SUMMERWOOD SPORTS GYM #3

DRAINAGE REPORT

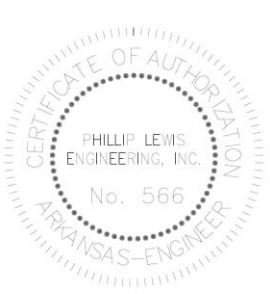
LOCATED IN
BRYANT, ARKANSAS

Prepared by:

PHILLIP LEWIS ENGINEERING

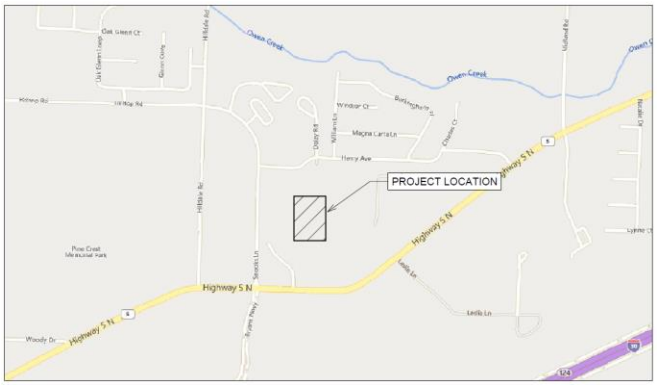
Structural + Civil Consultants

23620 Interstate 30 | Bryant, AR
PH: 501-350-9840





PROJECT LOCATION MAP



Vacinity Map

PROJECT SUMMARY

The proposed project is for the consruction of the third gymnasium of the Summerwood Sports Complex located along Bryant Parkway and Hwy 5.

The proposed development is for a 30,000 sq. ft. building and parking lot that will utilize curb/gutter and concrete/asphalt to direct stormwater to the designated catch basins. The existing detention basin that was constructed for the first two gymnasiums will be abanoned to construct the new proposed gymnasium. A regional detention basin will be installed in the northwest corner of the remaining parcel to serve the entirety of the complex property.

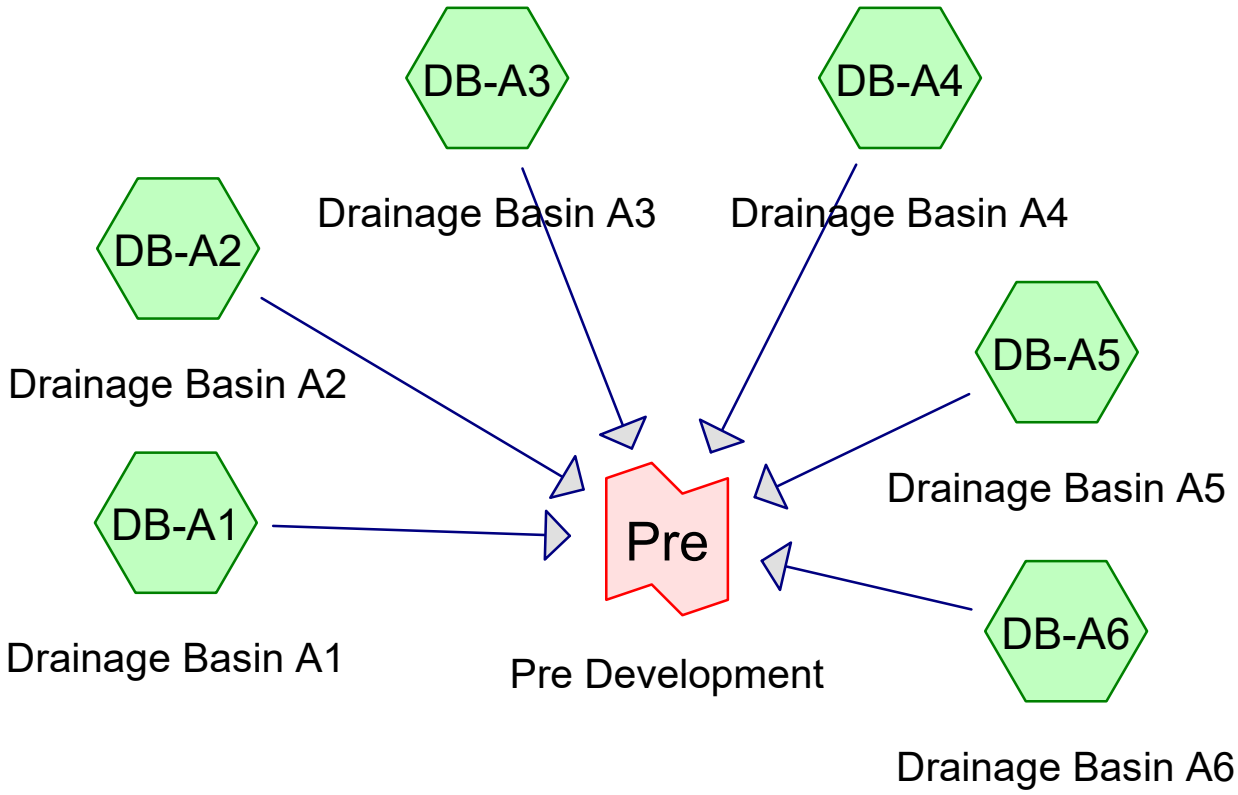
The existing storm sewer network will be interupted with new storm sewer and routed to the new detention basin. This regional detention basin is designed to allow the future to be developed at a rate of 80% impervious.

A stormwater analysis was ran on the development using HydroCAD software. Stormwater calculations were setup and run for the 2, 5, 10, 25, 50, and 100-year storm event using the rational method.

The final release rate of the detention pond is controlled by a 6" orificace cast into a concrete outlet structure, including an open top that allows flow to increase past the 2' ponding depth in the pond. Ponding past the 2' depth is then controlled by a single 24" rcp releasing at the east adjacent property line.

Post-development runoff rates were held to below pre-development runoff rates.

The results of the analysis for both pre-development and post-development, including the change in runoff volume and runoff rate, are shown below within the attached report.



Subcat Reach Pond Link

Routing Diagram for Summerwood Gym 3
Prepared by Phillip Lewis Engineering, Printed 9/19/2023
HydroCAD® 10.20-2f s/n 12520 © 2022 HydroCAD Software Solutions LLC

Summary for Subcatchment DB-A1: Drainage Basin A1

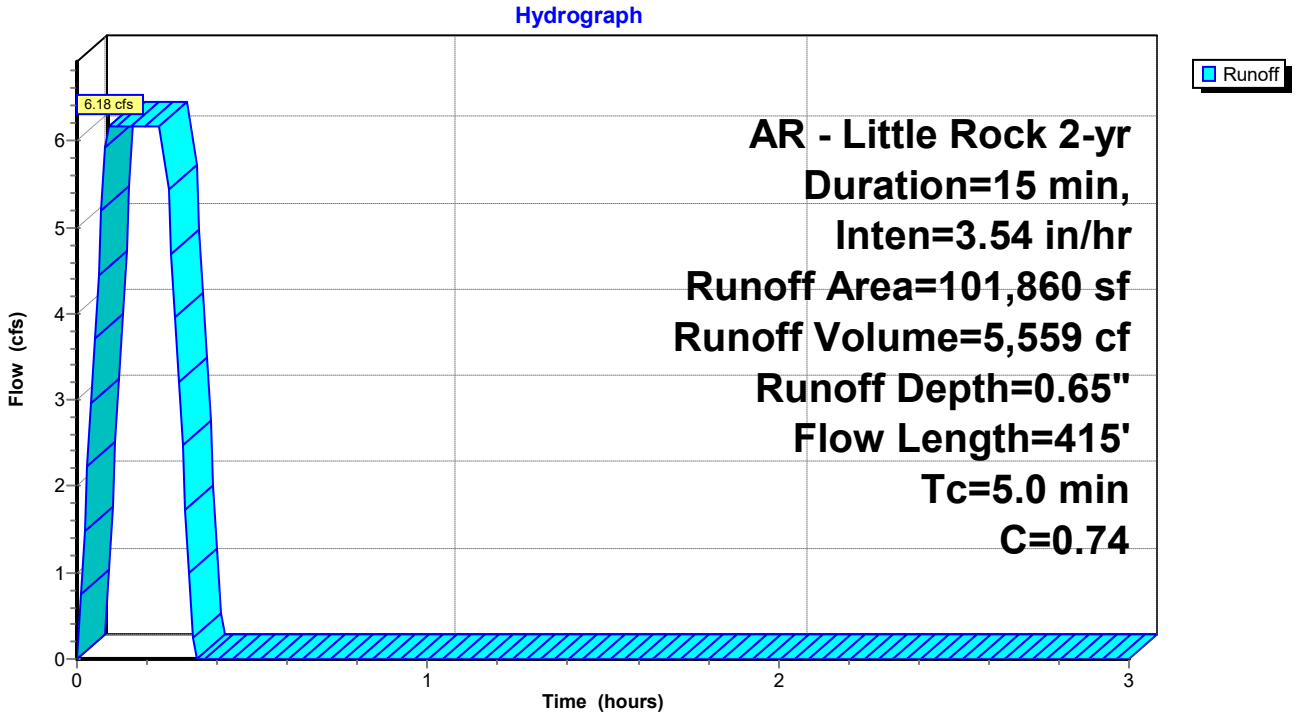
Runoff = 6.18 cfs @ 0.09 hrs, Volume= 5,559 cf, Depth= 0.65"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
101,860	0.74	
101,860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	415		1.38		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A1: Drainage Basin A1



Summary for Subcatchment DB-A2: Drainage Basin A2

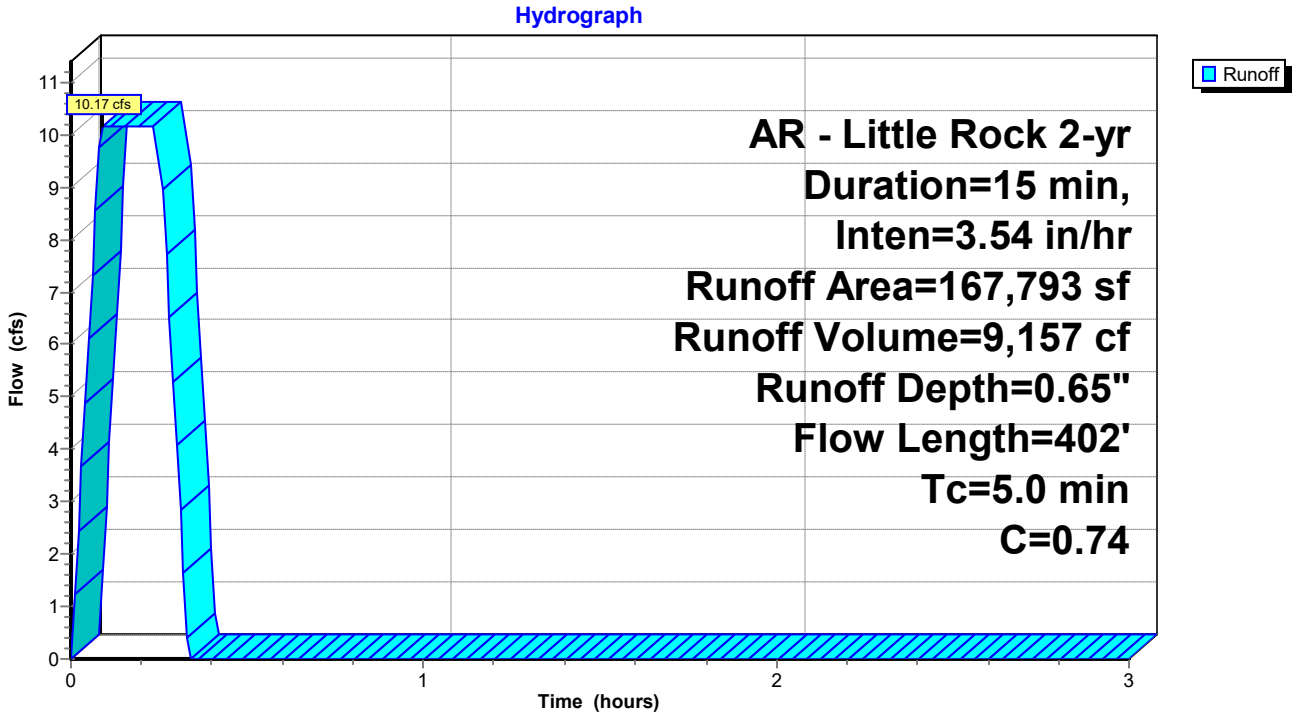
Runoff = 10.17 cfs @ 0.09 hrs, Volume= 9,157 cf, Depth= 0.65"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
167,793	0.74	
167,793		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	402		1.34		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A2: Drainage Basin A2



Summary for Subcatchment DB-A3: Drainage Basin A3

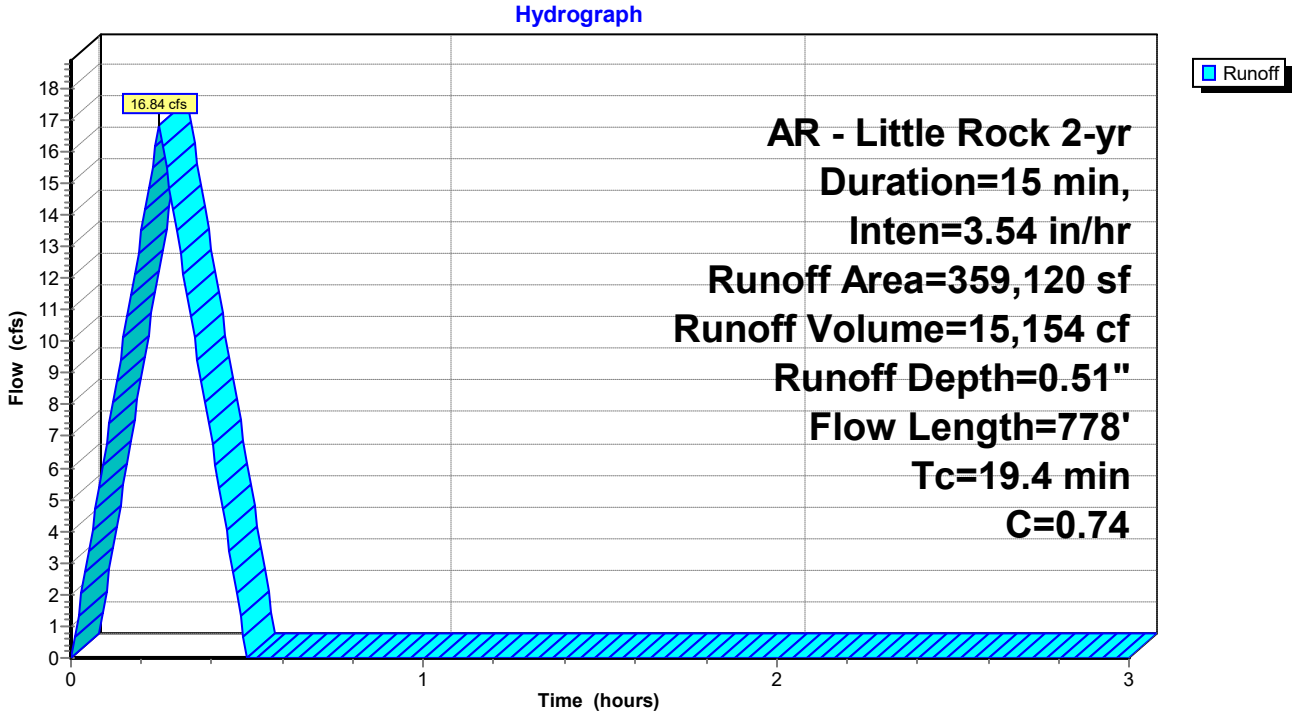
Runoff = 16.84 cfs @ 0.25 hrs, Volume= 15,154 cf, Depth= 0.51"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
359,120	0.74	
359,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	300	0.0420	0.37		**Sheet Flow, Overland Sheet Flow** Range n= 0.130 P2= 4.19"
1.2	103	0.0430	1.45		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.7	150	0.0460	1.50		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
2.8	225	0.0360	1.33		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
19.4	778	Total			

Subcatchment DB-A3: Drainage Basin A3



Summary for Subcatchment DB-A4: Drainage Basin A4

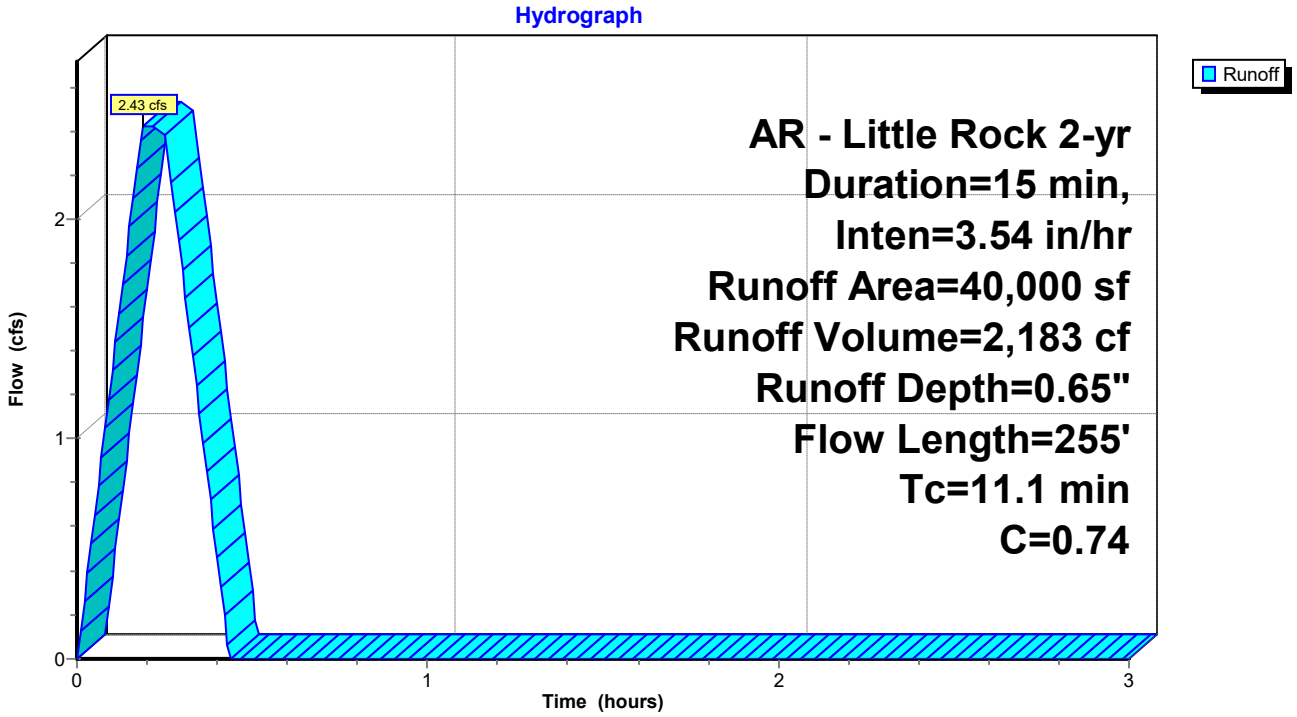
Runoff = 2.43 cfs @ 0.19 hrs, Volume= 2,183 cf, Depth= 0.65"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
40,000	0.74	
40,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	50	0.0390	0.22		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
6.4	114	0.0530	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.9	91	0.0600	1.71		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
11.1	255	Total			

Subcatchment DB-A4: Drainage Basin A4



Summary for Subcatchment DB-A5: Drainage Basin A5

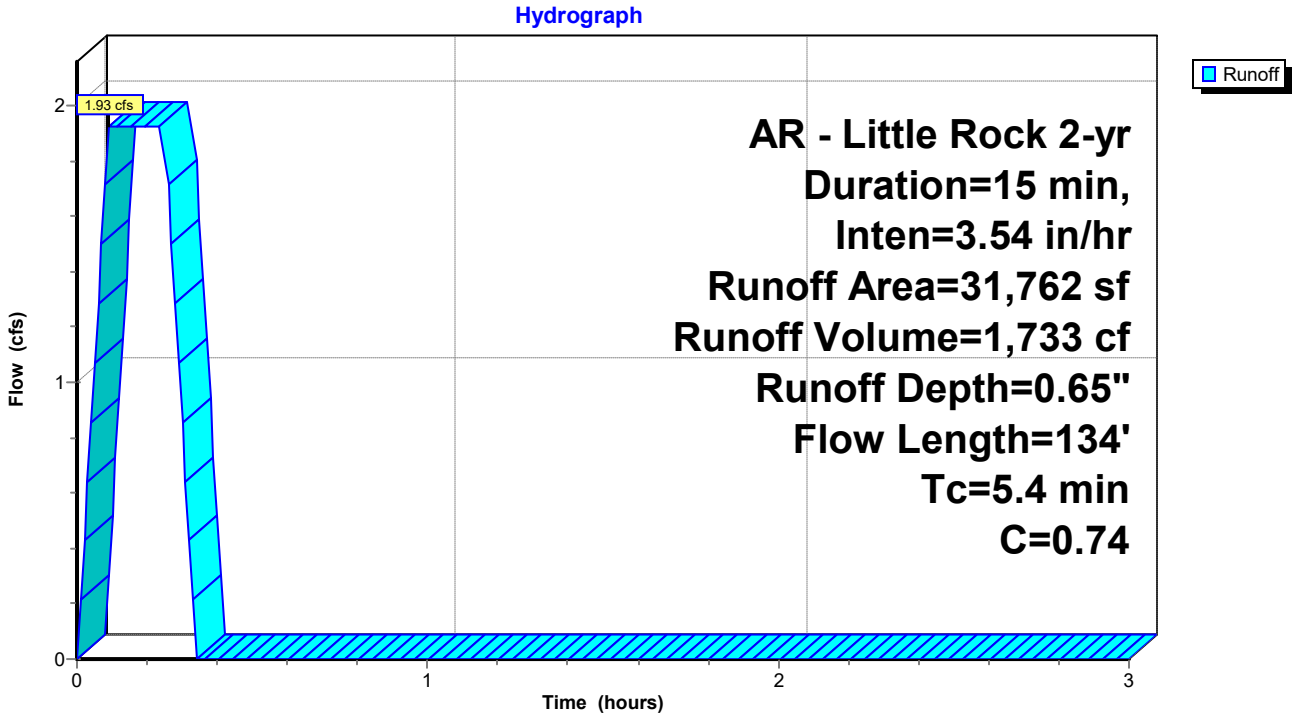
Runoff = 1.93 cfs @ 0.09 hrs, Volume= 1,733 cf, Depth= 0.65"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
31,762	0.74	
31,762		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	111	0.0850	0.35		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.2	23	0.0680	1.91		**Sheet Flow, Overland Sheet Flow** Smooth surfaces n= 0.011 P2= 4.19"
5.4	134	Total			

Subcatchment DB-A5: Drainage Basin A5



Summary for Subcatchment DB-A6: Drainage Basin A6

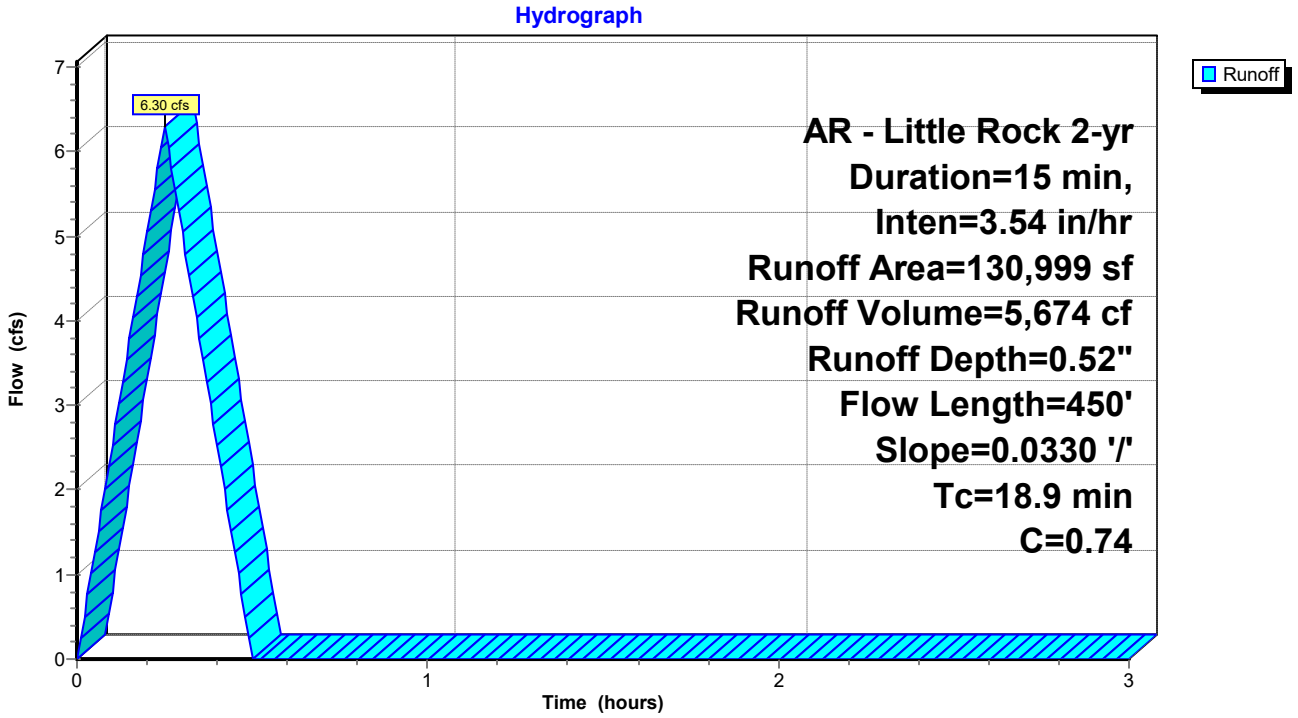
Runoff = 6.30 cfs @ 0.25 hrs, Volume= 5,674 cf, Depth= 0.52"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
130,999	0.74	
130,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	300	0.0330	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
2.0	150	0.0330	1.27		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
18.9	450	Total			

Subcatchment DB-A6: Drainage Basin A6

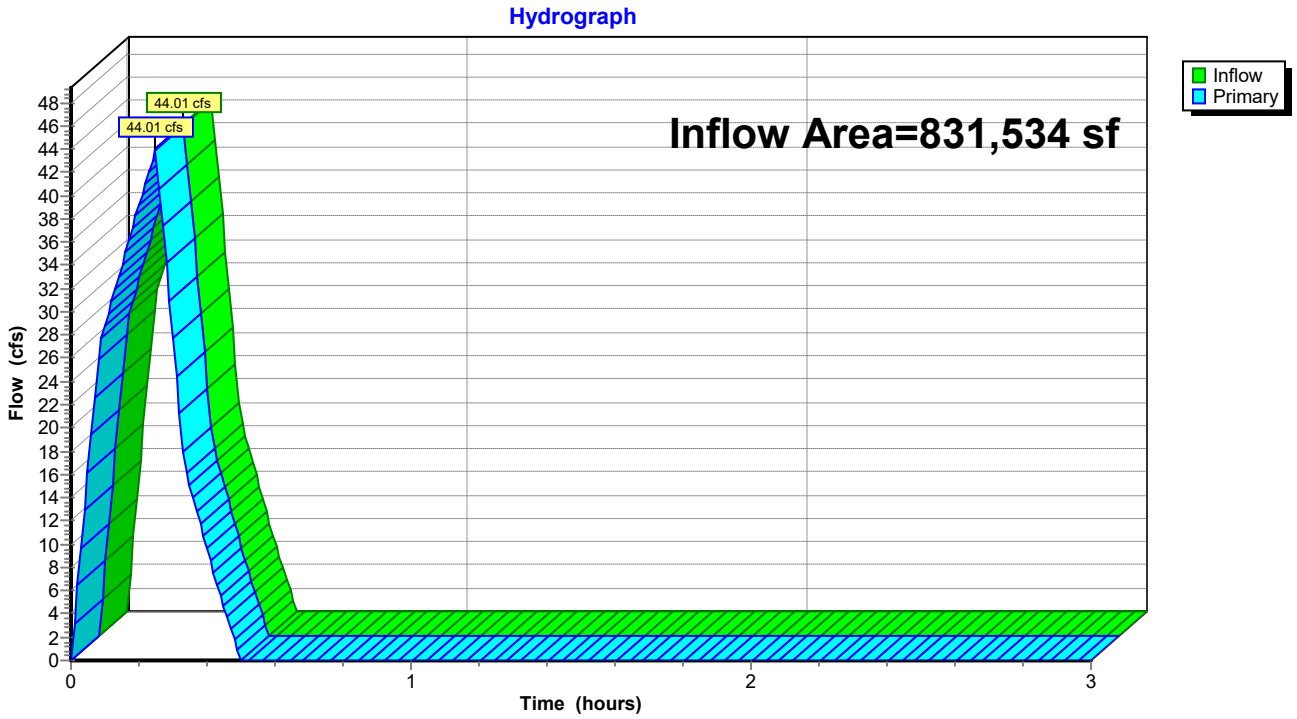


Summary for Link Pre: Pre Development

Inflow Area = 831,534 sf, 0.00% Impervious, Inflow Depth = 0.57" for 2-yr event
Inflow = 44.01 cfs @ 0.25 hrs, Volume= 39,461 cf
Primary = 44.01 cfs @ 0.25 hrs, Volume= 39,461 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Pre: Pre Development



Summary for Subcatchment DB-A1: Drainage Basin A1

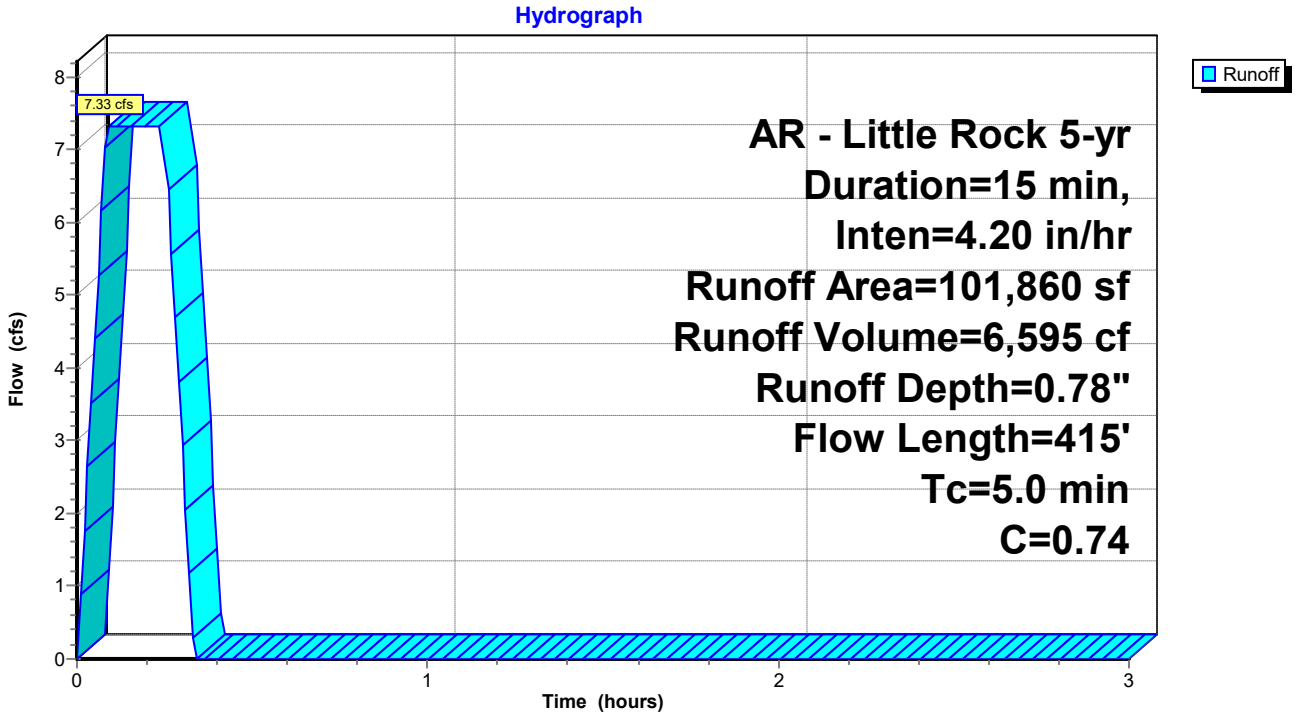
Runoff = 7.33 cfs @ 0.09 hrs, Volume= 6,595 cf, Depth= 0.78"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
101,860	0.74	
101,860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	415		1.38		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A1: Drainage Basin A1



Summary for Subcatchment DB-A2: Drainage Basin A2

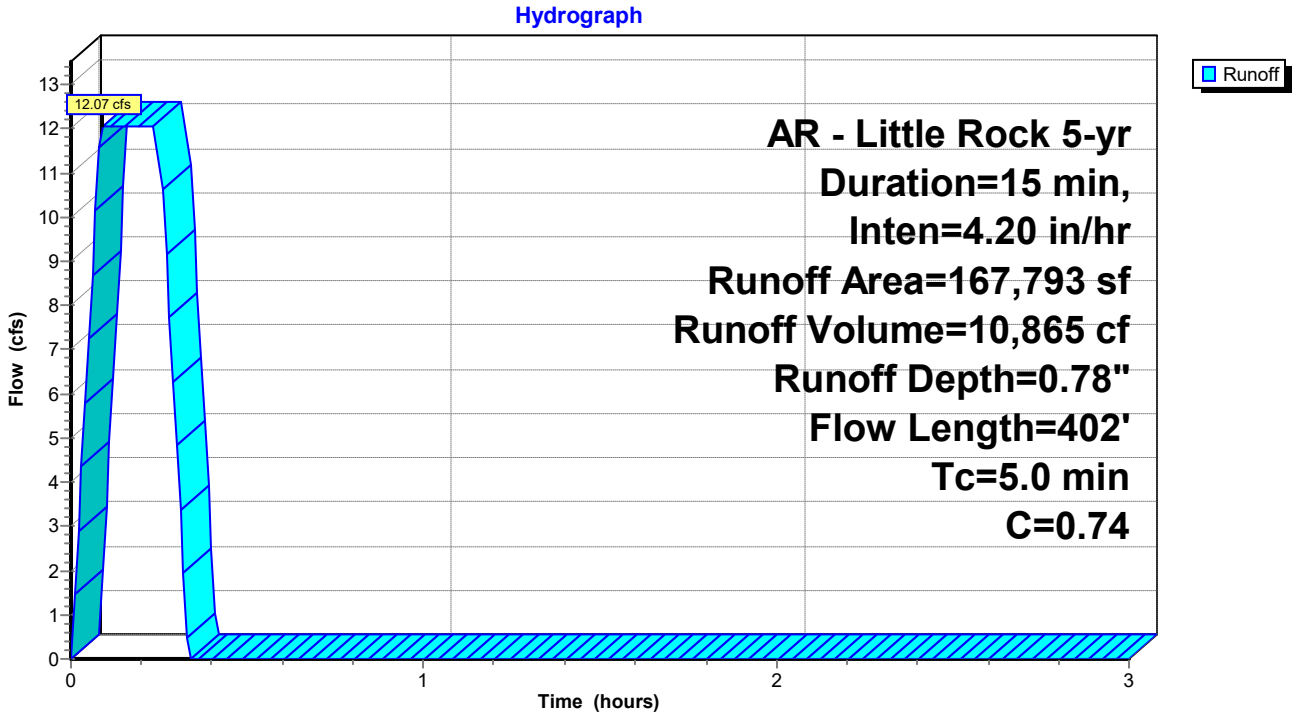
Runoff = 12.07 cfs @ 0.09 hrs, Volume= 10,865 cf, Depth= 0.78"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
167,793	0.74	
167,793		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	402		1.34		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A2: Drainage Basin A2



Summary for Subcatchment DB-A3: Drainage Basin A3

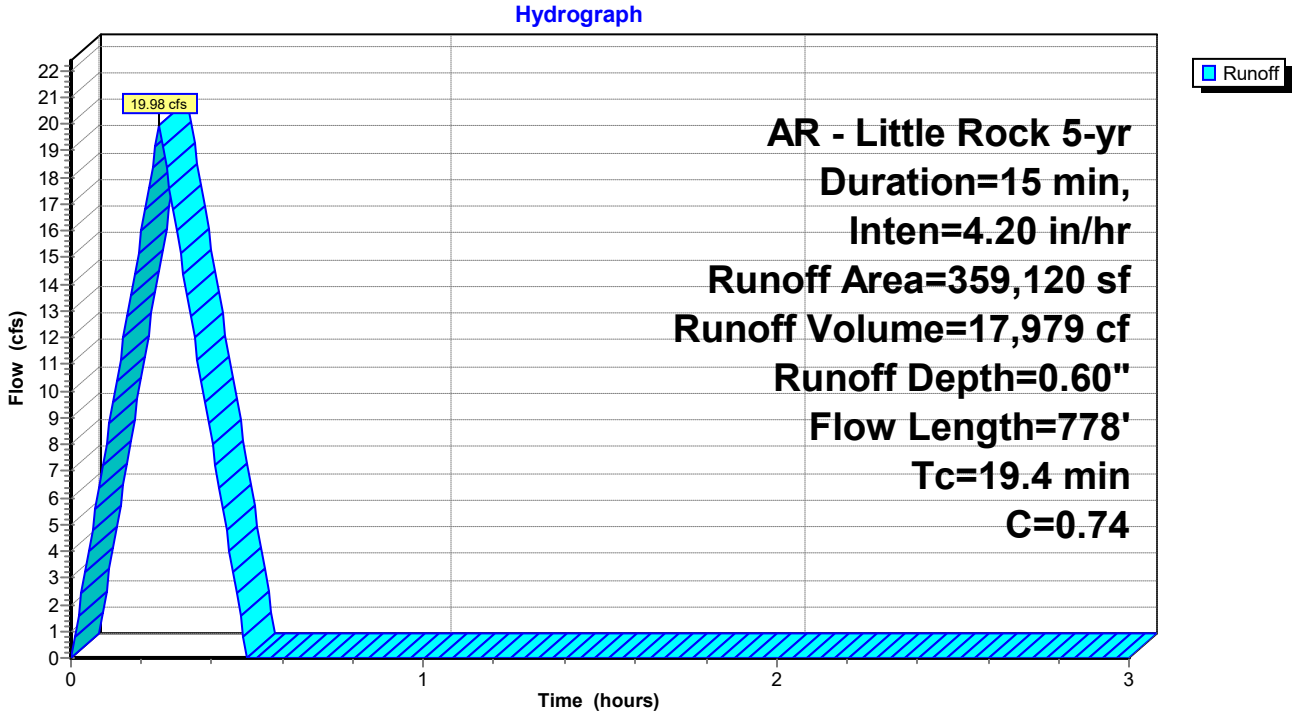
Runoff = 19.98 cfs @ 0.25 hrs, Volume= 17,979 cf, Depth= 0.60"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
359,120	0.74	
359,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	300	0.0420	0.37		**Sheet Flow, Overland Sheet Flow** Range n= 0.130 P2= 4.19"
1.2	103	0.0430	1.45		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.7	150	0.0460	1.50		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
2.8	225	0.0360	1.33		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
19.4	778	Total			

