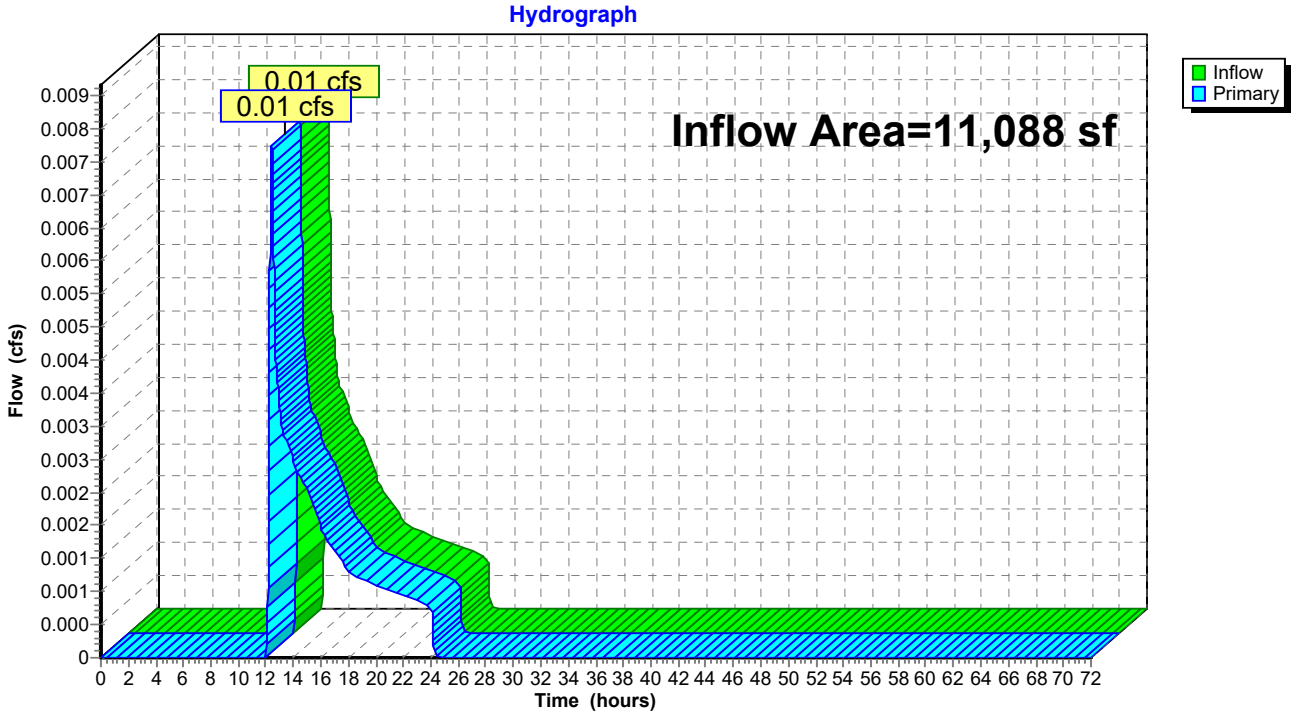
Summary for Link AL1: Analysis Line #1 (Southeastern PL)

Inflow Area = 11,088 sf, 1.43% Impervious, Inflow Depth = 0.09" for WQV event
Inflow = 0.01 cfs @ 12.43 hrs, Volume= 80 cf
Primary = 0.01 cfs @ 12.43 hrs, Volume= 80 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL1: Analysis Line #1 (Southeastern PL)

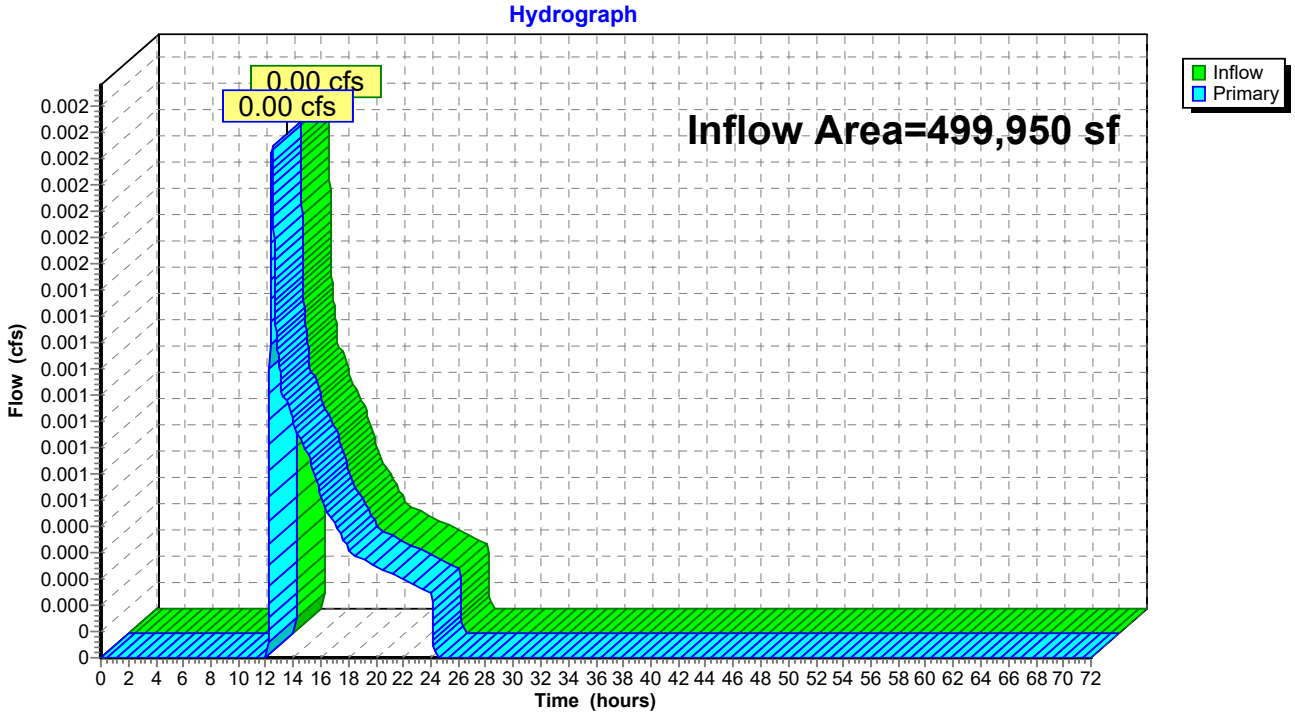


Summary for Link AL2: Analysis Line #2 (Wetlands)

Inflow Area = 499,950 sf, 17.34% Impervious, Inflow Depth = 0.00" for WQV event
Inflow = 0.00 cfs @ 12.46 hrs, Volume= 24 cf
Primary = 0.00 cfs @ 12.46 hrs, Volume= 24 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL2: Analysis Line #2 (Wetlands)

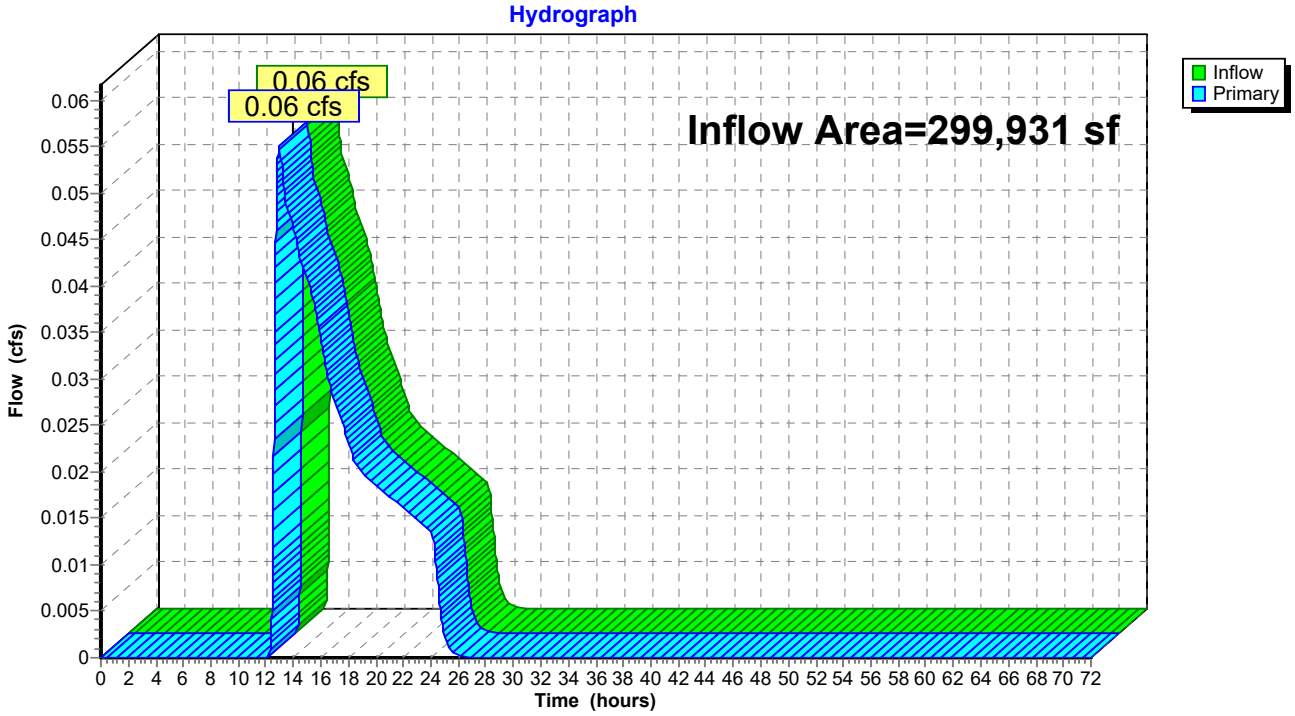


Summary for Link AL3: Analysis Line #3 (Northern PL)

Inflow Area = 299,931 sf, 13.96% Impervious, Inflow Depth = 0.05" for WQV event
Inflow = 0.06 cfs @ 12.97 hrs, Volume= 1,161 cf
Primary = 0.06 cfs @ 12.97 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL3: Analysis Line #3 (Northern PL)

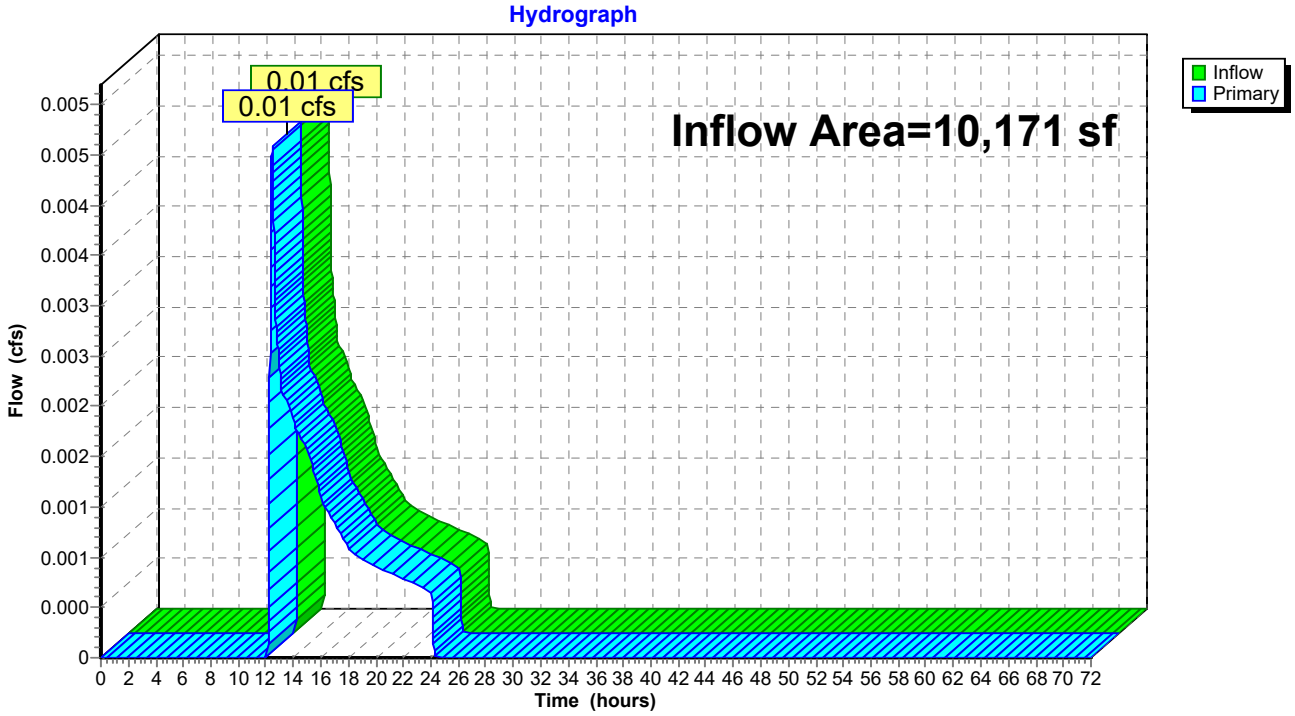


Summary for Link AL4: Analysis Line #4 (Northeastern PL)

Inflow Area = 10,171 sf, 0.00% Impervious, Inflow Depth = 0.07" for WQV event
Inflow = 0.01 cfs @ 12.47 hrs, Volume= 62 cf
Primary = 0.01 cfs @ 12.47 hrs, Volume= 62 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL4: Analysis Line #4 (Northeastern PL)

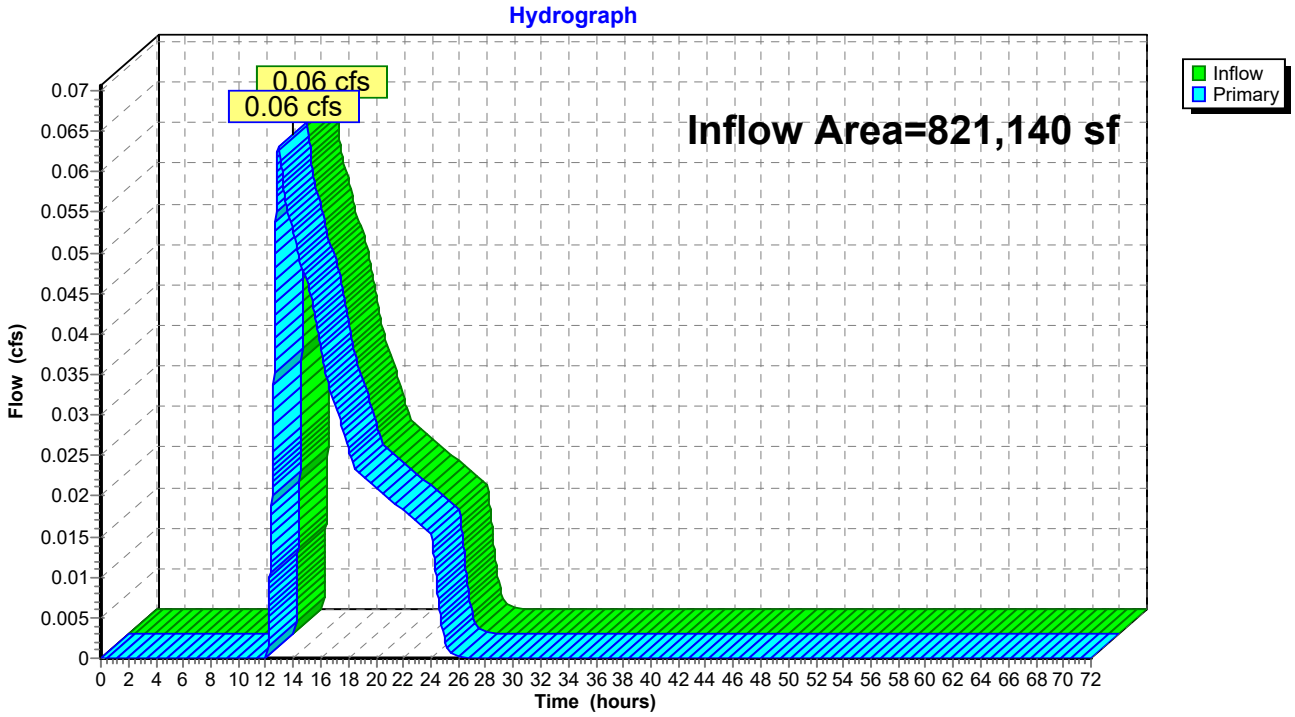


Summary for Link ALL: ALL

Inflow Area = 821,140 sf, 15.68% Impervious, Inflow Depth = 0.02" for WQV event
Inflow = 0.06 cfs @ 12.94 hrs, Volume= 1,328 cf
Primary = 0.06 cfs @ 12.94 hrs, Volume= 1,328 cf, Atten= 0%, Lag= 0.0 min

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

Link ALL: ALL



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment SA1: Drainage Subarea #1 Runoff Area=11,088 sf 1.43% Impervious Runoff Depth=0.85"
Tc=10.0 min CN=74 Runoff=0.20 cfs 781 cf

Subcatchment SA2A: Drainage Subarea Runoff Area=10.552 ac 18.69% Impervious Runoff Depth=1.06"
Flow Length=697' Tc=20.8 min CN=78 Runoff=8.35 cfs 40,532 cf

Subcatchment SA2B: Drainage Subarea Runoff Area=23,857 sf 3.29% Impervious Runoff Depth=0.90"
Tc=10.0 min CN=75 Runoff=0.47 cfs 1,781 cf

Subcatchment SA2C: Drainage Subarea Runoff Area=12,571 sf 0.00% Impervious Runoff Depth=0.85"
Tc=10.0 min CN=74 Runoff=0.23 cfs 886 cf

