangular	1.500	5.000	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
	(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)		
1 SWALE	3.03	0 12:13	10.80	0.28	2.23	3.24	0.90	0.60	0.00		

Pipe Input

SN Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Pipe Shape	Pipe Diameter or Height	Pipe Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate	No. of Barrels
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)		(in)	(in)					(cfs)		
1 Link-03	4.31	297.40	0.00	297.26	0.00	0.14	3.2500	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
2 Link-04	58.19	318.34	0.00	316.22	0.00	2.12	3.6400	CIRCULAR	18.000	18.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1
3 Link-07	7.75	297.50	-1.50	297.40	0.00	0.10	1.2900	CIRCULAR	18.000	18.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1
4 Pipe - (83)	39.48	316.22	0.00	316.02	-0.06	0.20	0.5000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
5 Pipe - (84)	101.41	316.08	0.00	311.59	0.20	4.49	4.4300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
6 Pipe - (85)	114.10	314.00	0.00	311.49	0.10	2.51	2.2000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
7 Pipe - (86)	324.10	311.39	0.00	303.92	0.10	7.47	2.3000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
8 Pipe - (87)	42.72	303.82	0.00	302.41	0.10	1.41	3.3000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
9 Pipe - (88)	116.11	302.31	0.00	297.40	0.00	4.91	4.2300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
10 Pipe - (89)	117.01	315.70	0.00	304.00	0.18	11.70	10.0000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
11 Pipe - (90)	4.17	312.50	0.00	312.40	0.20	0.10	2.4000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
12 Pipe - (91)	34.65	312.20	0.00	312.00	0.00	0.20	0.5800	CIRCULAR	18.000	18.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1
13 Pipe - (94)	36.15	301.45	0.00	301.00	0.00	0.45	1.2400	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
14 Pipe - (95)	34.98	302.04	0.00	301.86	0.10	0.18	0.5000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
15 Pipe - (96)	62.37	301.76	0.00	301.45	0.00	0.31	0.5000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1
16 Pipe - (97)	6.13	302.62	0.00	302.52	0.48	0.10	1.6300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
	(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)		
1 Link-03	9.93	0 12:17	18.93	0.52	7.20	0.01	1.09	0.73	0.00		Calculated
2 Link-04	0.05	0 11:02	17.38	0.00	1.01	0.96	0.30	0.20	0.00		Calculated
3 Link-07	3.03	0 12:13	41.36	0.07	3.26	0.04	0.83	0.56	0.00		Calculated
4 Pipe - (83)	1.95	0 12:15	6.30	0.31	4.42	0.15	0.50	0.33	0.00		Calculated
5 Pipe - (84)	2.92	0 12:15	22.11	0.13	11.08	0.15	0.38	0.25	0.00		Calculated
6 Pipe - (85)	1.57	0 12:35	15.58	0.10	5.43	0.35	0.36	0.24	0.00		Calculated
7 Pipe - (86)	4.48	0 12:16	15.95	0.28	11.26	0.48	0.63	0.42	0.00		Calculated
8 Pipe - (87)	7.00	0 12:20	19.08	0.37	24.54	0.03	0.72	0.48	0.00		Calculated
9 Pipe - (88)	7.13	0 12:20	21.60	0.33	8.37	0.23	1.00	0.67	0.00		Calculated
10 Pipe - (89)	7.60	0 00:00	33.22	0.23	14.68	0.13	0.32	0.35	0.00		Calculated
11 Pipe - (90)	2.95	0 12:10	16.27	0.18	2.95	0.02	0.83	0.55	0.00		Calculated
12 Pipe - (91)	3.02	0 12:10	6.92	0.44	2.32	0.25	1.04	0.69	0.00		Calculated
13 Pipe - (94)	4.93	0 12:06	11.72	0.42	5.39	0.11	0.76	0.51	0.00		Calculated
14 Pipe - (95)	4.26	0 12:05	7.43	0.57	2.73	0.21	1.26	0.84	0.00		Calculated
15 Pipe - (96)	5.25	0 12:05	7.43	0.71	3.17	0.33	1.39	0.93	0.00		Calculated
16 Pipe - (97)	3.59	0 12:10	13.42	0.27	6.07	0.02	0.82	0.55	0.00		Calculated