Subcatchment DB-A3: Drainage Basin A3



Summary for Subcatchment DB-A4: Drainage Basin A4

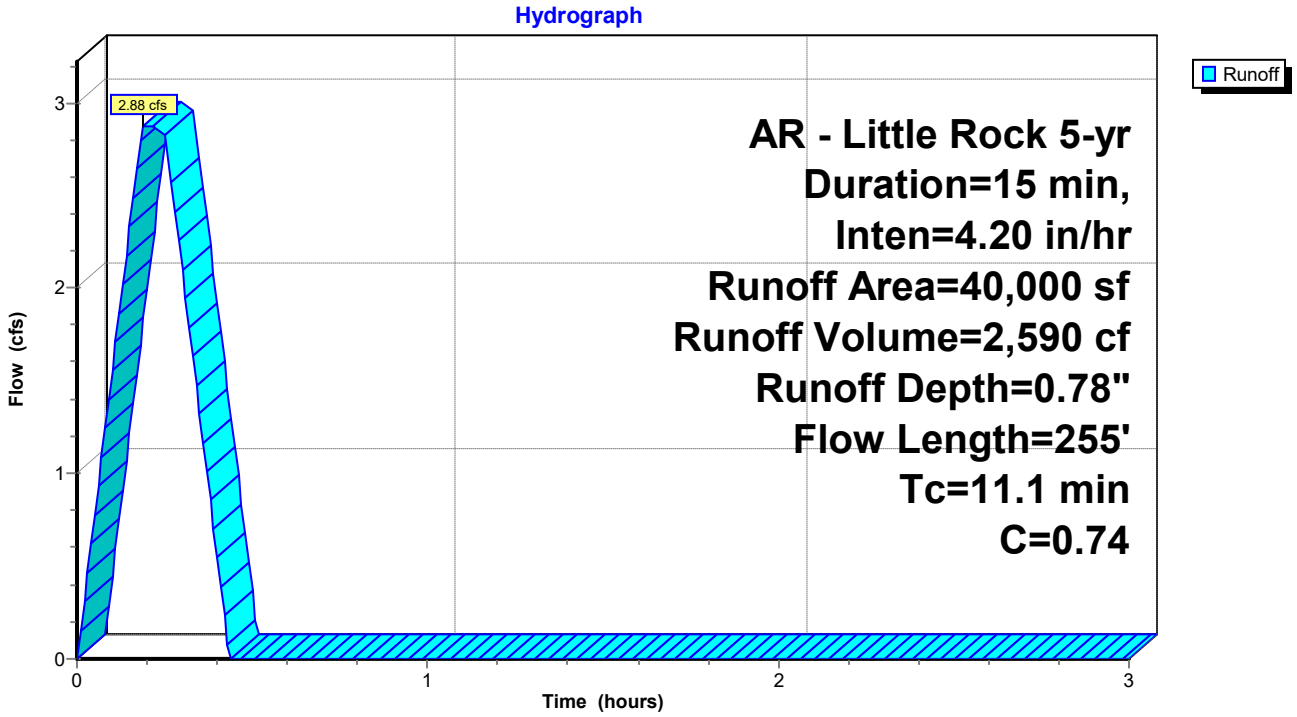
Runoff = 2.88 cfs @ 0.19 hrs, Volume= 2,590 cf, Depth= 0.78"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
40,000	0.74	
40,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	50	0.0390	0.22		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
6.4	114	0.0530	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.9	91	0.0600	1.71		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
11.1	255	Total			

Subcatchment DB-A4: Drainage Basin A4



Summary for Subcatchment DB-A5: Drainage Basin A5

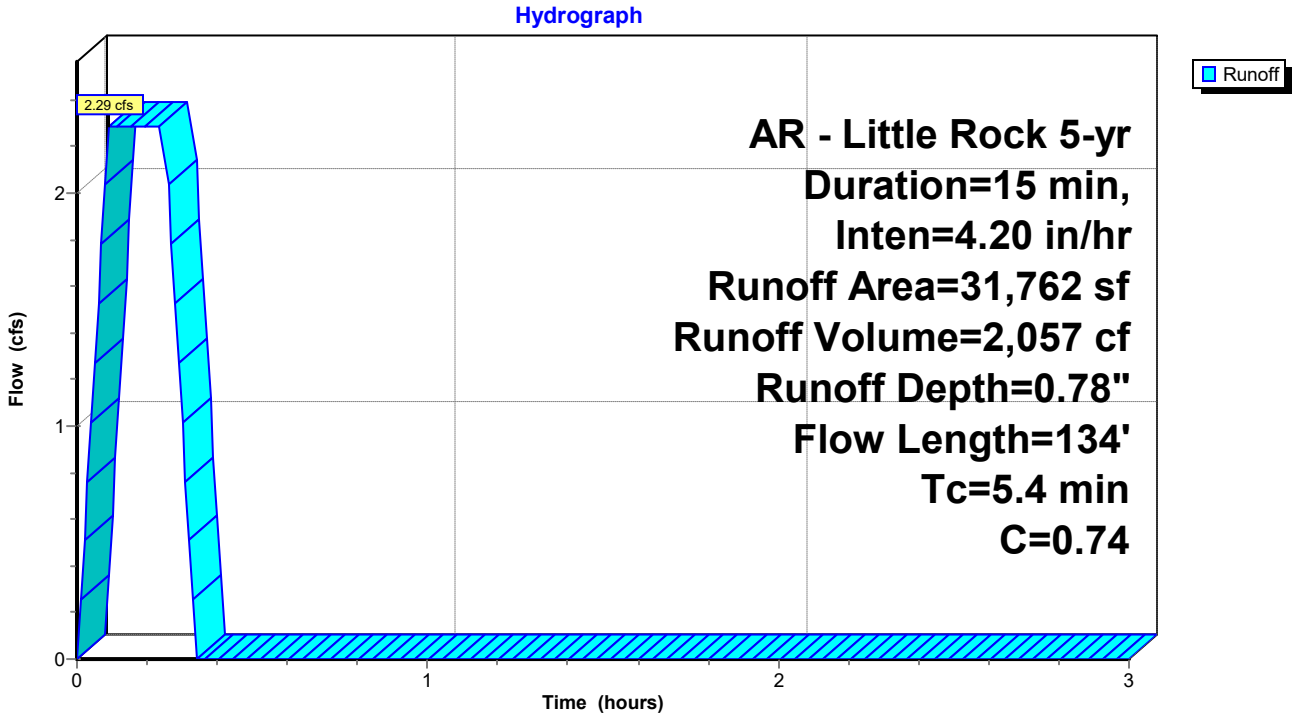
Runoff = 2.29 cfs @ 0.09 hrs, Volume= 2,057 cf, Depth= 0.78"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
31,762	0.74	
31,762		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	111	0.0850	0.35		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.2	23	0.0680	1.91		**Sheet Flow, Overland Sheet Flow** Smooth surfaces n= 0.011 P2= 4.19"
5.4	134	Total			

Subcatchment DB-A5: Drainage Basin A5



Summary for Subcatchment DB-A6: Drainage Basin A6

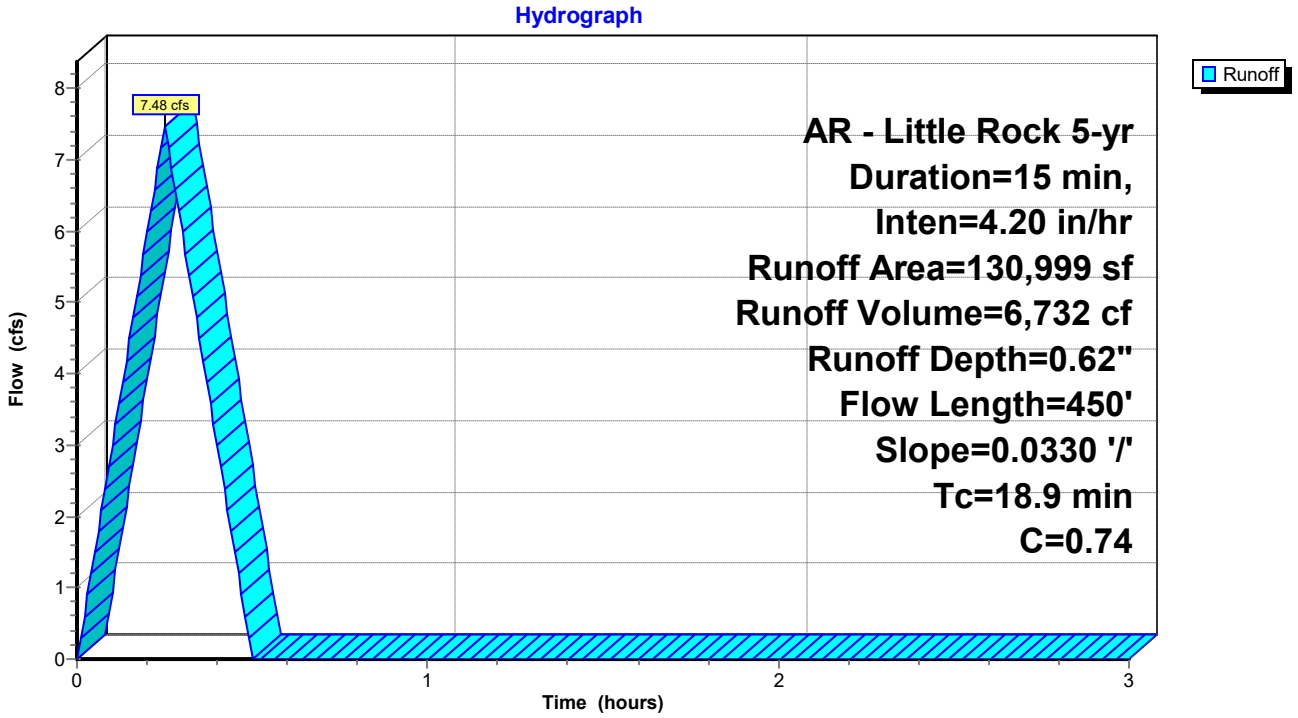
Runoff = 7.48 cfs @ 0.25 hrs, Volume= 6,732 cf, Depth= 0.62"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
130,999	0.74	
130,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	300	0.0330	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
2.0	150	0.0330	1.27		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
18.9	450	Total			

Subcatchment DB-A6: Drainage Basin A6

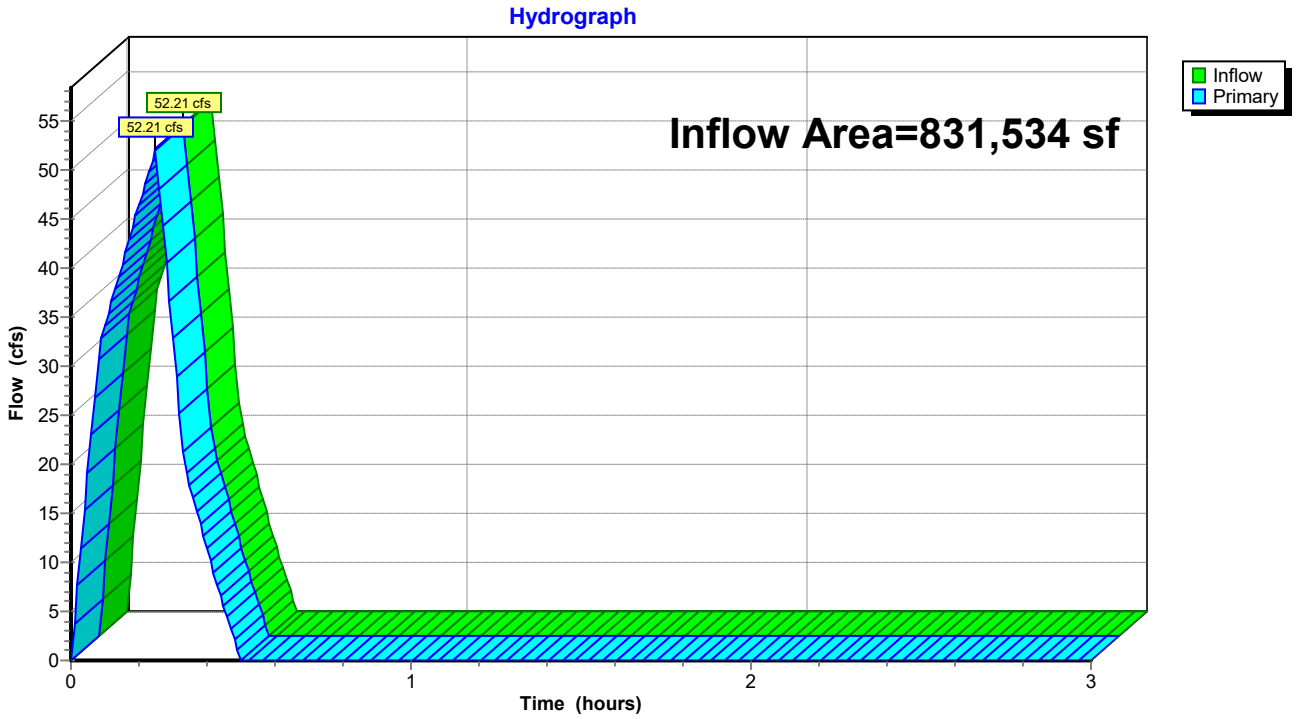


Summary for Link Pre: Pre Development

Inflow Area = 831,534 sf, 0.00% Impervious, Inflow Depth = 0.68" for 5-yr event
Inflow = 52.21 cfs @ 0.25 hrs, Volume= 46,818 cf
Primary = 52.21 cfs @ 0.25 hrs, Volume= 46,818 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Pre: Pre Development



Summary for Subcatchment DB-A1: Drainage Basin A1

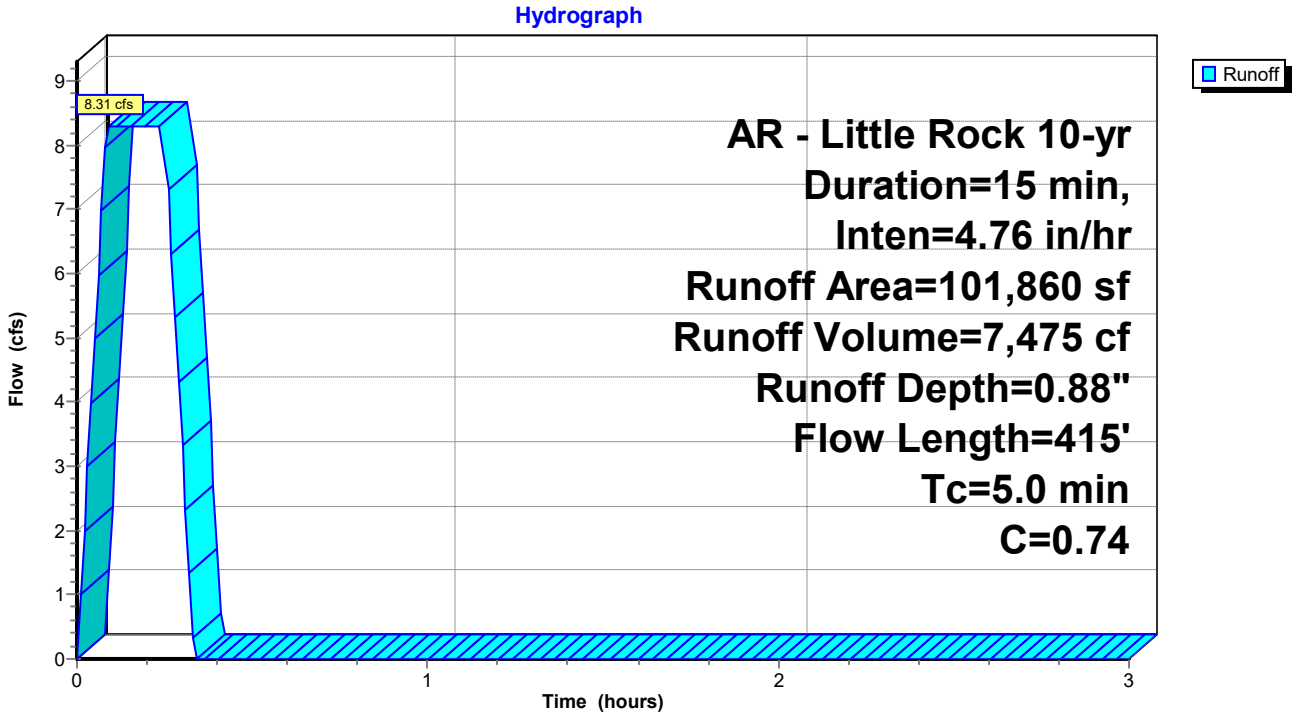
Runoff = 8.31 cfs @ 0.09 hrs, Volume= 7,475 cf, Depth= 0.88"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
101,860	0.74	
101,860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	415		1.38		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A1: Drainage Basin A1



Summary for Subcatchment DB-A2: Drainage Basin A2

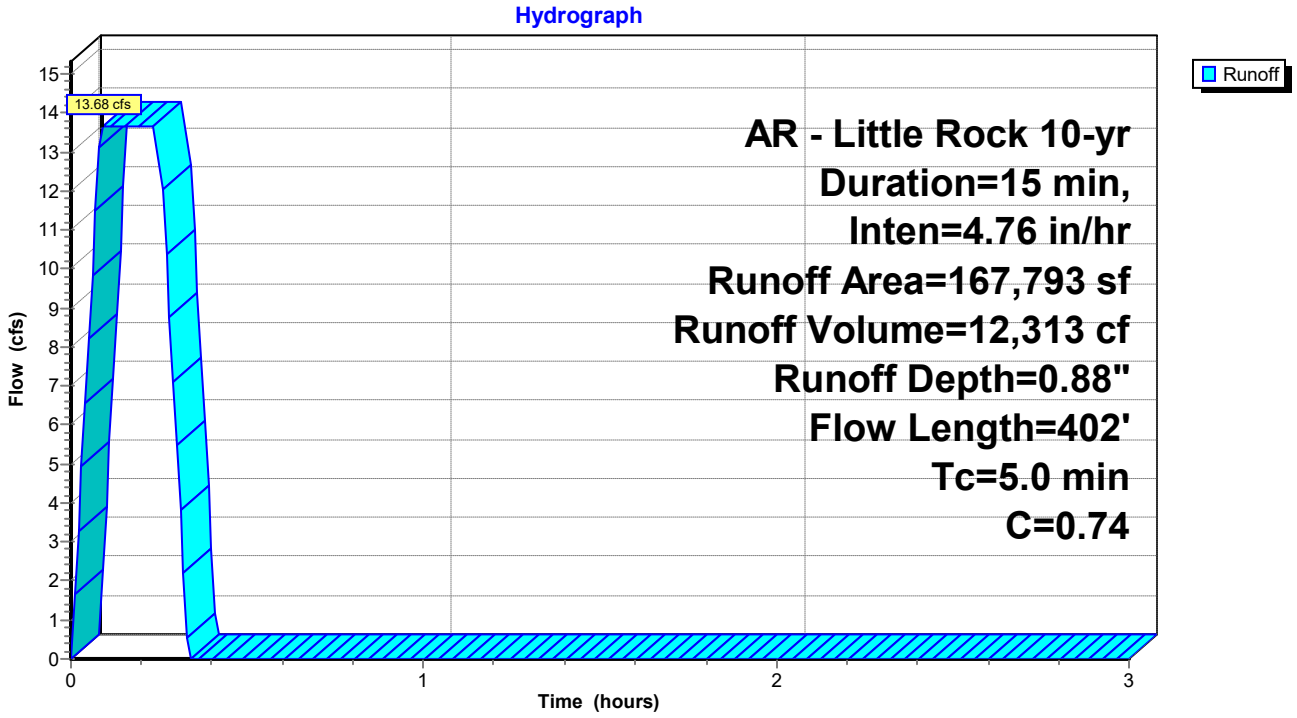
Runoff = 13.68 cfs @ 0.09 hrs, Volume= 12,313 cf, Depth= 0.88"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
167,793	0.74	
167,793		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	402		1.34		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A2: Drainage Basin A2



Summary for Subcatchment DB-A3: Drainage Basin A3

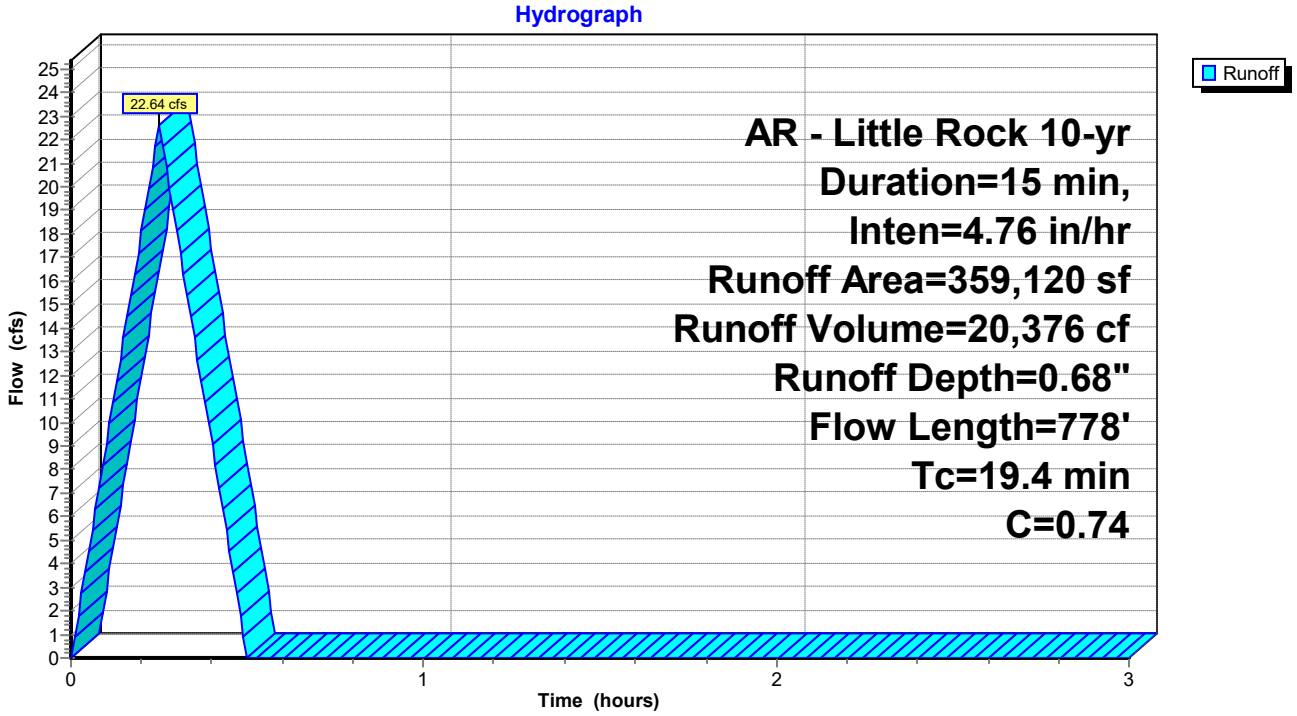
Runoff = 22.64 cfs @ 0.25 hrs, Volume= 20,376 cf, Depth= 0.68"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
359,120	0.74	
359,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	300	0.0420	0.37		**Sheet Flow, Overland Sheet Flow** Range n= 0.130 P2= 4.19"
1.2	103	0.0430	1.45		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.7	150	0.0460	1.50		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
2.8	225	0.0360	1.33		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
19.4	778	Total			

Subcatchment DB-A3: Drainage Basin A3



Summary for Subcatchment DB-A4: Drainage Basin A4

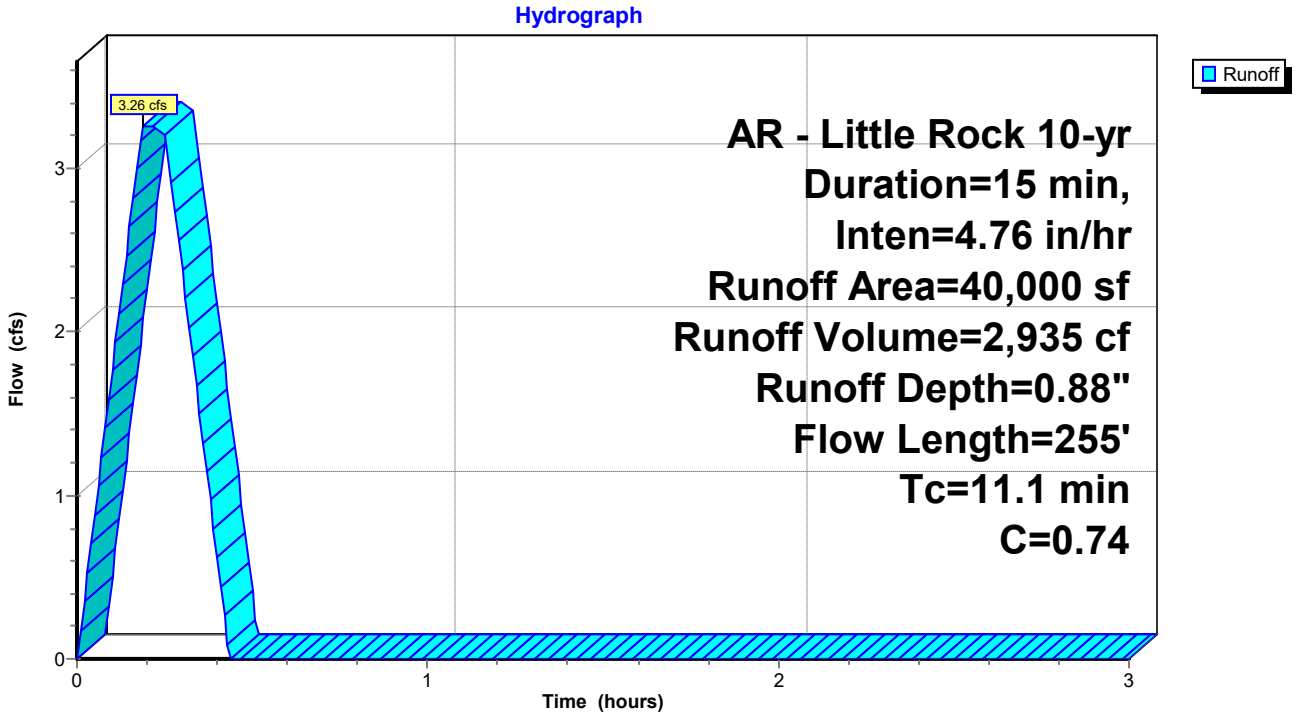
Runoff = 3.26 cfs @ 0.19 hrs, Volume= 2,935 cf, Depth= 0.88"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
40,000	0.74	
40,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	50	0.0390	0.22		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
6.4	114	0.0530	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.9	91	0.0600	1.71		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
11.1	255	Total			

Subcatchment DB-A4: Drainage Basin A4



Summary for Subcatchment DB-A5: Drainage Basin A5

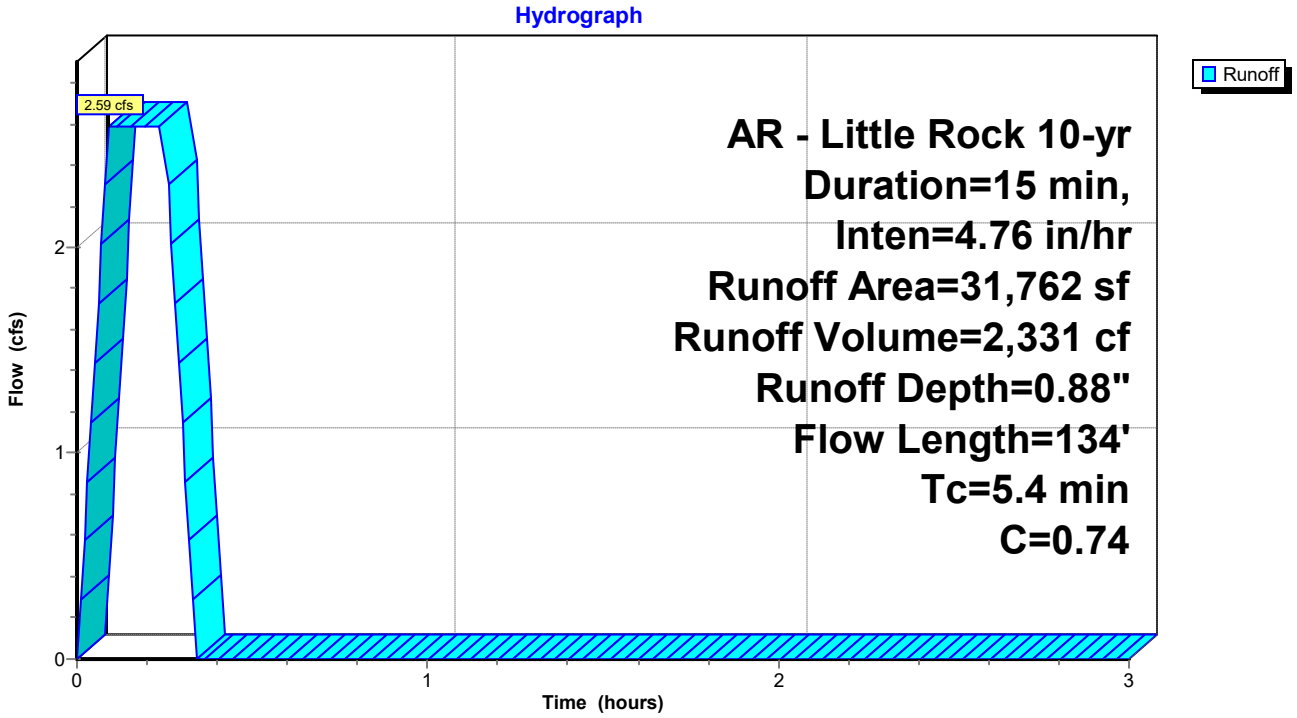
Runoff = 2.59 cfs @ 0.09 hrs, Volume= 2,331 cf, Depth= 0.88"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
31,762	0.74	
31,762		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	111	0.0850	0.35		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.2	23	0.0680	1.91		**Sheet Flow, Overland Sheet Flow** Smooth surfaces n= 0.011 P2= 4.19"
5.4	134	Total			

Subcatchment DB-A5: Drainage Basin A5



Summary for Subcatchment DB-A6: Drainage Basin A6

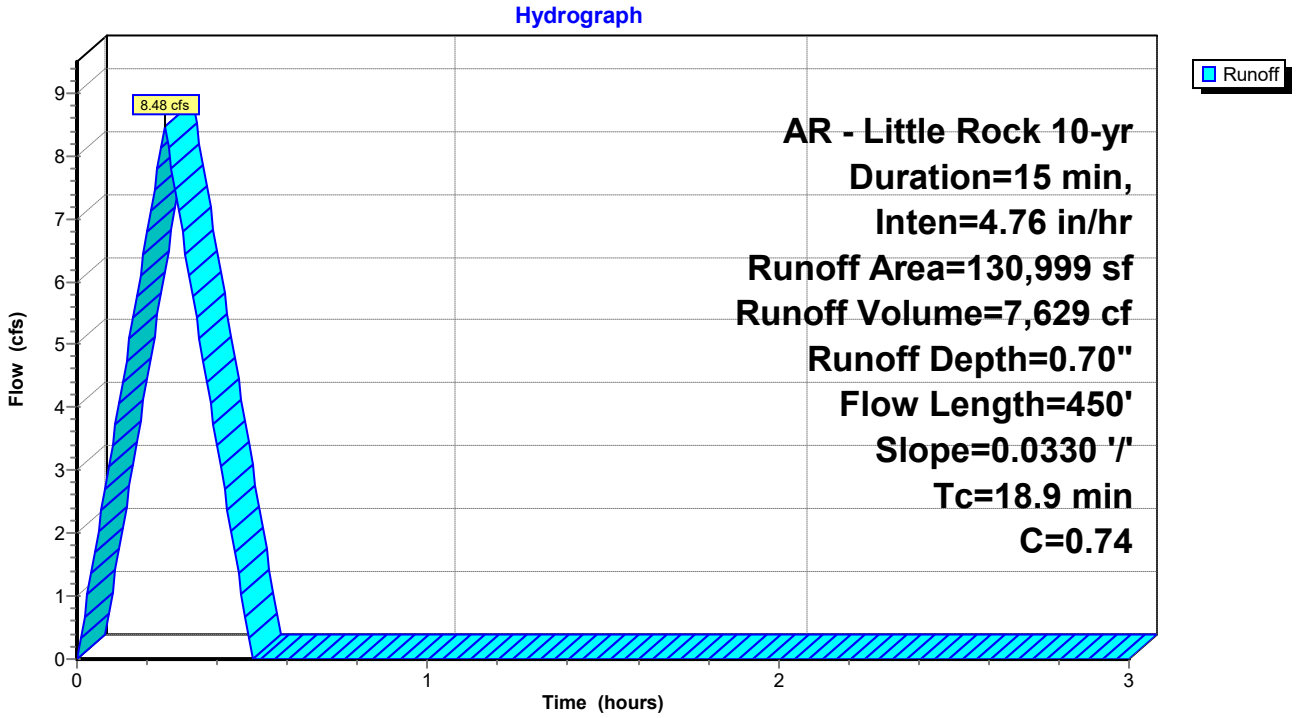
Runoff = 8.48 cfs @ 0.25 hrs, Volume= 7,629 cf, Depth= 0.70"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
130,999	0.74	
130,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	300	0.0330	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
2.0	150	0.0330	1.27		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
18.9	450	Total			

Subcatchment DB-A6: Drainage Basin A6

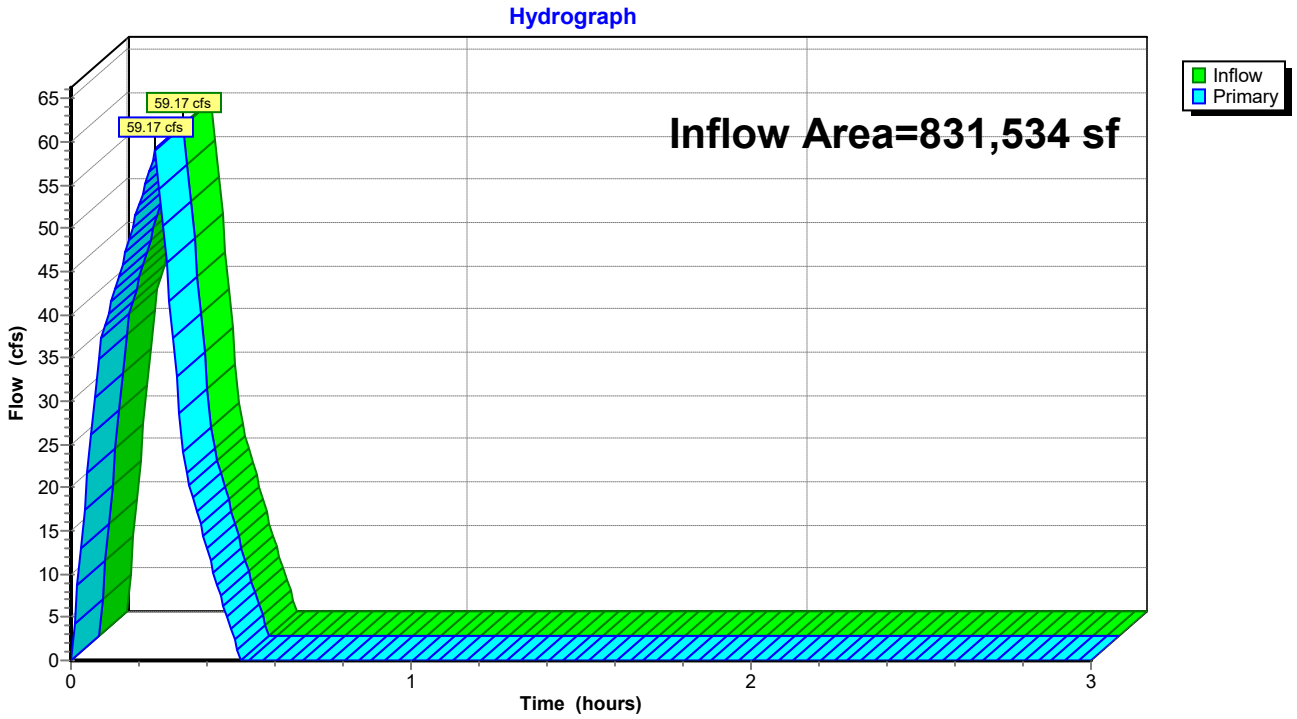


Summary for Link Pre: Pre Development

Inflow Area = 831,534 sf, 0.00% Impervious, Inflow Depth = 0.77" for 10-yr event
Inflow = 59.17 cfs @ 0.25 hrs, Volume= 53,060 cf
Primary = 59.17 cfs @ 0.25 hrs, Volume= 53,060 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Pre: Pre Development