Subcatchment SA2D: Drainage Subarea #2D Runoff Area=3,877 sf 0.00% Impervious Runoff Depth=0.80"
Tc=10.0 min CN=73 Runoff=0.07 cfs 257 cf

Subcatchment SA3A: Drainage Subarea Runoff Area=74,552 sf 29.32% Impervious Runoff Depth=1.24"
Flow Length=325' Tc=19.3 min CN=81 Runoff=1.67 cfs 7,686 cf

Subcatchment SA3B: Drainage Subarea Runoff Area=225,379 sf 8.88% Impervious Runoff Depth=0.75"
Flow Length=165' Tc=21.1 min CN=72 Runoff=2.66 cfs 14,072 cf

Subcatchment SA4: Drainage Subarea #4 Runoff Area=10,171 sf 0.00% Impervious Runoff Depth=0.80"
Flow Length=246' Tc=10.3 min CN=73 Runoff=0.17 cfs 675 cf

Reach SW: Diversion Swale Avg. Flow Depth=0.25' Max Vel=2.17 fps Inflow=2.66 cfs 14,072 cf
n=0.069 L=396.0' S=0.0788 '/' Capacity=32.66 cfs Outflow=2.62 cfs 14,072 cf

Pond BB-A: Bioretention Basin A 'BB-A' Peak Elev=345.64' Storage=18,235 cf Inflow=8.59 cfs 36,521 cf
Discarded=0.20 cfs 17,348 cf Primary=0.68 cfs 19,174 cf Secondary=0.00 cfs 0 cf Outflow=0.88 cfs 36,521 cf

Pond BB-B: Bioretention Basin B 'BB-B' Peak Elev=338.65' Storage=3,321 cf Inflow=0.70 cfs 20,059 cf
Discarded=0.08 cfs 4,205 cf Primary=0.54 cfs 15,854 cf Secondary=0.00 cfs 0 cf Outflow=0.62 cfs 20,059 cf

Pond BB-C: Bioretention Basin C 'BB-C' Peak Elev=388.97' Storage=2,964 cf Inflow=1.67 cfs 7,686 cf
Discarded=0.06 cfs 3,358 cf Primary=0.35 cfs 4,328 cf Secondary=0.00 cfs 0 cf Outflow=0.41 cfs 7,686 cf

Pond WQB: Water Quality Basin 'WQB' Peak Elev=356.26' Storage=4,311 cf Inflow=8.35 cfs 40,532 cf
Discarded=0.07 cfs 5,792 cf Primary=8.28 cfs 34,740 cf Secondary=0.00 cfs 0 cf Outflow=8.35 cfs 40,532 cf

Link AL1: Analysis Line #1 (Southeastern PL) Inflow=0.20 cfs 781 cf
Primary=0.20 cfs 781 cf

Link AL2: Analysis Line #2 (Wetlands) Inflow=0.55 cfs 16,112 cf
Primary=0.55 cfs 16,112 cf

Link AL3: Analysis Line #3 (Northern PL) Inflow=2.86 cfs 18,400 cf
Primary=2.86 cfs 18,400 cf

Link AL4: Analysis Line #4 (Northeastern PL) Inflow=0.17 cfs 675 cf
Primary=0.17 cfs 675 cf

Link ALL: ALL Inflow=3.12 cfs 35,968 cf
Primary=3.12 cfs 35,968 cf

Total Runoff Area = 821,140 sf Runoff Volume = 66,671 cf Average Runoff Depth = 0.97"
84.32% Pervious = 692,426 sf 15.68% Impervious = 128,714 sf

Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'

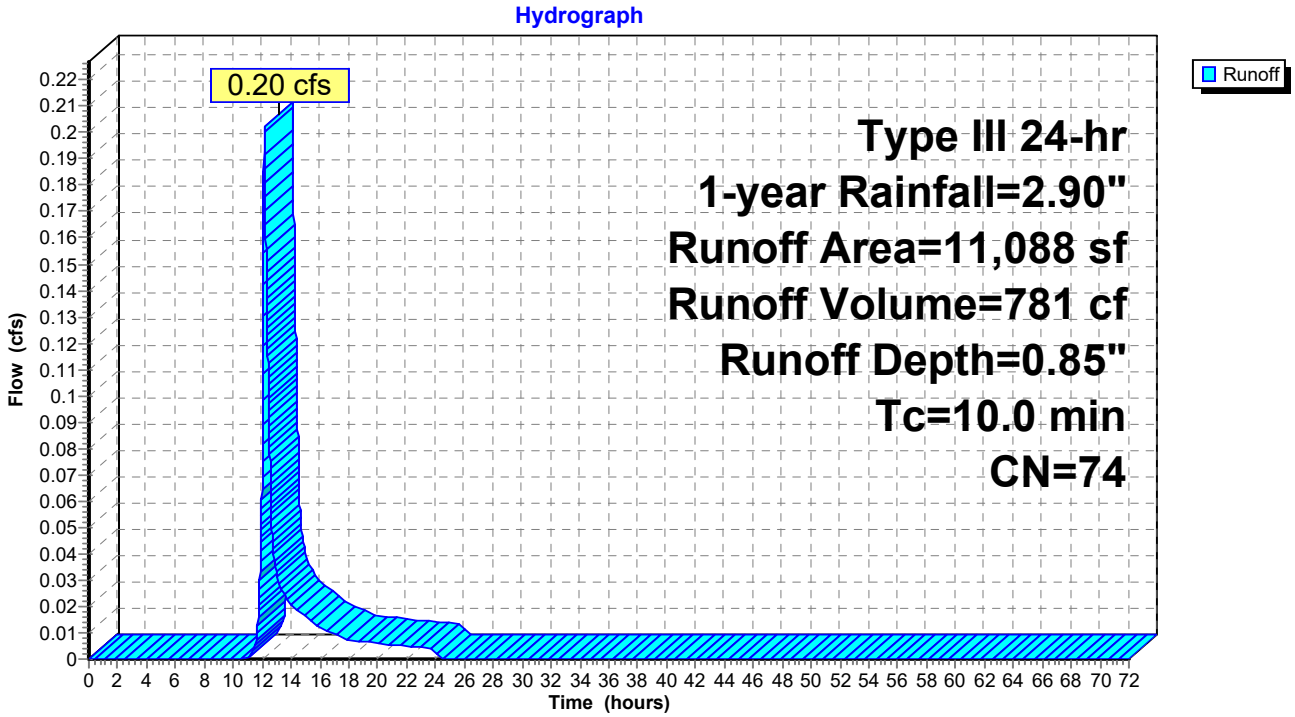
Runoff = 0.20 cfs @ 12.15 hrs, Volume= 781 cf, Depth= 0.85"
Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	159	98	Bldgs./Impervious
*	10,517	74	Lawn, Good, HSG C
*	412	70	Woods, Good, HSG C
	11,088	74	Weighted Average
	10,929	74	98.57% Pervious Area
	159	98	1.43% Impervious Area

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

Subcatchment SA1: Drainage Subarea #1 'SA1'



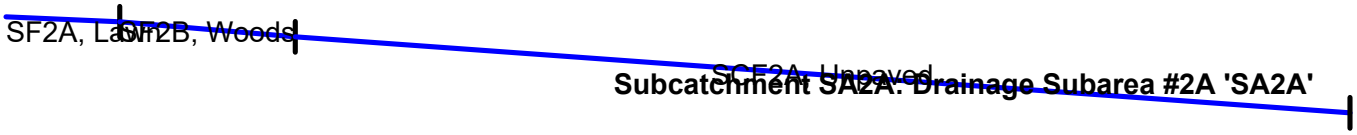
Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'

Runoff = 8.35 cfs @ 12.31 hrs, Volume= 40,532 cf, Depth= 1.06"
Routed to Pond WQB : Water Quality Basin 'WQB'

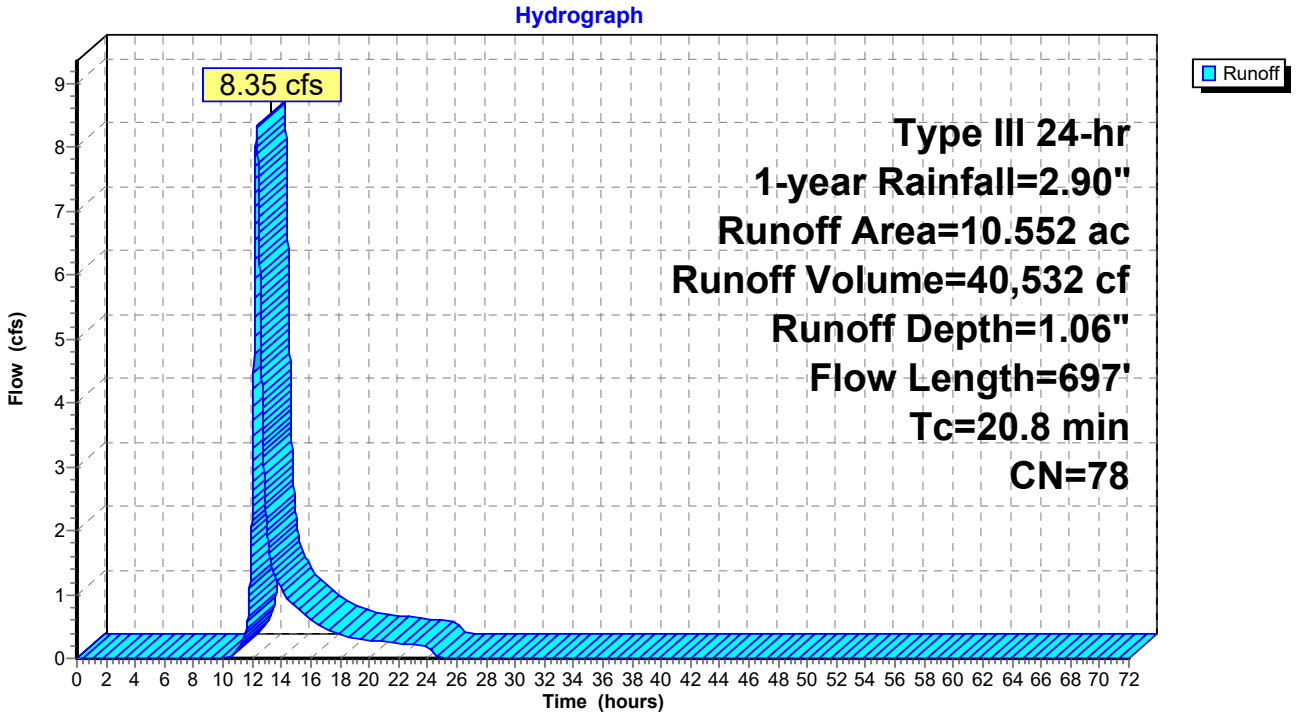
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (ac)	CN	Description
*	1.972	98	Bldgs./Impervious
*	0.064	92	Compact Gravel (est.), HSG C
*	0.077	86	Open Deck (est.), HSG C
*	5.552	74	Lawn, Good, HSG C
*	2.887	70	Woods, Good, HSG C
	10.552	78	Weighted Average
	8.580	73	81.31% Pervious Area
	1.972	98	18.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	59	0.0590	0.17		**Sheet Flow, SF2A, Lawn** n= 0.240 P2= 3.43"
13.1	91	0.1180	0.12		**Sheet Flow, SF2B, Woods** n= 0.600 P2= 3.43"
1.8	547	0.0990	5.07		**Shallow Concentrated Flow, SCF2A, Unpaved** Unpaved Kv= 16.1 fps
20.8	697	Total			



Subcatchment SA2A: Drainage Subarea #2A 'SA2A'



Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'

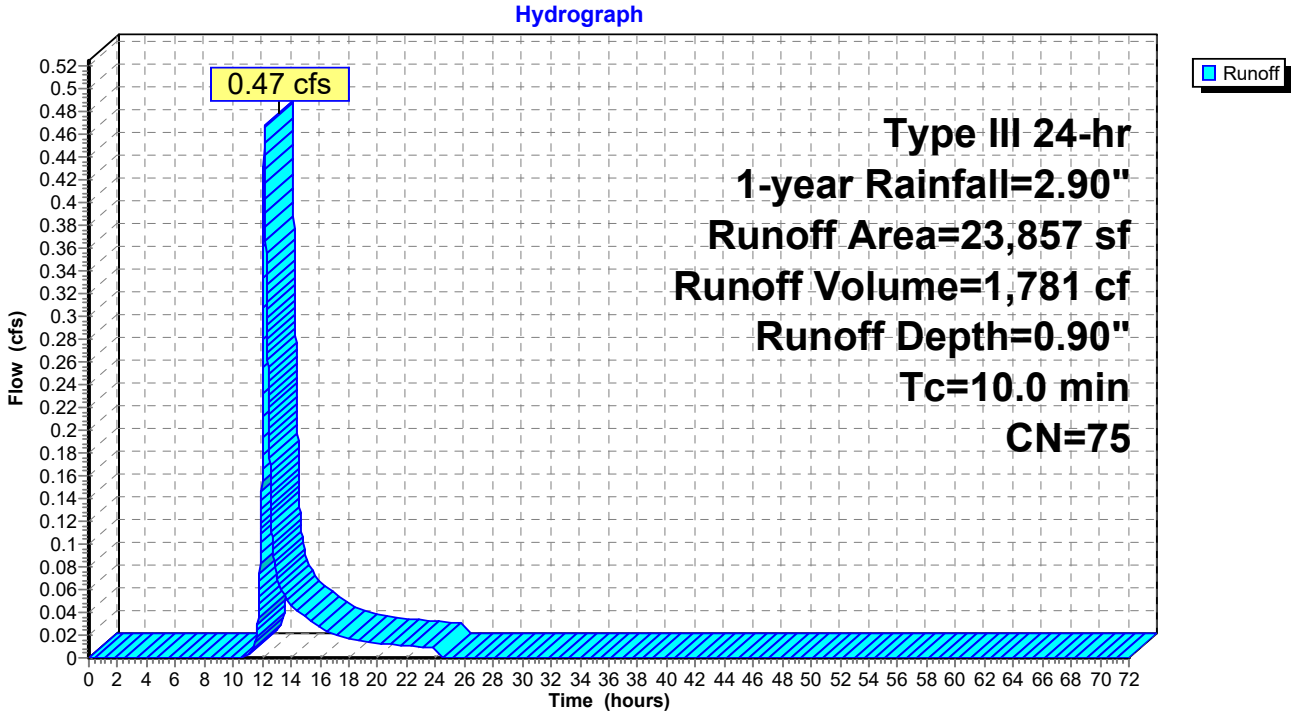
Runoff = 0.47 cfs @ 12.15 hrs, Volume= 1,781 cf, Depth= 0.90"
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	784	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	22,922	74	Lawn, Good, HSG C
	23,857	75	Weighted Average
	23,073	74	96.71% Pervious Area
	784	98	3.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2B: Drainage Subarea #2B 'SA2B'



Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'

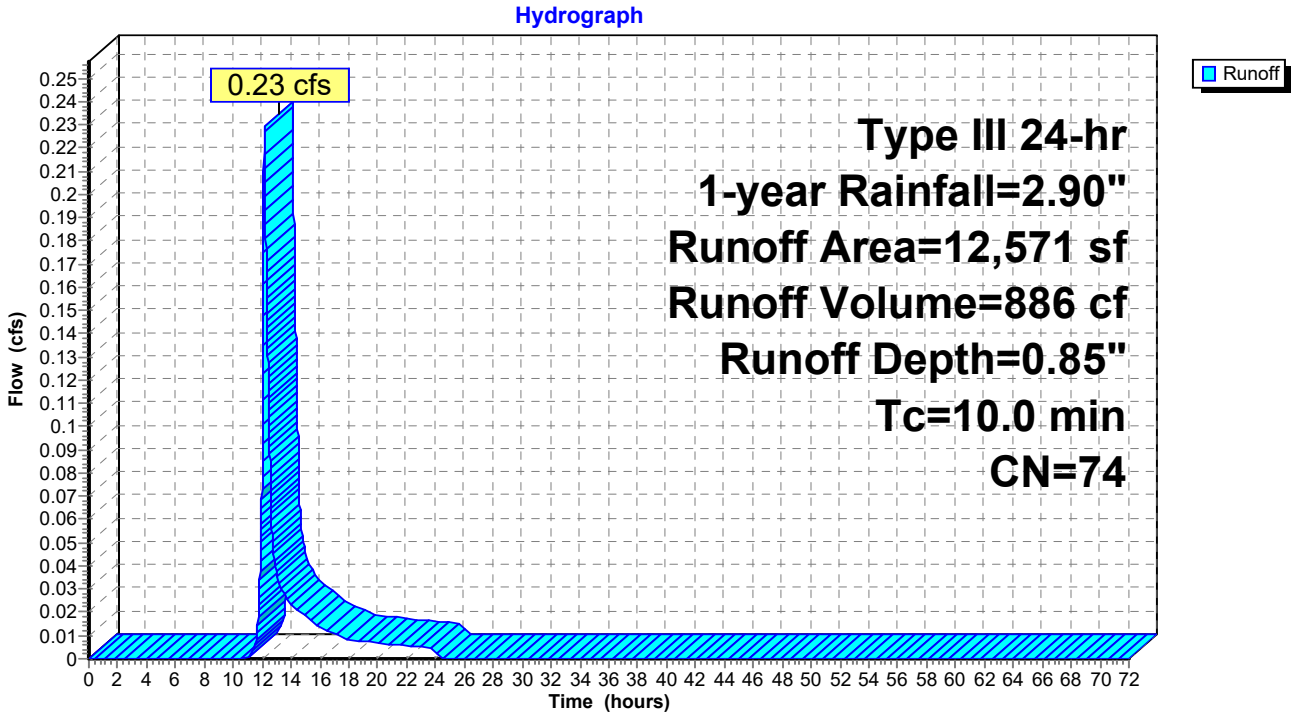
Runoff = 0.23 cfs @ 12.15 hrs, Volume= 886 cf, Depth= 0.85"
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	12,571	74	Lawn, Good, HSG C
	12,571	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2C: Drainage Subarea #2C 'SA2C'



Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'

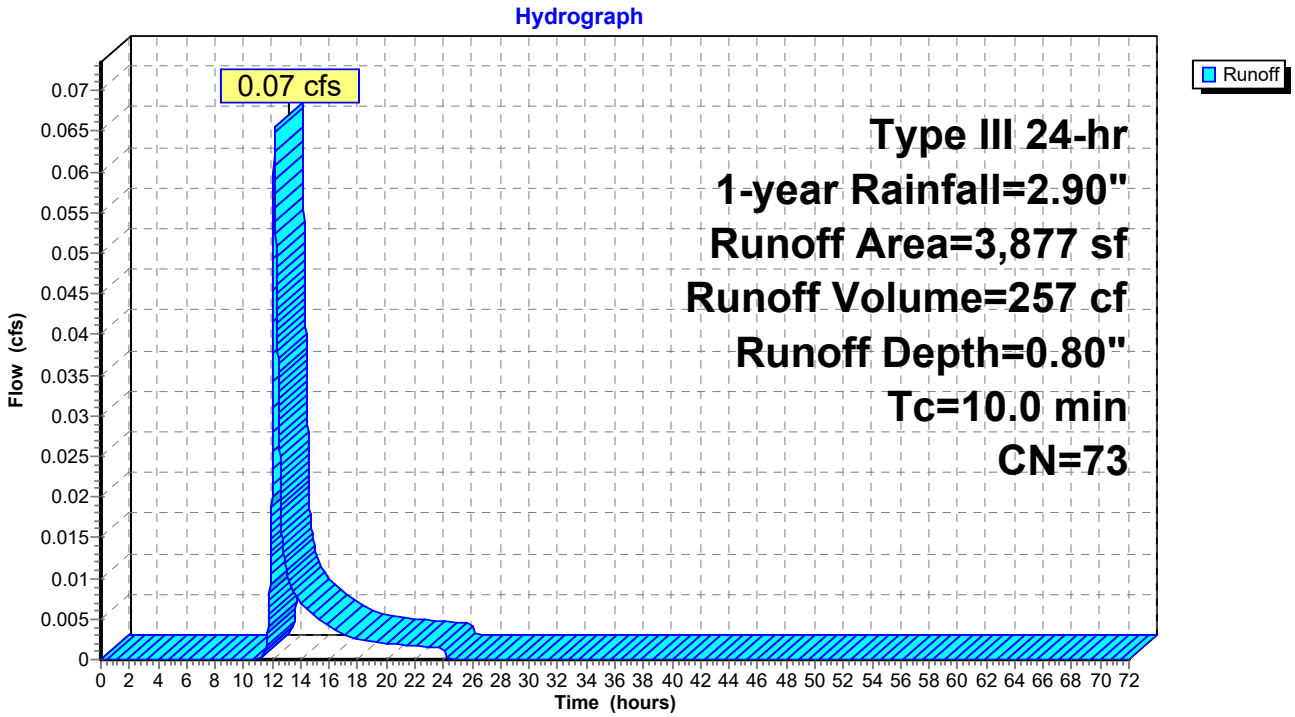
Runoff = 0.07 cfs @ 12.15 hrs, Volume= 257 cf, Depth= 0.80"
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	2,138	74	Lawn, Good, HSG C
*	1,349	70	Woods, Good, HSG C
*	390	77	Woods, Good, HSG D
	3,877	73	Weighted Average
	3,877	73	100.00% Pervious Area

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

Subcatchment SA2D: Drainage Subarea #2D 'SA2D'



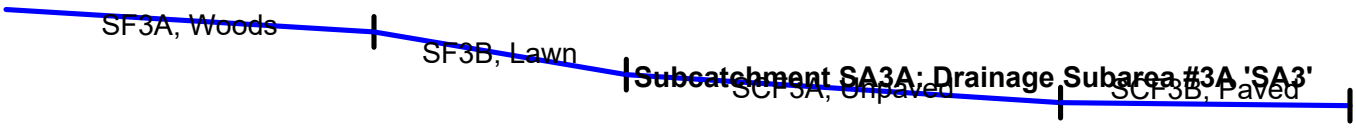
Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'

Runoff = 1.67 cfs @ 12.28 hrs, Volume= 7,686 cf, Depth= 1.24"
Routed to Pond BB-C : Bioretention Basin C 'BB-C'

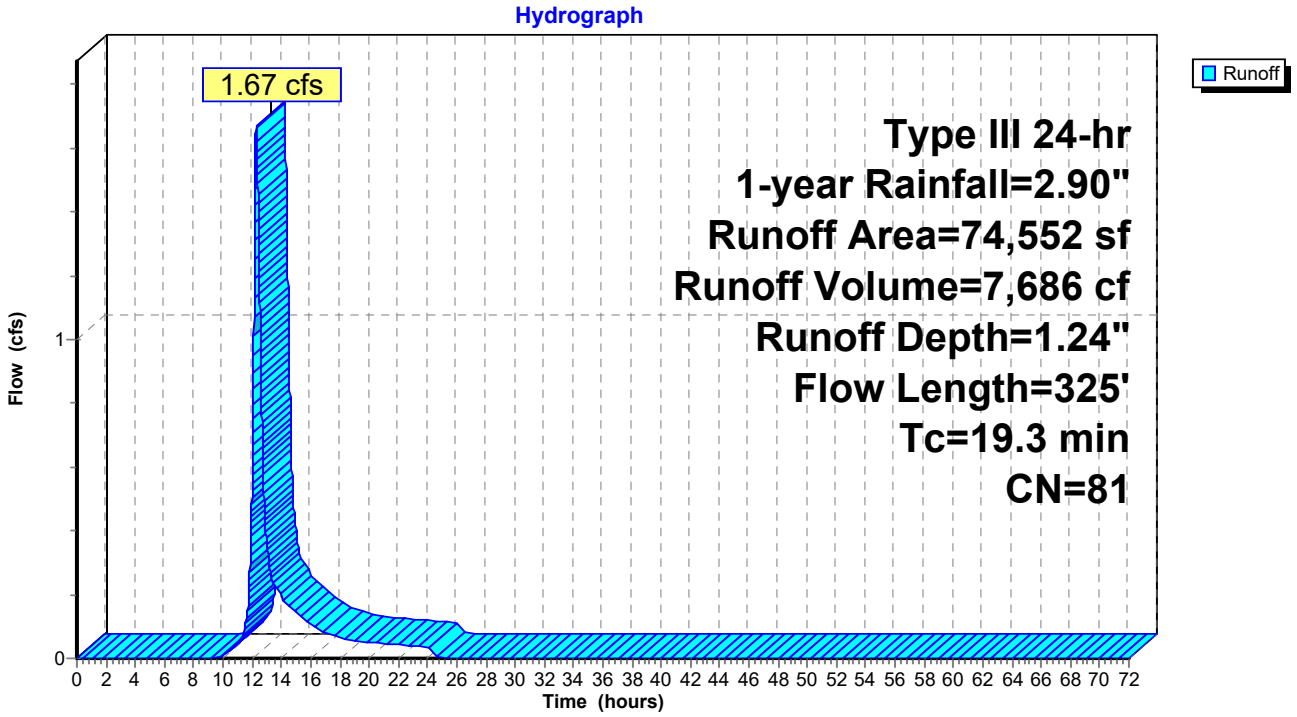
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	21,859	98	Bldgs./Impervious
*	454	86	Open Deck (est.), HSG C
*	48,227	74	Lawn, Good, HSG C
*	4,012	70	Woods, Good, HSG C
	74,552	81	Weighted Average
	52,693	74	70.68% Pervious Area
	21,859	98	29.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	89	0.0810	0.10		**Sheet Flow, SF3A, Woods** n= 0.600 P2= 3.43"
3.5	61	0.2260	0.29		**Sheet Flow, SF3B, Lawn** n= 0.240 P2= 3.43"
0.4	105	0.0860	4.72		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
0.5	70	0.0140	2.40		**Shallow Concentrated Flow, SCF3B, Paved** Paved Kv= 20.3 fps
19.3	325	Total			



Subcatchment SA3A: Drainage Subarea #3A 'SA3'



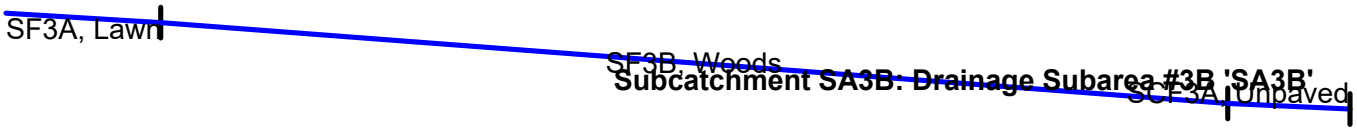
Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'

Runoff = 2.66 cfs @ 12.33 hrs, Volume= 14,072 cf, Depth= 0.75"
Routed to Reach SW : Diversion Swale

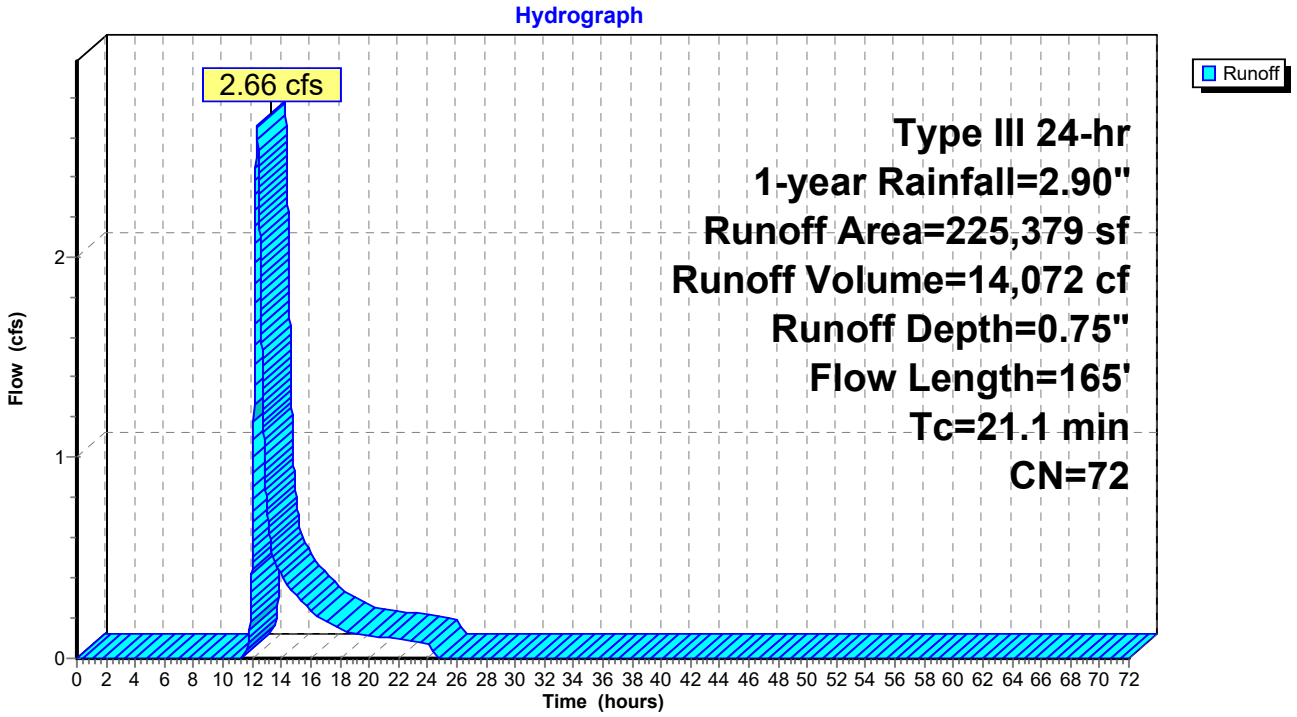
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	20,012	98	Bldgs./Impervious
*	596	92	Compact Gravel (est.), HSG C
*	1,211	86	Open Deck (est.), HSG C
*	372	61	Lawn, Good, HSG B
*	109,208	74	Lawn, Good, HSG C
*	32,752	55	Woods, Good, HSG B
*	61,228	70	Woods, Good, HSG C
	225,379	72	Weighted Average
	205,367	70	91.12% Pervious Area
	20,012	98	8.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		**Sheet Flow, SF3A, Lawn** n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		**Sheet Flow, SF3B, Woods** n= 0.600 P2= 3.43"
0.1	15	0.0600	3.94		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
21.1	165	Total			



Subcatchment SA3B: Drainage Subarea #3B 'SA3B'



Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'

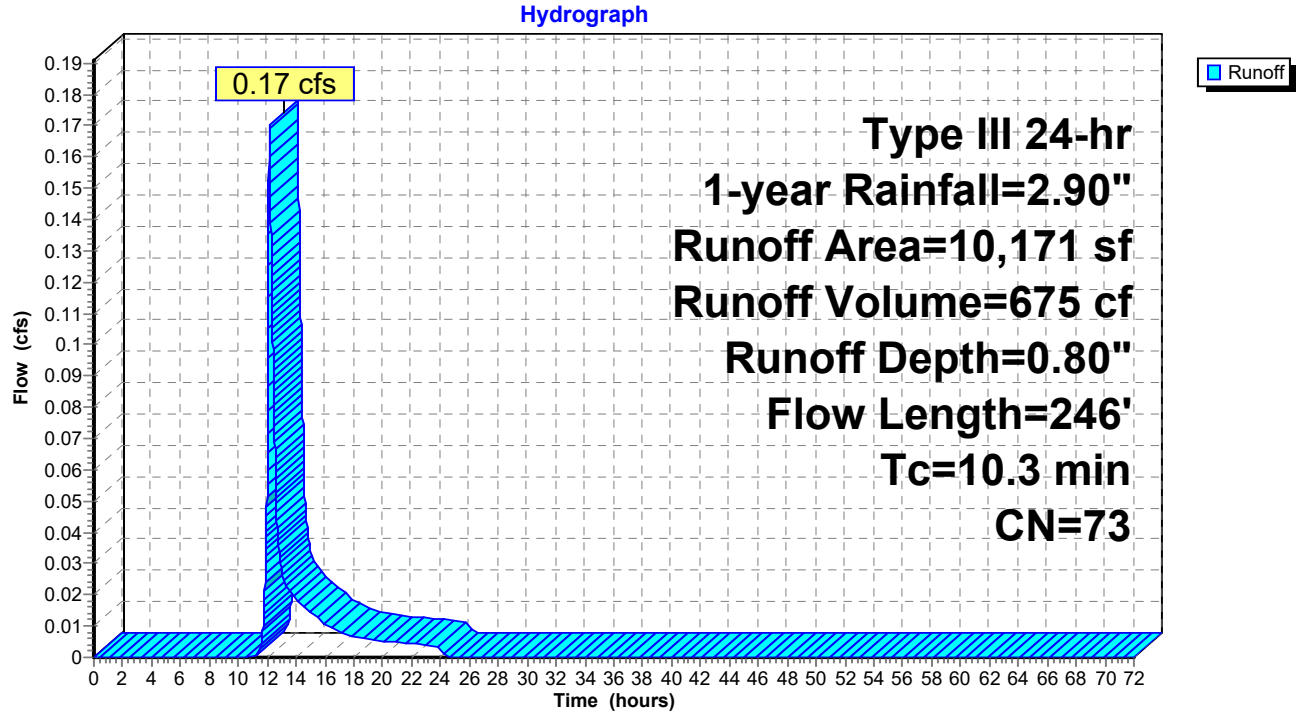
Runoff = 0.17 cfs @ 12.16 hrs, Volume= 675 cf, Depth= 0.80"
Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	7,957	74	Lawn, Good, HSG C
*	2,214	70	Woods, Good, HSG C
	10,171	73	Weighted Average
	10,171	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.1010	0.25		**Sheet Flow, SF4A, Lawn** n= 0.240 P2= 3.43"
0.3	96	0.1280	5.76		**Shallow Concentrated Flow, SCF4A, Woods** Unpaved Kv= 16.1 fps
10.3	246	Total			

Subcatchment SA4: Drainage Subarea #4 'SA4'



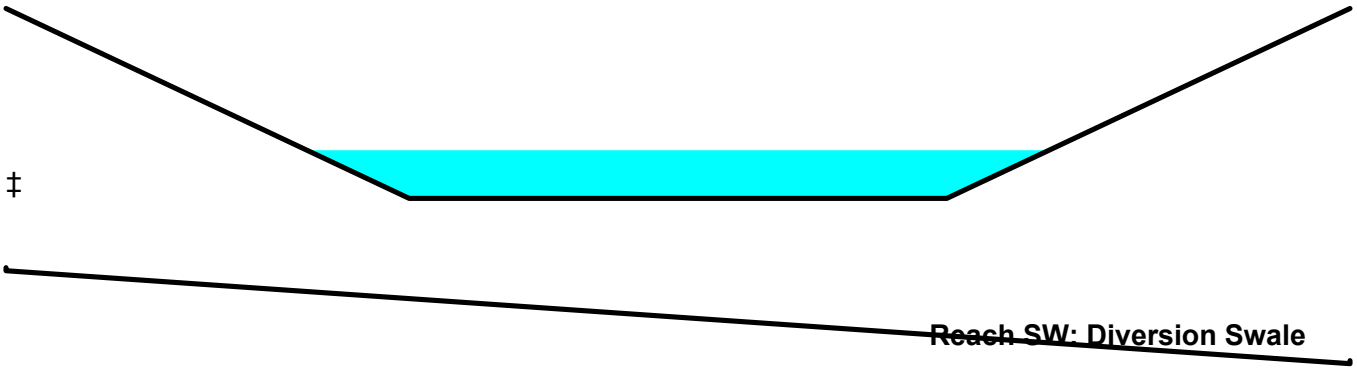
Summary for Reach SW: Diversion Swale

Inflow Area = 225,379 sf, 8.88% Impervious, Inflow Depth = 0.75" for 1-year event
Inflow = 2.66 cfs @ 12.33 hrs, Volume= 14,072 cf
Outflow = 2.62 cfs @ 12.37 hrs, Volume= 14,072 cf, Atten= 1%, Lag= 2.3 min
Routed to Link AL3 : Analysis Line #3 (Northern PL)