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft²)	Grate Clogging Factor (%)
1	CI-(14)	FHWA HEC-22 GENERIC	N/A	On Sag	1	302.04	305.03	2.99	302.04	0.00	10.00	0.00
2	CI-(15)	FHWA HEC-22 GENERIC	N/A	On Sag	1	301.76	305.01	3.25	301.76	0.00	10.00	0.00
3	CI-(17)	FHWA HEC-22 GENERIC	N/A	On Sag	1	302.62	304.32	1.70	302.62	0.00	10.00	0.00
4	CI-(20)	FHWA HEC-22 GENERIC	N/A	On Sag	1	318.34	321.34	3.00	318.34	0.00	10.00	0.00
5	CI-(21)	FHWA HEC-22 GENERIC	N/A	On Sag	1	316.08	319.72	3.64	316.08	0.00	10.00	0.00
6	CI-(22)	FHWA HEC-22 GENERIC	N/A	On Sag	1	316.22	319.32	3.10	316.22	0.00	10.00	0.00
7	CI-(24)	FHWA HEC-22 GENERIC	N/A	On Sag	1	311.39	314.30	2.91	311.39	0.00	10.00	0.00
8	CI-(25)	FHWA HEC-22 GENERIC	N/A	On Sag	1	303.82	306.92	3.10	303.82	0.00	10.00	0.00
9	CI-(26)	FHWA HEC-22 GENERIC	N/A	On Sag	1	302.31	305.41	3.10	302.31	0.00	10.00	0.00
10	CI-(29)	FHWA HEC-22 GENERIC	N/A	On Sag	1	312.00	315.57	3.57	312.00	0.00	10.00	0.00
11	CI-(30)	FHWA HEC-22 GENERIC	N/A	On Sag	1	312.20	315.53	3.33	312.20	0.00	10.00	0.00
12	FES (36)	FHWA HEC-22 GENERIC	N/A	On Sag	1	299.00	300.00	1.00	0.00	0.00	10.00	0.00
13	FES-(23)	FHWA HEC-22 GENERIC	N/A	On Sag	1	314.00	315.79	1.79	314.00	0.00	0.00	0.00
14	FES-(27)	FHWA HEC-22 GENERIC	N/A	On Sag	1	315.70	303.92	-11.78	315.70	0.00	0.00	0.00
15	FES-(35)	FHWA HEC-22 GENERIC	N/A	On Sag	1	312.50	314.29	1.79	312.50	0.00	0.00	0.00

Roadway & Gutter Input

SN Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1 CI-(14)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
2 CI-(15)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
3 CI-(17)	N/A	0.0200	0.0160	0.0620	1.00	0.1640	7.00
4 CI-(20)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
5 CI-(21)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
6 CI-(22)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
7 CI-(24)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
8 CI-(25)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
9 CI-(26)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
10 CI-(29)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
11 CI-(30)	N/A	0.0500	0.0130	0.0620	1.00	0.1640	7.00
12 FES (36)	N/A	0.0200	0.0160	0.0620	1.00	0.0656	7.00
13 FES-(23)	N/A	0.0200	0.0160	0.0620	1.00	0.0656	7.00
14 FES-(27)	N/A	0.0200	0.0160	0.0620	1.00	0.0656	7.00
15 FES-(35)	N/A	0.0200	0.0160	0.0620	1.00	0.0657	7.00

Inlet Results

SN Element ID	Peak Flow	Peak Lateral Inflow	Peak Flow Intercepted by Inlet	Peak Flow Bypassing Inlet	Inlet Efficiency during Peak Flow	Max Gutter Spread during Peak Flow	Max Gutter Water Elev. during Peak Flow	Max Gutter Water Depth during Peak Flow	Time of Max Depth Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1 CI-(14)	1.75	1.75	N/A	N/A	N/A	1.03	305.68	0.65	0 12:05	0.00	0.00
2 CI-(15)	1.37	1.37	N/A	N/A	N/A	2.55	305.65	0.64	0 12:05	0.00	0.00
3 CI-(17)	3.58	3.58	N/A	N/A	N/A	23.51	305.25	0.92	0 12:06	0.00	0.00
4 CI-(20)	0.98	0.98	N/A	N/A	N/A	3.94	321.96	0.61	0 12:15	0.00	0.00
5 CI-(21)	0.98	0.98	N/A	N/A	N/A	3.94	320.34	0.61	0 12:15	0.00	0.00
6 CI-(22)	0.98	0.98	N/A	N/A	N/A	3.94	319.93	0.61	0 12:15	0.00	0.00
7 CI-(24)	0.58	0.58	N/A	N/A	N/A	2.33	314.66	0.36	0 12:16	0.00	0.00
8 CI-(25)	2.87	2.87	N/A	N/A	N/A	4.35	307.59	0.68	0 12:20	0.00	0.00
9 CI-(26)	0.99	0.99	N/A	N/A	N/A	3.99	306.02	0.62	0 12:20	0.00	0.00
10 CI-(29)	0.44	0.44	N/A	N/A	N/A	1.76	315.85	0.27	0 12:13	0.00	0.00
11 CI-(30)	0.44	0.44	N/A	N/A	N/A	1.76	315.80	0.27	0 12:12	0.00	0.00
12 FES-(36)	0.00	0.00	N/A	N/A	N/A	0.00	300.00	0.00	0 12:13	0.00	0.00
13 FES-(23)	1.57	1.57	N/A	N/A	N/A	8.95	316.28	0.49	0 12:39	0.00	0.00
14 FES-(27)	0.00	0.00	N/A	N/A	N/A	0.00	316.70	0.00	0 00:00	0.00	0.00
15 FES-(35)	2.96	2.96	N/A	N/A	N/A	22.79	314.96	0.67	0 12:10	0.00	0.00