Summary for Subcatchment DB-A1: Drainage Basin A1

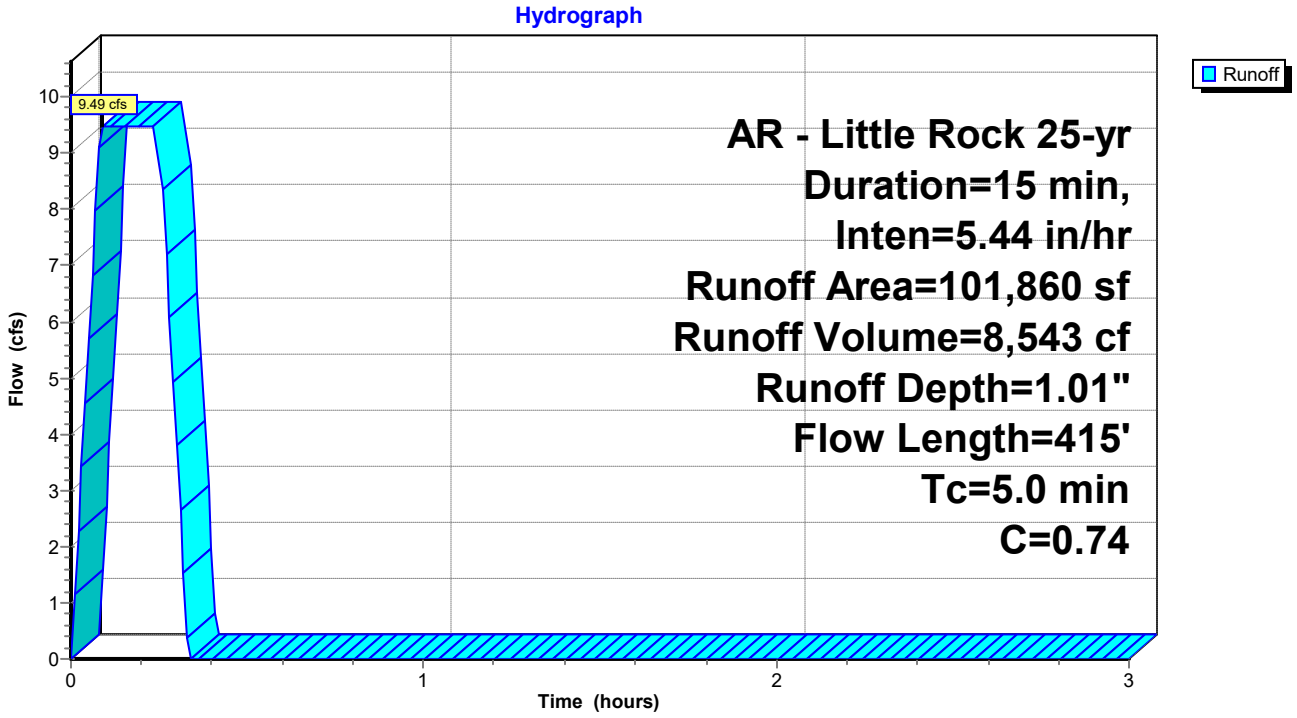
Runoff = 9.49 cfs @ 0.09 hrs, Volume= 8,543 cf, Depth= 1.01"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
101,860	0.74	
101,860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	415		1.38		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A1: Drainage Basin A1



Summary for Subcatchment DB-A2: Drainage Basin A2

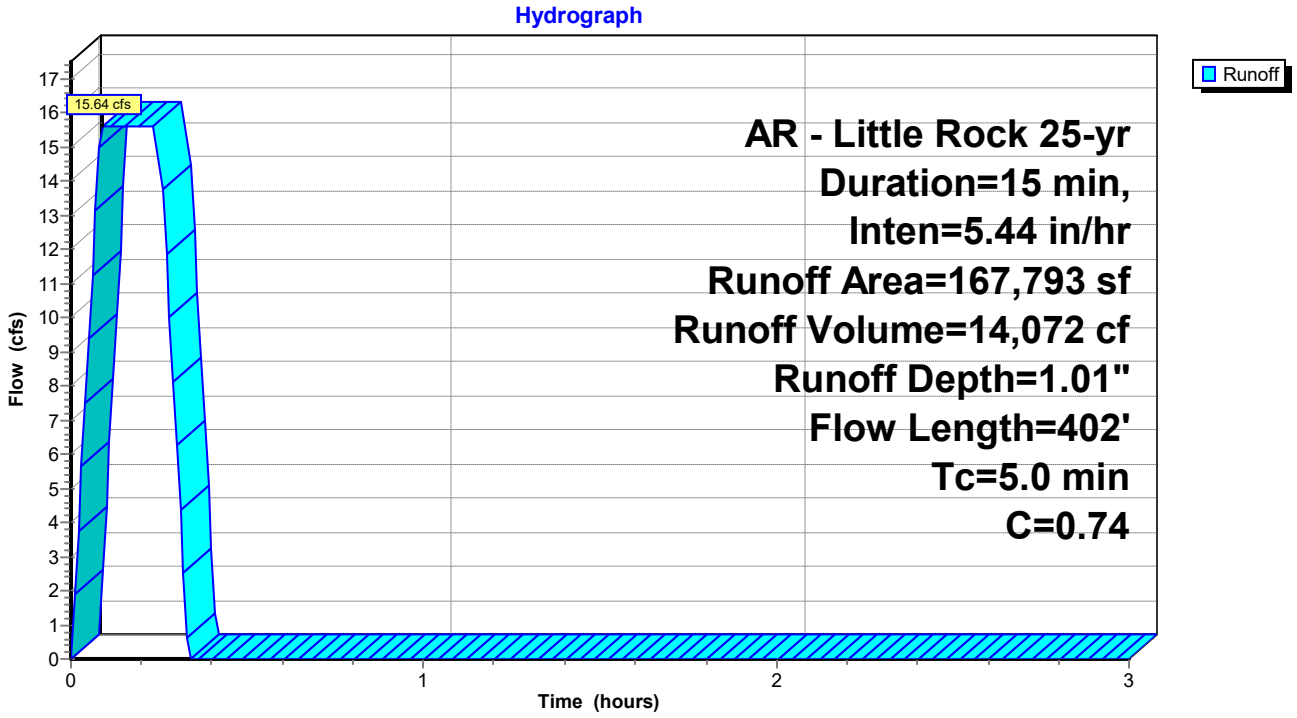
Runoff = 15.64 cfs @ 0.09 hrs, Volume= 14,072 cf, Depth= 1.01"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
167,793	0.74	
167,793		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	402		1.34		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A2: Drainage Basin A2



Summary for Subcatchment DB-A3: Drainage Basin A3

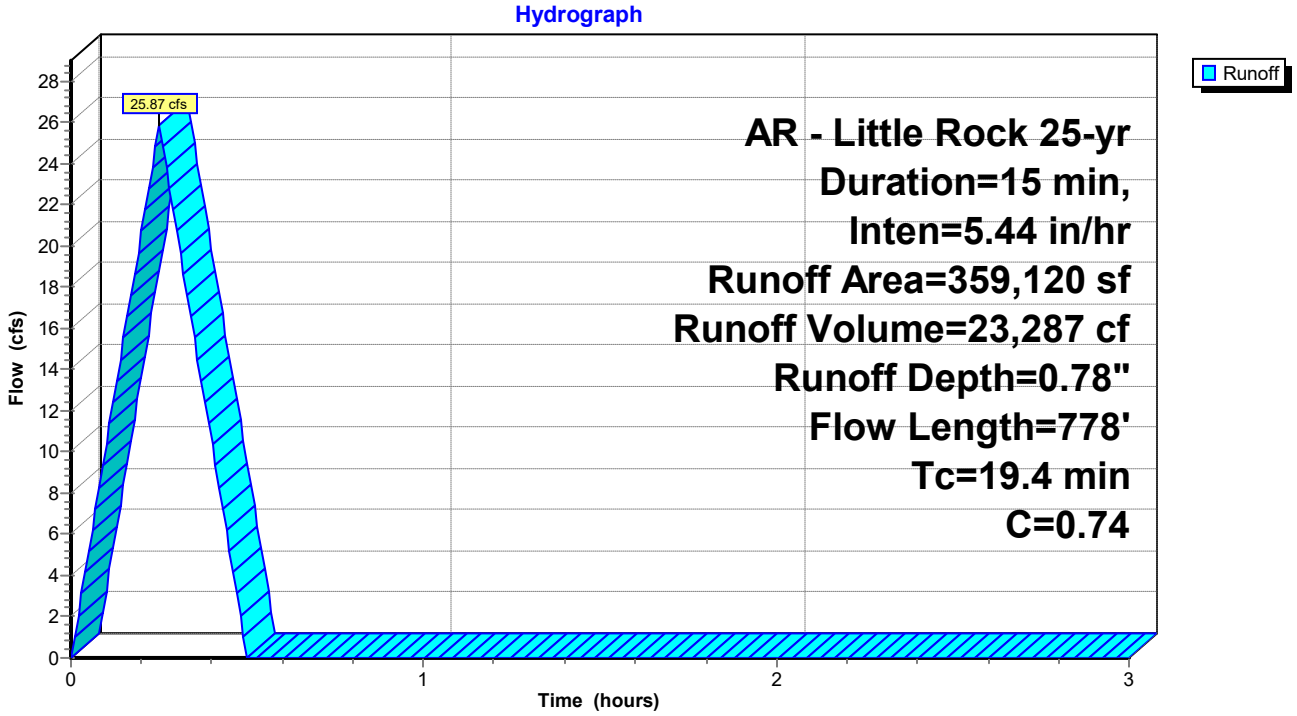
Runoff = 25.87 cfs @ 0.25 hrs, Volume= 23,287 cf, Depth= 0.78"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
359,120	0.74	
359,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	300	0.0420	0.37		**Sheet Flow, Overland Sheet Flow** Range n= 0.130 P2= 4.19"
1.2	103	0.0430	1.45		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.7	150	0.0460	1.50		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
2.8	225	0.0360	1.33		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
19.4	778	Total			

Subcatchment DB-A3: Drainage Basin A3



Summary for Subcatchment DB-A4: Drainage Basin A4

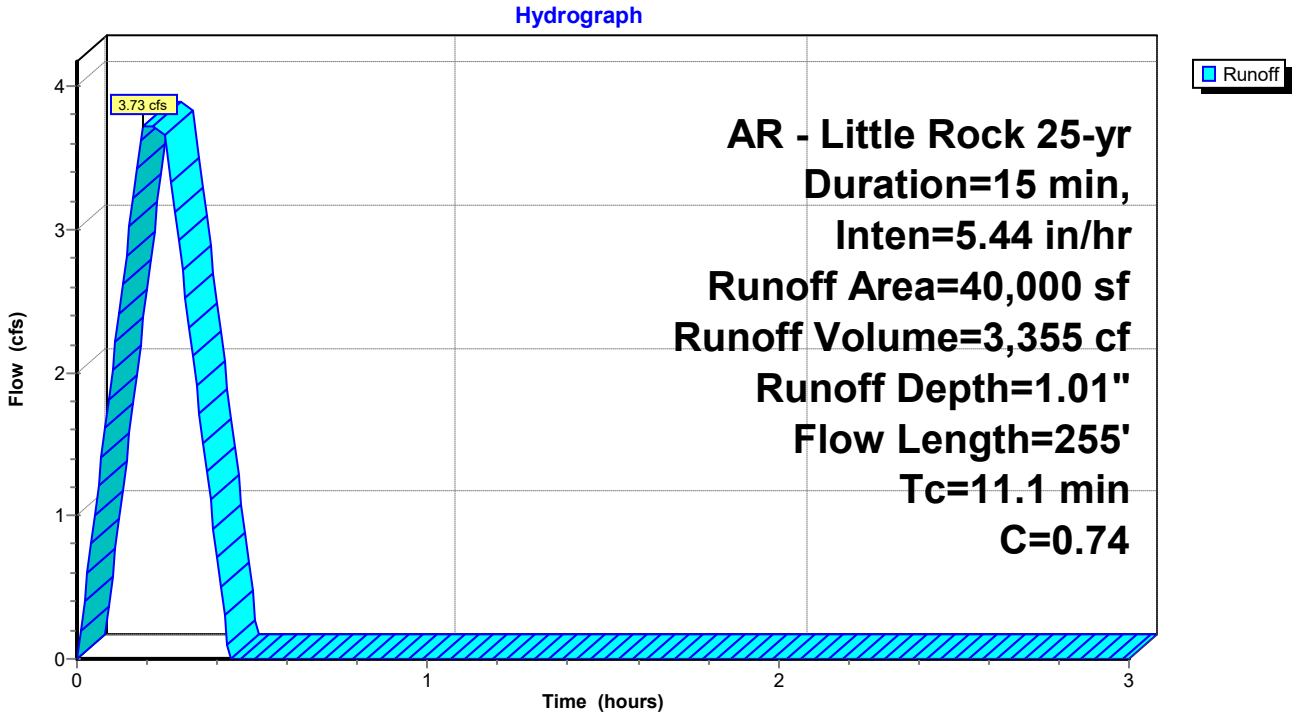
Runoff = 3.73 cfs @ 0.19 hrs, Volume= 3,355 cf, Depth= 1.01"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
40,000	0.74	
40,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	50	0.0390	0.22		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
6.4	114	0.0530	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.9	91	0.0600	1.71		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
11.1	255	Total			

Subcatchment DB-A4: Drainage Basin A4



Summary for Subcatchment DB-A5: Drainage Basin A5

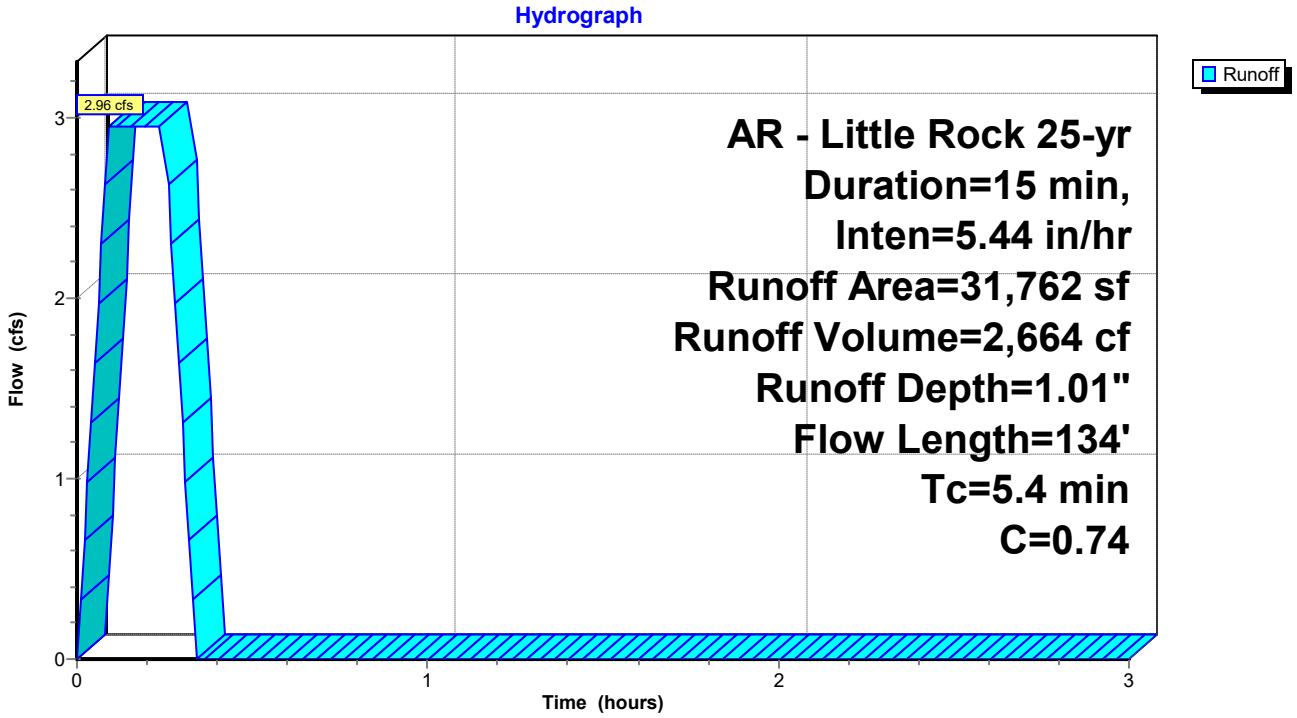
Runoff = 2.96 cfs @ 0.09 hrs, Volume= 2,664 cf, Depth= 1.01"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
31,762	0.74	
31,762		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	111	0.0850	0.35		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.2	23	0.0680	1.91		**Sheet Flow, Overland Sheet Flow** Smooth surfaces n= 0.011 P2= 4.19"
5.4	134	Total			

Subcatchment DB-A5: Drainage Basin A5



Summary for Subcatchment DB-A6: Drainage Basin A6

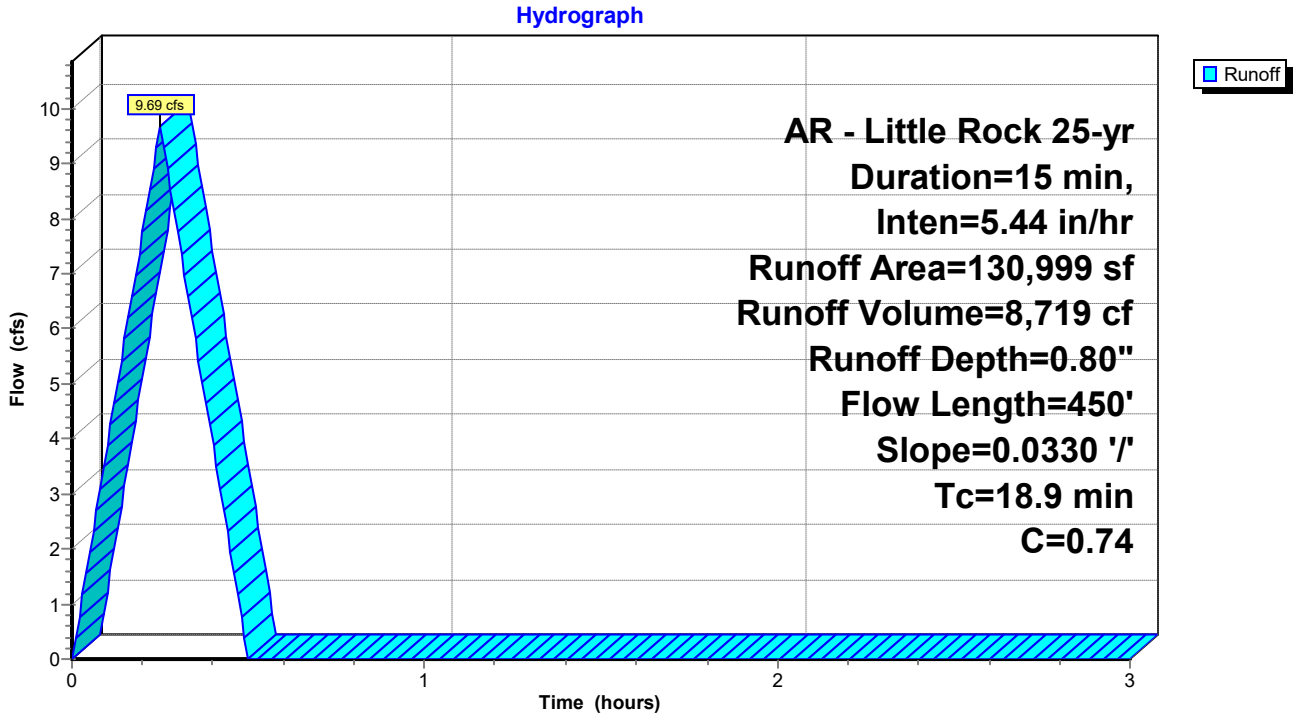
Runoff = 9.69 cfs @ 0.25 hrs, Volume= 8,719 cf, Depth= 0.80"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
130,999	0.74	
130,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	300	0.0330	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
2.0	150	0.0330	1.27		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
18.9	450	Total			

Subcatchment DB-A6: Drainage Basin A6

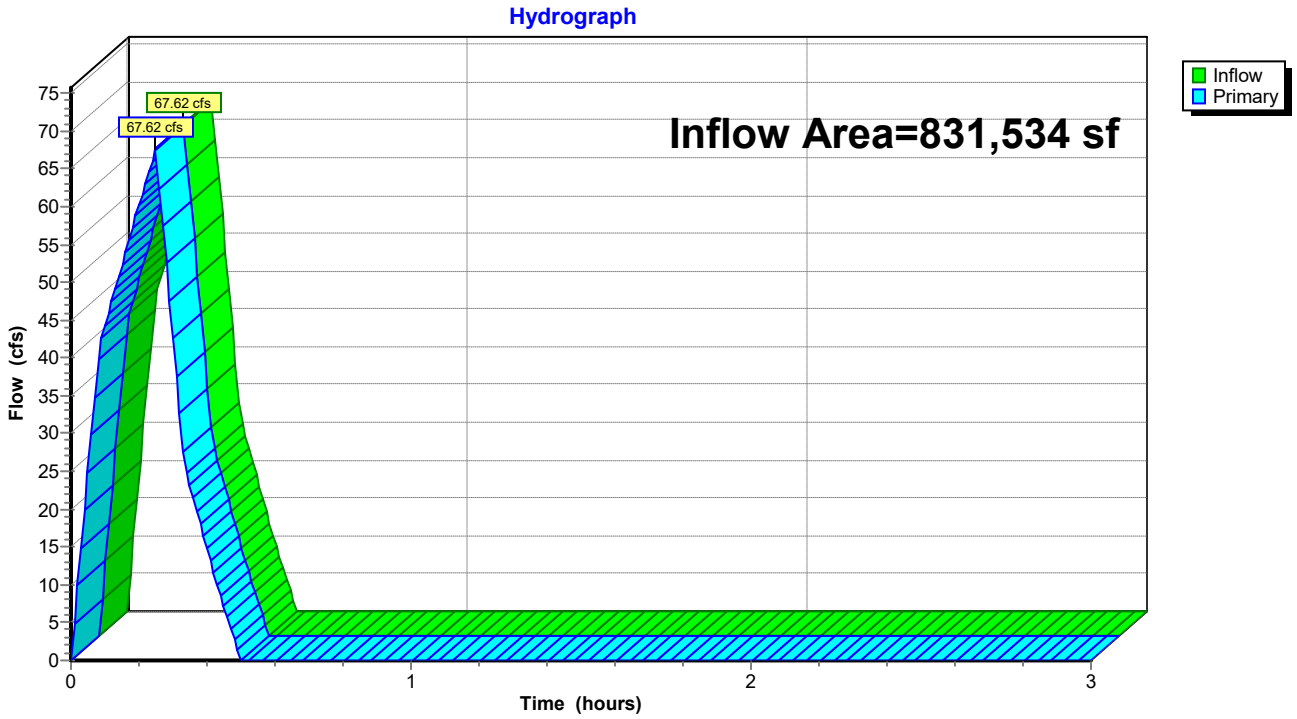


Summary for Link Pre: Pre Development

Inflow Area = 831,534 sf, 0.00% Impervious, Inflow Depth = 0.88" for 25-yr event
Inflow = 67.62 cfs @ 0.25 hrs, Volume= 60,640 cf
Primary = 67.62 cfs @ 0.25 hrs, Volume= 60,640 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Pre: Pre Development



Summary for Subcatchment DB-A1: Drainage Basin A1

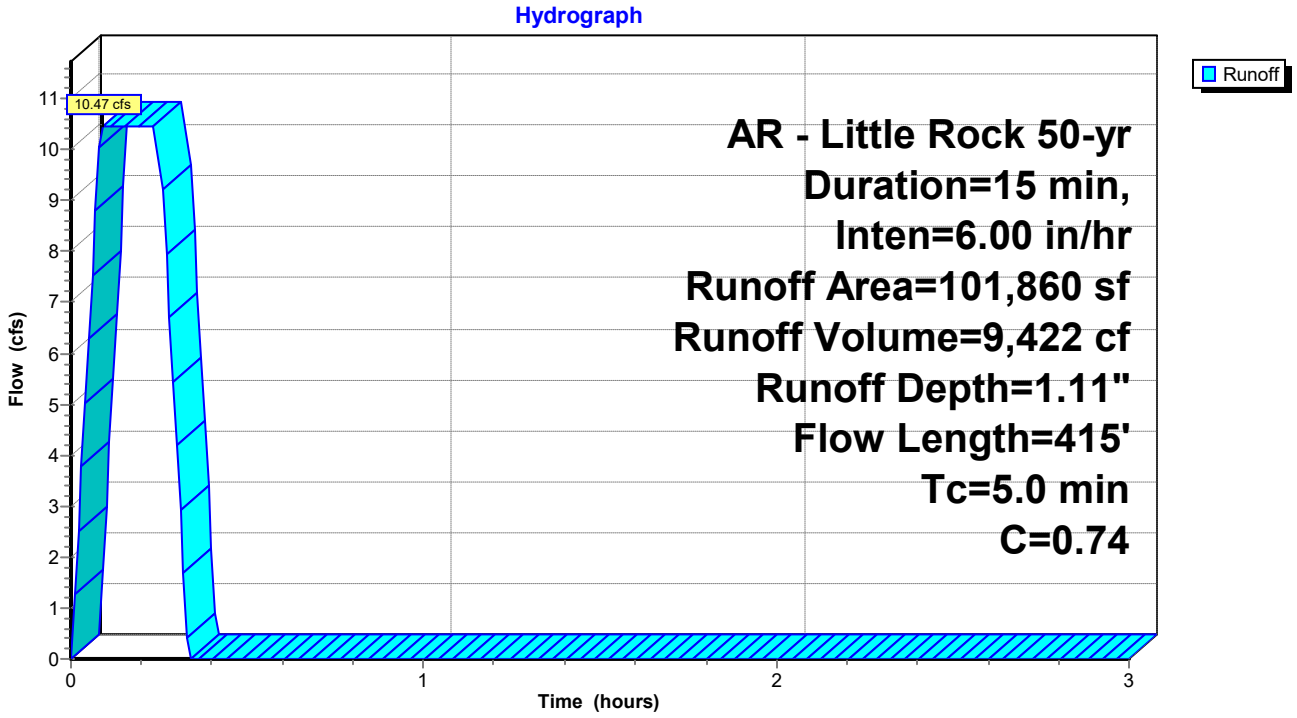
Runoff = 10.47 cfs @ 0.09 hrs, Volume= 9,422 cf, Depth= 1.11"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
101,860	0.74	
101,860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	415		1.38		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A1: Drainage Basin A1



Summary for Subcatchment DB-A2: Drainage Basin A2

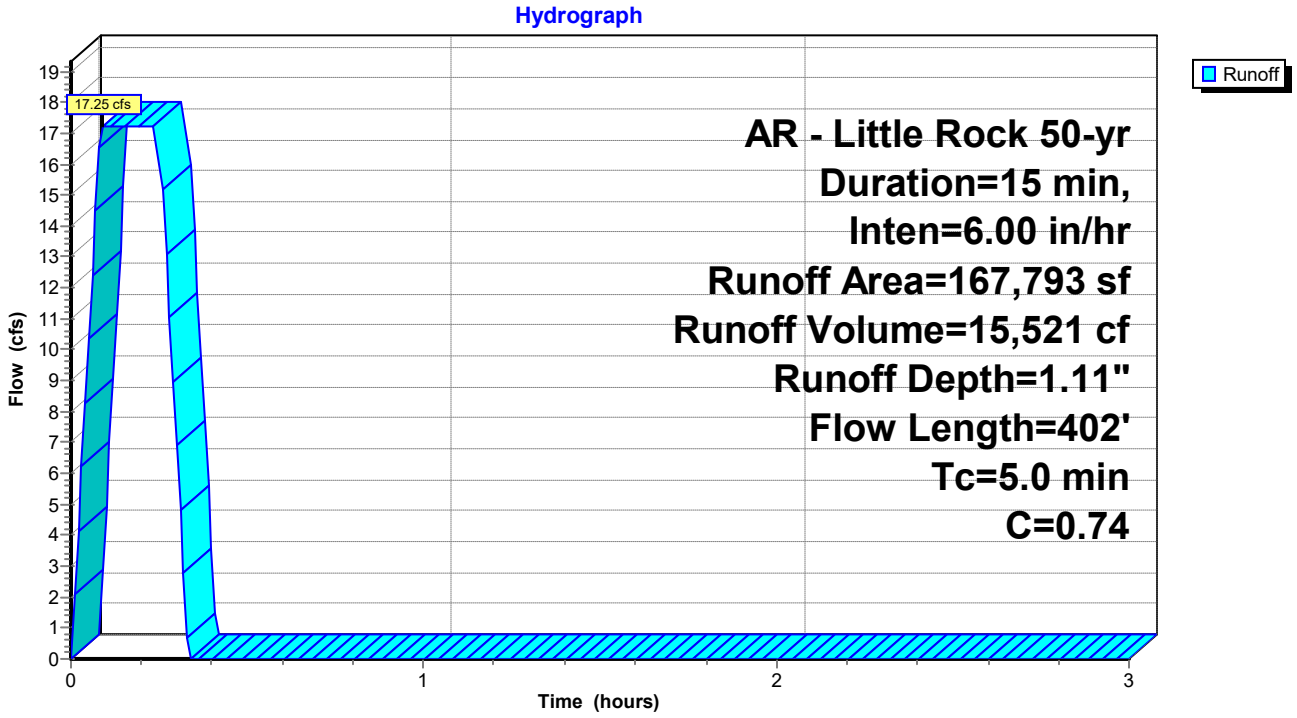
Runoff = 17.25 cfs @ 0.09 hrs, Volume= 15,521 cf, Depth= 1.11"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
167,793	0.74	
167,793		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	402		1.34		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A2: Drainage Basin A2



Summary for Subcatchment DB-A3: Drainage Basin A3

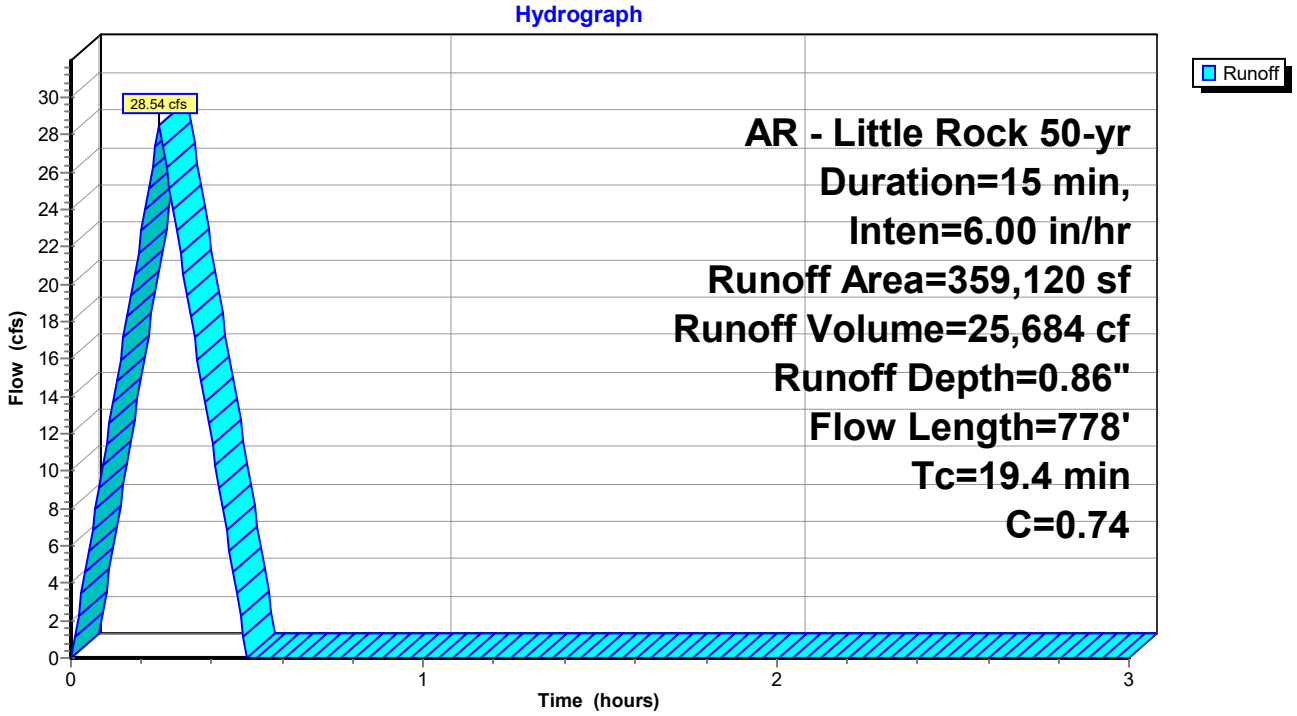
Runoff = 28.54 cfs @ 0.25 hrs, Volume= 25,684 cf, Depth= 0.86"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
359,120	0.74	
359,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	300	0.0420	0.37		**Sheet Flow, Overland Sheet Flow** Range n= 0.130 P2= 4.19"
1.2	103	0.0430	1.45		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.7	150	0.0460	1.50		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
2.8	225	0.0360	1.33		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
19.4	778	Total			

Subcatchment DB-A3: Drainage Basin A3



Summary for Subcatchment DB-A4: Drainage Basin A4

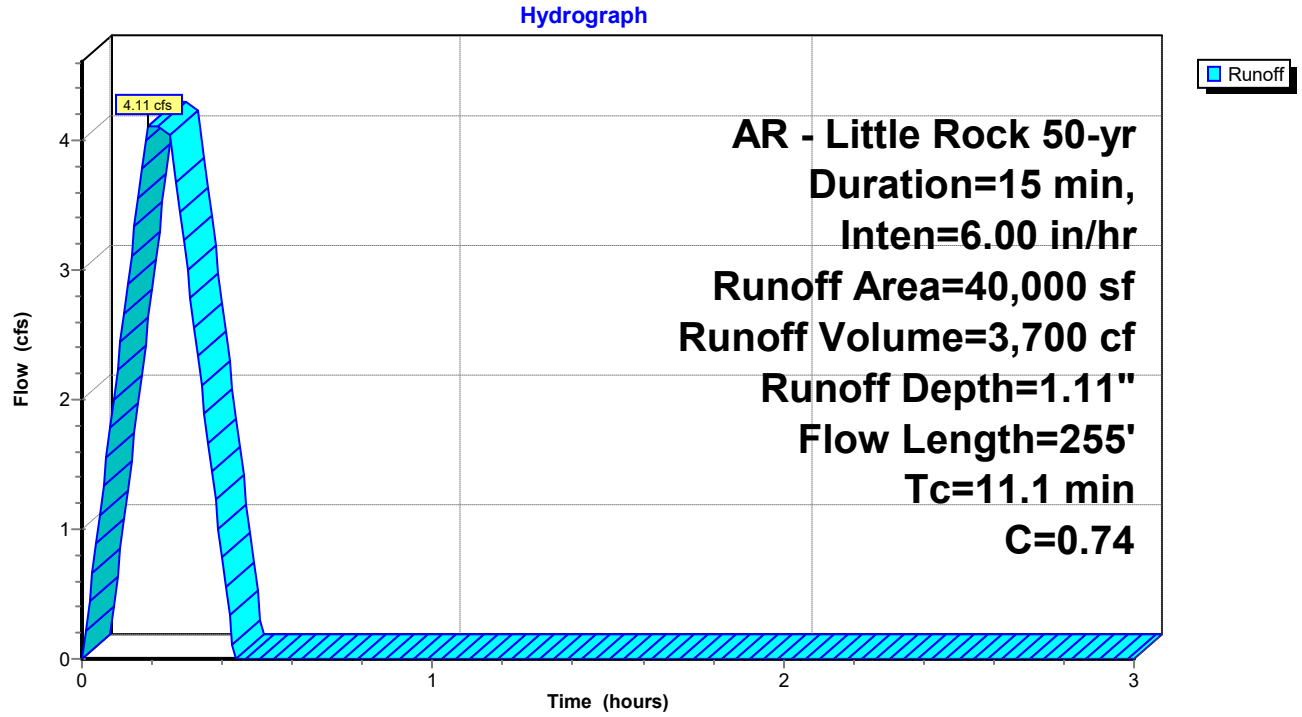
Runoff = 4.11 cfs @ 0.19 hrs, Volume= 3,700 cf, Depth= 1.11"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
40,000	0.74	
40,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	50	0.0390	0.22		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
6.4	114	0.0530	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.9	91	0.0600	1.71		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
11.1	255	Total			

Subcatchment DB-A4: Drainage Basin A4



Summary for Subcatchment DB-A5: Drainage Basin A5

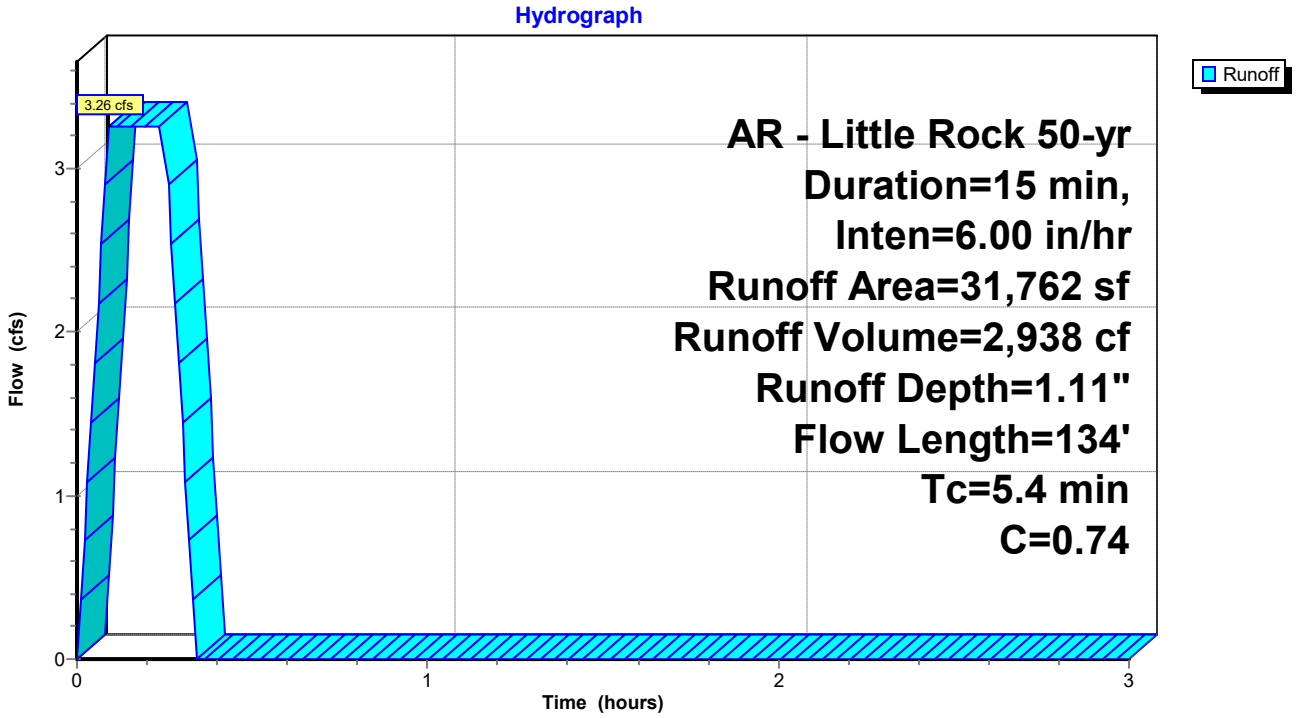
Runoff = 3.26 cfs @ 0.09 hrs, Volume= 2,938 cf, Depth= 1.11"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
31,762	0.74	
31,762		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	111	0.0850	0.35		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.2	23	0.0680	1.91		**Sheet Flow, Overland Sheet Flow** Smooth surfaces n= 0.011 P2= 4.19"
5.4	134	Total			