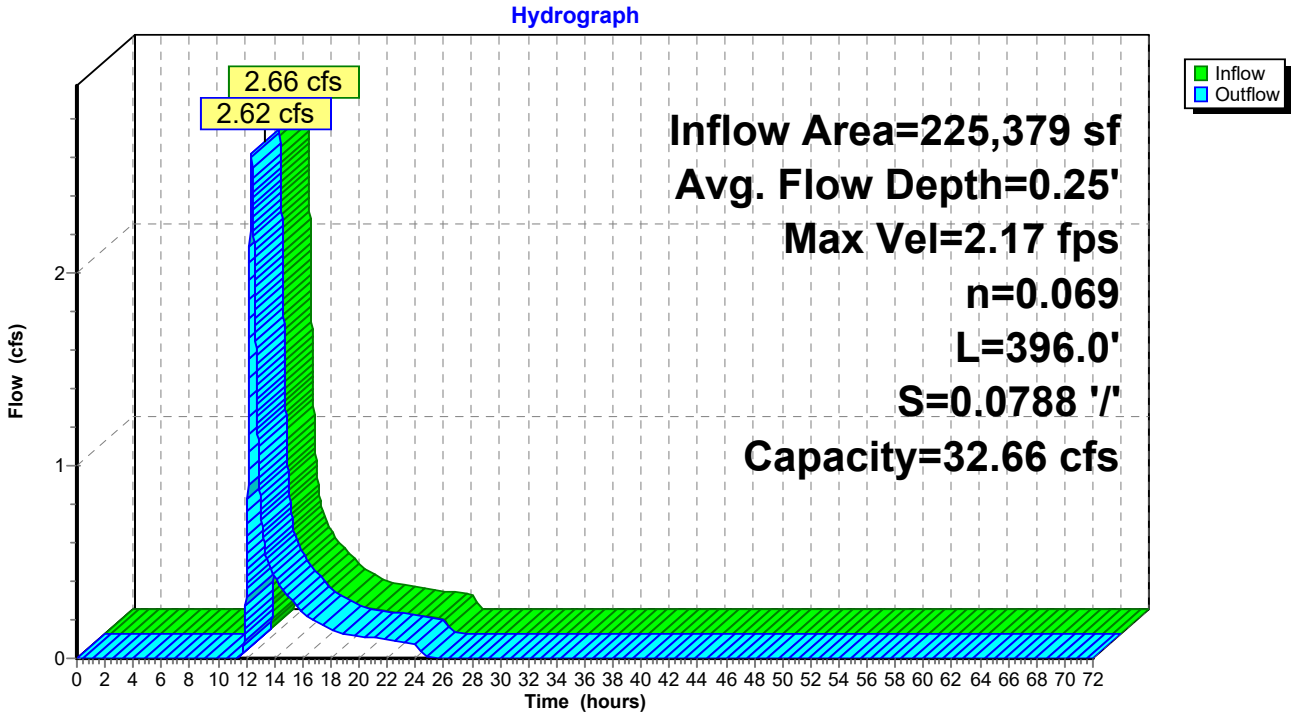
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.17 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 8.6 min

Peak Storage= 478 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.25' , Surface Width= 5.52'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 32.66 cfs

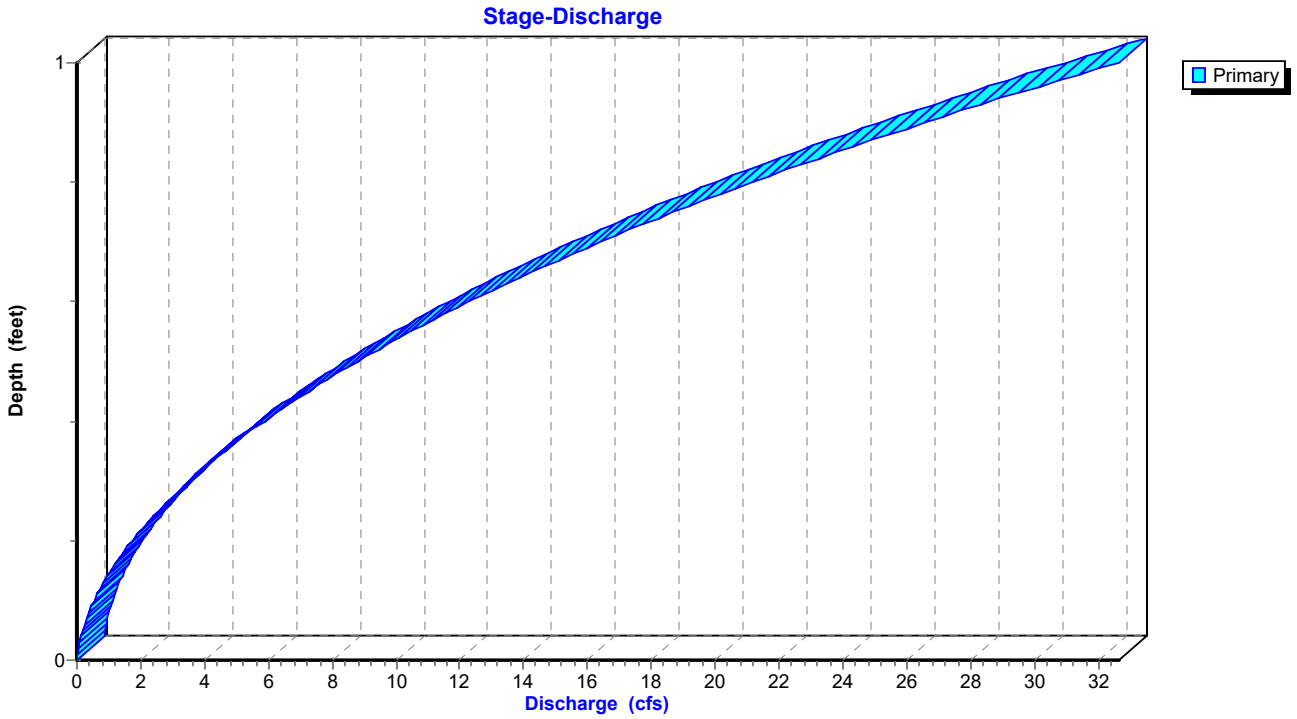
4.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 396.0' Slope= 0.0788 '/'
Inlet Invert= 419.20', Outlet Invert= 388.00'



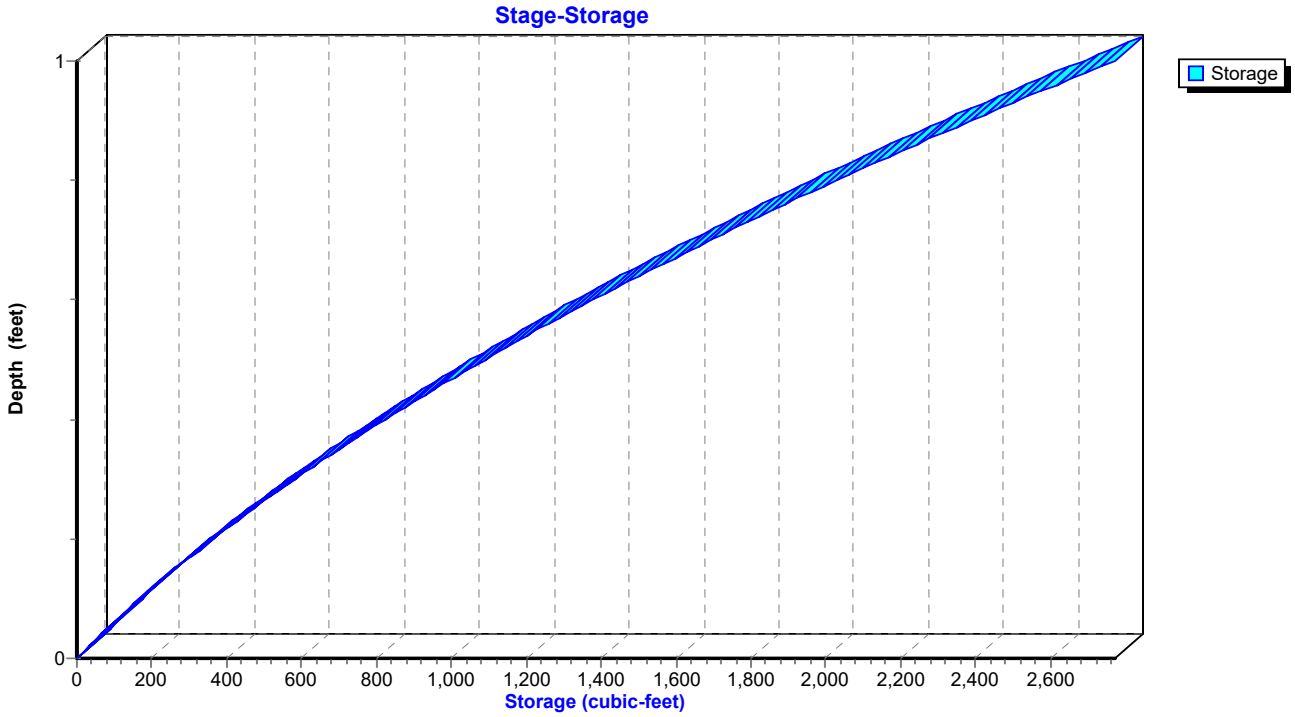
Reach SW: Diversion Swale



Reach SW: Diversion Swale



Reach SW: Diversion Swale



Summary for Pond BB-A: Bioretention Basin A 'BB-A'

[79] Warning: Submerged Pond WQB Primary device # 1 INLET by 0.64'

Inflow Area = 483,502 sf, 17.93% Impervious, Inflow Depth = 0.91" for 1-year event
Inflow = 8.59 cfs @ 12.31 hrs, Volume= 36,521 cf
Outflow = 0.88 cfs @ 14.65 hrs, Volume= 36,521 cf, Atten= 90%, Lag= 140.6 min
Discarded = 0.20 cfs @ 14.65 hrs, Volume= 17,348 cf
Primary = 0.68 cfs @ 14.65 hrs, Volume= 19,174 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 345.64' @ 14.65 hrs Surf.Area= 8,762 sf Storage= 18,235 cf

Plug-Flow detention time= 402.7 min calculated for 36,516 cf (100% of inflow)
Center-of-Mass det. time= 402.8 min (1,274.9 - 872.1)

Volume	Invert	Avail.Storage	Storage Description
#1	343.00'	37,180 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

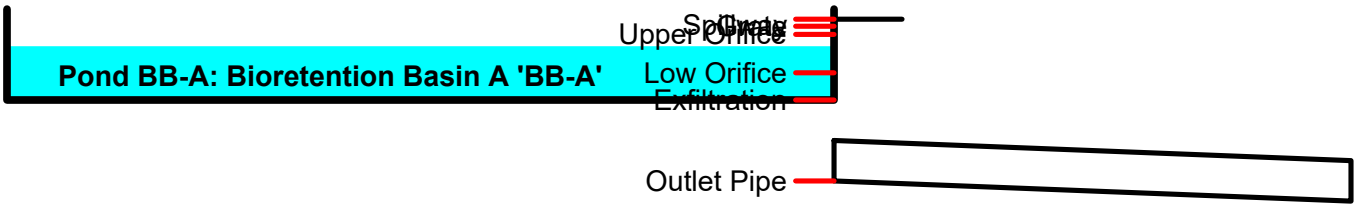
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
343.00	5,164	425.1	0	0	5,164
344.00	6,467	444.0	5,803	5,803	6,541
345.00	7,852	466.6	7,148	12,952	8,241
346.00	9,304	489.1	8,568	21,519	10,018
347.00	10,823	511.6	10,054	31,573	11,878
347.50	11,607	522.8	5,606	37,180	12,836

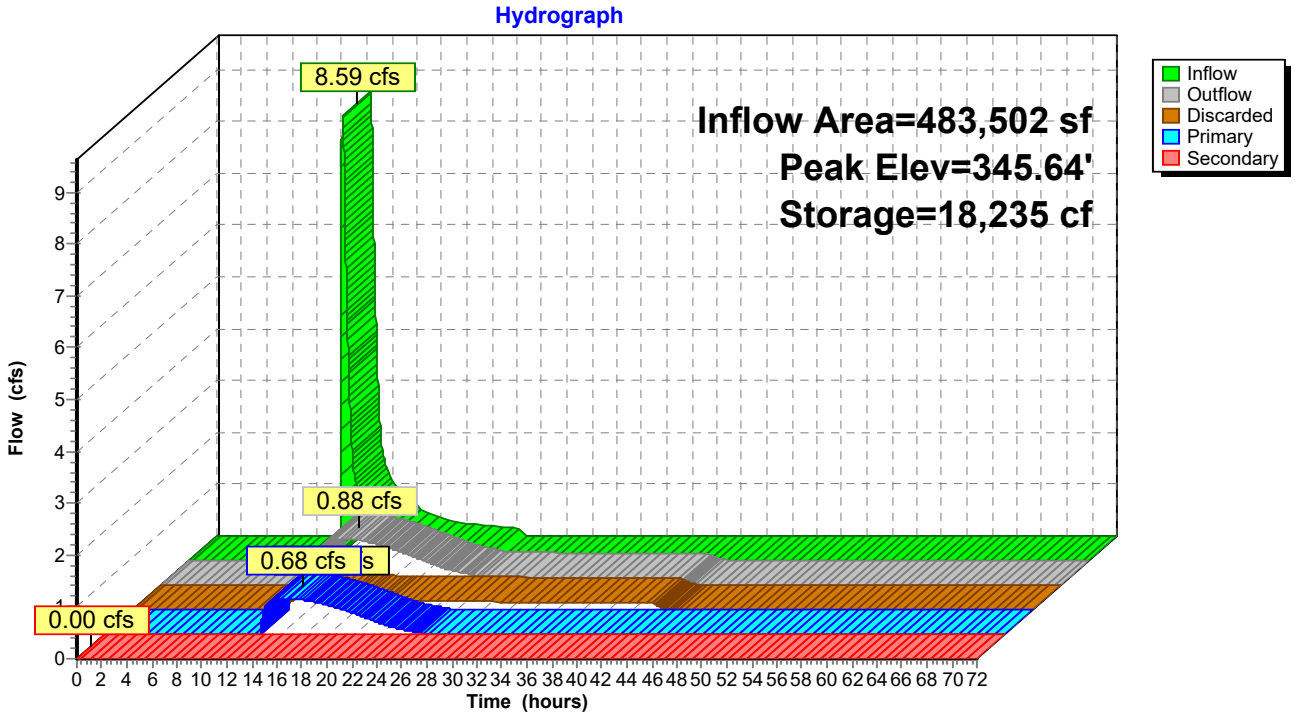
Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round Outlet Pipe** L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	344.35'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.25'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	346.65'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#5	Secondary	347.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	343.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.20 cfs @ 14.65 hrs HW=345.64' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 0.20 cfs)

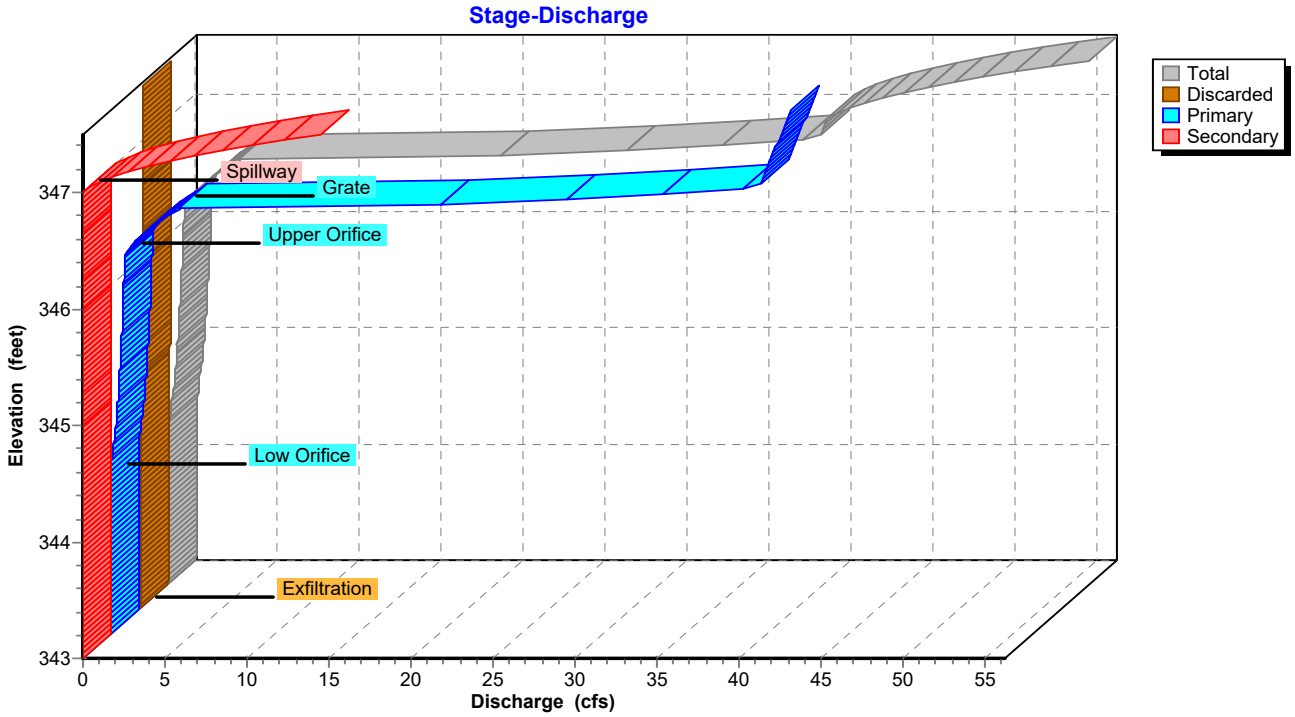
Primary OutFlow Max=0.68 cfs @ 14.65 hrs HW=345.64' (Free Discharge)
└**1=Outlet Pipe** (Passes 0.68 cfs of 35.91 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.68 cfs @ 5.00 fps)
  └**3=Upper Orifice** (Controls 0.00 cfs)
  └**4=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=343.00' (Free Discharge)
└**5=Spillway** (Controls 0.00 cfs)