Storage Nodes

Storage Node : POND

Input Data

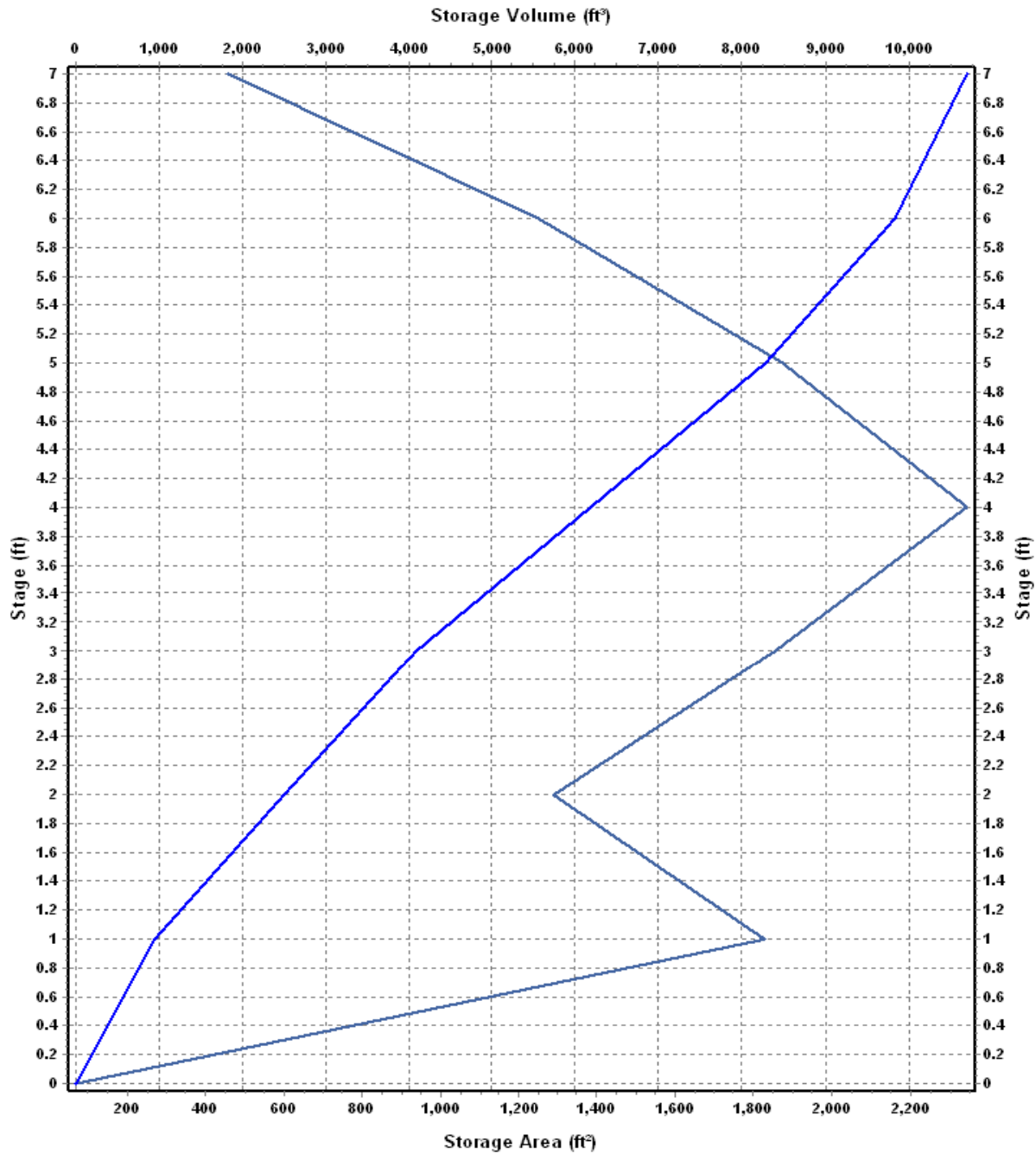
Invert Elevation (ft)	301.45
Max (Rim) Elevation (ft)	304.72
Max (Rim) Offset (ft)	3.27
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-301.45
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : POND

Stage	Storage Area	Storage Volume
(ft)	(ft²)	(ft³)
0	69.00	0.000
1	1826.59	947.80
2	1289.58	2505.89
3	1852.33	4076.85
4	2344.53	6175.28
5	1871.20	8283.15
6	1247.72	9842.61
7	458.00	10695.47

Storage Area Volume Curves



Storage Area Storage Volume

Storage Node : POND (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Rectangular	No	302.00	0.55	2.00	2.00	3.33

Output Summary Results

Peak Inflow (cfs)	5.25
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	4.93
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	302.87
Max HGL Depth Attained (ft)	1.42
Average HGL Elevation Attained (ft)	302.22
Average HGL Depth Attained (ft)	0.77
Time of Max HGL Occurrence (days hh:mm)	0 12:06
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00