Subcatchment DB-A5: Drainage Basin A5



Summary for Subcatchment DB-A6: Drainage Basin A6

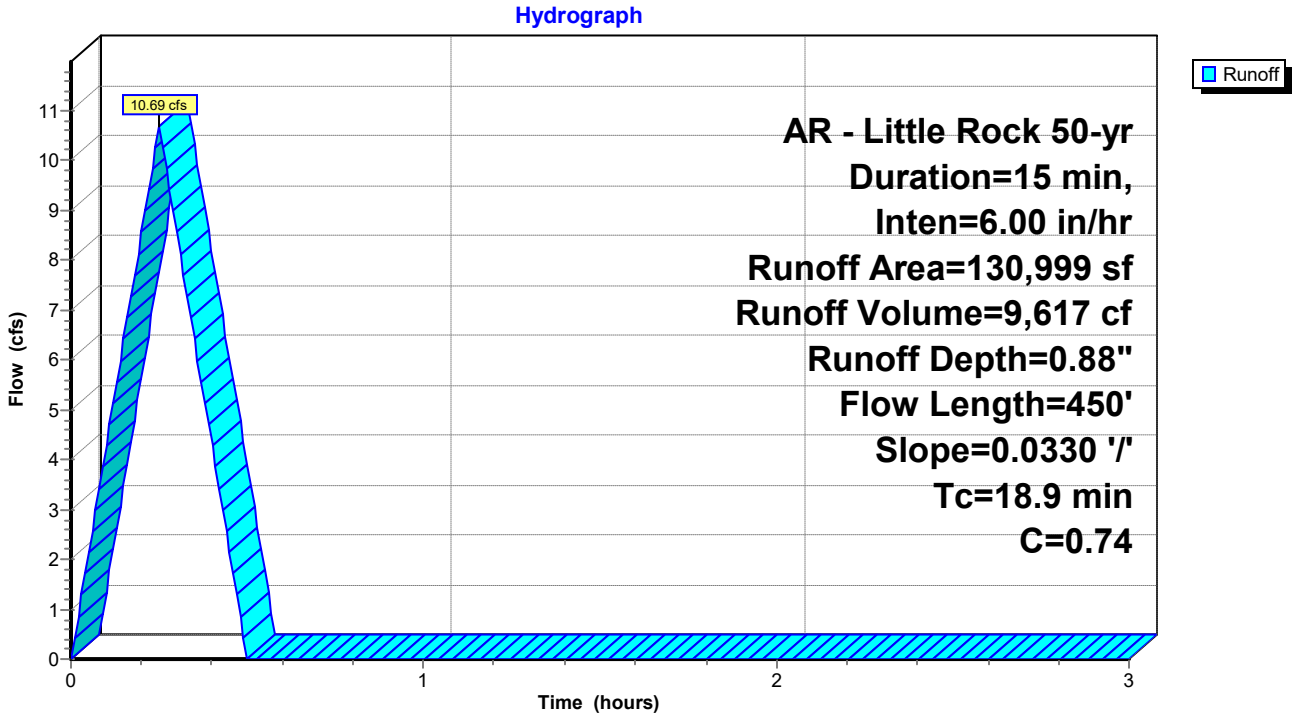
Runoff = 10.69 cfs @ 0.25 hrs, Volume= 9,617 cf, Depth= 0.88"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
130,999	0.74	
130,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	300	0.0330	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
2.0	150	0.0330	1.27		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
18.9	450	Total			

Subcatchment DB-A6: Drainage Basin A6

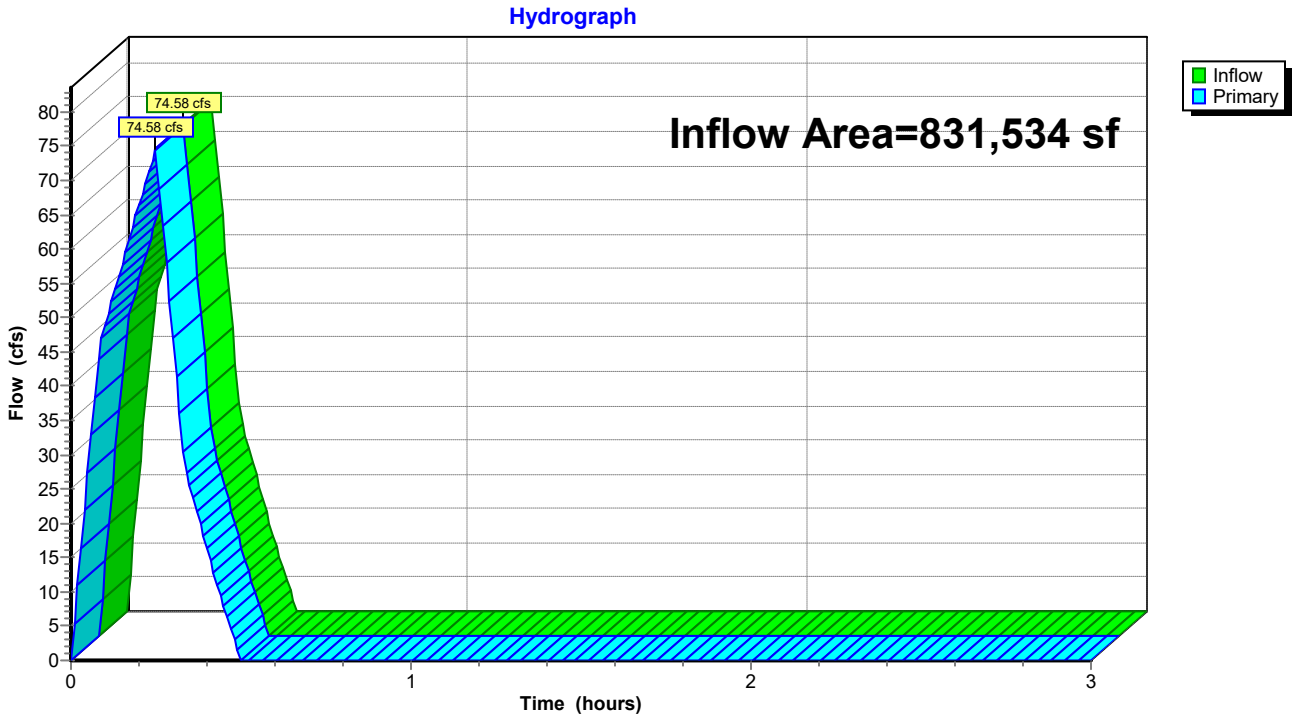


Summary for Link Pre: Pre Development

Inflow Area = 831,534 sf, 0.00% Impervious, Inflow Depth = 0.97" for 50-yr event
Inflow = 74.58 cfs @ 0.25 hrs, Volume= 66,882 cf
Primary = 74.58 cfs @ 0.25 hrs, Volume= 66,882 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Pre: Pre Development



Summary for Subcatchment DB-A1: Drainage Basin A1

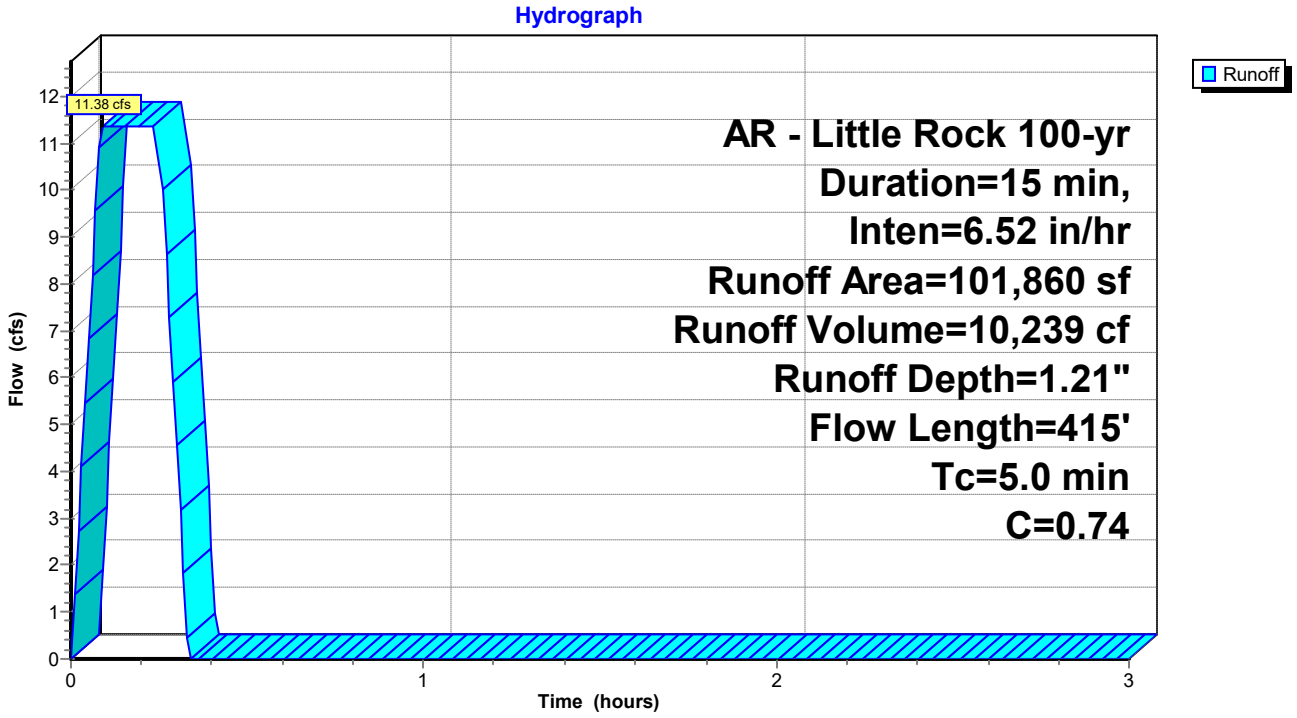
Runoff = 11.38 cfs @ 0.09 hrs, Volume= 10,239 cf, Depth= 1.21"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
101,860	0.74	
101,860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	415		1.38		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A1: Drainage Basin A1



Summary for Subcatchment DB-A2: Drainage Basin A2

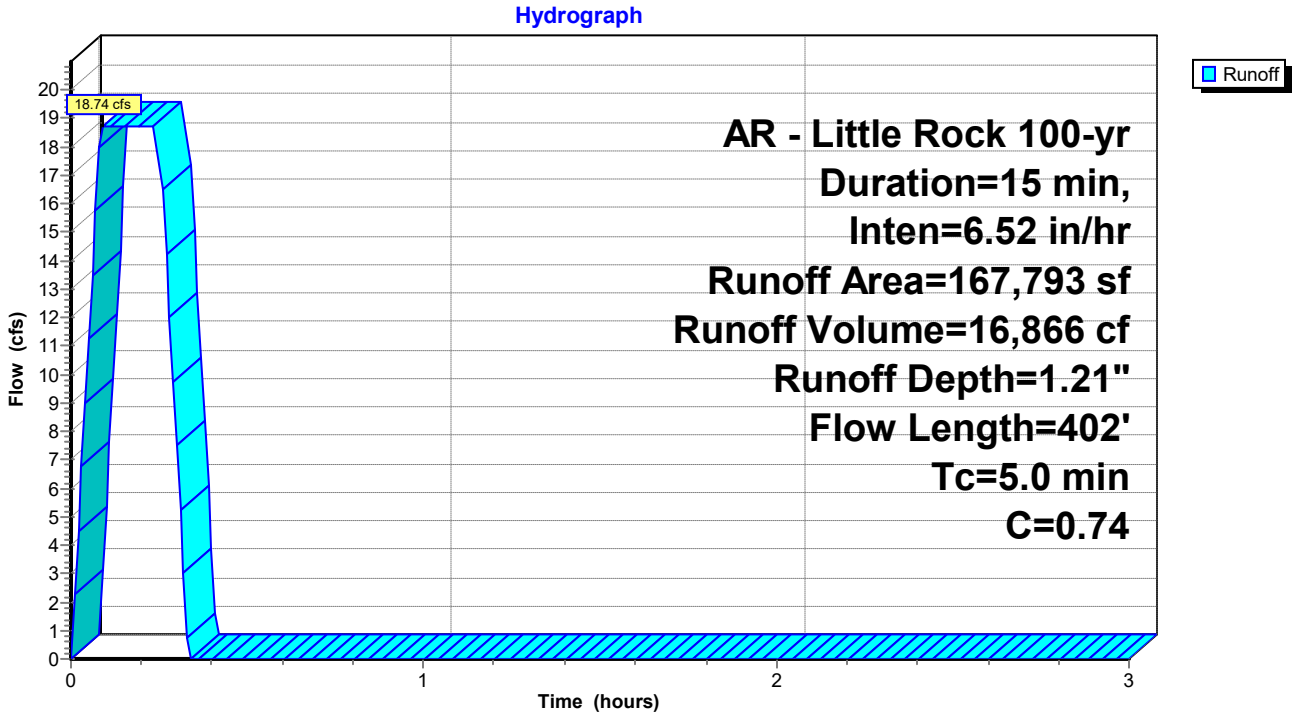
Runoff = 18.74 cfs @ 0.09 hrs, Volume= 16,866 cf, Depth= 1.21"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
167,793	0.74	
167,793		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	402		1.34		**Direct Entry, Overland Concentrated Flow (Min)**

Subcatchment DB-A2: Drainage Basin A2



Summary for Subcatchment DB-A3: Drainage Basin A3

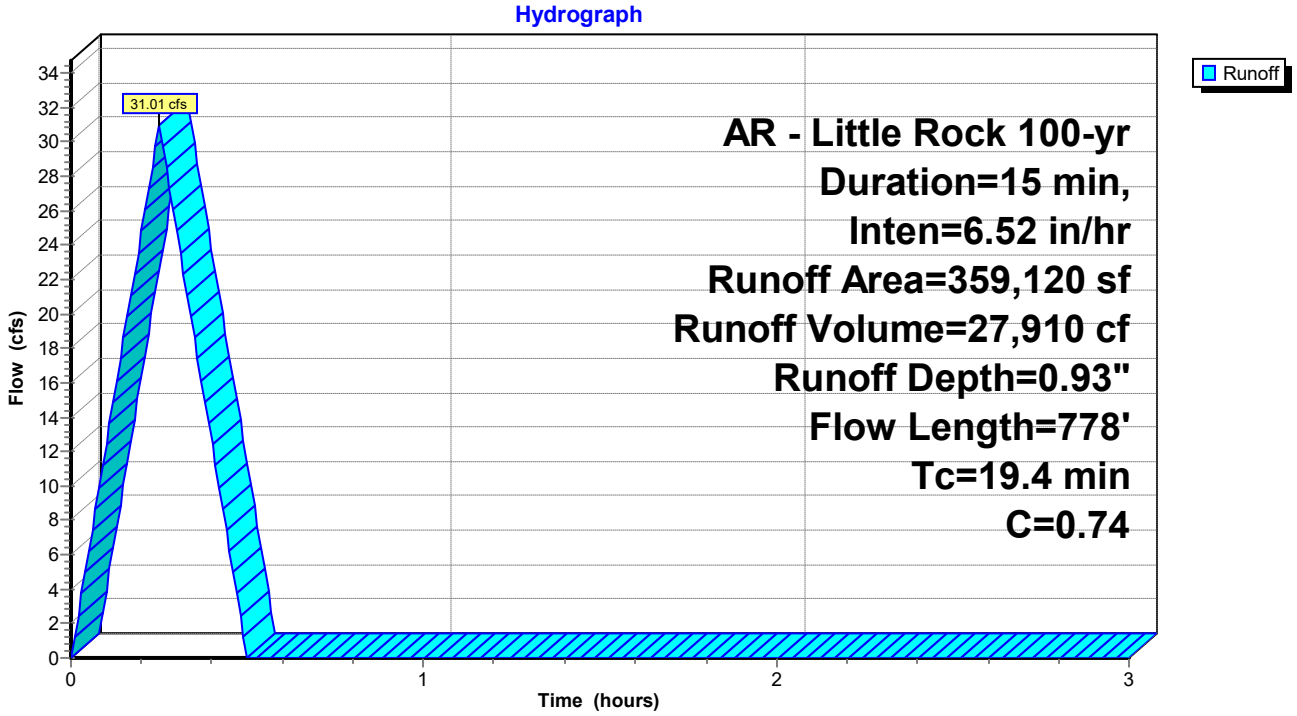
Runoff = 31.01 cfs @ 0.25 hrs, Volume= 27,910 cf, Depth= 0.93"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
359,120	0.74	
359,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	300	0.0420	0.37		**Sheet Flow, Overland Sheet Flow** Range n= 0.130 P2= 4.19"
1.2	103	0.0430	1.45		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.7	150	0.0460	1.50		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
2.8	225	0.0360	1.33		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
19.4	778	Total			

Subcatchment DB-A3: Drainage Basin A3



Summary for Subcatchment DB-A4: Drainage Basin A4

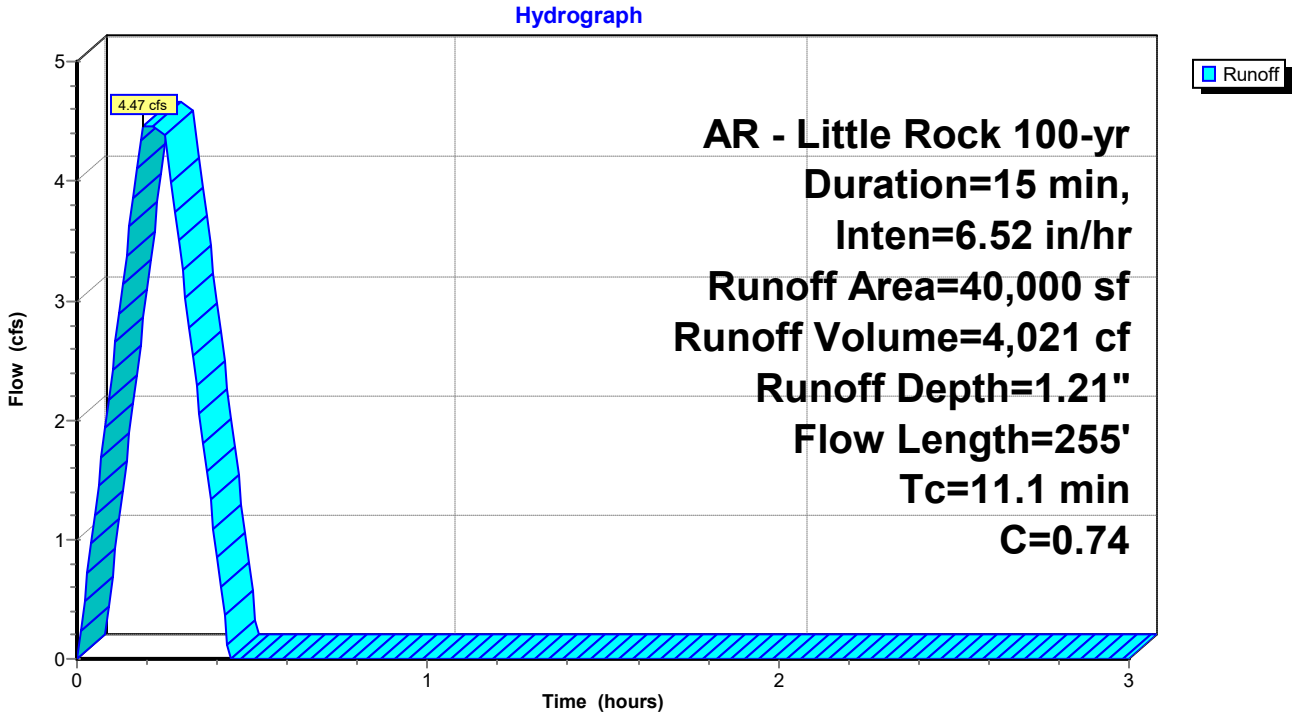
Runoff = 4.47 cfs @ 0.19 hrs, Volume= 4,021 cf, Depth= 1.21"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
40,000	0.74	
40,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	50	0.0390	0.22		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
6.4	114	0.0530	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.9	91	0.0600	1.71		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
11.1	255	Total			

Subcatchment DB-A4: Drainage Basin A4



Summary for Subcatchment DB-A5: Drainage Basin A5

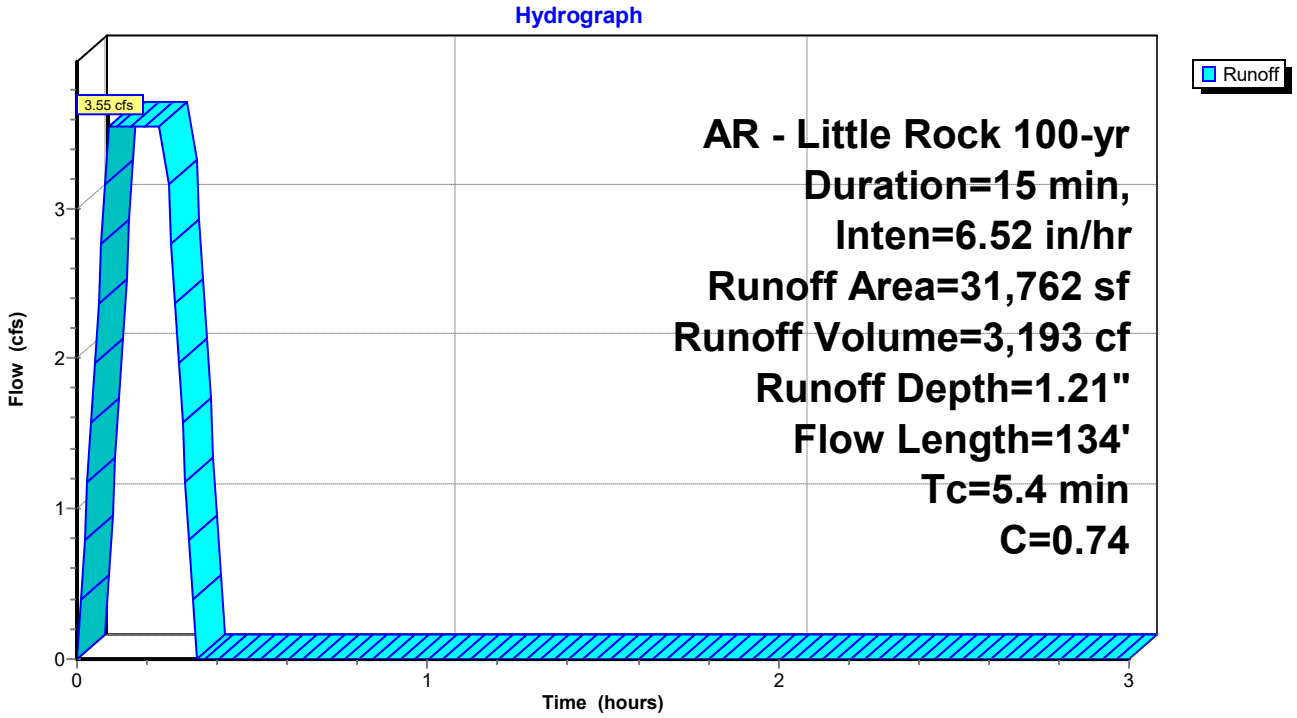
Runoff = 3.55 cfs @ 0.09 hrs, Volume= 3,193 cf, Depth= 1.21"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
31,762	0.74	
31,762		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	111	0.0850	0.35		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
0.2	23	0.0680	1.91		**Sheet Flow, Overland Sheet Flow** Smooth surfaces n= 0.011 P2= 4.19"
5.4	134	Total			

Subcatchment DB-A5: Drainage Basin A5



Summary for Subcatchment DB-A6: Drainage Basin A6

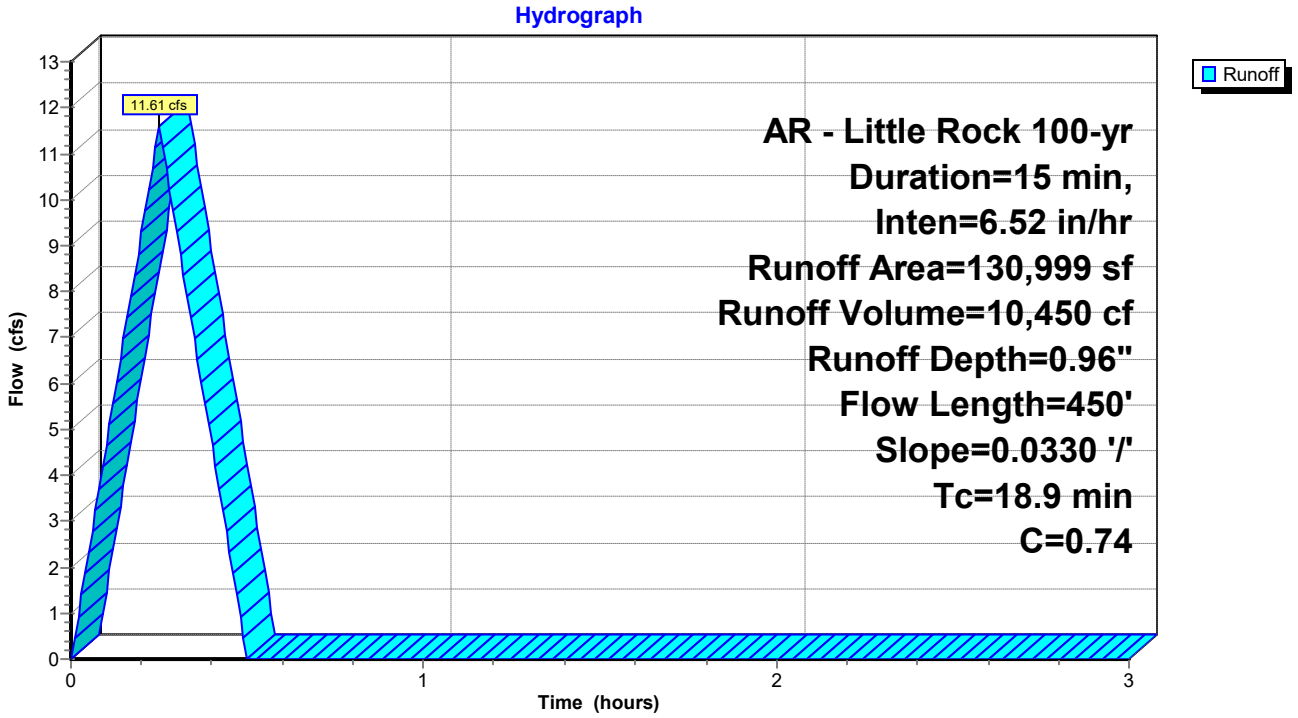
Runoff = 11.61 cfs @ 0.25 hrs, Volume= 10,450 cf, Depth= 0.96"
Routed to Link Pre : Pre Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
130,999	0.74	
130,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	300	0.0330	0.30		**Sheet Flow, Overland Sheet Flow** Grass: Short n= 0.150 P2= 4.19"
2.0	150	0.0330	1.27		**Shallow Concentrated Flow, Overland Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
18.9	450	Total			

Subcatchment DB-A6: Drainage Basin A6

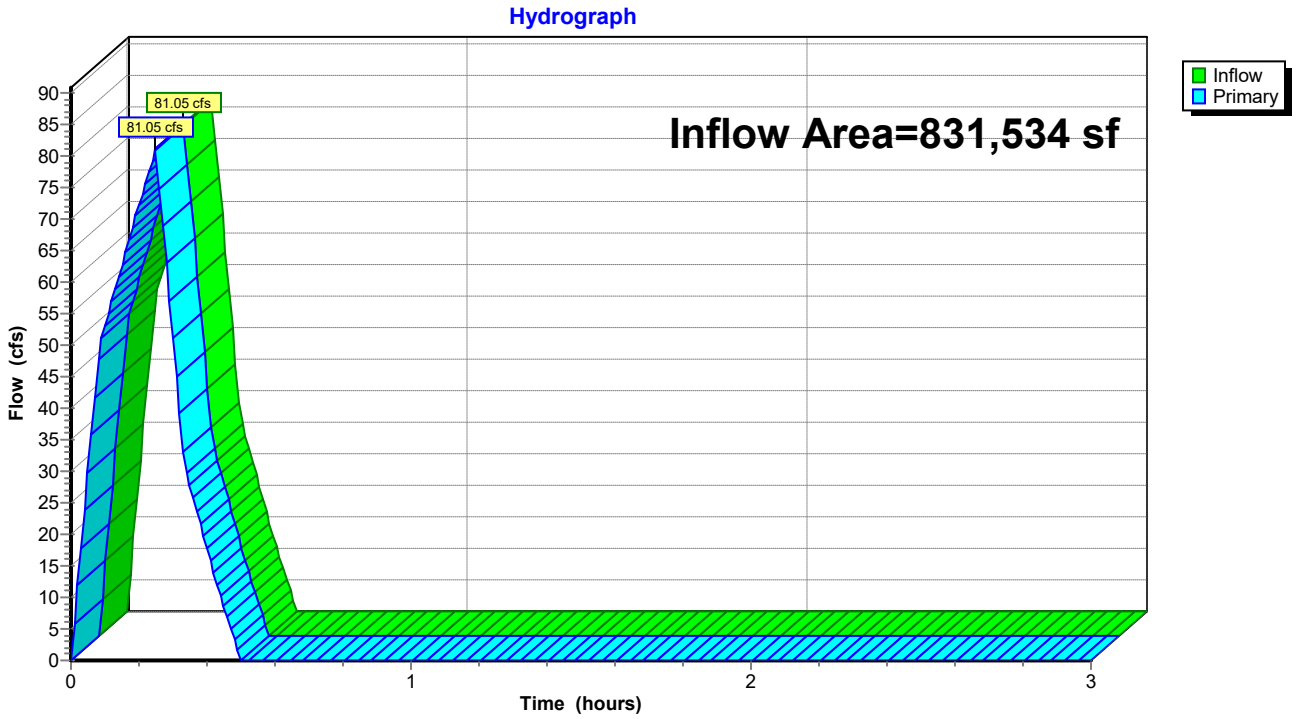


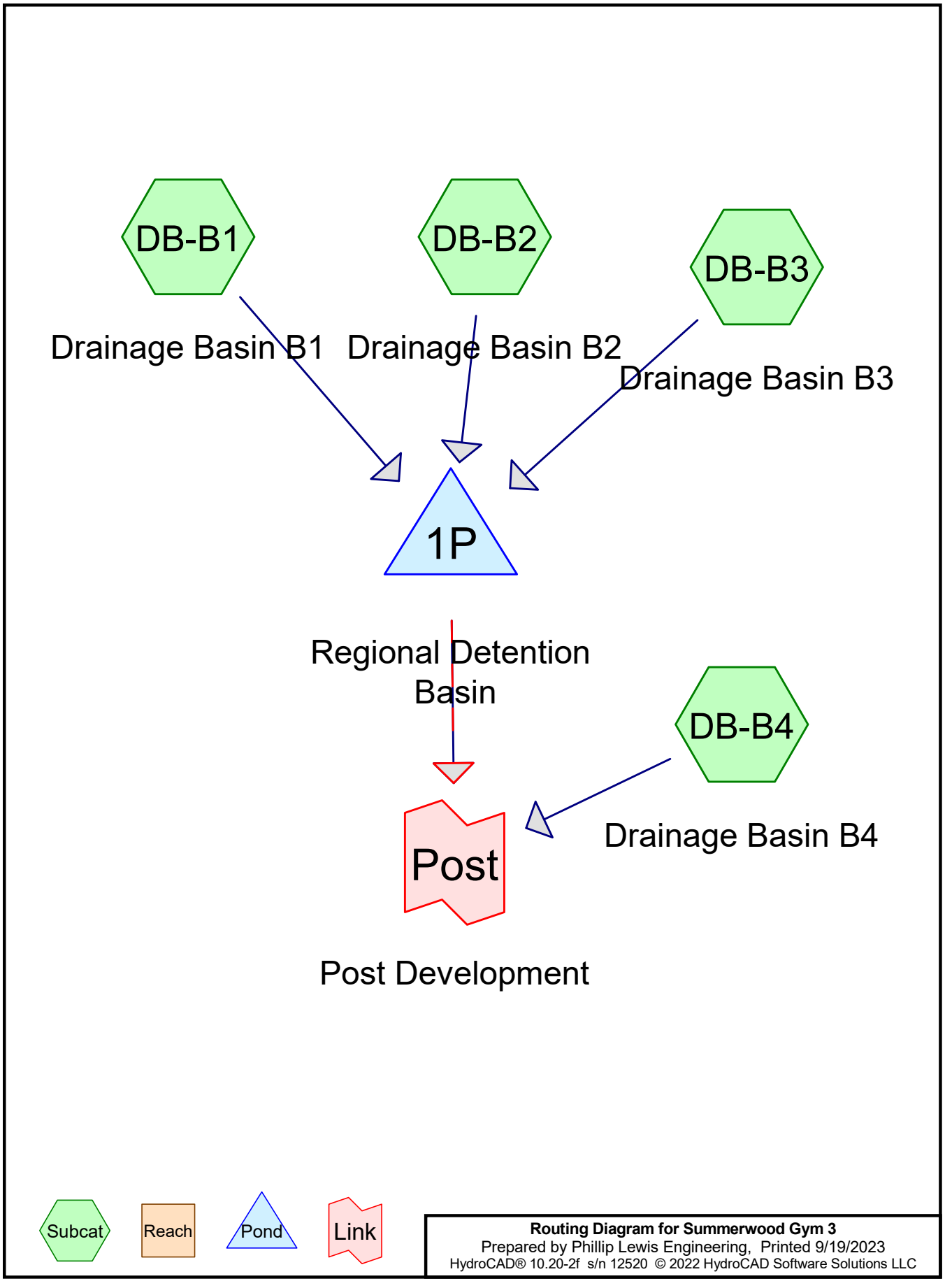
Summary for Link Pre: Pre Development

Inflow Area = 831,534 sf, 0.00% Impervious, Inflow Depth = 1.05" for 100-yr event
Inflow = 81.05 cfs @ 0.25 hrs, Volume= 72,679 cf
Primary = 81.05 cfs @ 0.25 hrs, Volume= 72,679 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Pre: Pre Development





Routing Diagram for Summerwood Gym 3
Prepared by Phillip Lewis Engineering, Printed 9/19/2023
HydroCAD® 10.20-2f s/n 12520 © 2022 HydroCAD Software Solutions LLC

Summary for Subcatchment DB-B1: Drainage Basin B1

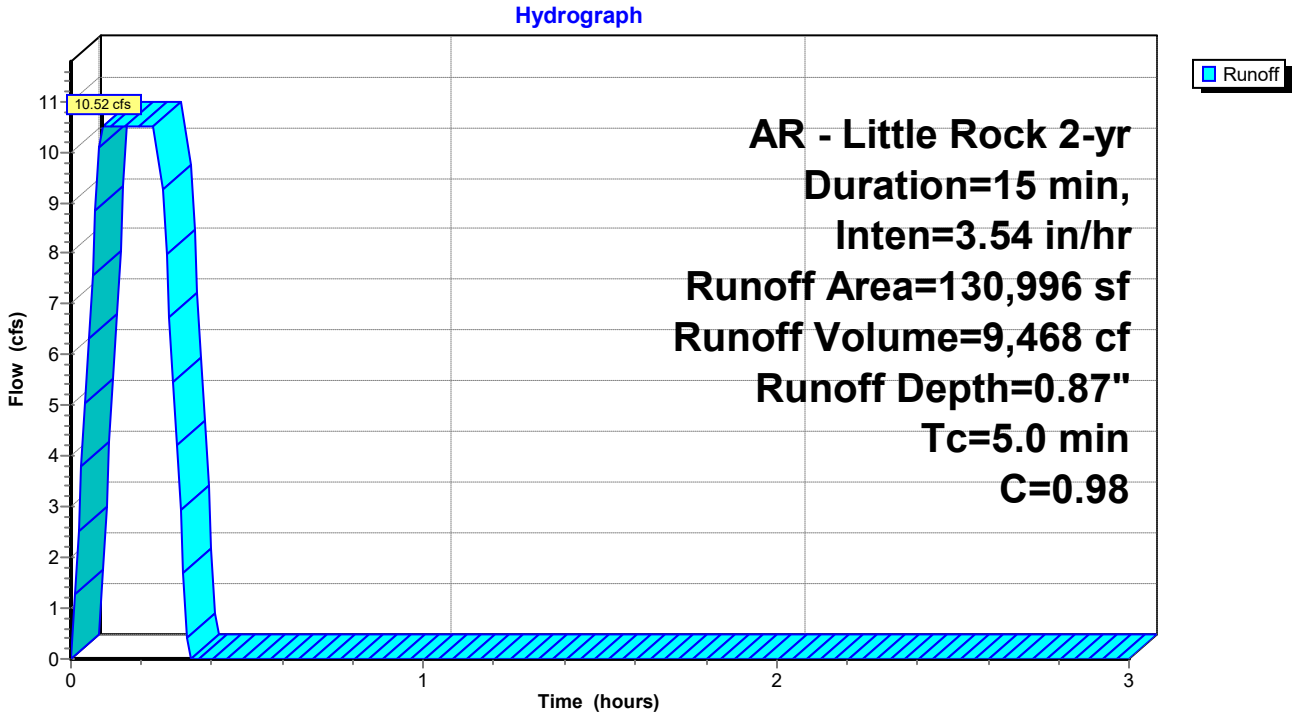
Runoff = 10.52 cfs @ 0.09 hrs, Volume= 9,468 cf, Depth= 0.87"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
130,996	0.98	
130,996		100.00% Impervious Area