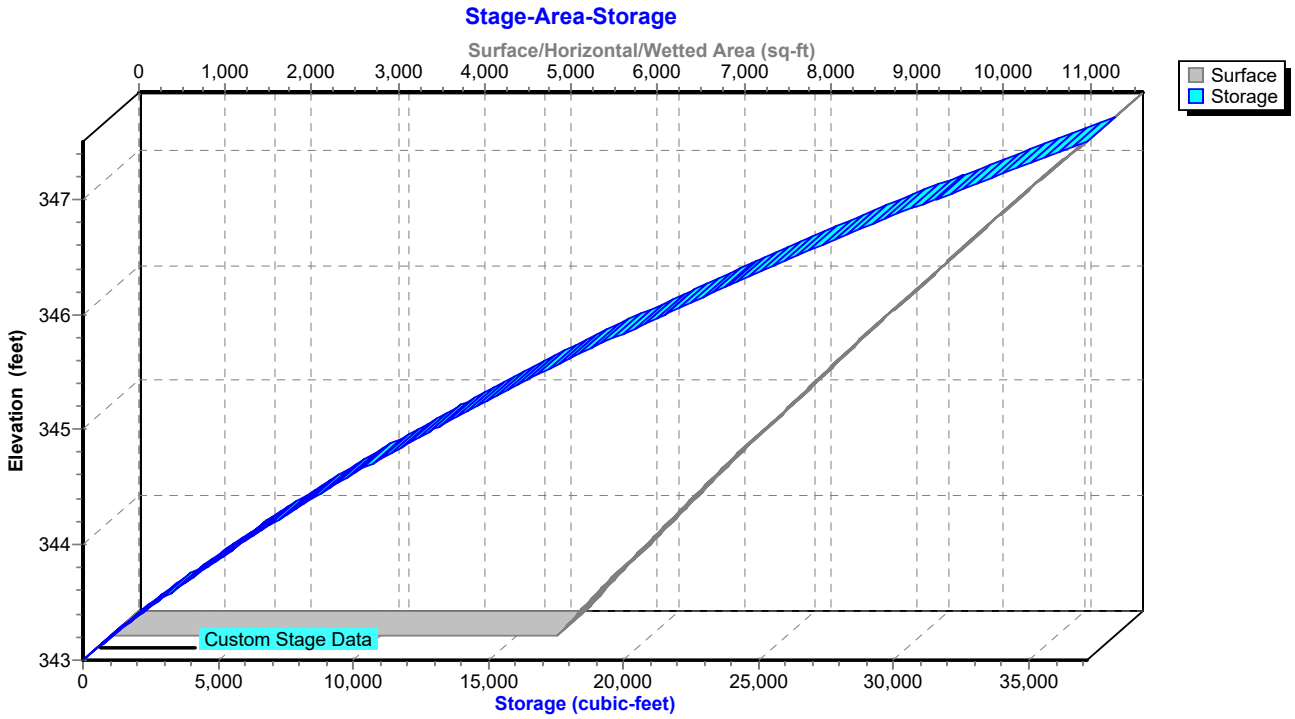




Pond BB-A: Bioretention Basin A 'BB-A'



Pond BB-A: Bioretention Basin A 'BB-A'



Summary for Pond BB-B: Bioretention Basin B 'BB-B'

[79] Warning: Submerged Pond BB-A Primary device # 1 OUTLET by 0.65'

Inflow Area = 496,073 sf, 17.47% Impervious, Inflow Depth = 0.49" for 1-year event
Inflow = 0.70 cfs @ 14.50 hrs, Volume= 20,059 cf
Outflow = 0.62 cfs @ 16.94 hrs, Volume= 20,059 cf, Atten= 11%, Lag= 146.5 min
Discarded = 0.08 cfs @ 16.94 hrs, Volume= 4,205 cf
Primary = 0.54 cfs @ 16.94 hrs, Volume= 15,854 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 338.65' @ 16.94 hrs Surf.Area= 3,418 sf Storage= 3,321 cf

Plug-Flow detention time= 89.5 min calculated for 20,059 cf (100% of inflow)
Center-of-Mass det. time= 89.5 min (1,107.1 - 1,017.7)

Volume	Invert	Avail.Storage	Storage Description
#1	337.50'	36,426 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

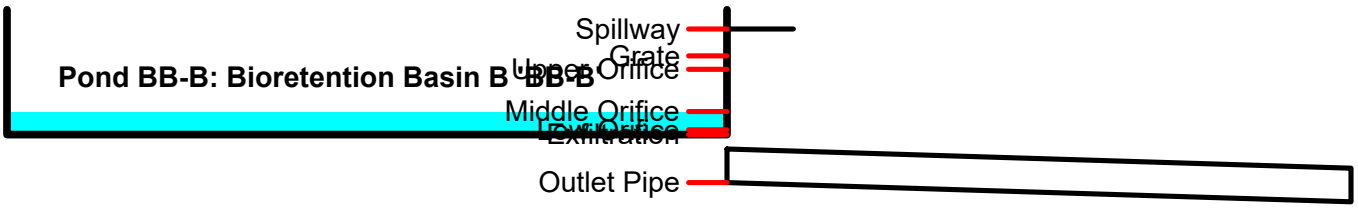
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
337.50	2,408	287.3	0	0	2,408
339.00	3,765	315.6	4,592	4,592	3,839
340.00	4,739	334.4	4,243	8,835	4,864
341.00	5,771	353.3	5,247	14,081	5,954
342.00	6,859	372.1	6,307	20,388	7,099
343.00	8,004	391.0	7,424	27,813	8,308
344.00	9,237	411.1	8,613	36,426	9,652

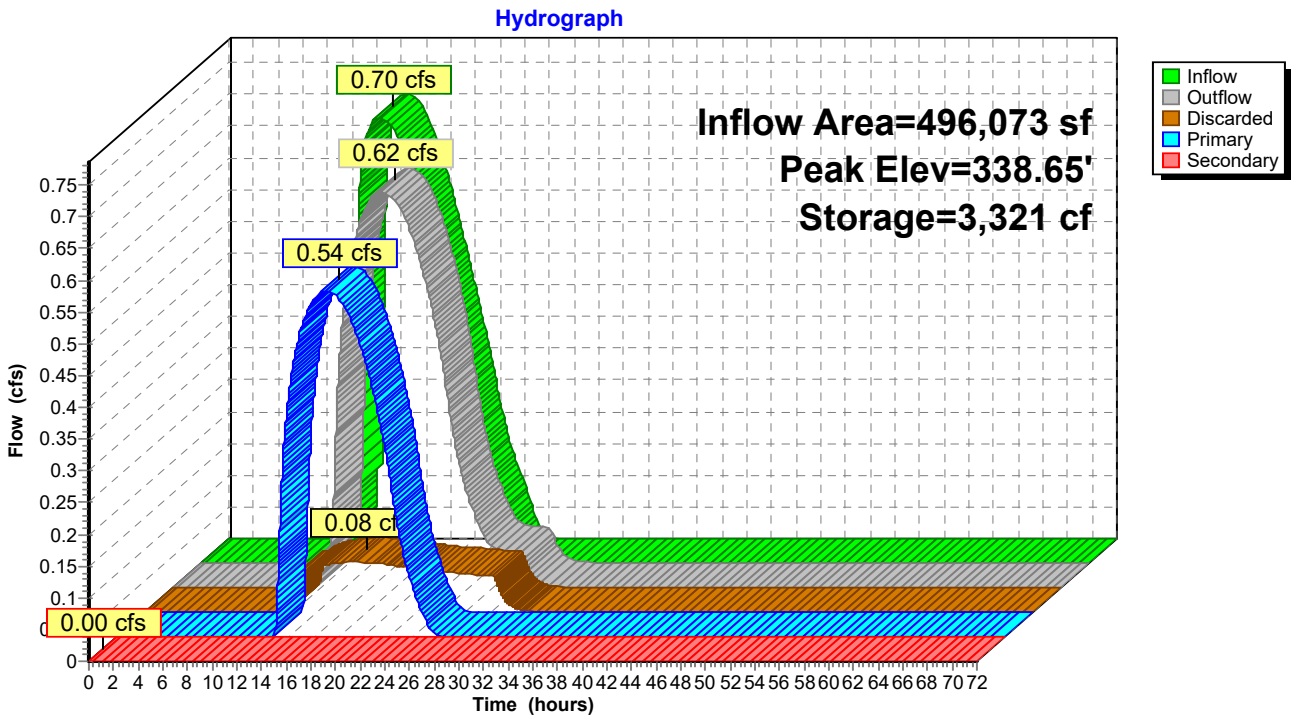
Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**21.0" Round Outlet Pipe** L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	337.75'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	338.70'	**48.0" W x 6.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	340.90'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	341.60'	**48.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#6	Secondary	343.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	337.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 16.94 hrs HW=338.65' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.08 cfs)

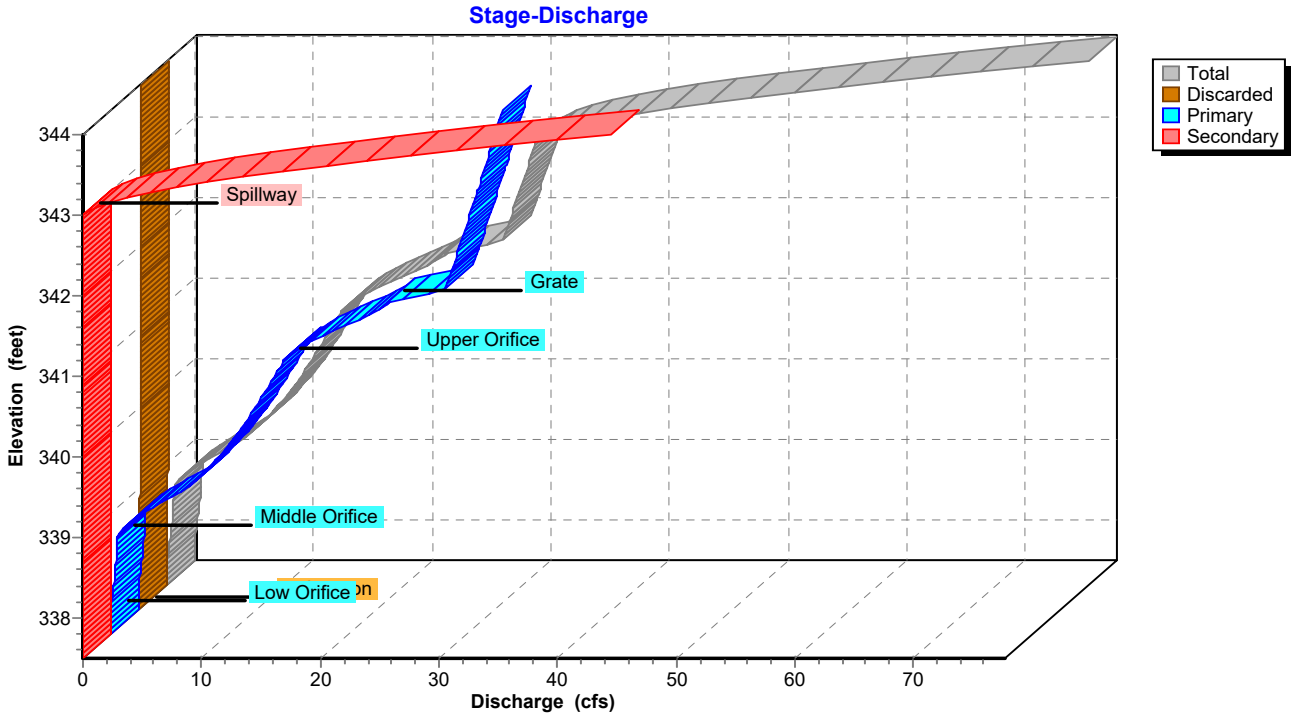
Primary OutFlow Max=0.54 cfs @ 16.94 hrs HW=338.65' (Free Discharge)
└**1=Outlet Pipe** (Passes 0.54 cfs of 19.28 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.54 cfs @ 3.99 fps)
  └**3=Middle Orifice** (Controls 0.00 cfs)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=337.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)

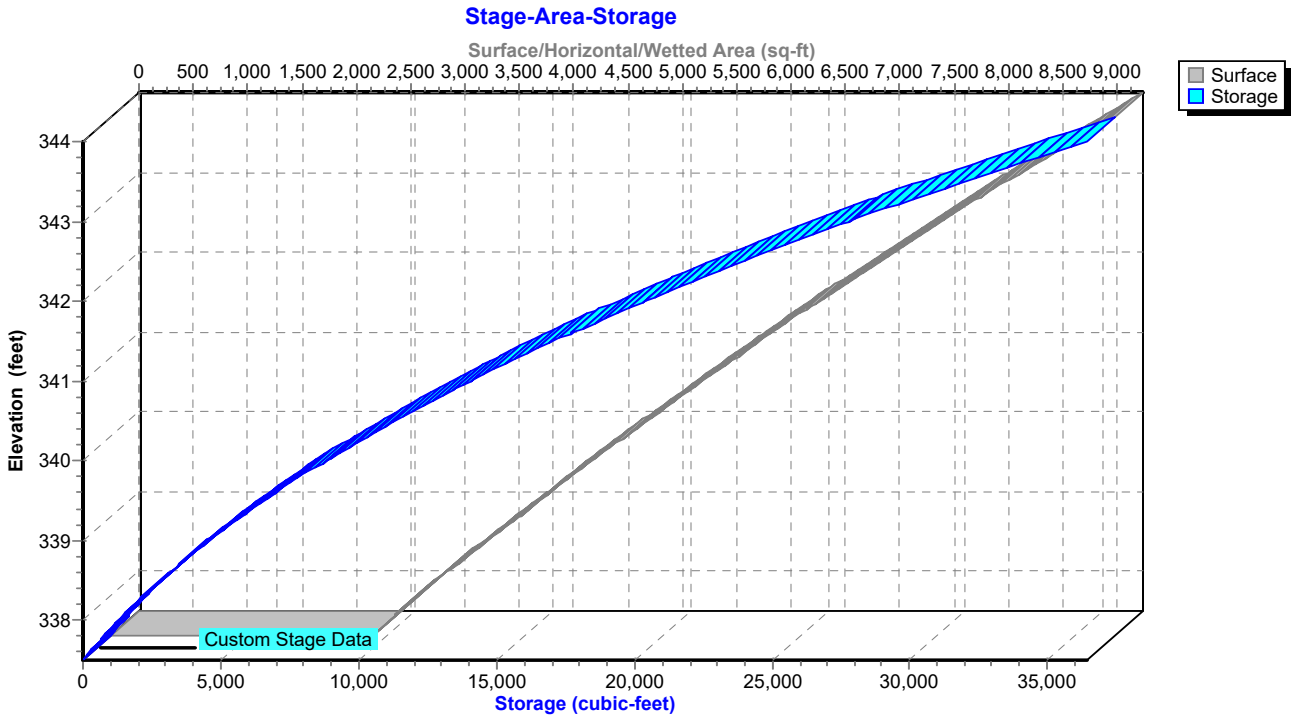




Pond BB-B: Bioretention Basin B 'BB-B'



Pond BB-B: Bioretention Basin B 'BB-B'



Summary for Pond BB-C: Bioretention Basin C 'BB-C'

Inflow Area = 74,552 sf, 29.32% Impervious, Inflow Depth = 1.24" for 1-year event
Inflow = 1.67 cfs @ 12.28 hrs, Volume= 7,686 cf
Outflow = 0.41 cfs @ 12.91 hrs, Volume= 7,686 cf, Atten= 75%, Lag= 37.8 min
Discarded = 0.06 cfs @ 12.91 hrs, Volume= 3,358 cf
Primary = 0.35 cfs @ 12.91 hrs, Volume= 4,328 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 388.97' @ 12.91 hrs Surf.Area= 2,502 sf Storage= 2,964 cf

Plug-Flow detention time= 178.0 min calculated for 7,686 cf (100% of inflow)
Center-of-Mass det. time= 178.0 min (1,034.9 - 856.9)

Volume	Invert	Avail.Storage	Storage Description
#1	387.50'	13,929 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

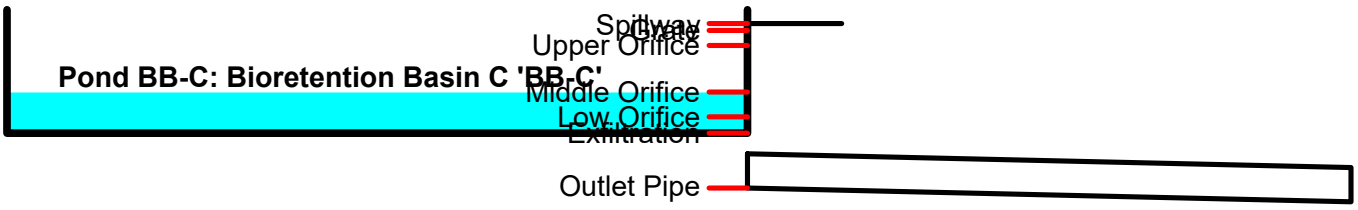
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
387.50	1,568	193.8	0	0	1,568
388.00	1,872	204.2	859	859	1,912
389.00	2,526	224.8	2,191	3,050	2,647
390.00	3,229	243.7	2,870	5,920	3,390
391.00	3,988	262.5	3,602	9,522	4,188
392.00	4,841	285.5	4,408	13,929	5,228

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	**15.0" Round Outlet Pipe** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	388.10'	**4.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	389.00'	**10.0" W x 4.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.70'	**24.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#6	Secondary	391.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	387.50'	**1.000 in/hr Exfiltration over Surface area**

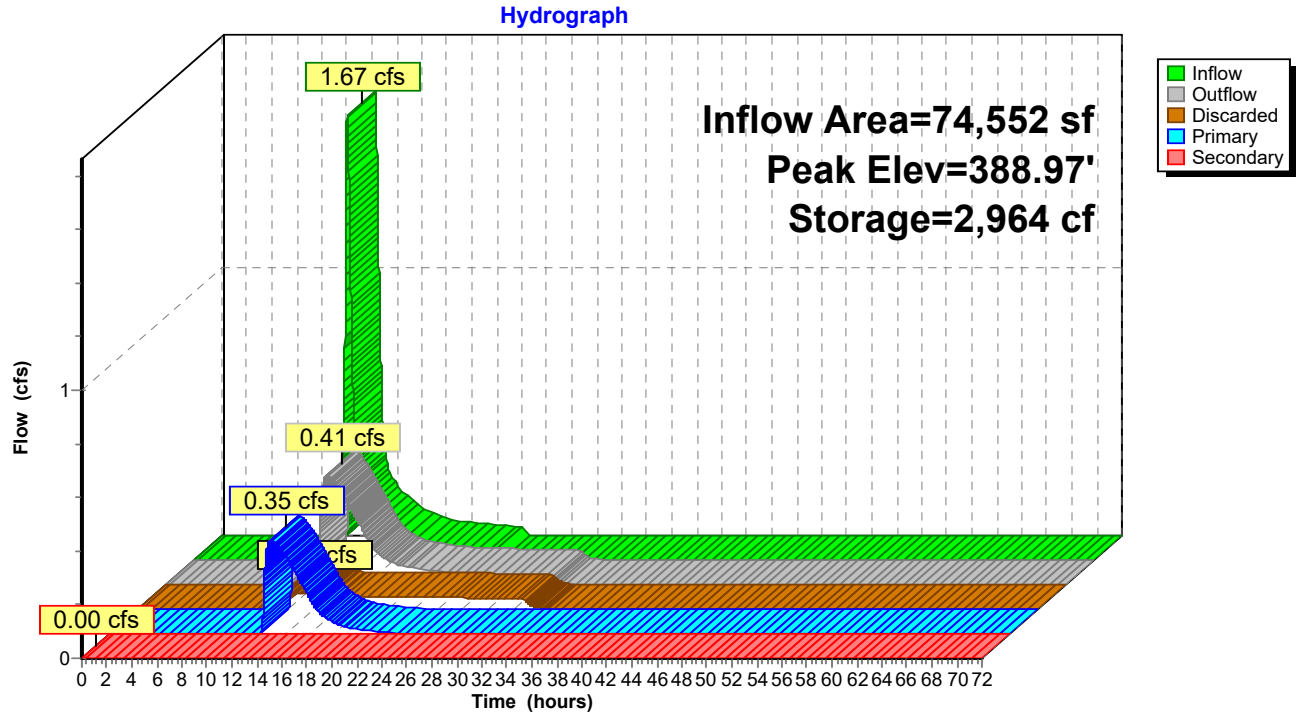
Discarded OutFlow Max=0.06 cfs @ 12.91 hrs HW=388.97' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.35 cfs @ 12.91 hrs HW=388.97' (Free Discharge)
└**1=Outlet Pipe** (Passes 0.35 cfs of 9.96 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.35 cfs @ 4.03 fps)
  └**3=Middle Orifice** (Controls 0.00 cfs)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

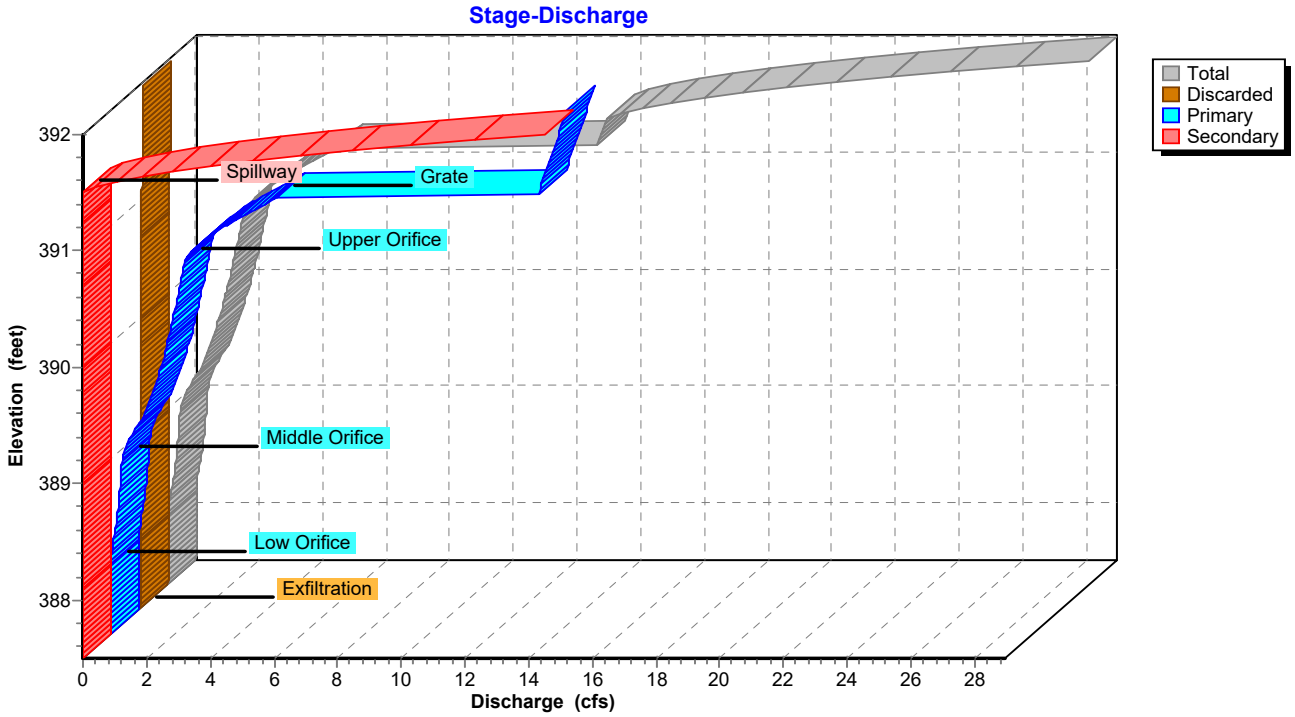
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=387.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)



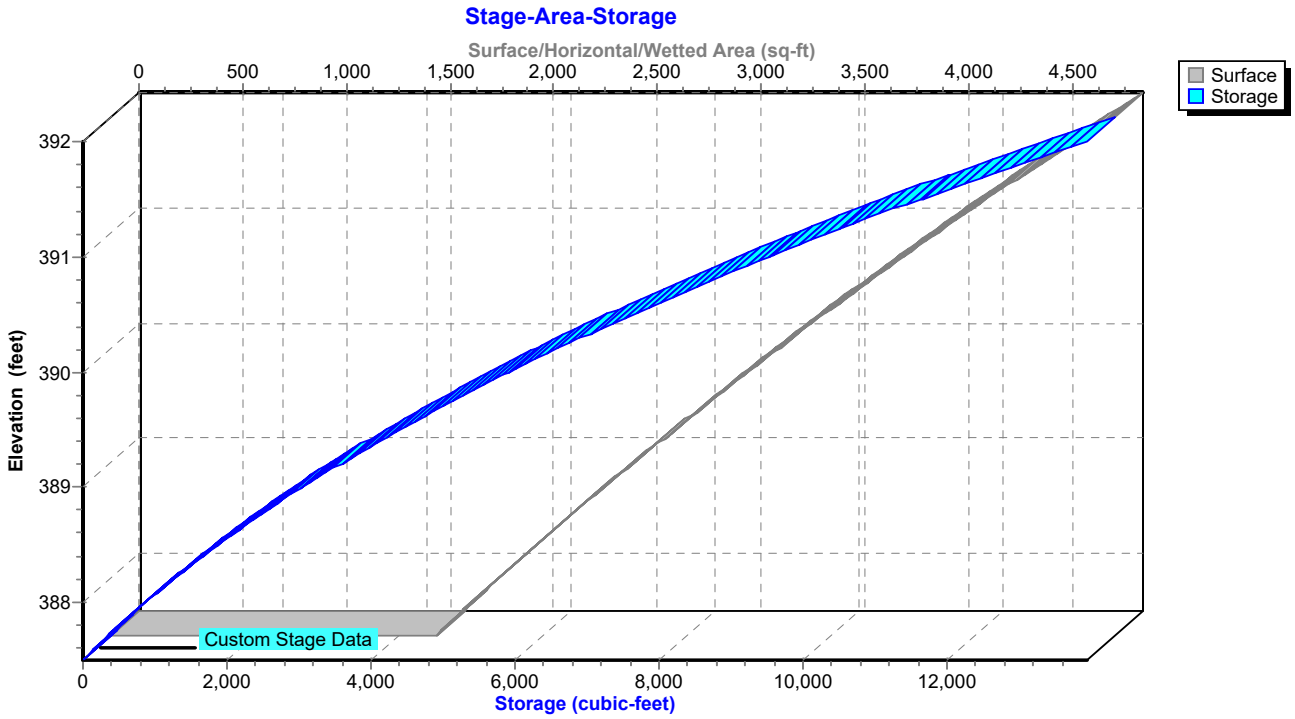
Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Summary for Pond WQB: Water Quality Basin 'WQB'

Inflow Area = 459,645 sf, 18.69% Impervious, Inflow Depth = 1.06" for 1-year event
Inflow = 8.35 cfs @ 12.31 hrs, Volume= 40,532 cf
Outflow = 8.35 cfs @ 12.31 hrs, Volume= 40,532 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.07 cfs @ 12.31 hrs, Volume= 5,792 cf
Primary = 8.28 cfs @ 12.31 hrs, Volume= 34,740 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 356.26' @ 12.31 hrs Surf.Area= 2,865 sf Storage= 4,311 cf

Plug-Flow detention time= 102.0 min calculated for 40,527 cf (100% of inflow)
Center-of-Mass det. time= 102.2 min (970.6 - 868.5)

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,684 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
354.00	1,014	251.0	0	0	1,014
355.00	1,803	271.5	1,390	1,390	1,906
356.00	2,645	290.3	2,211	3,600	2,792
357.00	3,545	309.2	3,084	6,684	3,742

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**24.0" Round Outlet Pipe** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	**48.0" W x 6.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#4	Secondary	356.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	354.00'	**1.000 in/hr Exfiltration over Surface area**

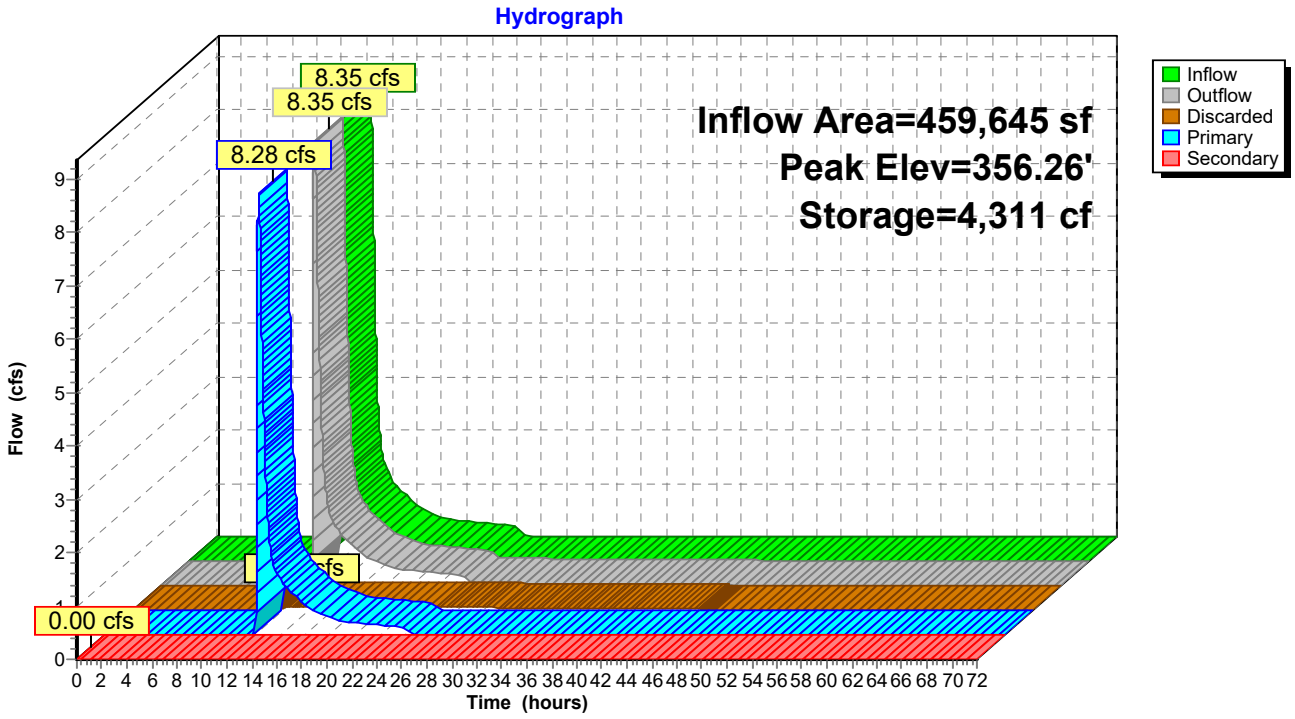
Discarded OutFlow Max=0.07 cfs @ 12.31 hrs HW=356.26' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=11.62 cfs @ 12.31 hrs HW=356.26' (Free Discharge)
└**1=Outlet Pipe** (Passes 11.62 cfs of 48.45 cfs potential flow)
├**2=Orifice** (Orifice Controls 4.64 cfs @ 2.32 fps)
└**3=Grate** (Orifice Controls 6.97 cfs @ 0.44 fps)

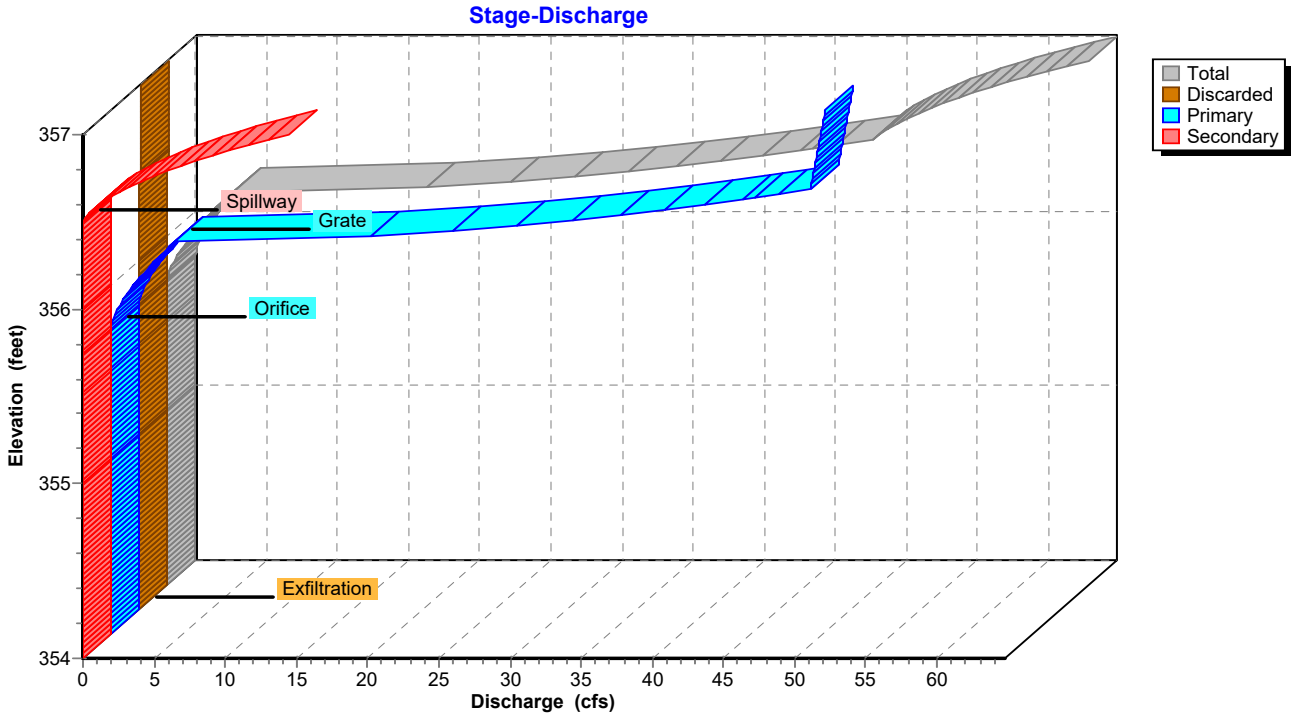
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)
└**4=Spillway** (Controls 0.00 cfs)

Pond WQB: Water Quality Basin 'WQB'