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

Subcatchment DB-B1: Drainage Basin B1



Summary for Subcatchment DB-B2: Drainage Basin B2

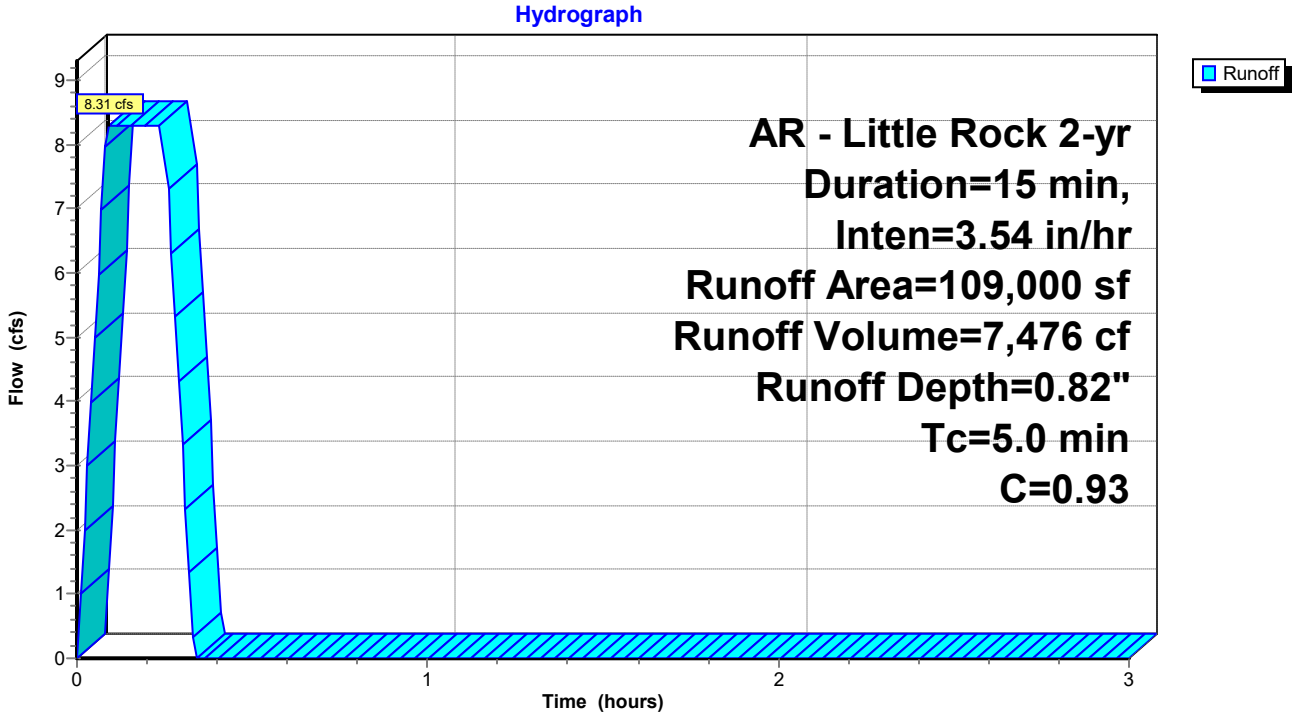
Runoff = 8.31 cfs @ 0.09 hrs, Volume= 7,476 cf, Depth= 0.82"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
87,200	0.98	
21,800	0.74	
109,000	0.93	Weighted Average
21,800		20.00% Pervious Area
87,200		80.00% Impervious Area

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

Subcatchment DB-B2: Drainage Basin B2



Summary for Subcatchment DB-B3: Drainage Basin B3

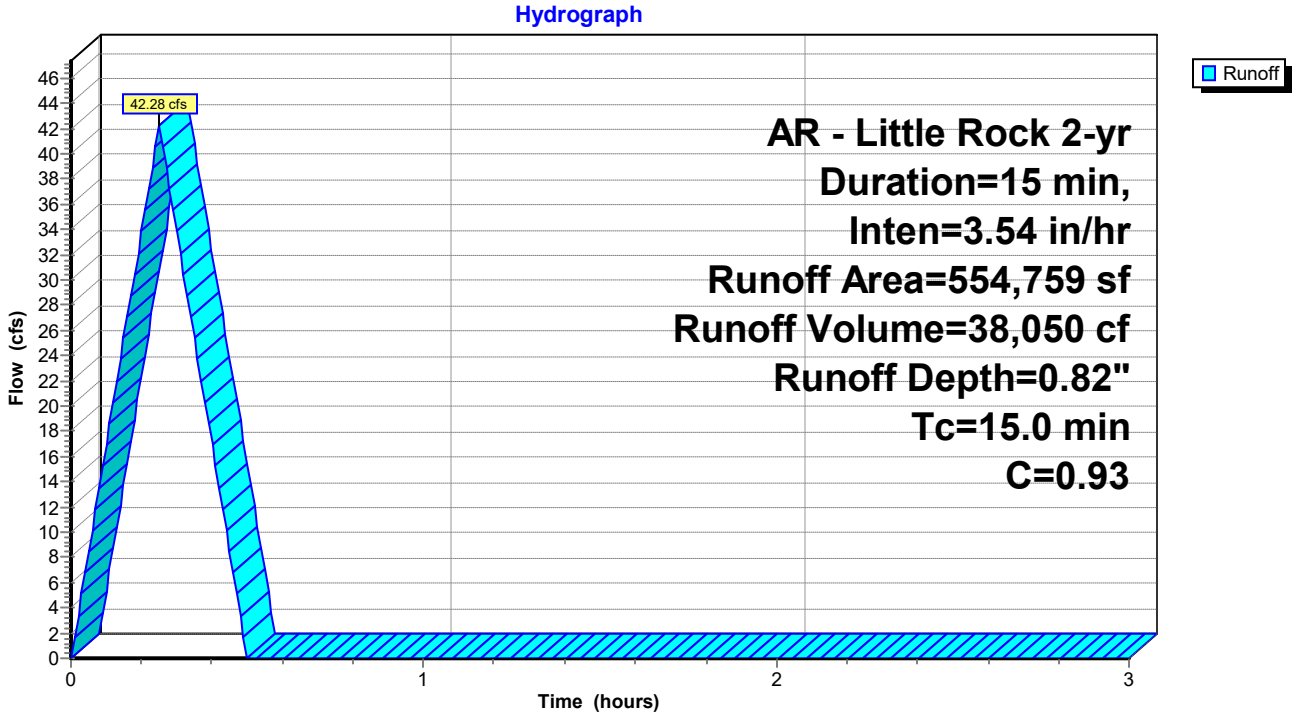
Runoff = 42.28 cfs @ 0.25 hrs, Volume= 38,050 cf, Depth= 0.82"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
443,807	0.98	
110,952	0.74	
554,759	0.93	Weighted Average
110,952		20.00% Pervious Area
443,807		80.00% Impervious Area

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

Subcatchment DB-B3: Drainage Basin B3



Summary for Subcatchment DB-B4: Drainage Basin B4

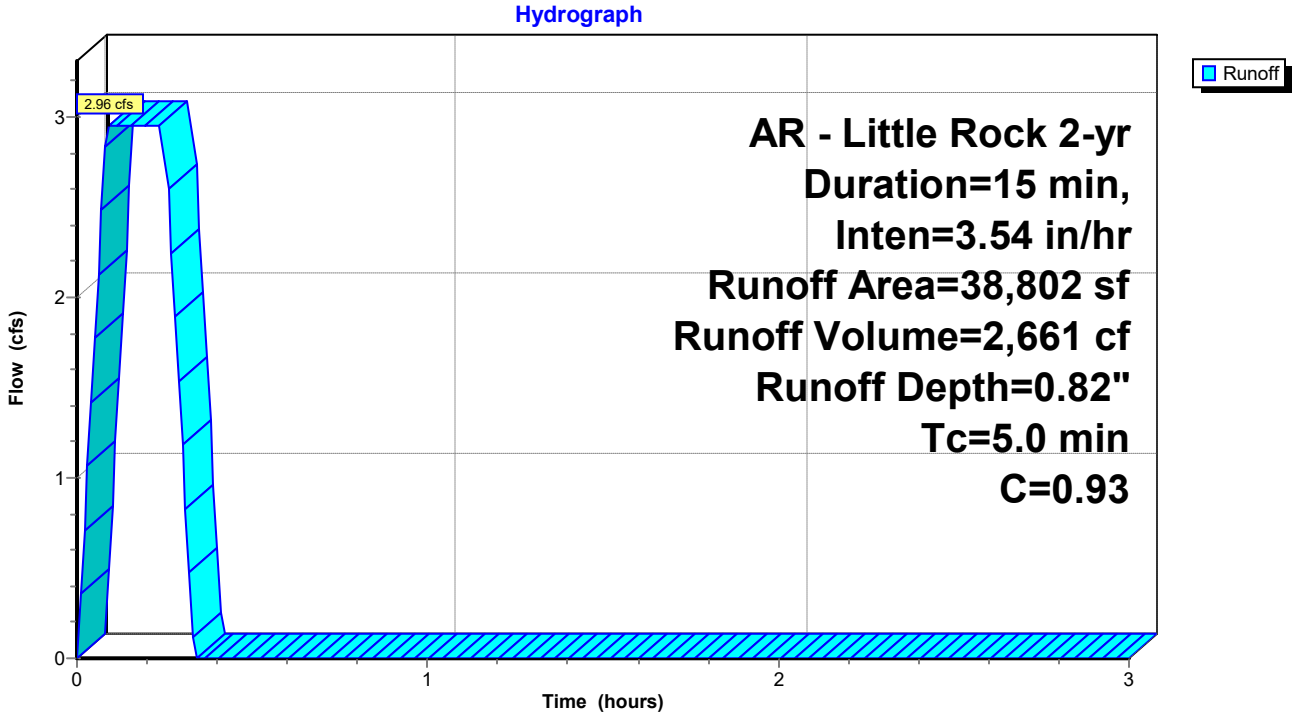
Runoff = 2.96 cfs @ 0.09 hrs, Volume= 2,661 cf, Depth= 0.82"
Routed to Link Post : Post Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 2-yr Duration=15 min, Inten=3.54 in/hr

Area (sf)	C	Description
31,042	0.98	
7,760	0.74	
38,802	0.93	Weighted Average
7,760		20.00% Pervious Area
31,042		80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 15**

Subcatchment DB-B4: Drainage Basin B4



Summary for Pond 1P: Regional Detention Basin

Inflow Area = 794,755 sf, 83.30% Impervious, Inflow Depth = 0.83" for 2-yr event
Inflow = 61.22 cfs @ 0.25 hrs, Volume= 54,993 cf
Outflow = 22.83 cfs @ 0.37 hrs, Volume= 51,485 cf, Atten= 63%, Lag= 7.0 min
Primary = 22.83 cfs @ 0.37 hrs, Volume= 51,485 cf
Routed to Link Post : Post Development
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link Post : Post Development

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 385.28' @ 0.37 hrs Storage= 33,530 cf

Plug-Flow detention time= 27.7 min calculated for 51,314 cf (93% of inflow)
Center-of-Mass det. time= 27.3 min (40.8 - 13.5)

Volume	Invert	Avail.Storage	Storage Description
#1	382.00'	64,856 cf	**Custom Stage Data** Listed below

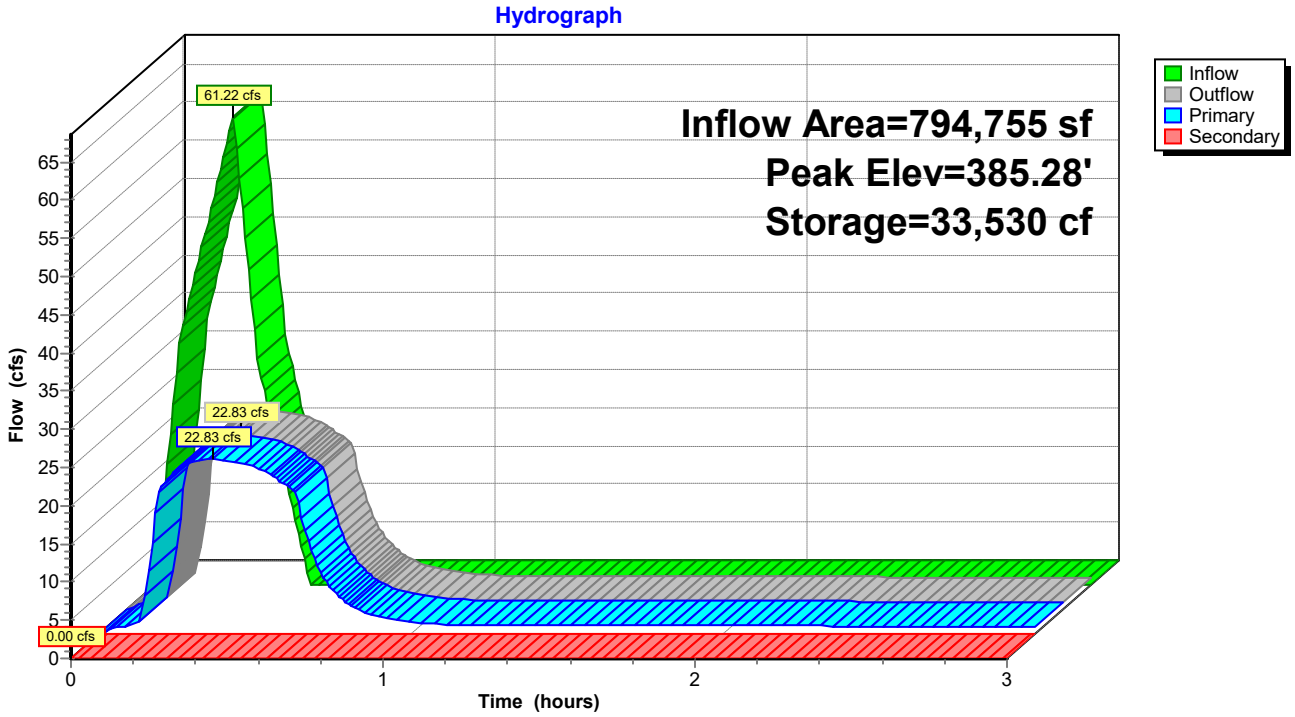
Elevation (feet)	Cum.Store (cubic-feet)
382.00	0
383.00	1,686
384.00	11,045
385.00	25,746
386.00	53,764
387.00	64,856

Device	Routing	Invert	Outlet Devices
#1	Primary	382.00'	**24.0" Round RCP_Round 24"** L= 20.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 382.00' / 381.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Secondary	386.50'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	384.00'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	382.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

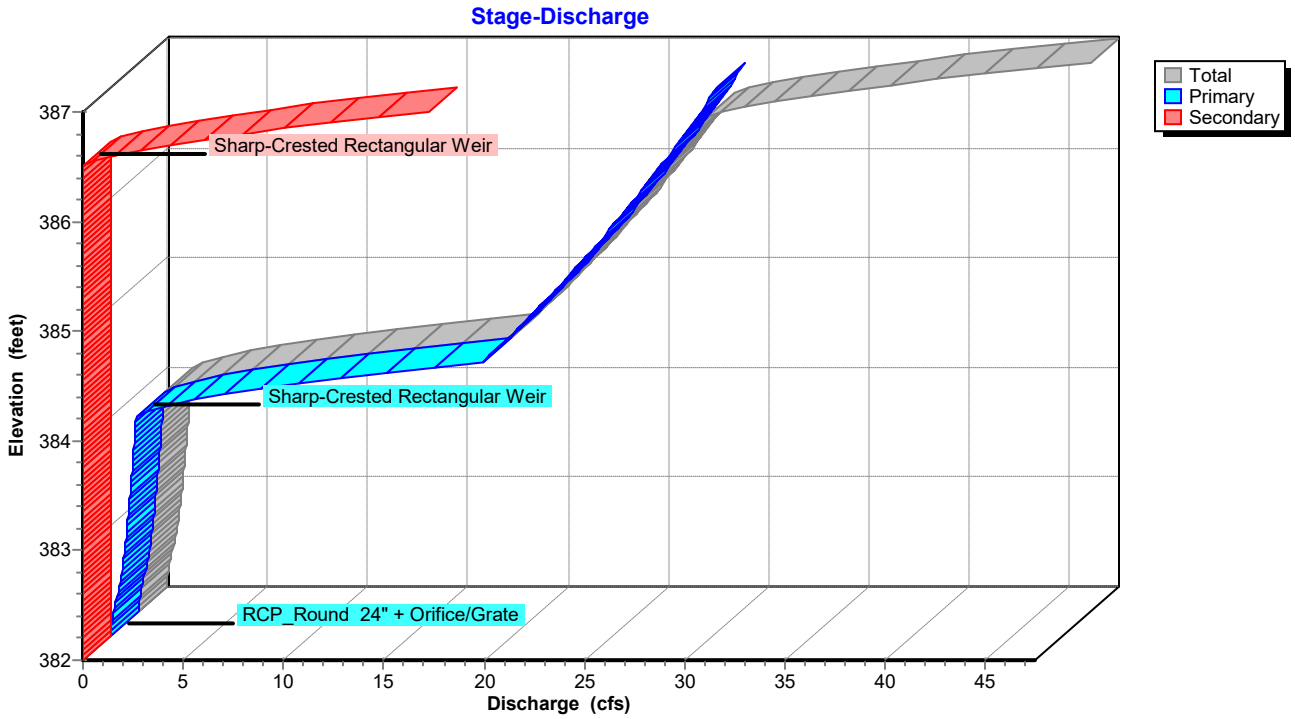
Primary OutFlow Max=22.83 cfs @ 0.37 hrs HW=385.28' (Free Discharge)
└**1=RCP_Round 24"** (Inlet Controls 22.83 cfs @ 7.27 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes < 69.62 cfs potential flow)
└**4=Orifice/Grate** (Passes < 1.65 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=382.00' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Regional Detention Basin



Pond 1P: Regional Detention Basin



Stage-Area-Storage for Pond 1P: Regional Detention Basin

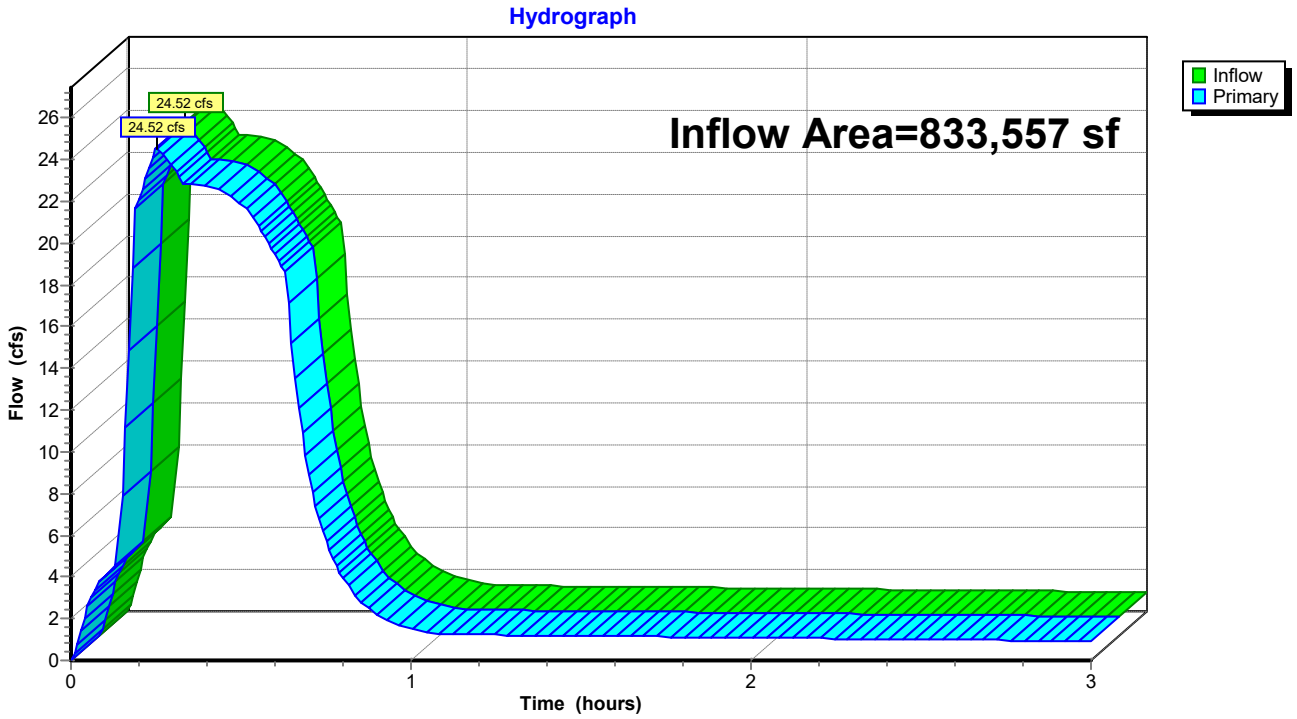
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
382.00	0	384.60	19,866
382.05	84	384.65	20,601
382.10	169	384.70	21,336
382.15	253	384.75	22,071
382.20	337	384.80	22,806
382.25	422	384.85	23,541
382.30	506	384.90	24,276
382.35	590	384.95	25,011
382.40	674	385.00	25,746
382.45	759	385.05	27,147
382.50	843	385.10	28,548
382.55	927	385.15	29,949
382.60	1,012	385.20	31,350
382.65	1,096	385.25	32,751
382.70	1,180	385.30	34,151
382.75	1,265	385.35	35,552
382.80	1,349	385.40	36,953
382.85	1,433	385.45	38,354
382.90	1,517	385.50	39,755
382.95	1,602	385.55	41,156
383.00	1,686	385.60	42,557
383.05	2,154	385.65	43,958
383.10	2,622	385.70	45,359
383.15	3,090	385.75	46,760
383.20	3,558	385.80	48,160
383.25	4,026	385.85	49,561
383.30	4,494	385.90	50,962
383.35	4,962	385.95	52,363
383.40	5,430	386.00	53,764
383.45	5,898	386.05	54,319
383.50	6,366	386.10	54,873
383.55	6,833	386.15	55,428
383.60	7,301	386.20	55,982
383.65	7,769	386.25	56,537
383.70	8,237	386.30	57,092
383.75	8,705	386.35	57,646
383.80	9,173	386.40	58,201
383.85	9,641	386.45	58,755
383.90	10,109	386.50	59,310
383.95	10,577	386.55	59,865
384.00	11,045	386.60	60,419
384.05	11,780	386.65	60,974
384.10	12,515	386.70	61,528
384.15	13,250	386.75	62,083
384.20	13,985	386.80	62,638
384.25	14,720	386.85	63,192
384.30	15,455	386.90	63,747
384.35	16,190	386.95	64,301
384.40	16,925	387.00	**64,856**
384.45	17,660		
384.50	18,396		
384.55	19,131		

Summary for Link Post: Post Development

Inflow Area = 833,557 sf, 83.14% Impervious, Inflow Depth > 0.78" for 2-yr event
Inflow = 24.52 cfs @ 0.25 hrs, Volume= 54,147 cf
Primary = 24.52 cfs @ 0.25 hrs, Volume= 54,147 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Post: Post Development



Summary for Subcatchment DB-B1: Drainage Basin B1

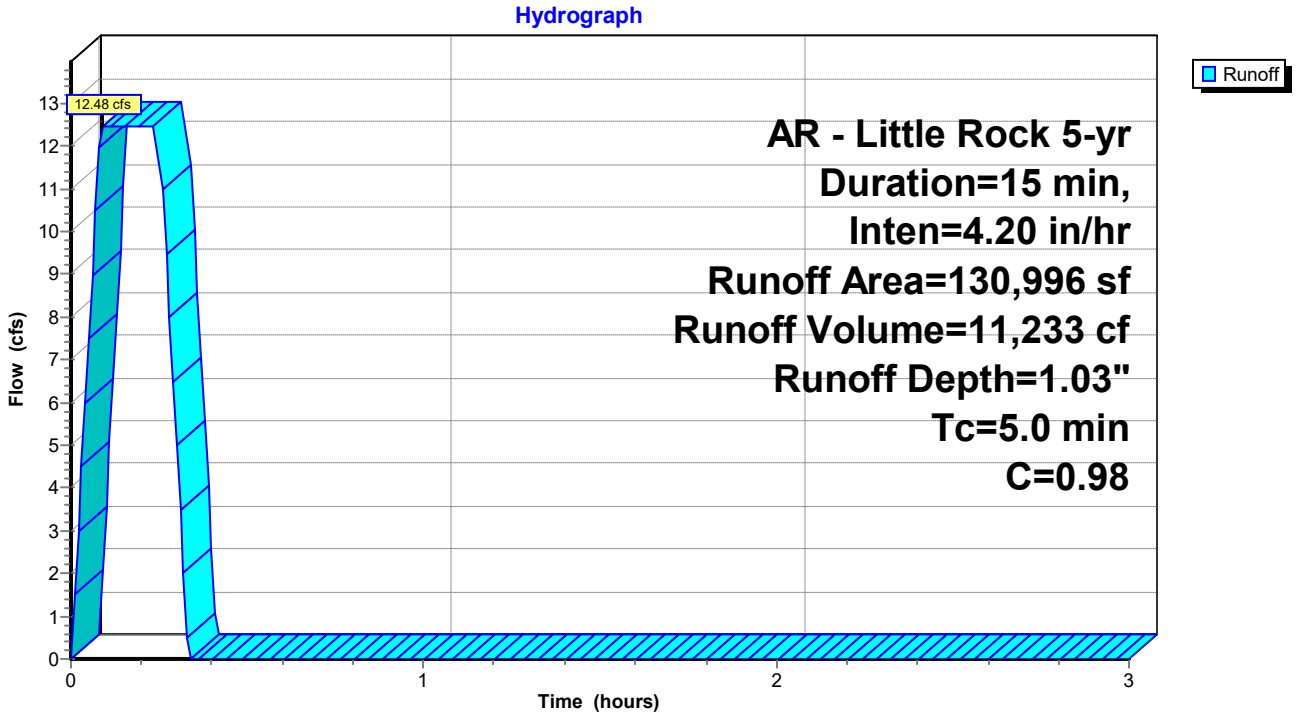
Runoff = 12.48 cfs @ 0.09 hrs, Volume= 11,233 cf, Depth= 1.03"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
130,996	0.98	
130,996		100.00% Impervious Area

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

Subcatchment DB-B1: Drainage Basin B1



Summary for Subcatchment DB-B2: Drainage Basin B2

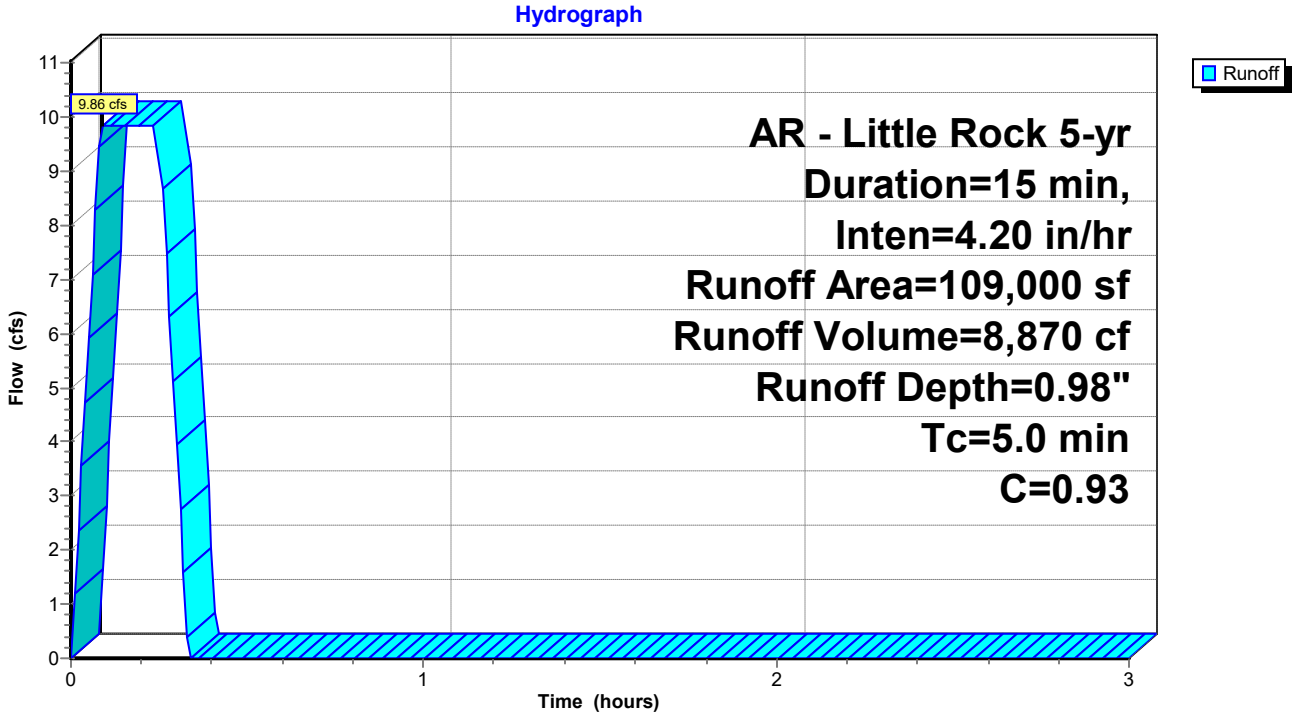
Runoff = 9.86 cfs @ 0.09 hrs, Volume= 8,870 cf, Depth= 0.98"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
87,200	0.98	
21,800	0.74	
109,000	0.93	Weighted Average
21,800		20.00% Pervious Area
87,200		80.00% Impervious Area

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

Subcatchment DB-B2: Drainage Basin B2



Summary for Subcatchment DB-B3: Drainage Basin B3

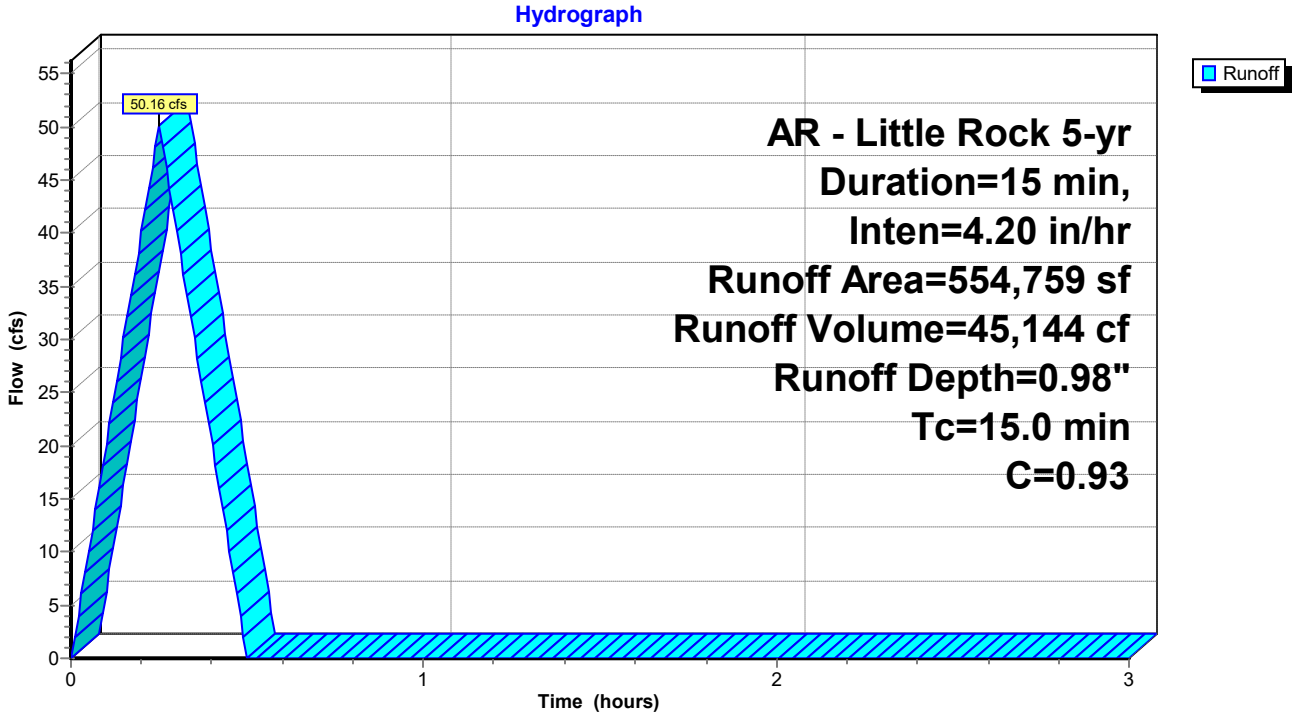
Runoff = 50.16 cfs @ 0.25 hrs, Volume= 45,144 cf, Depth= 0.98"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
443,807	0.98	
110,952	0.74	
554,759	0.93	Weighted Average
110,952		20.00% Pervious Area
443,807		80.00% Impervious Area

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

Subcatchment DB-B3: Drainage Basin B3



Summary for Subcatchment DB-B4: Drainage Basin B4

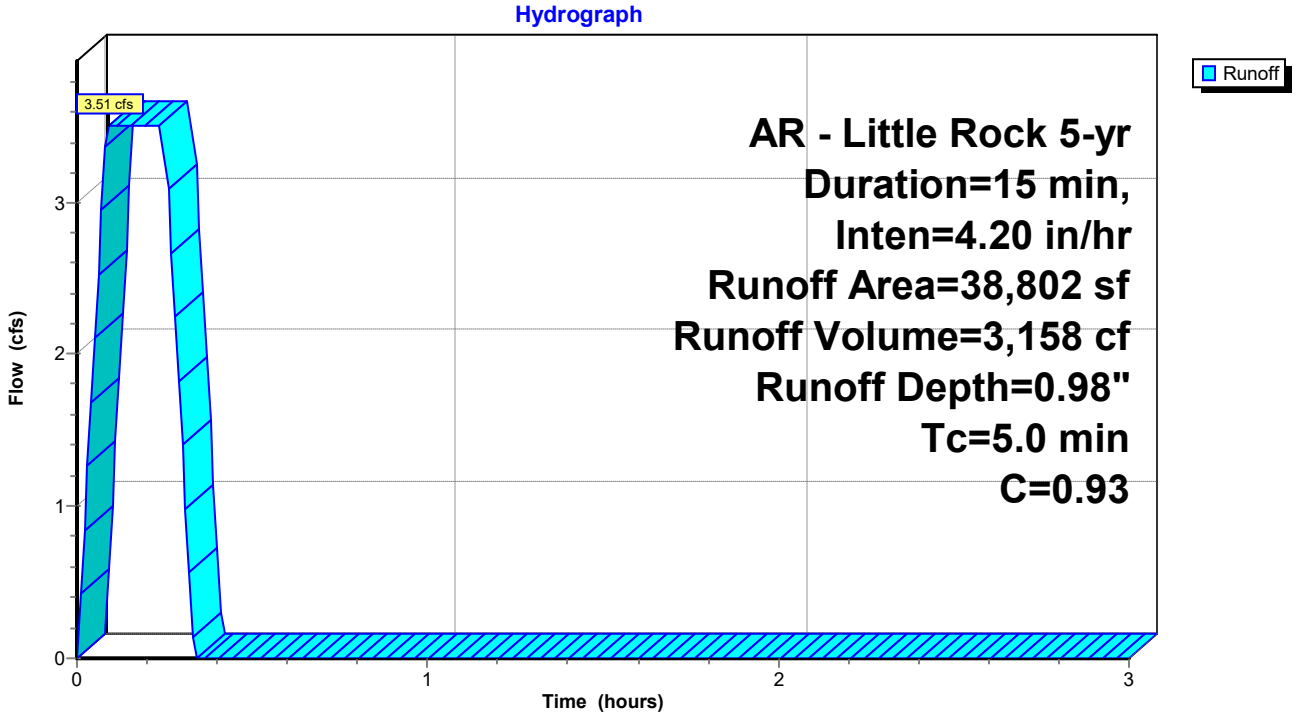
Runoff = 3.51 cfs @ 0.09 hrs, Volume= 3,158 cf, Depth= 0.98"
Routed to Link Post : Post Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 5-yr Duration=15 min, Inten=4.20 in/hr

Area (sf)	C	Description
31,042	0.98	
7,760	0.74	
38,802	0.93	Weighted Average
7,760		20.00% Pervious Area
31,042		80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 15**

Subcatchment DB-B4: Drainage Basin B4



Summary for Pond 1P: Regional Detention Basin

Inflow Area = 794,755 sf, 83.30% Impervious, Inflow Depth = 0.99" for 5-yr event
Inflow = 72.63 cfs @ 0.25 hrs, Volume= 65,246 cf
Outflow = 24.13 cfs @ 0.38 hrs, Volume= 61,419 cf, Atten= 67%, Lag= 7.9 min
Primary = 24.13 cfs @ 0.38 hrs, Volume= 61,419 cf
Routed to Link Post : Post Development
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link Post : Post Development

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 385.54' @ 0.38 hrs Storage= 41,013 cf

Plug-Flow detention time= 27.2 min calculated for 61,215 cf (94% of inflow)
Center-of-Mass det. time= 26.9 min (40.3 - 13.5)

Volume	Invert	Avail.Storage	Storage Description
#1	382.00'	64,856 cf	**Custom Stage Data** Listed below

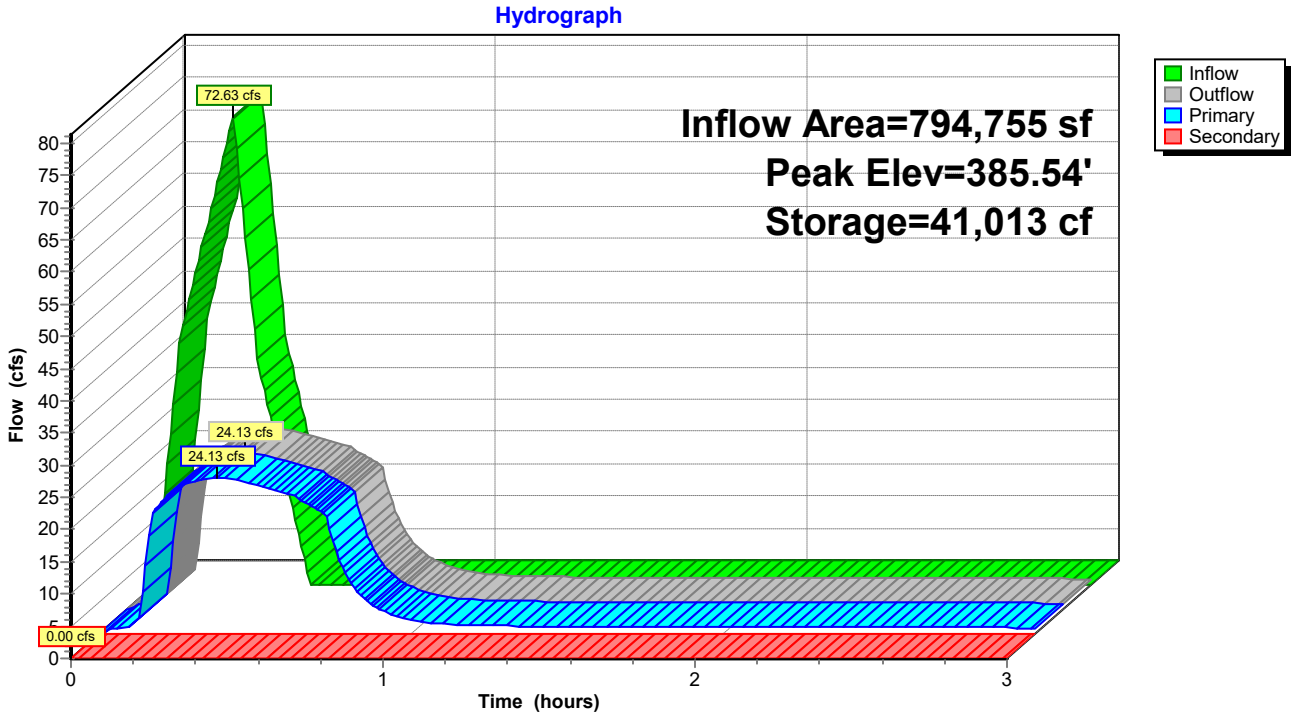
Elevation (feet)	Cum.Store (cubic-feet)
382.00	0
383.00	1,686
384.00	11,045
385.00	25,746
386.00	53,764
387.00	64,856

Device	Routing	Invert	Outlet Devices
#1	Primary	382.00'	**24.0" Round RCP_Round 24"** L= 20.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 382.00' / 381.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Secondary	386.50'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	384.00'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	382.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

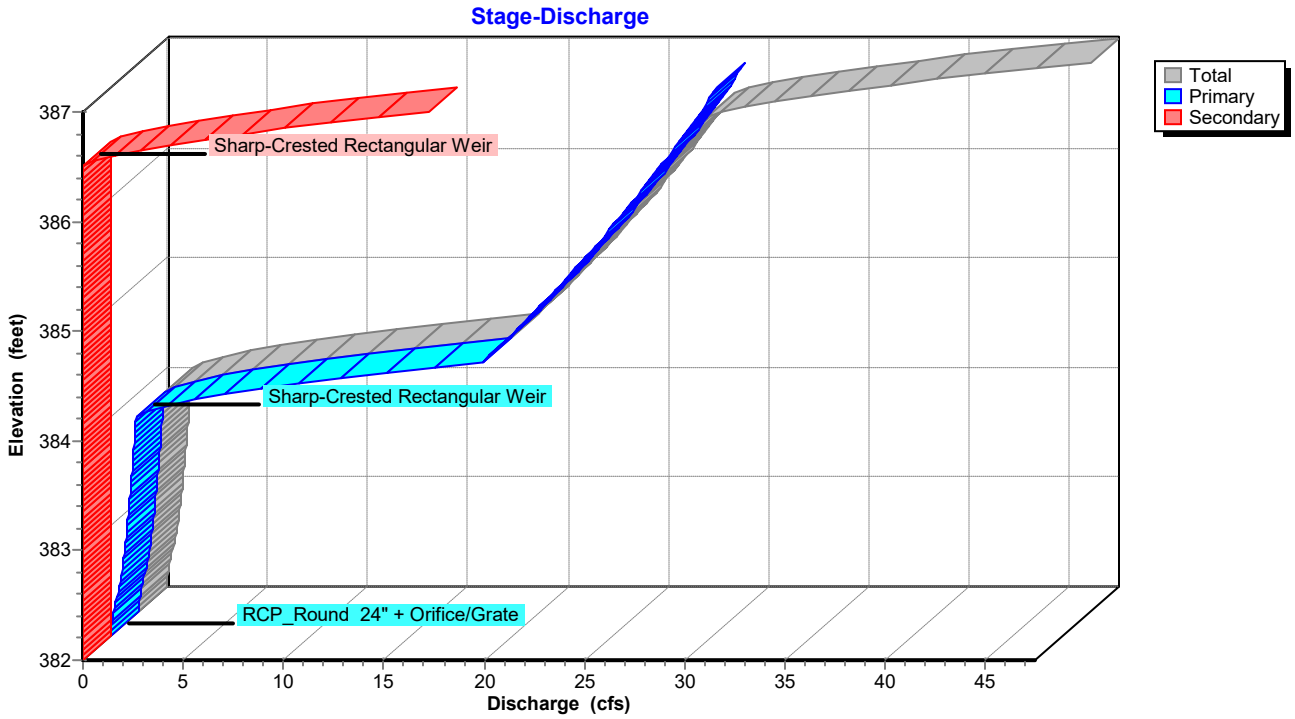
Primary OutFlow Max=24.13 cfs @ 0.38 hrs HW=385.54' (Free Discharge)
└**1=RCP_Round 24"** (Inlet Controls 24.13 cfs @ 7.68 fps)
└**3=Sharp-Crested Rectangular Weir** (Passes < 92.24 cfs potential flow)
└**4=Orifice/Grate** (Passes < 1.72 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=382.00' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Regional Detention Basin



Pond 1P: Regional Detention Basin



Stage-Area-Storage for Pond 1P: Regional Detention Basin

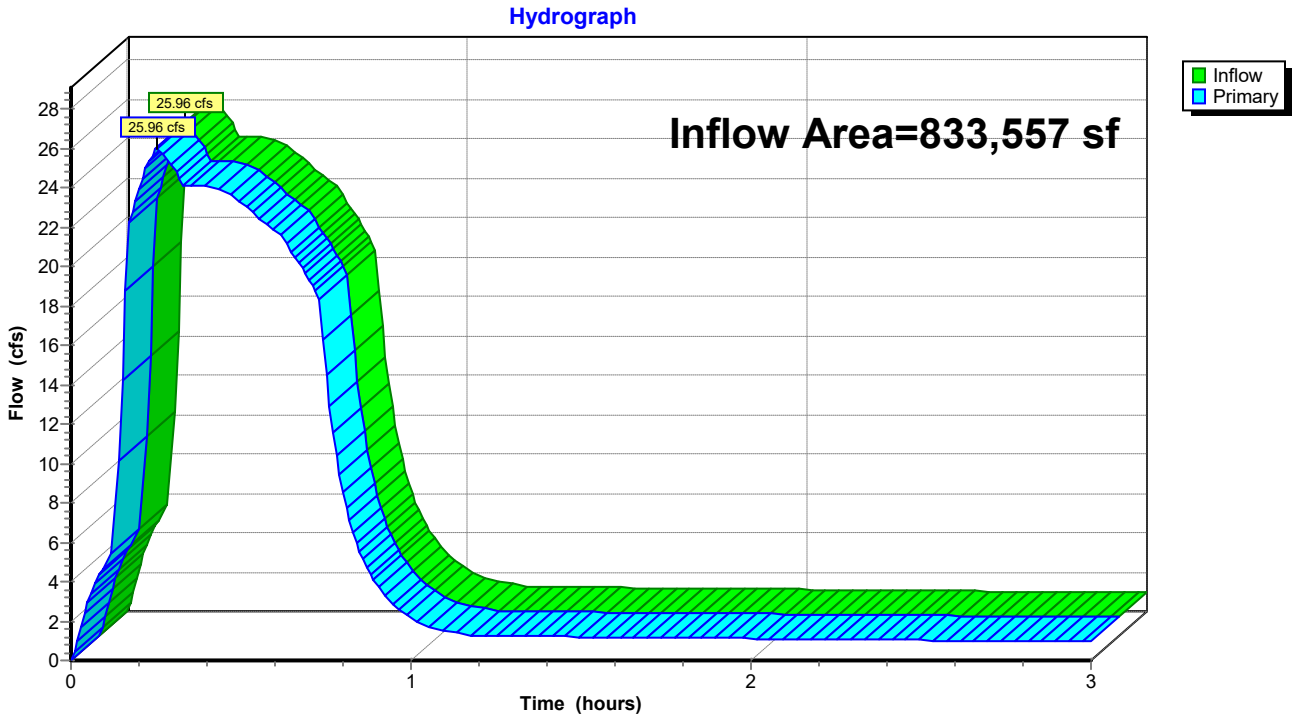
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
382.00	0	384.60	19,866
382.05	84	384.65	20,601
382.10	169	384.70	21,336
382.15	253	384.75	22,071
382.20	337	384.80	22,806
382.25	422	384.85	23,541
382.30	506	384.90	24,276
382.35	590	384.95	25,011
382.40	674	385.00	25,746
382.45	759	385.05	27,147
382.50	843	385.10	28,548
382.55	927	385.15	29,949
382.60	1,012	385.20	31,350
382.65	1,096	385.25	32,751
382.70	1,180	385.30	34,151
382.75	1,265	385.35	35,552
382.80	1,349	385.40	36,953
382.85	1,433	385.45	38,354
382.90	1,517	385.50	39,755
382.95	1,602	385.55	41,156
383.00	1,686	385.60	42,557
383.05	2,154	385.65	43,958
383.10	2,622	385.70	45,359
383.15	3,090	385.75	46,760
383.20	3,558	385.80	48,160
383.25	4,026	385.85	49,561
383.30	4,494	385.90	50,962
383.35	4,962	385.95	52,363
383.40	5,430	386.00	53,764
383.45	5,898	386.05	54,319
383.50	6,366	386.10	54,873
383.55	6,833	386.15	55,428
383.60	7,301	386.20	55,982
383.65	7,769	386.25	56,537
383.70	8,237	386.30	57,092
383.75	8,705	386.35	57,646
383.80	9,173	386.40	58,201
383.85	9,641	386.45	58,755
383.90	10,109	386.50	59,310
383.95	10,577	386.55	59,865
384.00	11,045	386.60	60,419
384.05	11,780	386.65	60,974
384.10	12,515	386.70	61,528
384.15	13,250	386.75	62,083
384.20	13,985	386.80	62,638
384.25	14,720	386.85	63,192
384.30	15,455	386.90	63,747
384.35	16,190	386.95	64,301
384.40	16,925	387.00	**64,856**
384.45	17,660		
384.50	18,396		
384.55	19,131		

Summary for Link Post: Post Development

Inflow Area = 833,557 sf, 83.14% Impervious, Inflow Depth > 0.93" for 5-yr event
Inflow = 25.96 cfs @ 0.25 hrs, Volume= 64,577 cf
Primary = 25.96 cfs @ 0.25 hrs, Volume= 64,577 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Post: Post Development



Summary for Subcatchment DB-B1: Drainage Basin B1

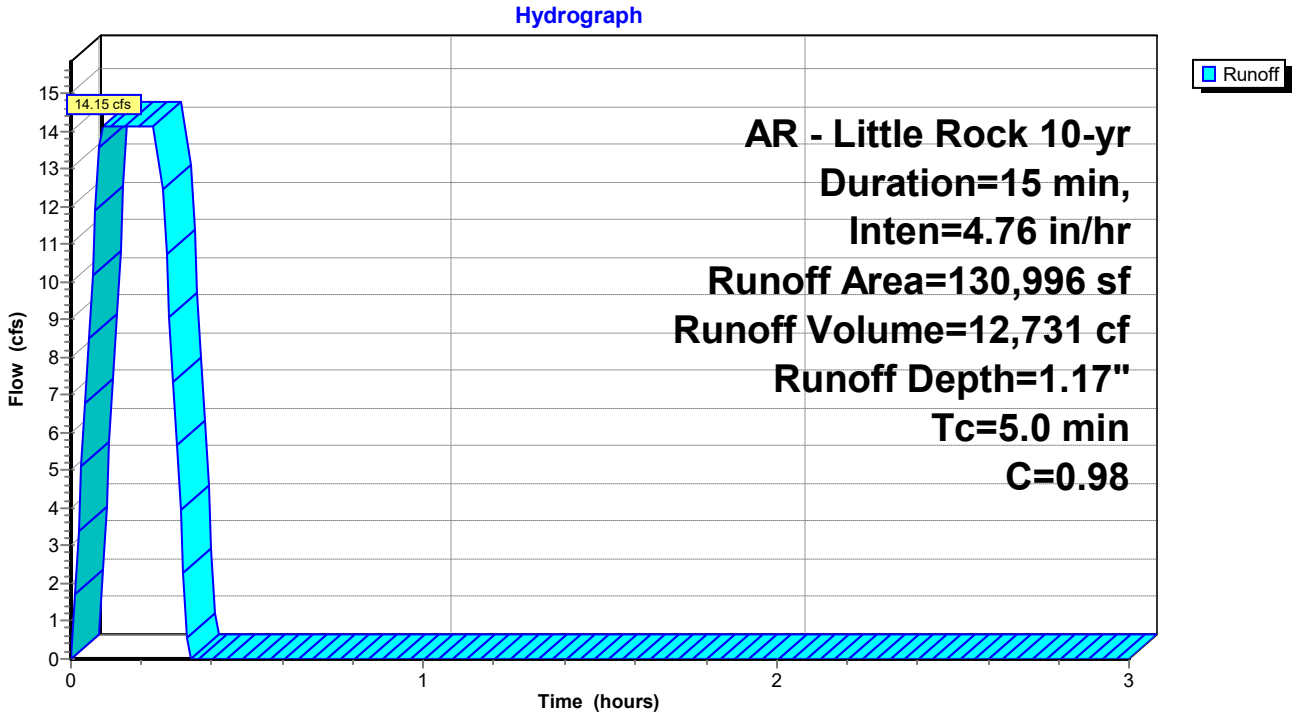
Runoff = 14.15 cfs @ 0.09 hrs, Volume= 12,731 cf, Depth= 1.17"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
130,996	0.98	
130,996		100.00% Impervious Area

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

Subcatchment DB-B1: Drainage Basin B1



Summary for Subcatchment DB-B2: Drainage Basin B2

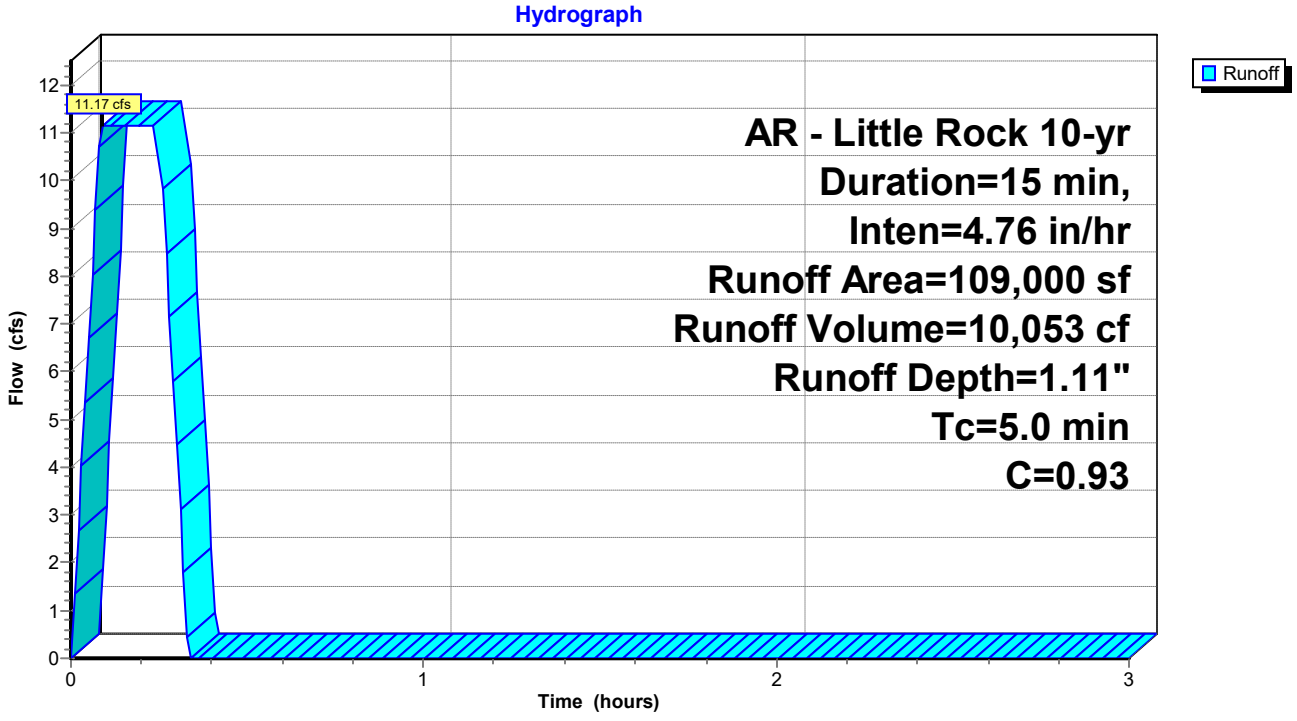
Runoff = 11.17 cfs @ 0.09 hrs, Volume= 10,053 cf, Depth= 1.11"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
87,200	0.98	
21,800	0.74	
109,000	0.93	Weighted Average
21,800		20.00% Pervious Area
87,200		80.00% Impervious Area

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

Subcatchment DB-B2: Drainage Basin B2



Summary for Subcatchment DB-B3: Drainage Basin B3

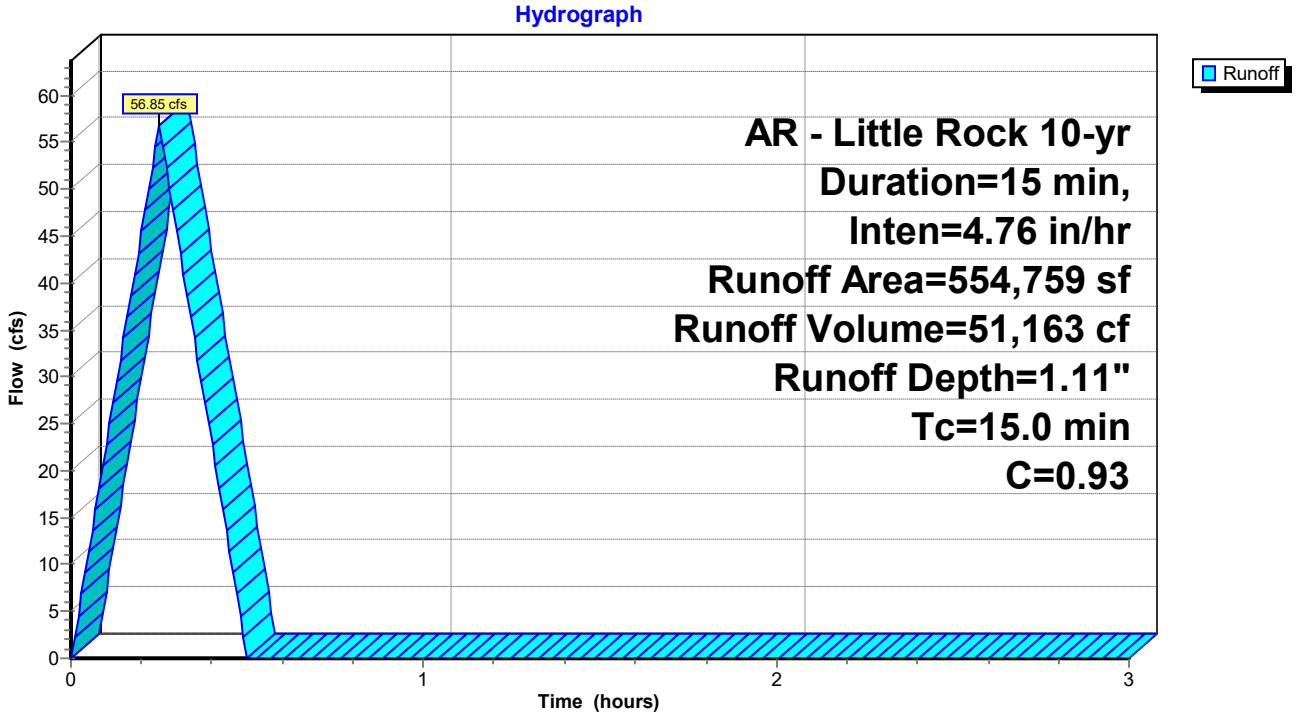
Runoff = 56.85 cfs @ 0.25 hrs, Volume= 51,163 cf, Depth= 1.11"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
443,807	0.98	
110,952	0.74	
554,759	0.93	Weighted Average
110,952		20.00% Pervious Area
443,807		80.00% Impervious Area

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

Subcatchment DB-B3: Drainage Basin B3



Summary for Subcatchment DB-B4: Drainage Basin B4

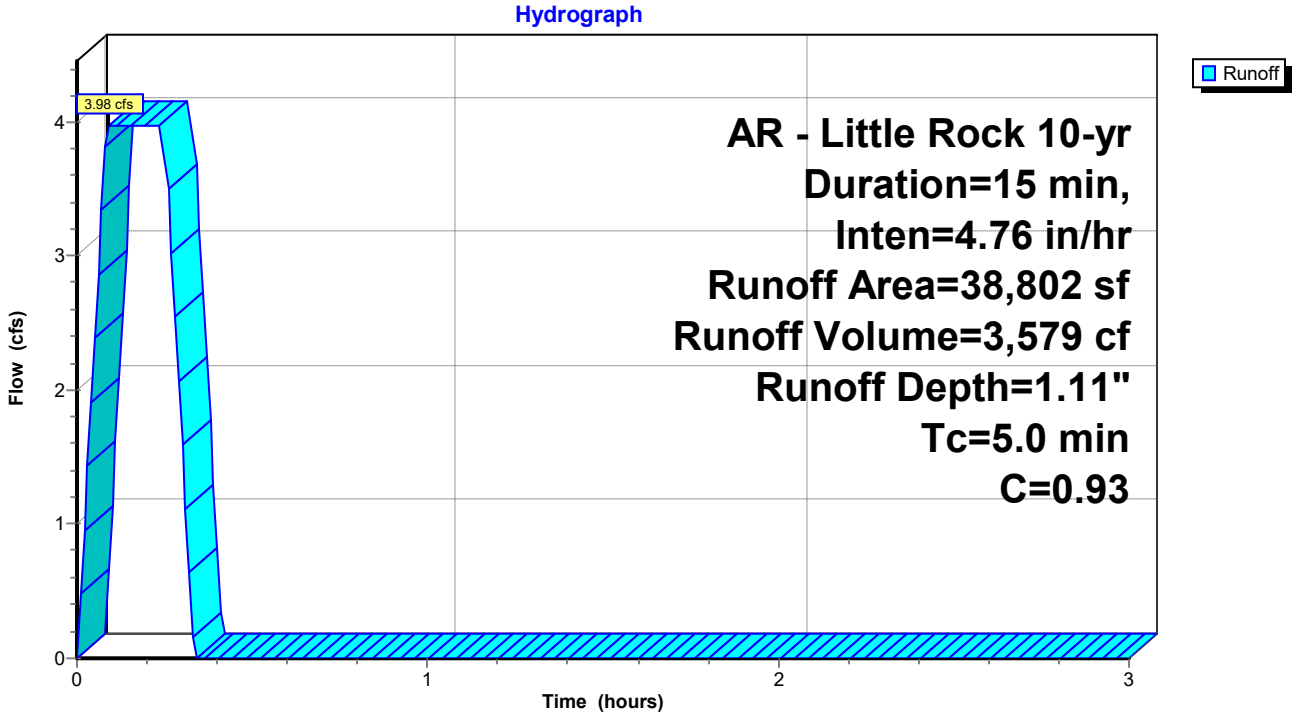
Runoff = 3.98 cfs @ 0.09 hrs, Volume= 3,579 cf, Depth= 1.11"
Routed to Link Post : Post Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 10-yr Duration=15 min, Inten=4.76 in/hr

Area (sf)	C	Description
31,042	0.98	
7,760	0.74	
38,802	0.93	Weighted Average
7,760		20.00% Pervious Area
31,042		80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 15**

Subcatchment DB-B4: Drainage Basin B4



Summary for Pond 1P: Regional Detention Basin

Inflow Area = 794,755 sf, 83.30% Impervious, Inflow Depth = 1.12" for 10-yr event
Inflow = 82.31 cfs @ 0.25 hrs, Volume= 73,946 cf
Outflow = 25.23 cfs @ 0.39 hrs, Volume= 69,849 cf, Atten= 69%, Lag= 8.5 min
Primary = 25.23 cfs @ 0.39 hrs, Volume= 69,849 cf
Routed to Link Post : Post Development
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link Post : Post Development

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 385.78' @ 0.39 hrs Storage= 47,655 cf

Plug-Flow detention time= 27.4 min calculated for 69,617 cf (94% of inflow)
Center-of-Mass det. time= 27.1 min (40.5 - 13.5)

Volume	Invert	Avail.Storage	Storage Description
#1	382.00'	64,856 cf	**Custom Stage Data** Listed below

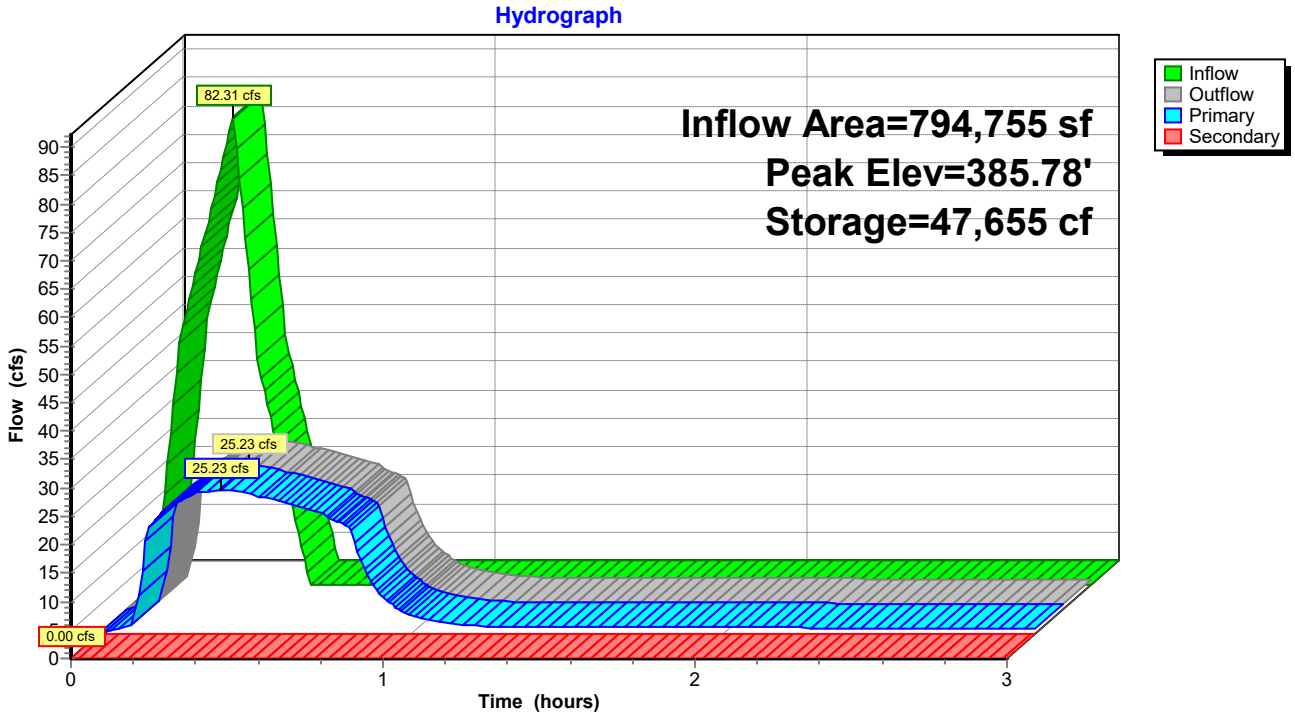
Elevation (feet)	Cum.Store (cubic-feet)
382.00	0
383.00	1,686
384.00	11,045
385.00	25,746
386.00	53,764
387.00	64,856

Device	Routing	Invert	Outlet Devices
#1	Primary	382.00'	**24.0" Round RCP_Round 24"** L= 20.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 382.00' / 381.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Secondary	386.50'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	384.00'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	382.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

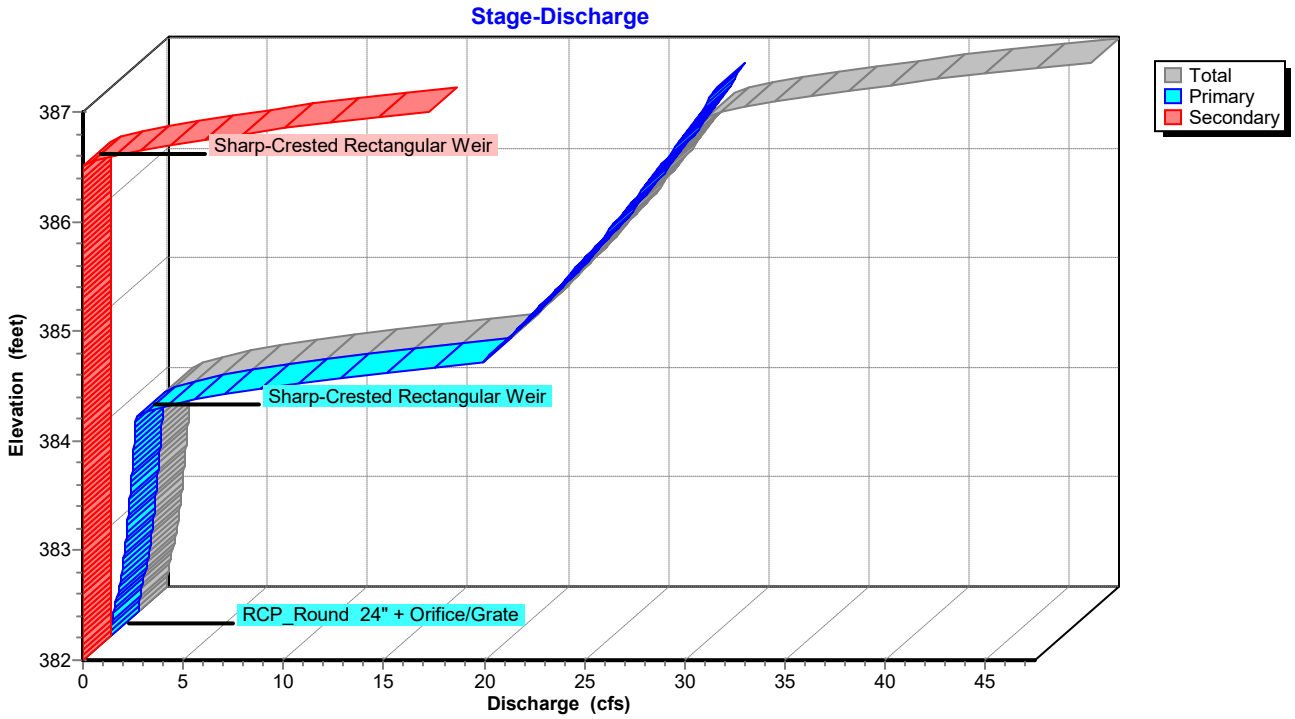
Primary OutFlow Max=25.23 cfs @ 0.39 hrs HW=385.78' (Free Discharge)
└**1=RCP_Round 24"** (Inlet Controls 25.23 cfs @ 8.03 fps)
  ├**3=Sharp-Crested Rectangular Weir** (Passes < 113.89 cfs potential flow)
  └**4=Orifice/Grate** (Passes < 1.78 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=382.00' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Regional Detention Basin



Pond 1P: Regional Detention Basin



Stage-Area-Storage for Pond 1P: Regional Detention Basin

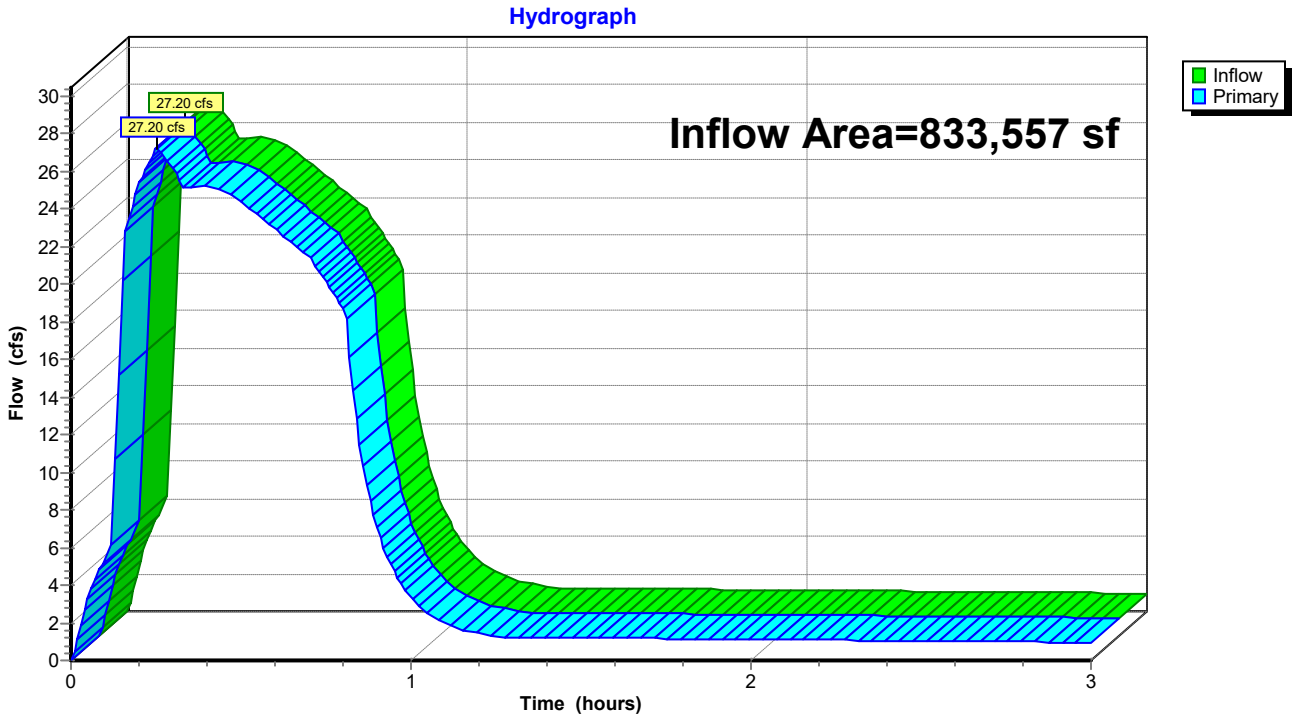
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
382.00	0	384.60	19,866
382.05	84	384.65	20,601
382.10	169	384.70	21,336
382.15	253	384.75	22,071
382.20	337	384.80	22,806
382.25	422	384.85	23,541
382.30	506	384.90	24,276
382.35	590	384.95	25,011
382.40	674	385.00	25,746
382.45	759	385.05	27,147
382.50	843	385.10	28,548
382.55	927	385.15	29,949
382.60	1,012	385.20	31,350
382.65	1,096	385.25	32,751
382.70	1,180	385.30	34,151
382.75	1,265	385.35	35,552
382.80	1,349	385.40	36,953
382.85	1,433	385.45	38,354
382.90	1,517	385.50	39,755
382.95	1,602	385.55	41,156
383.00	1,686	385.60	42,557
383.05	2,154	385.65	43,958
383.10	2,622	385.70	45,359
383.15	3,090	385.75	46,760
383.20	3,558	385.80	48,160
383.25	4,026	385.85	49,561
383.30	4,494	385.90	50,962
383.35	4,962	385.95	52,363
383.40	5,430	386.00	53,764
383.45	5,898	386.05	54,319
383.50	6,366	386.10	54,873
383.55	6,833	386.15	55,428
383.60	7,301	386.20	55,982
383.65	7,769	386.25	56,537
383.70	8,237	386.30	57,092
383.75	8,705	386.35	57,646
383.80	9,173	386.40	58,201
383.85	9,641	386.45	58,755
383.90	10,109	386.50	59,310
383.95	10,577	386.55	59,865
384.00	11,045	386.60	60,419
384.05	11,780	386.65	60,974
384.10	12,515	386.70	61,528
384.15	13,250	386.75	62,083
384.20	13,985	386.80	62,638
384.25	14,720	386.85	63,192
384.30	15,455	386.90	63,747
384.35	16,190	386.95	64,301
384.40	16,925	387.00	**64,856**
384.45	17,660		
384.50	18,396		
384.55	19,131		

Summary for Link Post: Post Development

Inflow Area = 833,557 sf, 83.14% Impervious, Inflow Depth > 1.06" for 10-yr event
Inflow = 27.20 cfs @ 0.25 hrs, Volume= 73,428 cf
Primary = 27.20 cfs @ 0.25 hrs, Volume= 73,428 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Post: Post Development