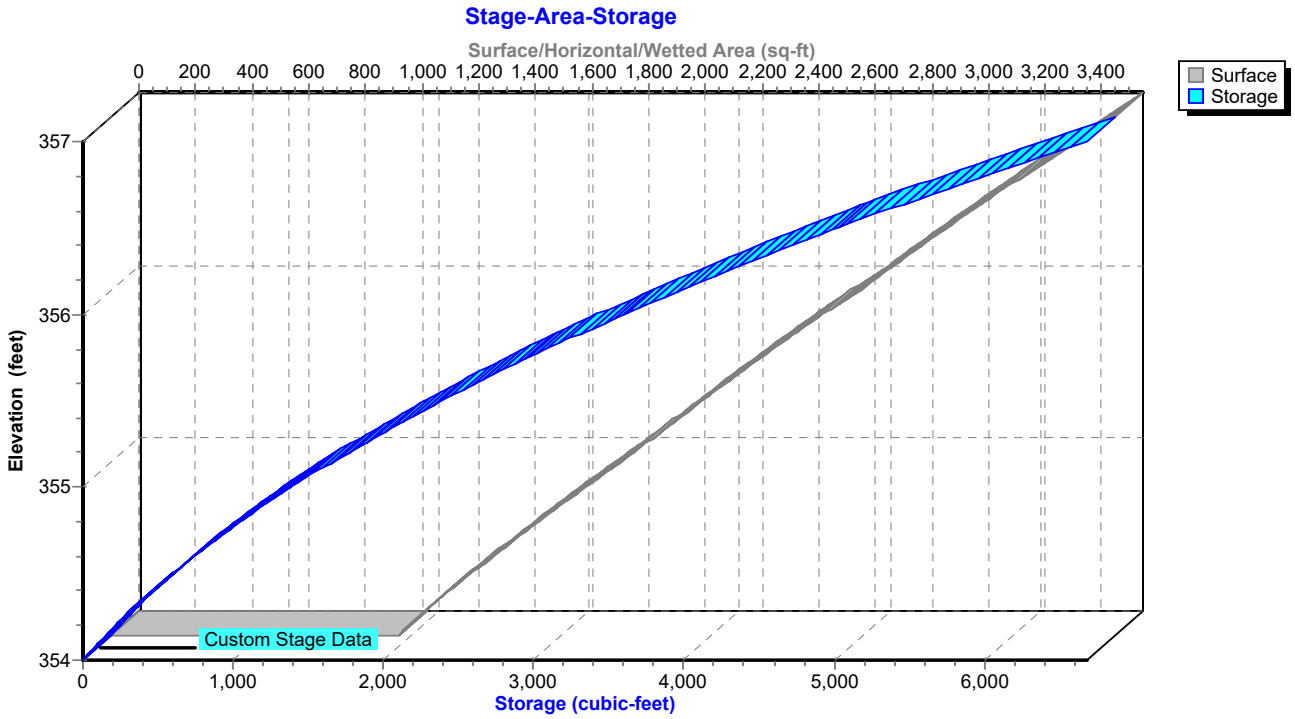
Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'

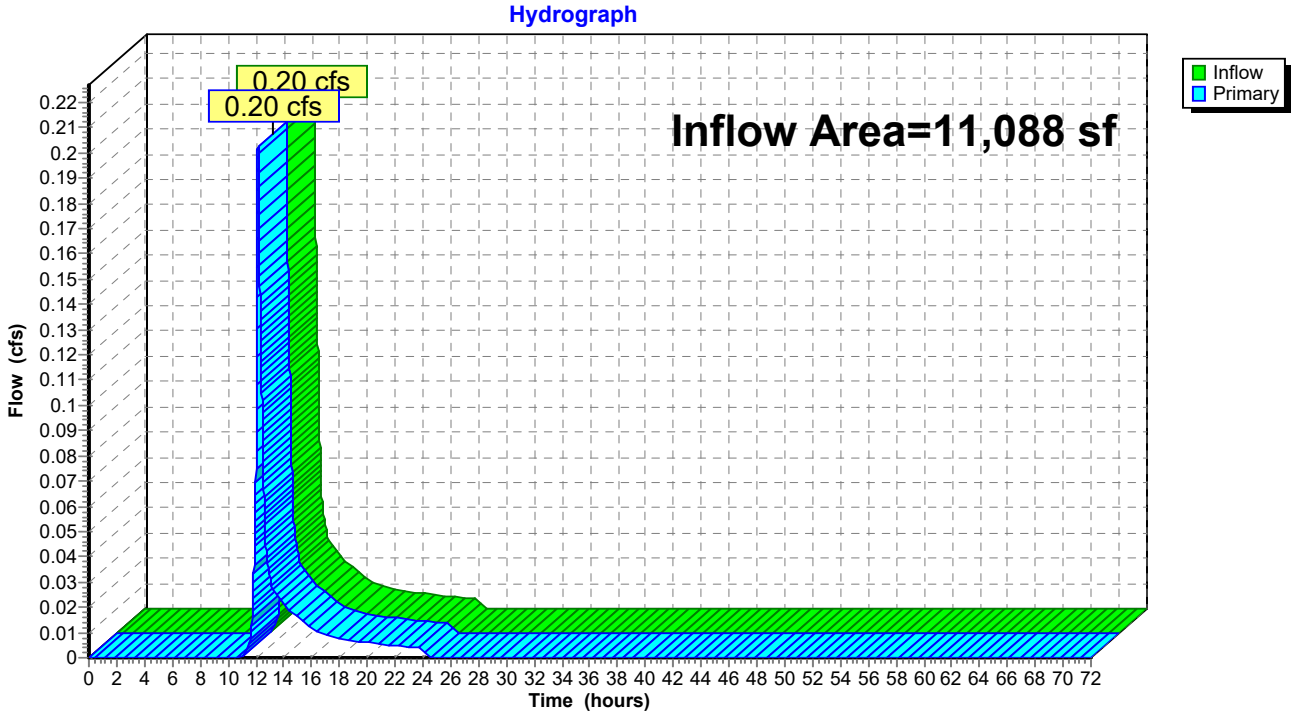


Summary for Link AL1: Analysis Line #1 (Southeastern PL)

Inflow Area = 11,088 sf, 1.43% Impervious, Inflow Depth = 0.85" for 1-year event
Inflow = 0.20 cfs @ 12.15 hrs, Volume= 781 cf
Primary = 0.20 cfs @ 12.15 hrs, Volume= 781 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL1: Analysis Line #1 (Southeastern PL)

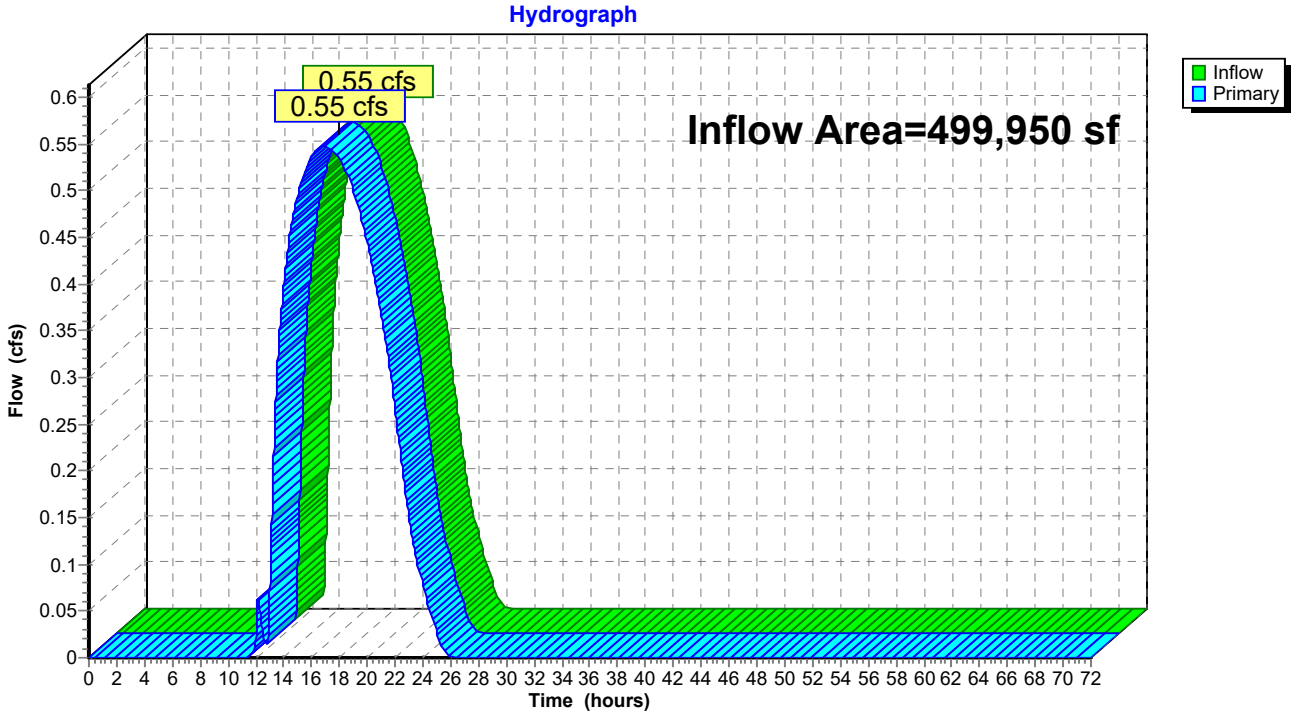


Summary for Link AL2: Analysis Line #2 (Wetlands)

Inflow Area = 499,950 sf, 17.34% Impervious, Inflow Depth = 0.39" for 1-year event
Inflow = 0.55 cfs @ 16.92 hrs, Volume= 16,112 cf
Primary = 0.55 cfs @ 16.92 hrs, Volume= 16,112 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL2: Analysis Line #2 (Wetlands)

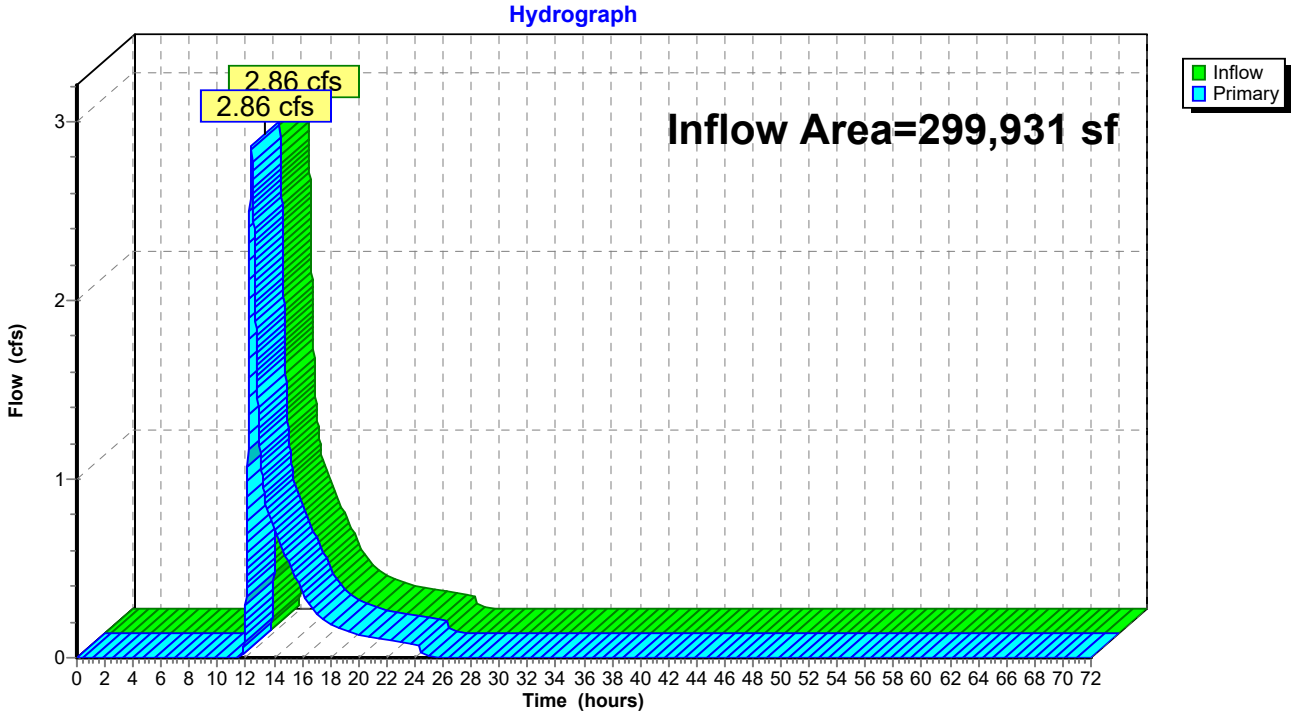


Summary for Link AL3: Analysis Line #3 (Northern PL)

Inflow Area = 299,931 sf, 13.96% Impervious, Inflow Depth = 0.74" for 1-year event
Inflow = 2.86 cfs @ 12.38 hrs, Volume= 18,400 cf
Primary = 2.86 cfs @ 12.38 hrs, Volume= 18,400 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL3: Analysis Line #3 (Northern PL)

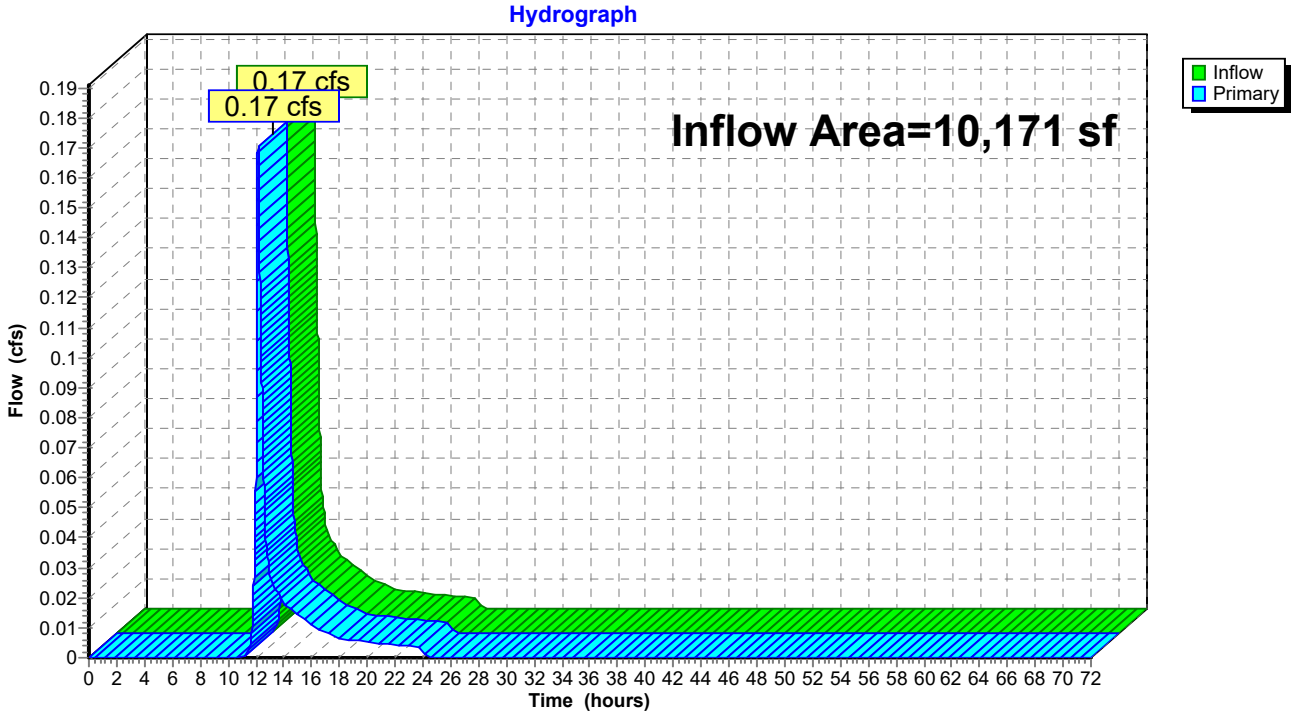


Summary for Link AL4: Analysis Line #4 (Northeastern PL)

Inflow Area = 10,171 sf, 0.00% Impervious, Inflow Depth = 0.80" for 1-year event
Inflow = 0.17 cfs @ 12.16 hrs, Volume= 675 cf
Primary = 0.17 cfs @ 12.16 hrs, Volume= 675 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL4: Analysis Line #4 (Northeastern PL)