Summary for Subcatchment DB-B1: Drainage Basin B1

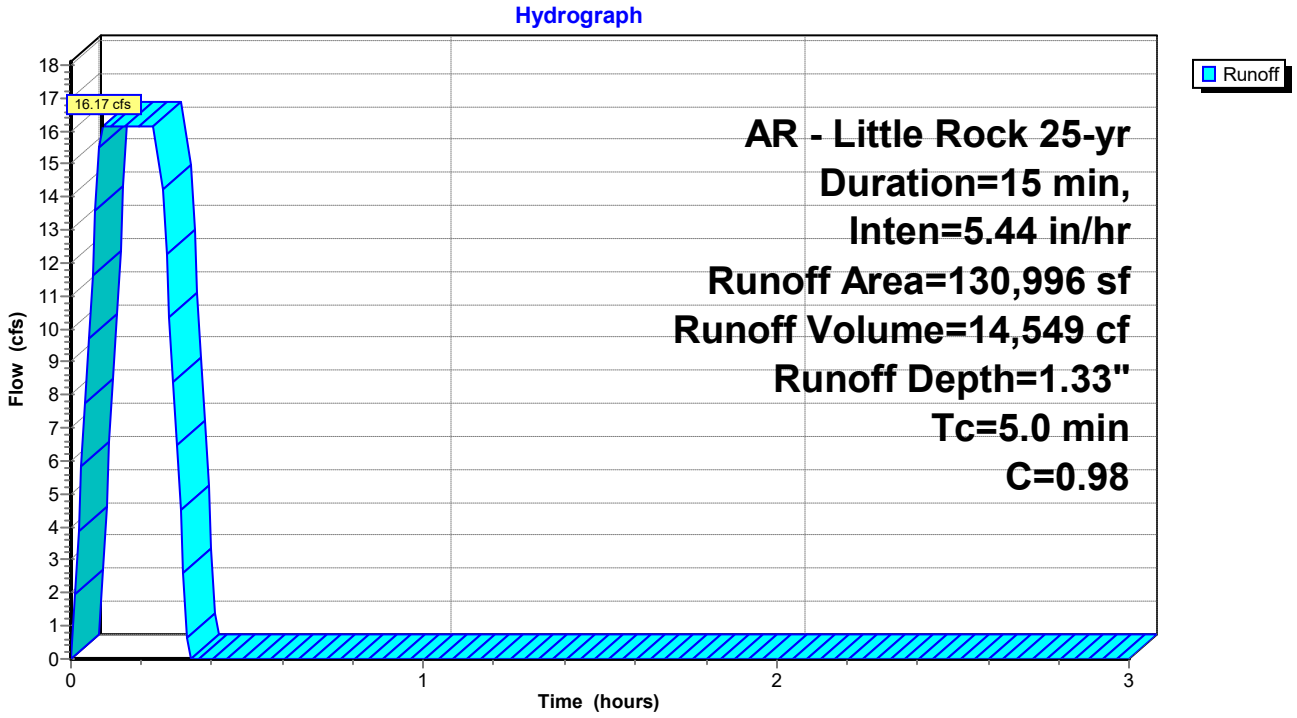
Runoff = 16.17 cfs @ 0.09 hrs, Volume= 14,549 cf, Depth= 1.33"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
130,996	0.98	
130,996		100.00% Impervious Area

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

Subcatchment DB-B1: Drainage Basin B1



Summary for Subcatchment DB-B2: Drainage Basin B2

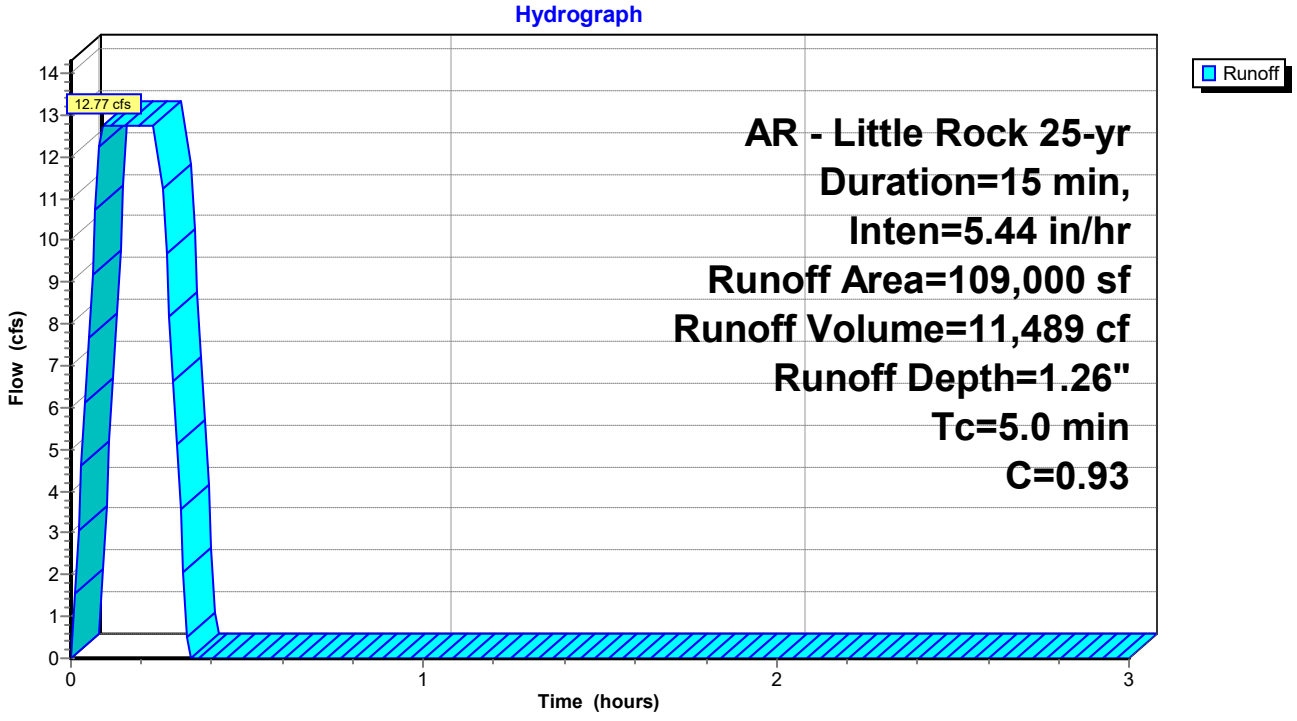
Runoff = 12.77 cfs @ 0.09 hrs, Volume= 11,489 cf, Depth= 1.26"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
87,200	0.98	
21,800	0.74	
109,000	0.93	Weighted Average
21,800		20.00% Pervious Area
87,200		80.00% Impervious Area

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

Subcatchment DB-B2: Drainage Basin B2



Summary for Subcatchment DB-B3: Drainage Basin B3

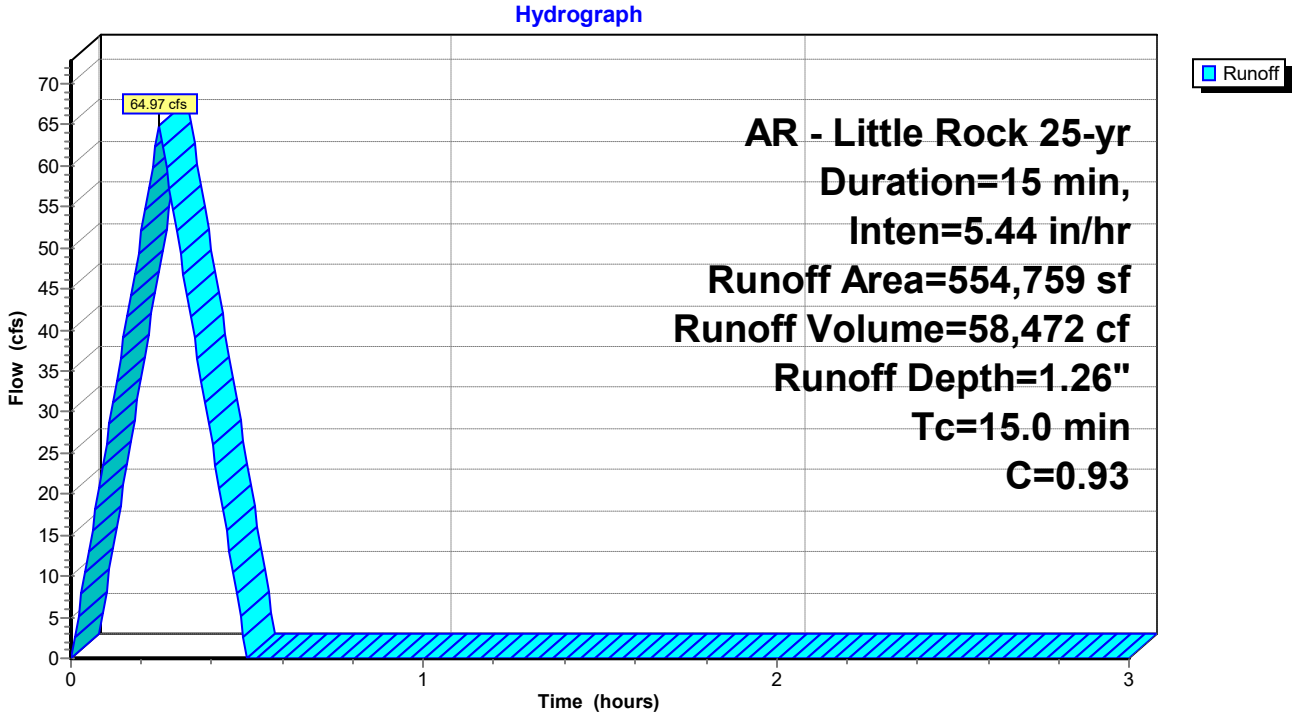
Runoff = 64.97 cfs @ 0.25 hrs, Volume= 58,472 cf, Depth= 1.26"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
443,807	0.98	
110,952	0.74	
554,759	0.93	Weighted Average
110,952		20.00% Pervious Area
443,807		80.00% Impervious Area

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

Subcatchment DB-B3: Drainage Basin B3



Summary for Subcatchment DB-B4: Drainage Basin B4

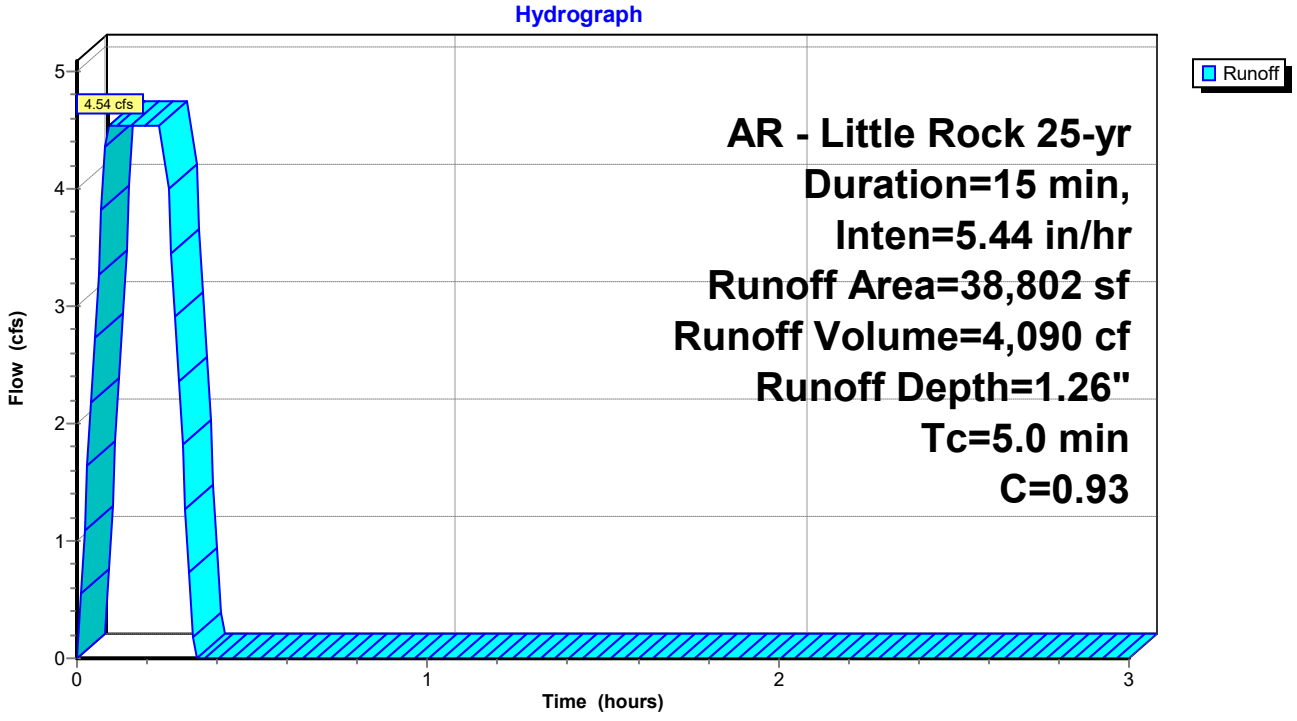
Runoff = 4.54 cfs @ 0.09 hrs, Volume= 4,090 cf, Depth= 1.26"
Routed to Link Post : Post Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 25-yr Duration=15 min, Inten=5.44 in/hr

Area (sf)	C	Description
31,042	0.98	
7,760	0.74	
38,802	0.93	Weighted Average
7,760		20.00% Pervious Area
31,042		80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 15**

Subcatchment DB-B4: Drainage Basin B4



Summary for Pond 1P: Regional Detention Basin

Inflow Area = 794,755 sf, 83.30% Impervious, Inflow Depth = 1.28" for 25-yr event
Inflow = 94.07 cfs @ 0.25 hrs, Volume= 84,509 cf
Outflow = 27.02 cfs @ 0.40 hrs, Volume= 80,097 cf, Atten= 71%, Lag= 8.9 min
Primary = 27.02 cfs @ 0.40 hrs, Volume= 80,097 cf
Routed to Link Post : Post Development
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link Post : Post Development

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 386.19' @ 0.40 hrs Storage= 55,881 cf

Plug-Flow detention time= 28.0 min calculated for 79,831 cf (94% of inflow)
Center-of-Mass det. time= 27.7 min (41.1 - 13.5)

Volume	Invert	Avail.Storage	Storage Description
#1	382.00'	64,856 cf	**Custom Stage Data** Listed below

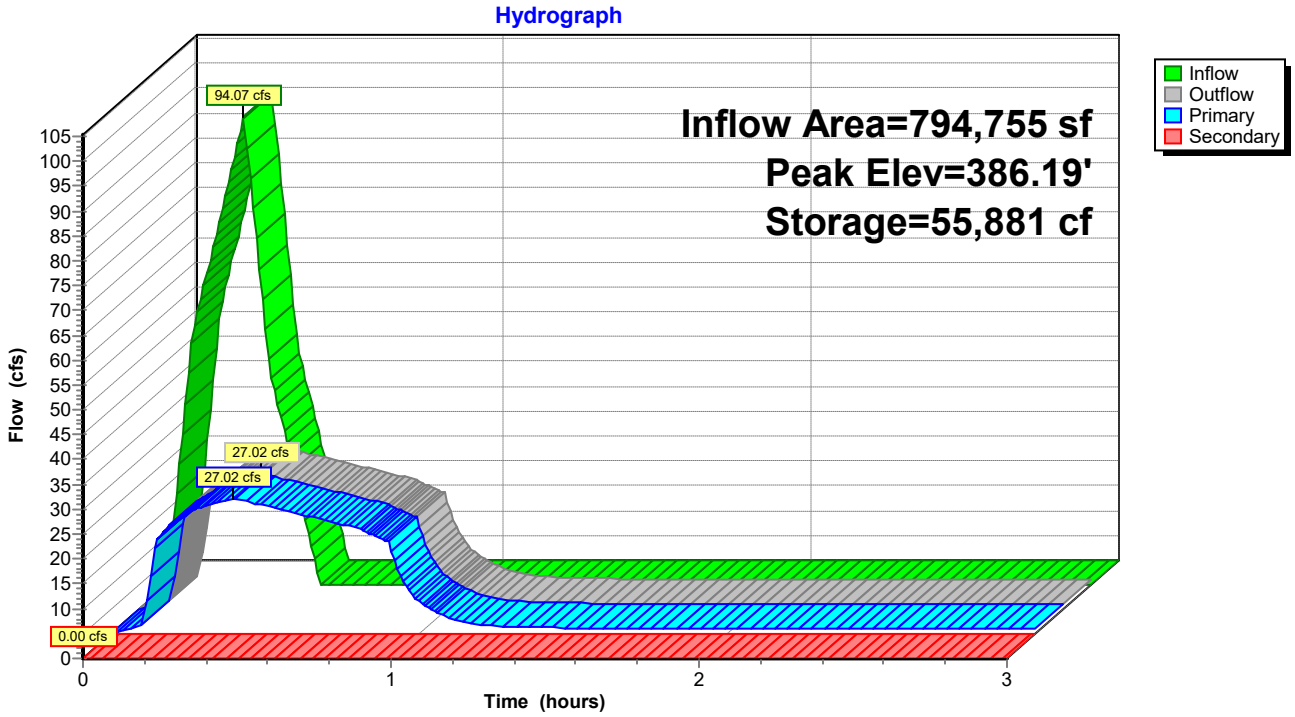
Elevation (feet)	Cum.Store (cubic-feet)
382.00	0
383.00	1,686
384.00	11,045
385.00	25,746
386.00	53,764
387.00	64,856

Device	Routing	Invert	Outlet Devices
#1	Primary	382.00'	**24.0" Round RCP_Round 24"** L= 20.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 382.00' / 381.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Secondary	386.50'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	384.00'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	382.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

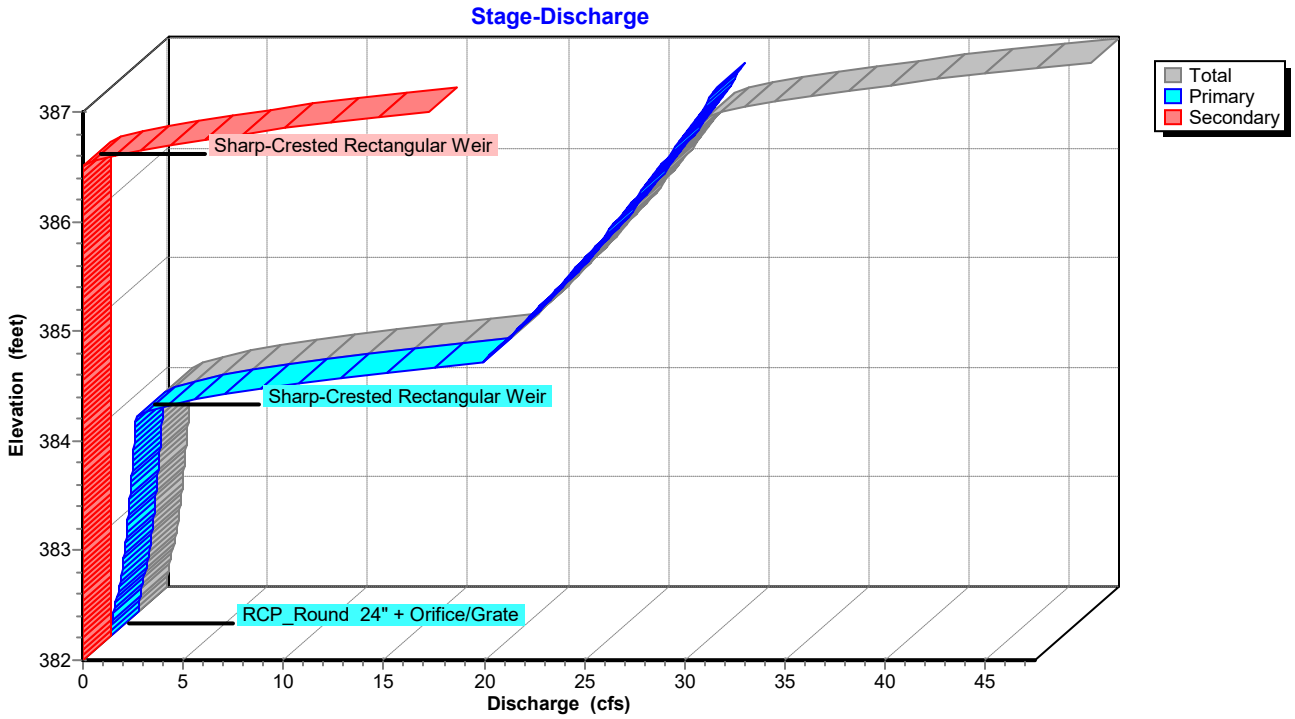
Primary OutFlow Max=27.02 cfs @ 0.40 hrs HW=386.19' (Free Discharge)
└**1=RCP_Round 24"** (Inlet Controls 27.02 cfs @ 8.60 fps)
├**3=Sharp-Crested Rectangular Weir** (Passes < 154.31 cfs potential flow)
└**4=Orifice/Grate** (Passes < 1.88 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=382.00' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Regional Detention Basin



Pond 1P: Regional Detention Basin



Stage-Area-Storage for Pond 1P: Regional Detention Basin

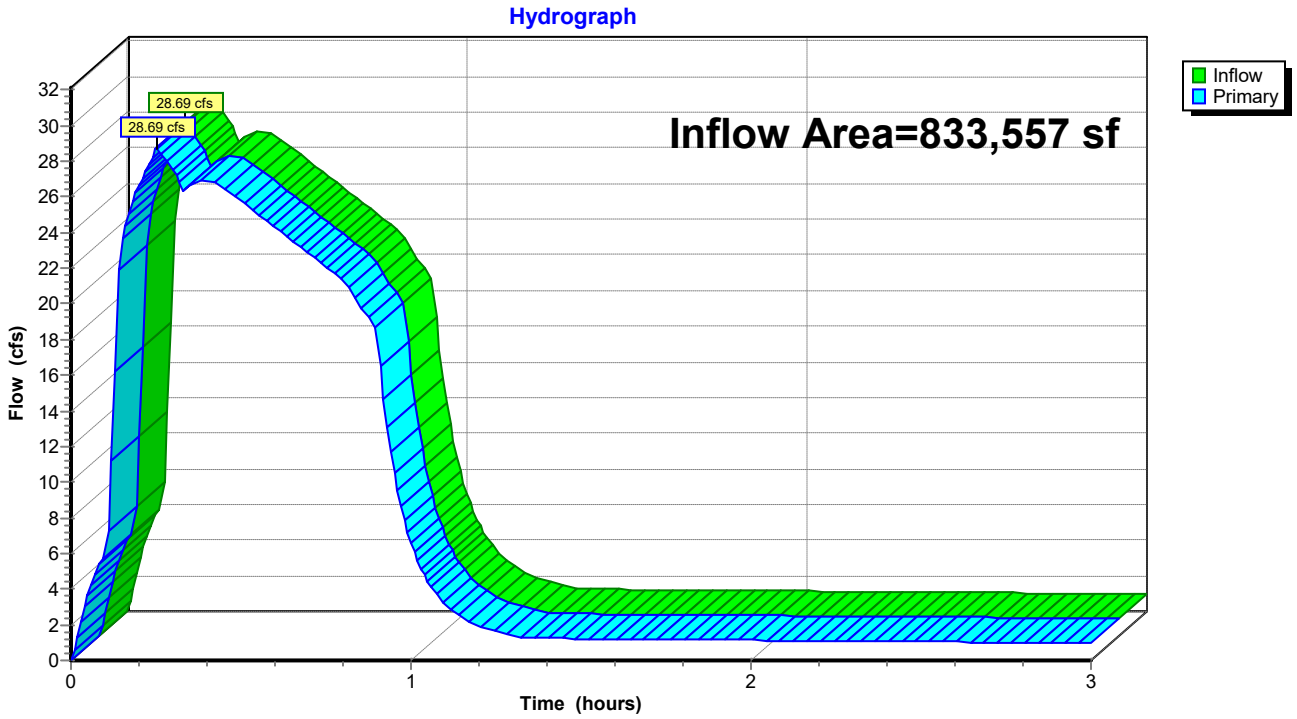
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
382.00	0	384.60	19,866
382.05	84	384.65	20,601
382.10	169	384.70	21,336
382.15	253	384.75	22,071
382.20	337	384.80	22,806
382.25	422	384.85	23,541
382.30	506	384.90	24,276
382.35	590	384.95	25,011
382.40	674	385.00	25,746
382.45	759	385.05	27,147
382.50	843	385.10	28,548
382.55	927	385.15	29,949
382.60	1,012	385.20	31,350
382.65	1,096	385.25	32,751
382.70	1,180	385.30	34,151
382.75	1,265	385.35	35,552
382.80	1,349	385.40	36,953
382.85	1,433	385.45	38,354
382.90	1,517	385.50	39,755
382.95	1,602	385.55	41,156
383.00	1,686	385.60	42,557
383.05	2,154	385.65	43,958
383.10	2,622	385.70	45,359
383.15	3,090	385.75	46,760
383.20	3,558	385.80	48,160
383.25	4,026	385.85	49,561
383.30	4,494	385.90	50,962
383.35	4,962	385.95	52,363
383.40	5,430	386.00	53,764
383.45	5,898	386.05	54,319
383.50	6,366	386.10	54,873
383.55	6,833	386.15	55,428
383.60	7,301	386.20	55,982
383.65	7,769	386.25	56,537
383.70	8,237	386.30	57,092
383.75	8,705	386.35	57,646
383.80	9,173	386.40	58,201
383.85	9,641	386.45	58,755
383.90	10,109	386.50	59,310
383.95	10,577	386.55	59,865
384.00	11,045	386.60	60,419
384.05	11,780	386.65	60,974
384.10	12,515	386.70	61,528
384.15	13,250	386.75	62,083
384.20	13,985	386.80	62,638
384.25	14,720	386.85	63,192
384.30	15,455	386.90	63,747
384.35	16,190	386.95	64,301
384.40	16,925	387.00	**64,856**
384.45	17,660		
384.50	18,396		
384.55	19,131		

Summary for Link Post: Post Development

Inflow Area = 833,557 sf, 83.14% Impervious, Inflow Depth > 1.21" for 25-yr event
Inflow = 28.69 cfs @ 0.25 hrs, Volume= 84,187 cf
Primary = 28.69 cfs @ 0.25 hrs, Volume= 84,187 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Post: Post Development



Summary for Subcatchment DB-B1: Drainage Basin B1

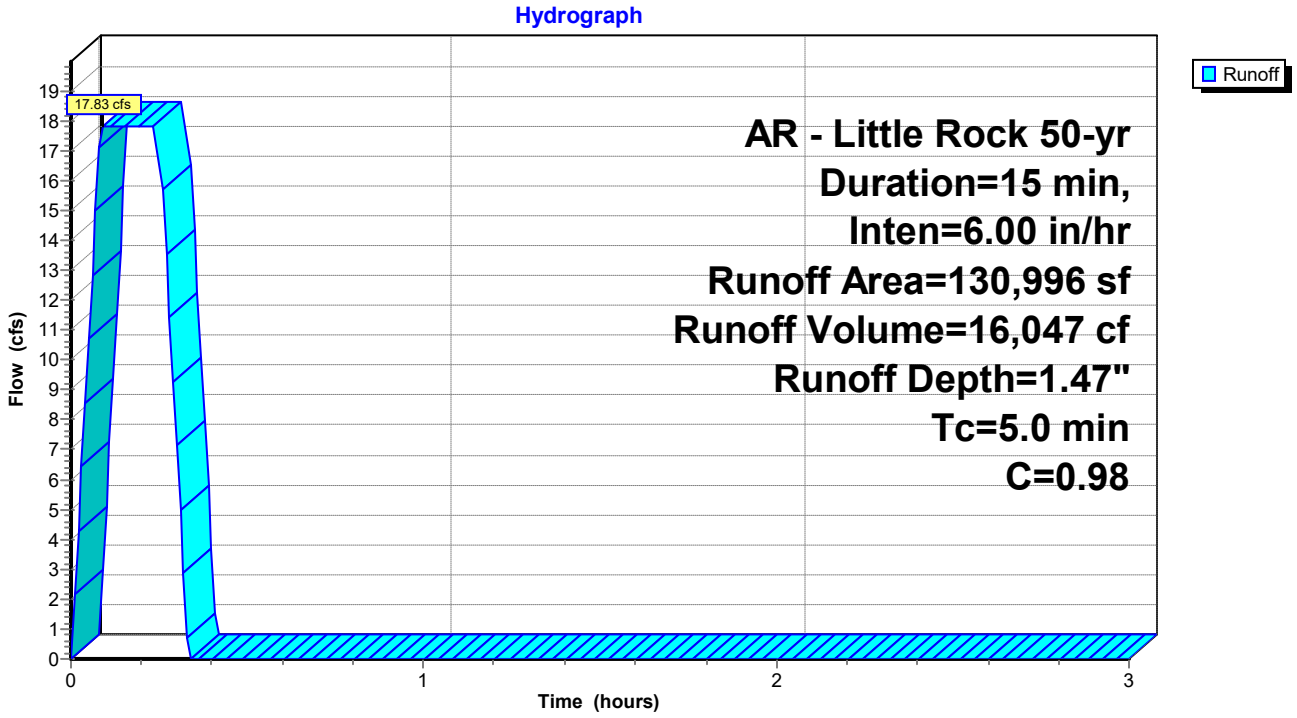
Runoff = 17.83 cfs @ 0.09 hrs, Volume= 16,047 cf, Depth= 1.47"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
130,996	0.98	
130,996		100.00% Impervious Area

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

Subcatchment DB-B1: Drainage Basin B1



Summary for Subcatchment DB-B2: Drainage Basin B2

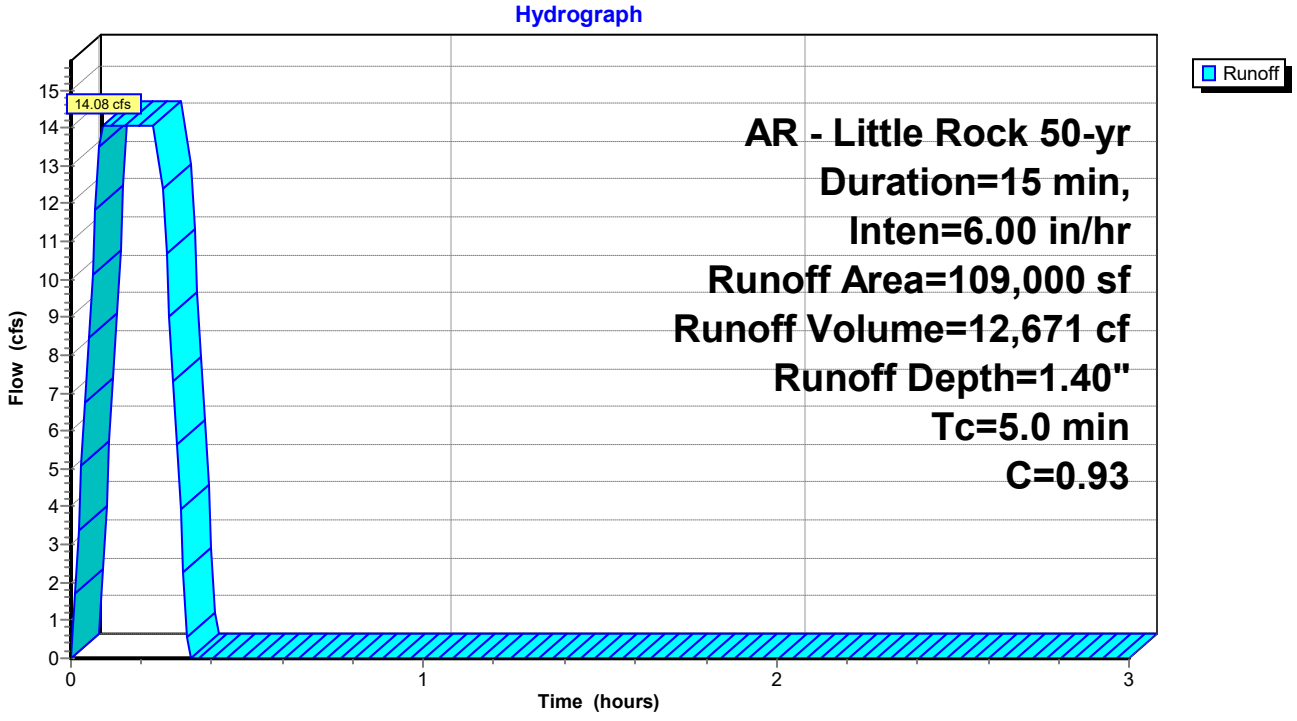
Runoff = 14.08 cfs @ 0.09 hrs, Volume= 12,671 cf, Depth= 1.40"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
87,200	0.98	
21,800	0.74	
109,000	0.93	Weighted Average
21,800		20.00% Pervious Area
87,200		80.00% Impervious Area

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

Subcatchment DB-B2: Drainage Basin B2



Summary for Subcatchment DB-B3: Drainage Basin B3

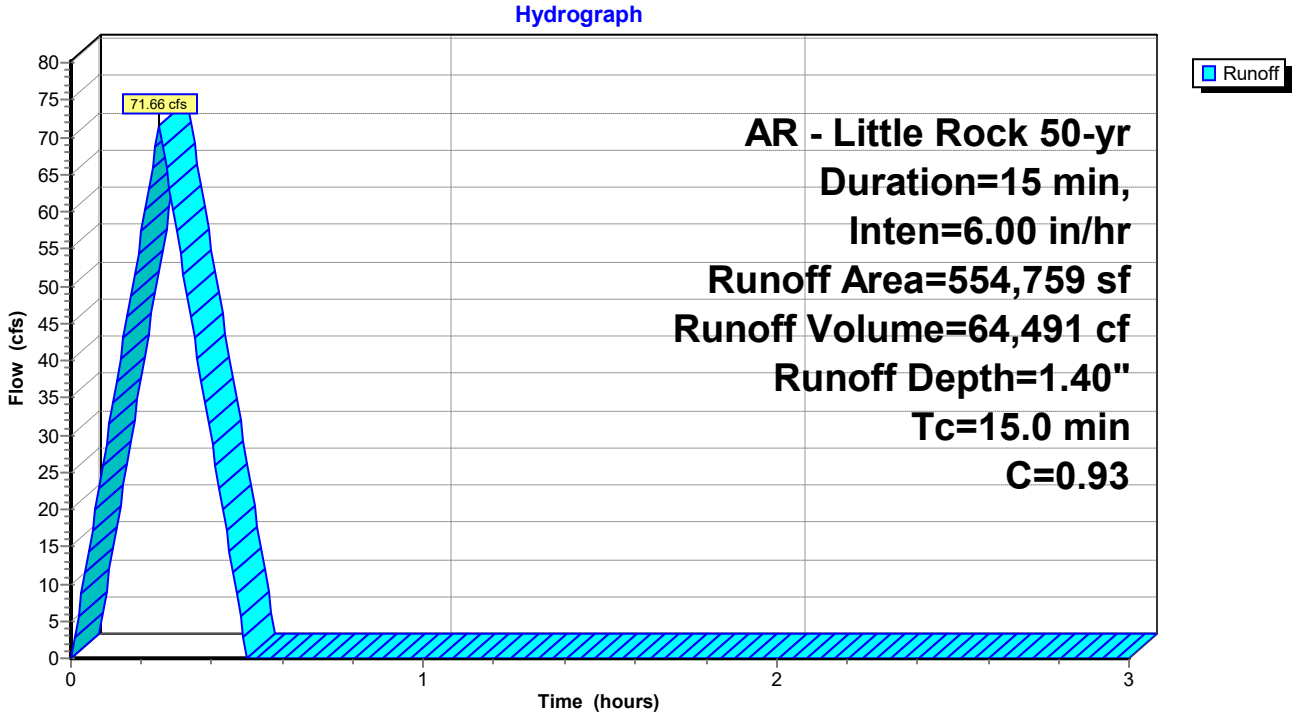
Runoff = 71.66 cfs @ 0.25 hrs, Volume= 64,491 cf, Depth= 1.40"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
443,807	0.98	
110,952	0.74	
554,759	0.93	Weighted Average
110,952		20.00% Pervious Area
443,807		80.00% Impervious Area

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

Subcatchment DB-B3: Drainage Basin B3



Summary for Subcatchment DB-B4: Drainage Basin B4

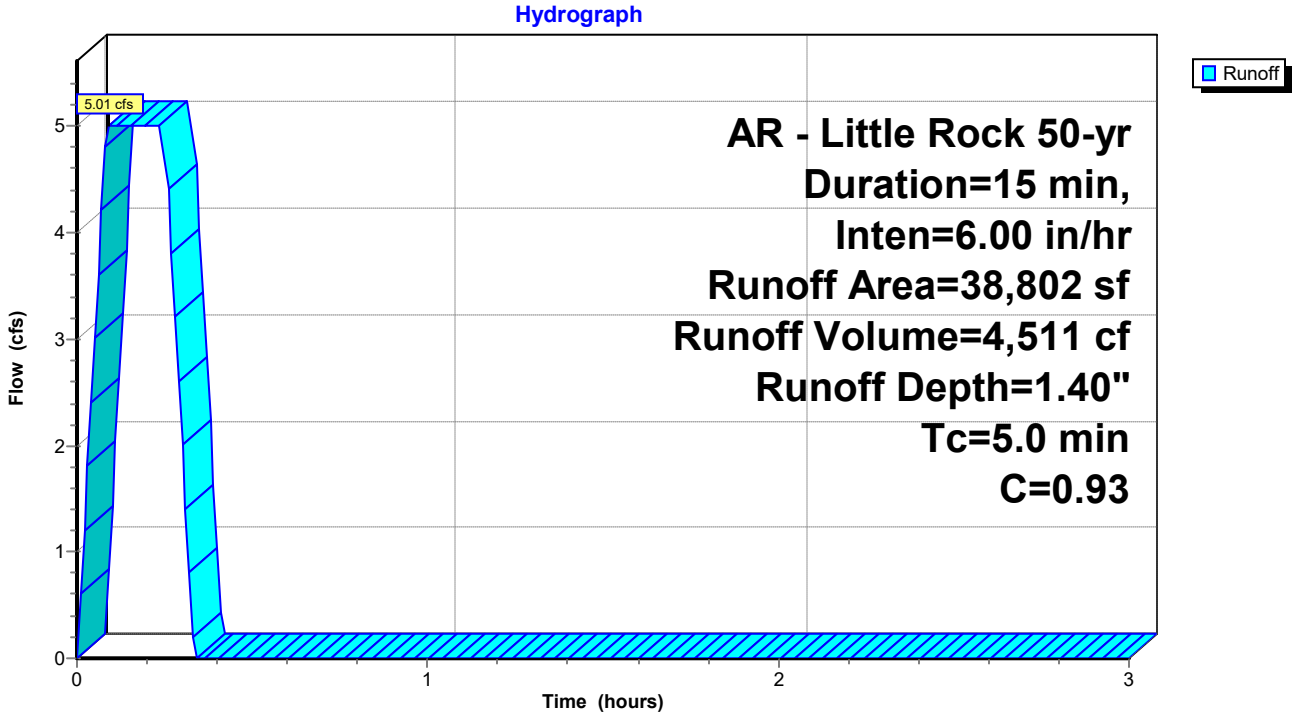
Runoff = 5.01 cfs @ 0.09 hrs, Volume= 4,511 cf, Depth= 1.40"
Routed to Link Post : Post Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 50-yr Duration=15 min, Inten=6.00 in/hr

Area (sf)	C	Description
31,042	0.98	
7,760	0.74	
38,802	0.93	Weighted Average
7,760		20.00% Pervious Area
31,042		80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 15**

Subcatchment DB-B4: Drainage Basin B4



Summary for Pond 1P: Regional Detention Basin

Inflow Area = 794,755 sf, 83.30% Impervious, Inflow Depth = 1.41" for 50-yr event
Inflow = 103.76 cfs @ 0.25 hrs, Volume= 93,209 cf
Outflow = 33.94 cfs @ 0.38 hrs, Volume= 88,612 cf, Atten= 67%, Lag= 8.0 min
Primary = 29.14 cfs @ 0.38 hrs, Volume= 87,226 cf
Routed to Link Post : Post Development
Secondary = 4.79 cfs @ 0.38 hrs, Volume= 1,386 cf
Routed to Link Post : Post Development

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 386.71' @ 0.38 hrs Storage= 61,662 cf

Plug-Flow detention time= 28.3 min calculated for 88,612 cf (95% of inflow)
Center-of-Mass det. time= 27.6 min (41.1 - 13.5)

Volume	Invert	Avail.Storage	Storage Description
#1	382.00'	64,856 cf	**Custom Stage Data** Listed below

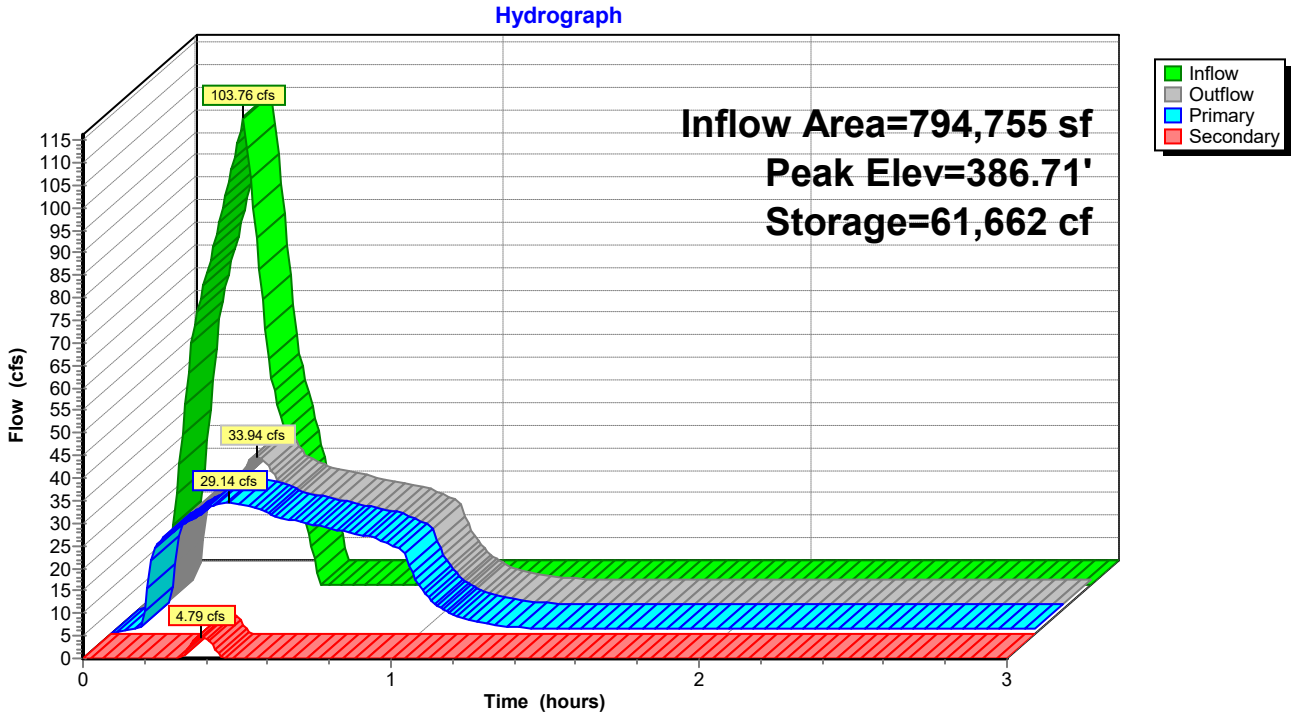
Elevation (feet)	Cum.Store (cubic-feet)
382.00	0
383.00	1,686
384.00	11,045
385.00	25,746
386.00	53,764
387.00	64,856

Device	Routing	Invert	Outlet Devices
#1	Primary	382.00'	**24.0" Round RCP_Round 24"** L= 20.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 382.00' / 381.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Secondary	386.50'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	384.00'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	382.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

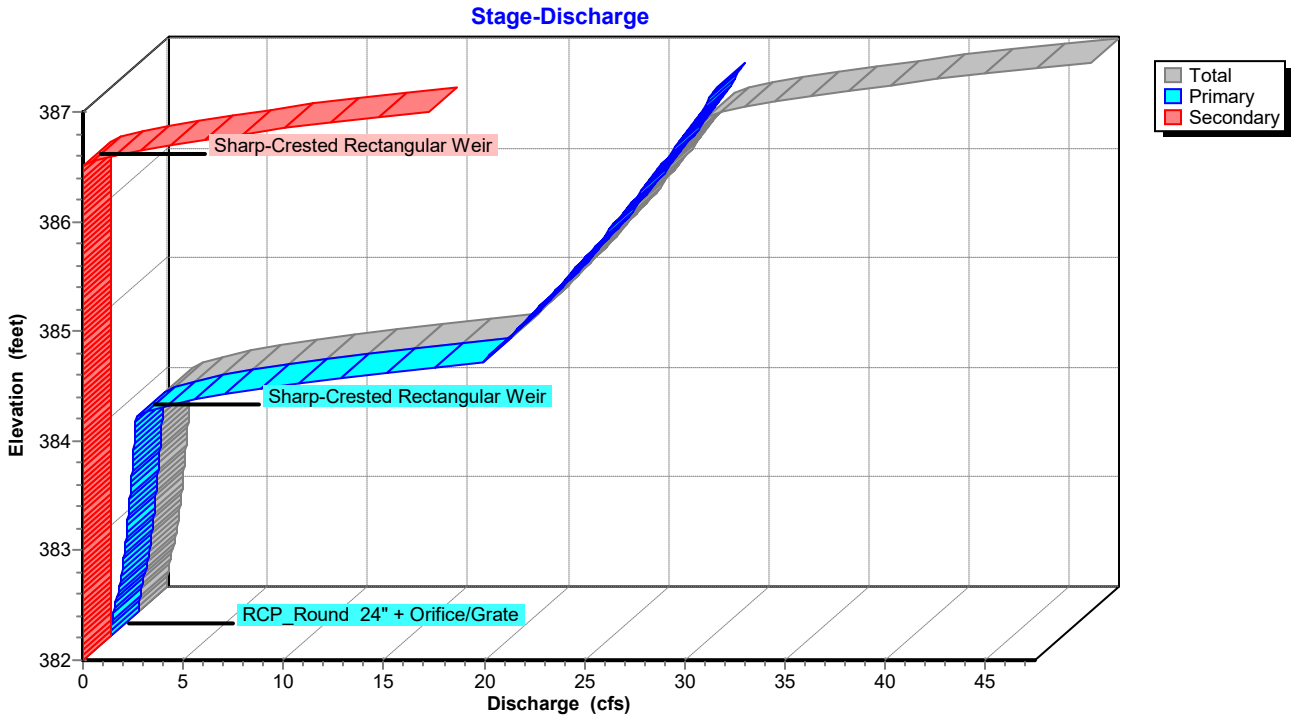
Primary OutFlow Max=29.14 cfs @ 0.38 hrs HW=386.71' (Free Discharge)
└**1=RCP_Round 24"** (Inlet Controls 29.14 cfs @ 9.28 fps)
├**3=Sharp-Crested Rectangular Weir** (Passes < 211.06 cfs potential flow)
└**4=Orifice/Grate** (Passes < 2.00 cfs potential flow)

Secondary OutFlow Max=4.75 cfs @ 0.38 hrs HW=386.71' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 4.75 cfs @ 1.50 fps)

Pond 1P: Regional Detention Basin



Pond 1P: Regional Detention Basin



Stage-Area-Storage for Pond 1P: Regional Detention Basin

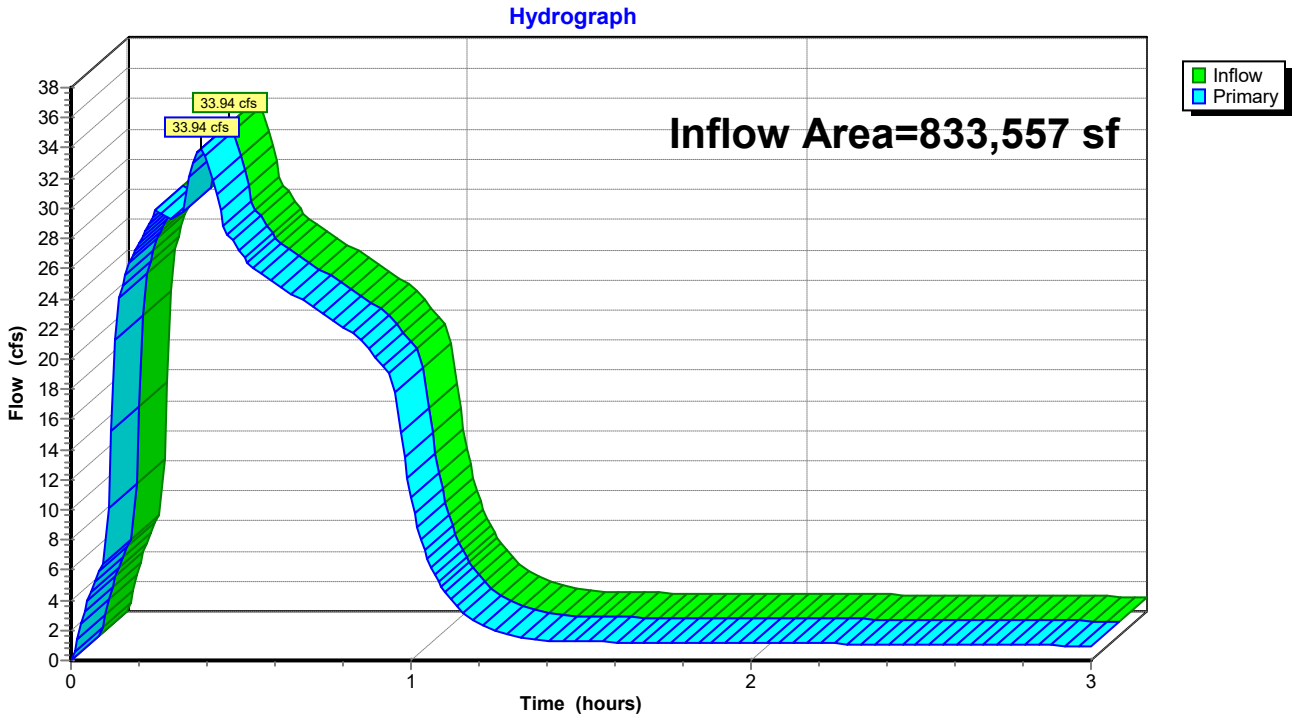
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
382.00	0	384.60	19,866
382.05	84	384.65	20,601
382.10	169	384.70	21,336
382.15	253	384.75	22,071
382.20	337	384.80	22,806
382.25	422	384.85	23,541
382.30	506	384.90	24,276
382.35	590	384.95	25,011
382.40	674	385.00	25,746
382.45	759	385.05	27,147
382.50	843	385.10	28,548
382.55	927	385.15	29,949
382.60	1,012	385.20	31,350
382.65	1,096	385.25	32,751
382.70	1,180	385.30	34,151
382.75	1,265	385.35	35,552
382.80	1,349	385.40	36,953
382.85	1,433	385.45	38,354
382.90	1,517	385.50	39,755
382.95	1,602	385.55	41,156
383.00	1,686	385.60	42,557
383.05	2,154	385.65	43,958
383.10	2,622	385.70	45,359
383.15	3,090	385.75	46,760
383.20	3,558	385.80	48,160
383.25	4,026	385.85	49,561
383.30	4,494	385.90	50,962
383.35	4,962	385.95	52,363
383.40	5,430	386.00	53,764
383.45	5,898	386.05	54,319
383.50	6,366	386.10	54,873
383.55	6,833	386.15	55,428
383.60	7,301	386.20	55,982
383.65	7,769	386.25	56,537
383.70	8,237	386.30	57,092
383.75	8,705	386.35	57,646
383.80	9,173	386.40	58,201
383.85	9,641	386.45	58,755
383.90	10,109	386.50	59,310
383.95	10,577	386.55	59,865
384.00	11,045	386.60	60,419
384.05	11,780	386.65	60,974
384.10	12,515	386.70	61,528
384.15	13,250	386.75	62,083
384.20	13,985	386.80	62,638
384.25	14,720	386.85	63,192
384.30	15,455	386.90	63,747
384.35	16,190	386.95	64,301
384.40	16,925	387.00	**64,856**
384.45	17,660		
384.50	18,396		
384.55	19,131		

Summary for Link Post: Post Development

Inflow Area = 833,557 sf, 83.14% Impervious, Inflow Depth > 1.34" for 50-yr event
Inflow = 33.94 cfs @ 0.38 hrs, Volume= 93,123 cf
Primary = 33.94 cfs @ 0.38 hrs, Volume= 93,123 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Post: Post Development



Summary for Subcatchment DB-B1: Drainage Basin B1

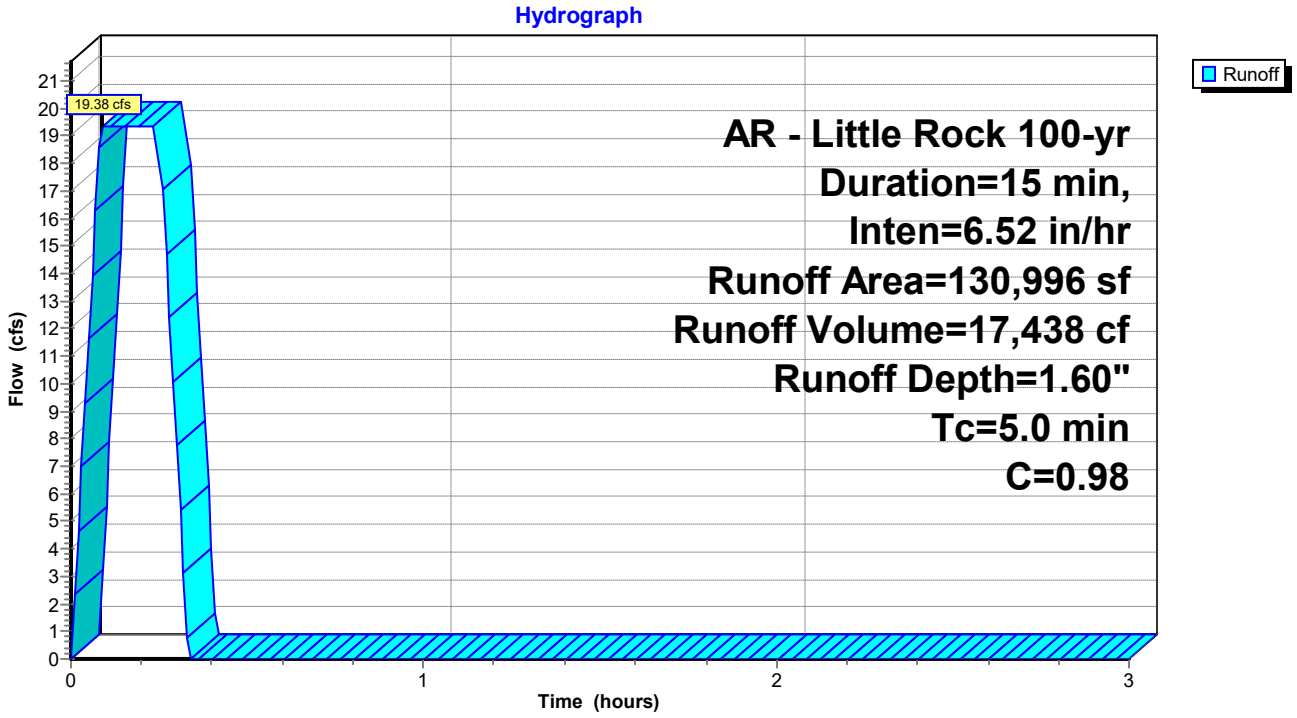
Runoff = 19.38 cfs @ 0.09 hrs, Volume= 17,438 cf, Depth= 1.60"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
130,996	0.98	
130,996		100.00% Impervious Area

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

Subcatchment DB-B1: Drainage Basin B1



Summary for Subcatchment DB-B2: Drainage Basin B2

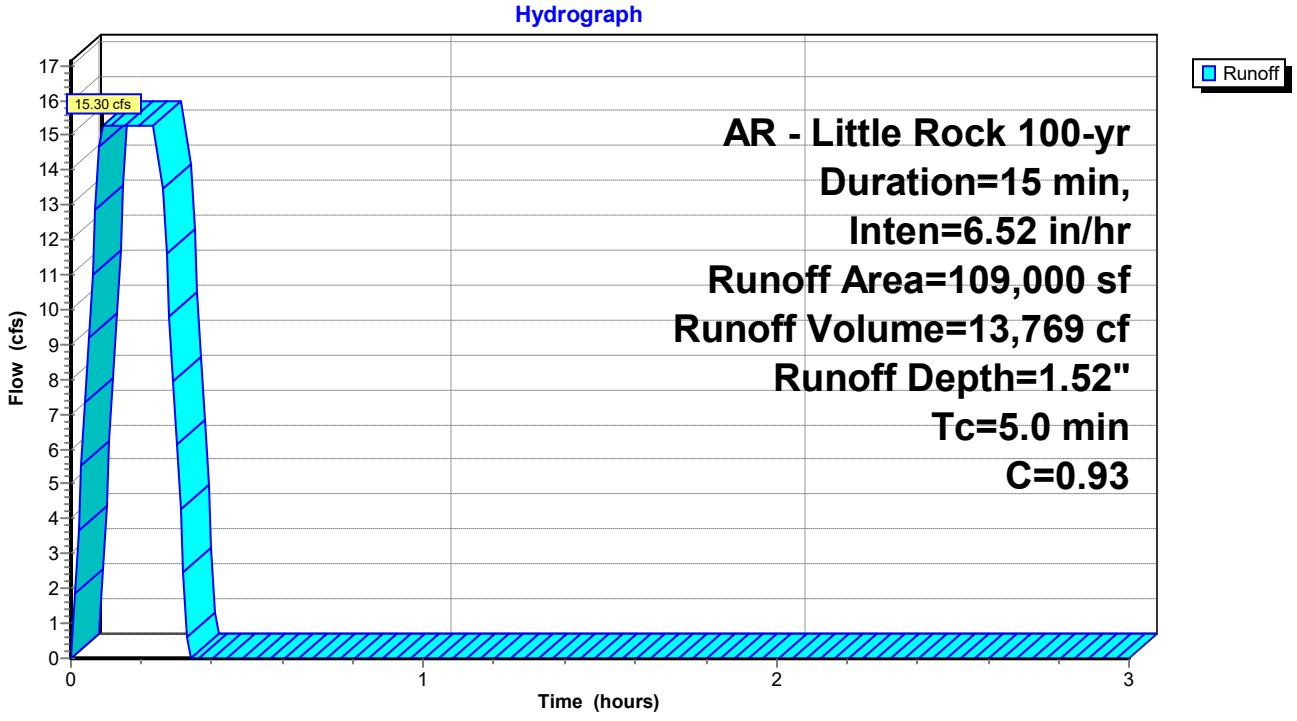
Runoff = 15.30 cfs @ 0.09 hrs, Volume= 13,769 cf, Depth= 1.52"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
87,200	0.98	
21,800	0.74	
109,000	0.93	Weighted Average
21,800		20.00% Pervious Area
87,200		80.00% Impervious Area

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

Subcatchment DB-B2: Drainage Basin B2



Summary for Subcatchment DB-B3: Drainage Basin B3

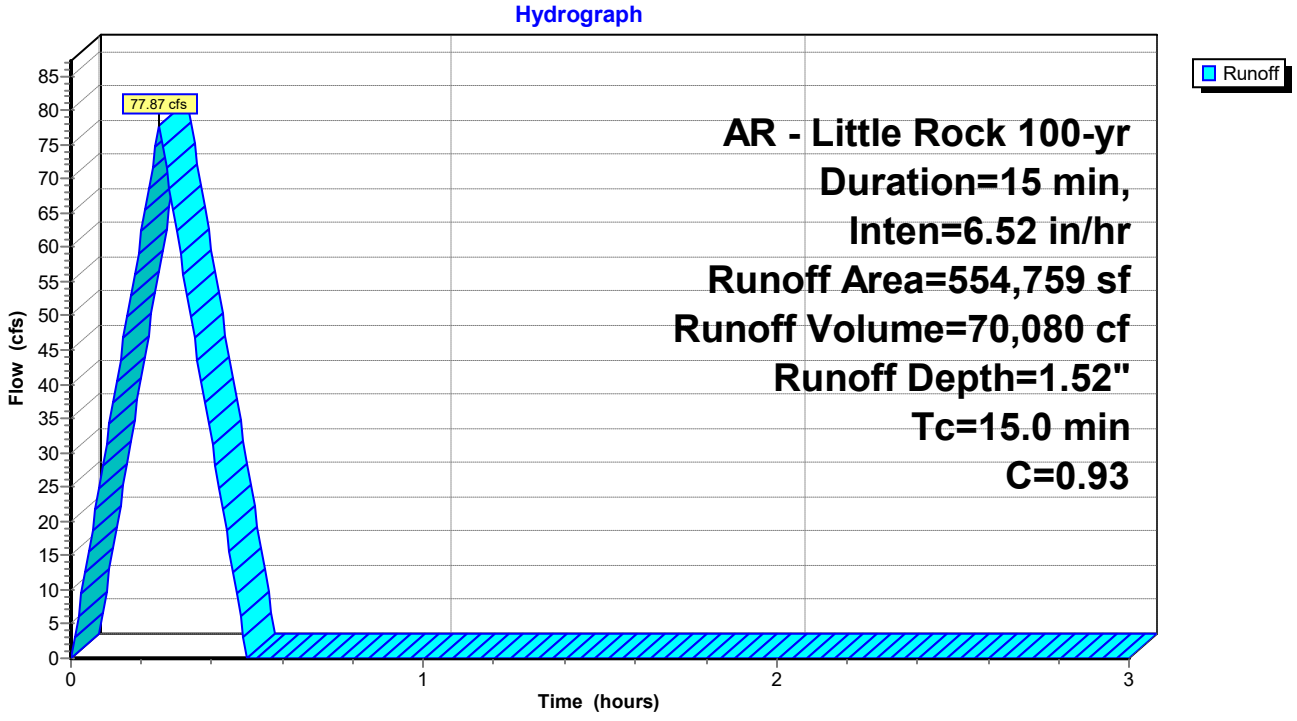
Runoff = 77.87 cfs @ 0.25 hrs, Volume= 70,080 cf, Depth= 1.52"
Routed to Pond 1P : Regional Detention Basin

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
443,807	0.98	
110,952	0.74	
554,759	0.93	Weighted Average
110,952		20.00% Pervious Area
443,807		80.00% Impervious Area

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

Subcatchment DB-B3: Drainage Basin B3



Summary for Subcatchment DB-B4: Drainage Basin B4

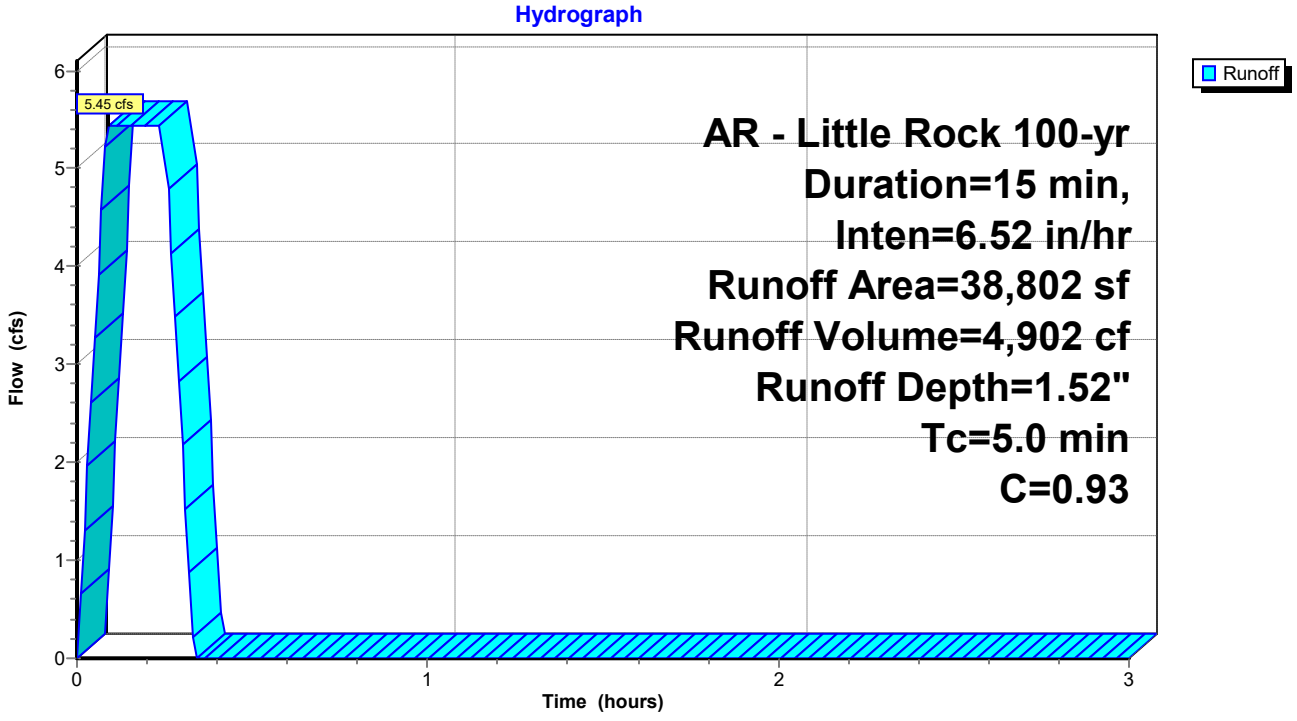
Runoff = 5.45 cfs @ 0.09 hrs, Volume= 4,902 cf, Depth= 1.52"
Routed to Link Post : Post Development

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
AR - Little Rock 100-yr Duration=15 min, Inten=6.52 in/hr

Area (sf)	C	Description
31,042	0.98	
7,760	0.74	
38,802	0.93	Weighted Average
7,760		20.00% Pervious Area
31,042		80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 15**

Subcatchment DB-B4: Drainage Basin B4



Summary for Pond 1P: Regional Detention Basin

Inflow Area = 794,755 sf, 83.30% Impervious, Inflow Depth = 1.53" for 100-yr event
Inflow = 112.75 cfs @ 0.25 hrs, Volume= 101,287 cf
Outflow = 46.71 cfs @ 0.35 hrs, Volume= 96,644 cf, Atten= 59%, Lag= 6.1 min
Primary = 30.20 cfs @ 0.35 hrs, Volume= 90,003 cf
Routed to Link Post : Post Development
Secondary = 16.51 cfs @ 0.35 hrs, Volume= 6,641 cf
Routed to Link Post : Post Development

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 386.99' @ 0.35 hrs Storage= 64,697 cf

Plug-Flow detention time= 26.6 min calculated for 96,322 cf (95% of inflow)
Center-of-Mass det. time= 26.4 min (39.9 - 13.5)

Volume	Invert	Avail.Storage	Storage Description
#1	382.00'	64,856 cf	**Custom Stage Data** Listed below

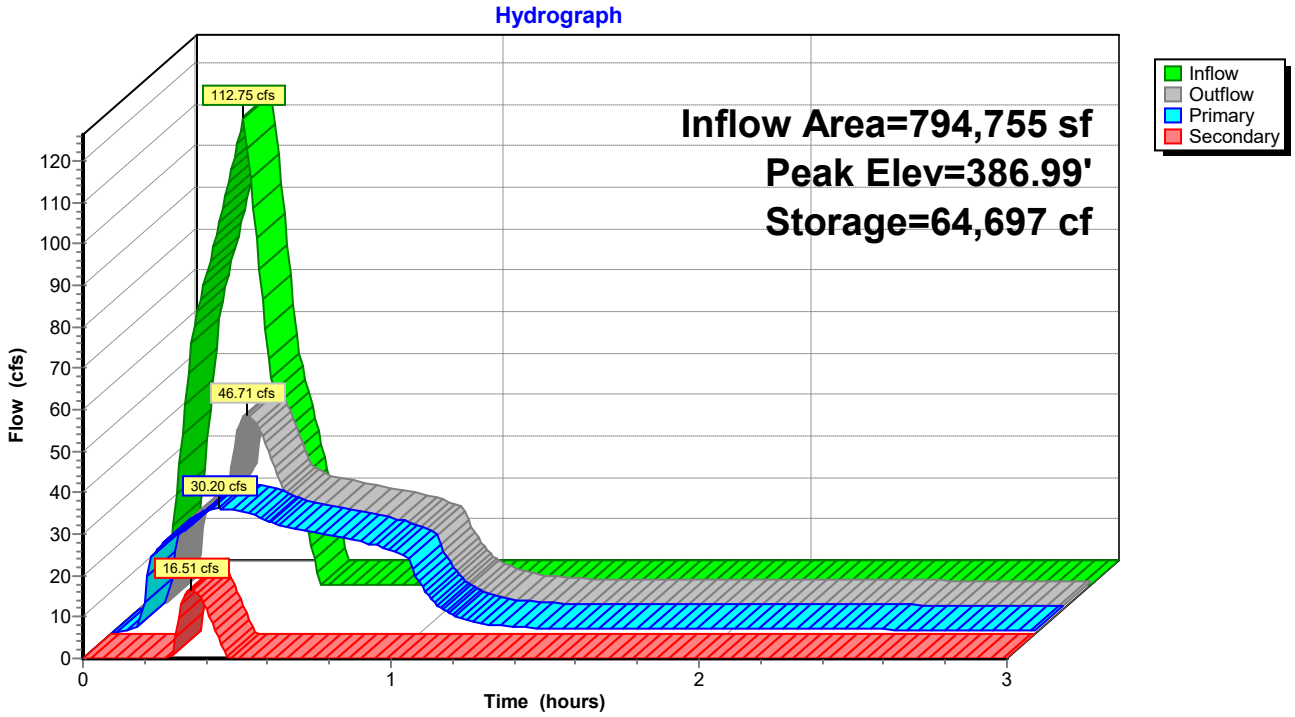
Elevation (feet)	Cum.Store (cubic-feet)
382.00	0
383.00	1,686
384.00	11,045
385.00	25,746
386.00	53,764
387.00	64,856

Device	Routing	Invert	Outlet Devices
#1	Primary	382.00'	**24.0" Round RCP_Round 24"** L= 20.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 382.00' / 381.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Secondary	386.50'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	384.00'	**15.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	382.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

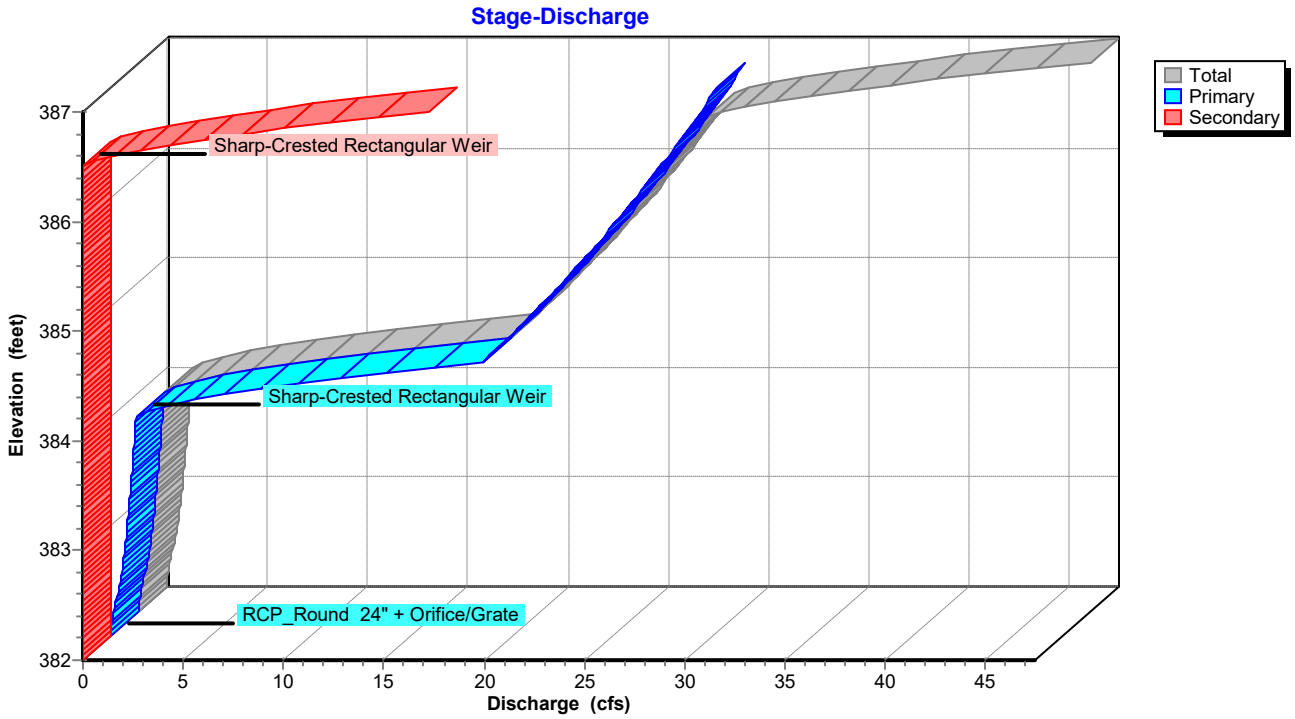
Primary OutFlow Max=30.20 cfs @ 0.35 hrs HW=386.99' (Free Discharge)
└**1=RCP_Round 24"** (Inlet Controls 30.20 cfs @ 9.61 fps)
├**3=Sharp-Crested Rectangular Weir** (Passes < 242.94 cfs potential flow)
└**4=Orifice/Grate** (Passes < 2.06 cfs potential flow)

Secondary OutFlow Max=16.48 cfs @ 0.35 hrs HW=386.99' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 16.48 cfs @ 2.28 fps)

Pond 1P: Regional Detention Basin



Pond 1P: Regional Detention Basin



Stage-Area-Storage for Pond 1P: Regional Detention Basin

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
382.00	0	384.60	19,866
382.05	84	384.65	20,601
382.10	169	384.70	21,336
382.15	253	384.75	22,071
382.20	337	384.80	22,806
382.25	422	384.85	23,541
382.30	506	384.90	24,276
382.35	590	384.95	25,011
382.40	674	385.00	25,746
382.45	759	385.05	27,147
382.50	843	385.10	28,548
382.55	927	385.15	29,949
382.60	1,012	385.20	31,350
382.65	1,096	385.25	32,751
382.70	1,180	385.30	34,151
382.75	1,265	385.35	35,552
382.80	1,349	385.40	36,953
382.85	1,433	385.45	38,354
382.90	1,517	385.50	39,755
382.95	1,602	385.55	41,156
383.00	1,686	385.60	42,557
383.05	2,154	385.65	43,958
383.10	2,622	385.70	45,359
383.15	3,090	385.75	46,760
383.20	3,558	385.80	48,160
383.25	4,026	385.85	49,561
383.30	4,494	385.90	50,962
383.35	4,962	385.95	52,363
383.40	5,430	386.00	53,764
383.45	5,898	386.05	54,319
383.50	6,366	386.10	54,873
383.55	6,833	386.15	55,428
383.60	7,301	386.20	55,982
383.65	7,769	386.25	56,537
383.70	8,237	386.30	57,092
383.75	8,705	386.35	57,646
383.80	9,173	386.40	58,201
383.85	9,641	386.45	58,755
383.90	10,109	386.50	59,310
383.95	10,577	386.55	59,865
384.00	11,045	386.60	60,419
384.05	11,780	386.65	60,974
384.10	12,515	386.70	61,528
384.15	13,250	386.75	62,083
384.20	13,985	386.80	62,638
384.25	14,720	386.85	63,192
384.30	15,455	386.90	63,747
384.35	16,190	386.95	64,301
384.40	16,925	387.00	**64,856**
384.45	17,660		
384.50	18,396		
384.55	19,131		

Summary for Link Post: Post Development

Inflow Area = 833,557 sf, 83.14% Impervious, Inflow Depth > 1.46" for 100-yr event
Inflow = 46.71 cfs @ 0.35 hrs, Volume= 101,545 cf
Primary = 46.71 cfs @ 0.35 hrs, Volume= 101,545 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link Post: Post Development