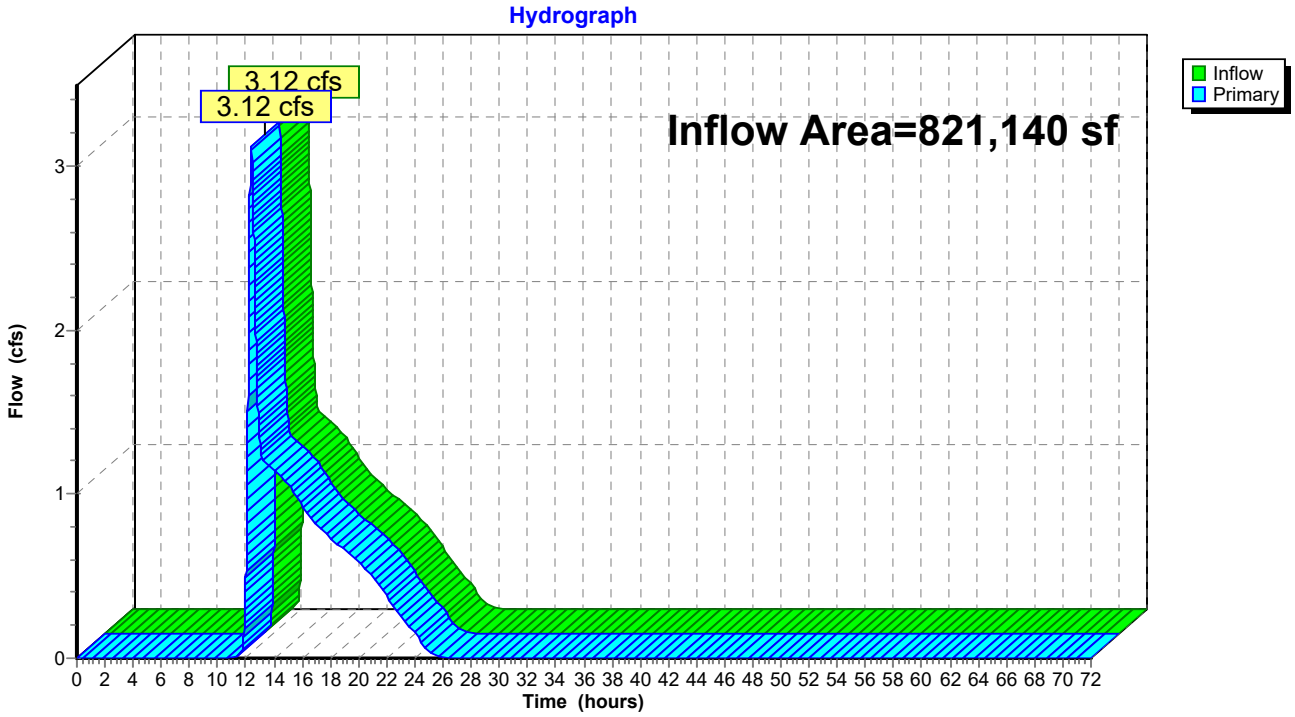


Summary for Link ALL: ALL

Inflow Area = 821,140 sf, 15.68% Impervious, Inflow Depth = 0.53" for 1-year event
Inflow = 3.12 cfs @ 12.37 hrs, Volume= 35,968 cf
Primary = 3.12 cfs @ 12.37 hrs, Volume= 35,968 cf, Atten= 0%, Lag= 0.0 min

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

Link ALL: ALL



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment SA1: Drainage Subarea #1 Runoff Area=11,088 sf 1.43% Impervious Runoff Depth=1.21"
Tc=10.0 min CN=74 Runoff=0.30 cfs 1,114 cf

Subcatchment SA2A: Drainage Subarea Runoff Area=10.552 ac 18.69% Impervious Runoff Depth=1.46"
Flow Length=697' Tc=20.8 min CN=78 Runoff=11.75 cfs 55,904 cf

Subcatchment SA2B: Drainage Subarea Runoff Area=23,857 sf 3.29% Impervious Runoff Depth=1.27"
Tc=10.0 min CN=75 Runoff=0.69 cfs 2,518 cf

Subcatchment SA2C: Drainage Subarea Runoff Area=12,571 sf 0.00% Impervious Runoff Depth=1.21"
Tc=10.0 min CN=74 Runoff=0.34 cfs 1,263 cf

Subcatchment SA2D: Drainage Subarea #2D Runoff Area=3,877 sf 0.00% Impervious Runoff Depth=1.15"
Tc=10.0 min CN=73 Runoff=0.10 cfs 370 cf

Subcatchment SA3A: Drainage Subarea Runoff Area=74,552 sf 29.32% Impervious Runoff Depth=1.67"
Flow Length=325' Tc=19.3 min CN=81 Runoff=2.28 cfs 10,364 cf

Subcatchment SA3B: Drainage Subarea Runoff Area=225,379 sf 8.88% Impervious Runoff Depth=1.09"
Flow Length=165' Tc=21.1 min CN=72 Runoff=4.08 cfs 20,441 cf

Subcatchment SA4: Drainage Subarea #4 Runoff Area=10,171 sf 0.00% Impervious Runoff Depth=1.15"
Flow Length=246' Tc=10.3 min CN=73 Runoff=0.26 cfs 971 cf

Reach SW: Diversion Swale Avg. Flow Depth=0.32' Max Vel=2.50 fps Inflow=4.08 cfs 20,441 cf
n=0.069 L=396.0' S=0.0788 '/' Capacity=32.66 cfs Outflow=4.03 cfs 20,441 cf

Pond BB-A: Bioretention Basin A 'BB-A' Peak Elev=346.39' Storage=25,308 cf Inflow=12.14 cfs 52,491 cf
Discarded=0.23 cfs 19,102 cf Primary=1.60 cfs 33,389 cf Secondary=0.00 cfs 0 cf Outflow=1.83 cfs 52,491 cf

Pond BB-B: Bioretention Basin B 'BB-B' Peak Elev=338.85' Storage=4,049 cf Inflow=1.64 cfs 34,652 cf
Discarded=0.08 cfs 4,906 cf Primary=1.40 cfs 29,745 cf Secondary=0.00 cfs 0 cf Outflow=1.48 cfs 34,652 cf

Pond BB-C: Bioretention Basin C 'BB-C' Peak Elev=389.28' Storage=3,789 cf Inflow=2.28 cfs 10,364 cf
Discarded=0.06 cfs 3,593 cf Primary=0.82 cfs 6,771 cf Secondary=0.00 cfs 0 cf Outflow=0.89 cfs 10,364 cf

Pond WQB: Water Quality Basin 'WQB' Peak Elev=356.27' Storage=4,333 cf Inflow=11.75 cfs 55,904 cf
Discarded=0.07 cfs 5,931 cf Primary=11.68 cfs 49,973 cf Secondary=0.00 cfs 0 cf Outflow=11.75 cfs 55,904 cf

Link AL1: Analysis Line #1 (Southeastern PL) Inflow=0.30 cfs 1,114 cf
Primary=0.30 cfs 1,114 cf

Link AL2: Analysis Line #2 (Wetlands) Inflow=1.41 cfs 30,116 cf
Primary=1.41 cfs 30,116 cf

Link AL3: Analysis Line #3 (Northern PL) Inflow=4.36 cfs 27,212 cf
Primary=4.36 cfs 27,212 cf

Link AL4: Analysis Line #4 (Northeastern PL) Inflow=0.26 cfs 971 cf
Primary=0.26 cfs 971 cf

Link ALL: ALL Inflow=4.75 cfs 59,413 cf
Primary=4.75 cfs 59,413 cf

Total Runoff Area = 821,140 sf Runoff Volume = 92,945 cf Average Runoff Depth = 1.36"
84.32% Pervious = 692,426 sf 15.68% Impervious = 128,714 sf

Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'

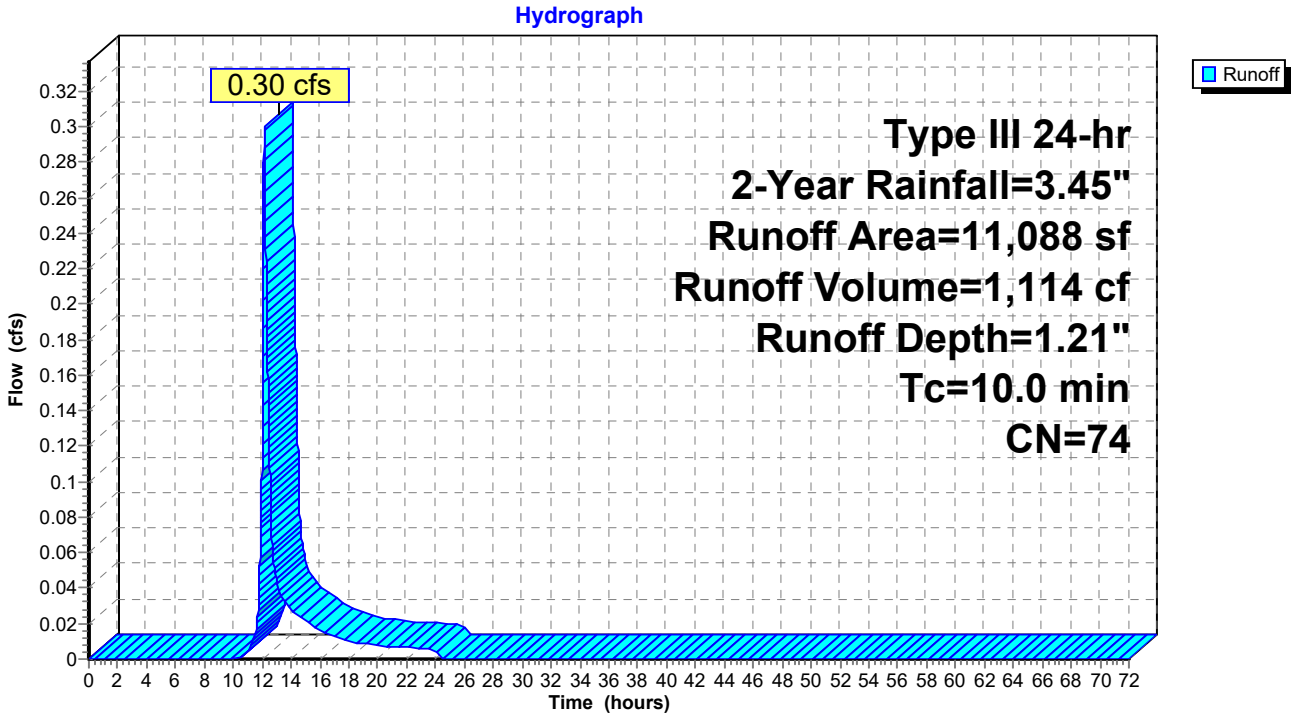
Runoff = 0.30 cfs @ 12.15 hrs, Volume= 1,114 cf, Depth= 1.21"
Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	159	98	Bldgs./Impervious
*	10,517	74	Lawn, Good, HSG C
*	412	70	Woods, Good, HSG C
	11,088	74	Weighted Average
	10,929	74	98.57% Pervious Area
	159	98	1.43% Impervious Area

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

Subcatchment SA1: Drainage Subarea #1 'SA1'



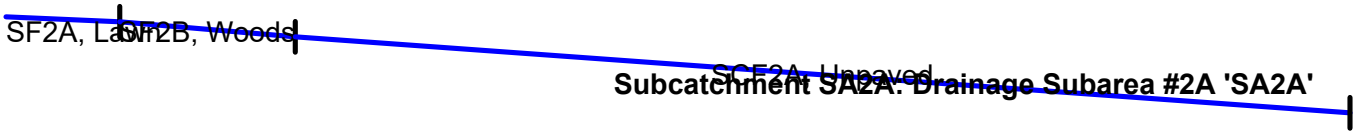
Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'

Runoff = 11.75 cfs @ 12.30 hrs, Volume= 55,904 cf, Depth= 1.46"
Routed to Pond WQB : Water Quality Basin 'WQB'

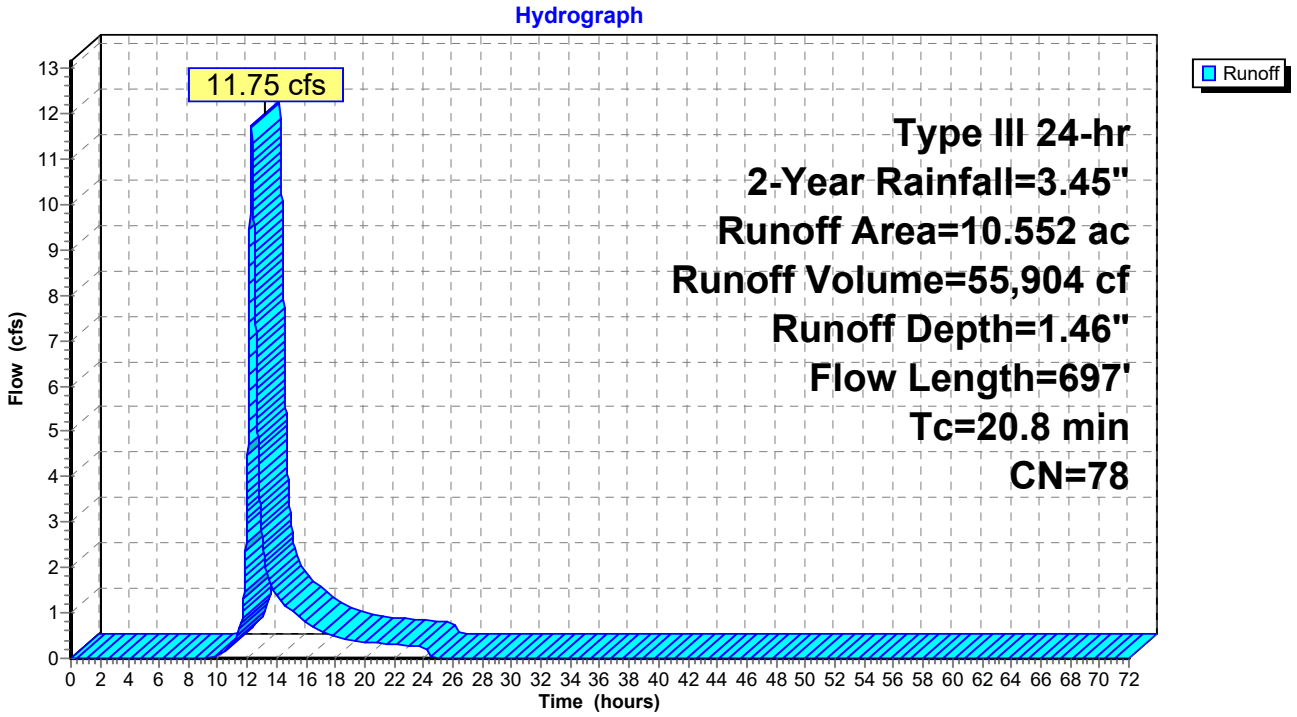
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (ac)	CN	Description
*	1.972	98	Bldgs./Impervious
*	0.064	92	Compact Gravel (est.), HSG C
*	0.077	86	Open Deck (est.), HSG C
*	5.552	74	Lawn, Good, HSG C
*	2.887	70	Woods, Good, HSG C
	10.552	78	Weighted Average
	8.580	73	81.31% Pervious Area
	1.972	98	18.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	59	0.0590	0.17		**Sheet Flow, SF2A, Lawn** n= 0.240 P2= 3.43"
13.1	91	0.1180	0.12		**Sheet Flow, SF2B, Woods** n= 0.600 P2= 3.43"
1.8	547	0.0990	5.07		**Shallow Concentrated Flow, SCF2A, Unpaved** Unpaved Kv= 16.1 fps
20.8	697	Total			



Subcatchment SA2A: Drainage Subarea #2A 'SA2A'



Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'

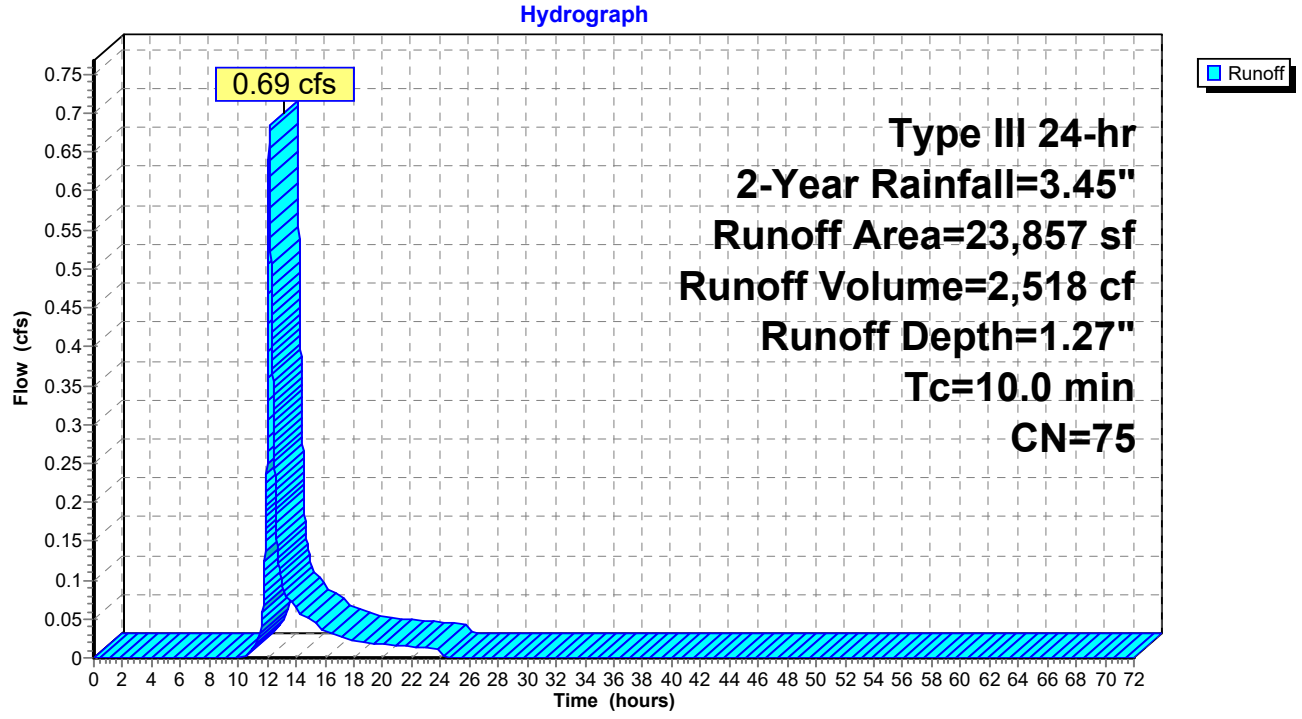
Runoff = 0.69 cfs @ 12.15 hrs, Volume= 2,518 cf, Depth= 1.27"
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	784	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	22,922	74	Lawn, Good, HSG C
	23,857	75	Weighted Average
	23,073	74	96.71% Pervious Area
	784	98	3.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2B: Drainage Subarea #2B 'SA2B'



Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'

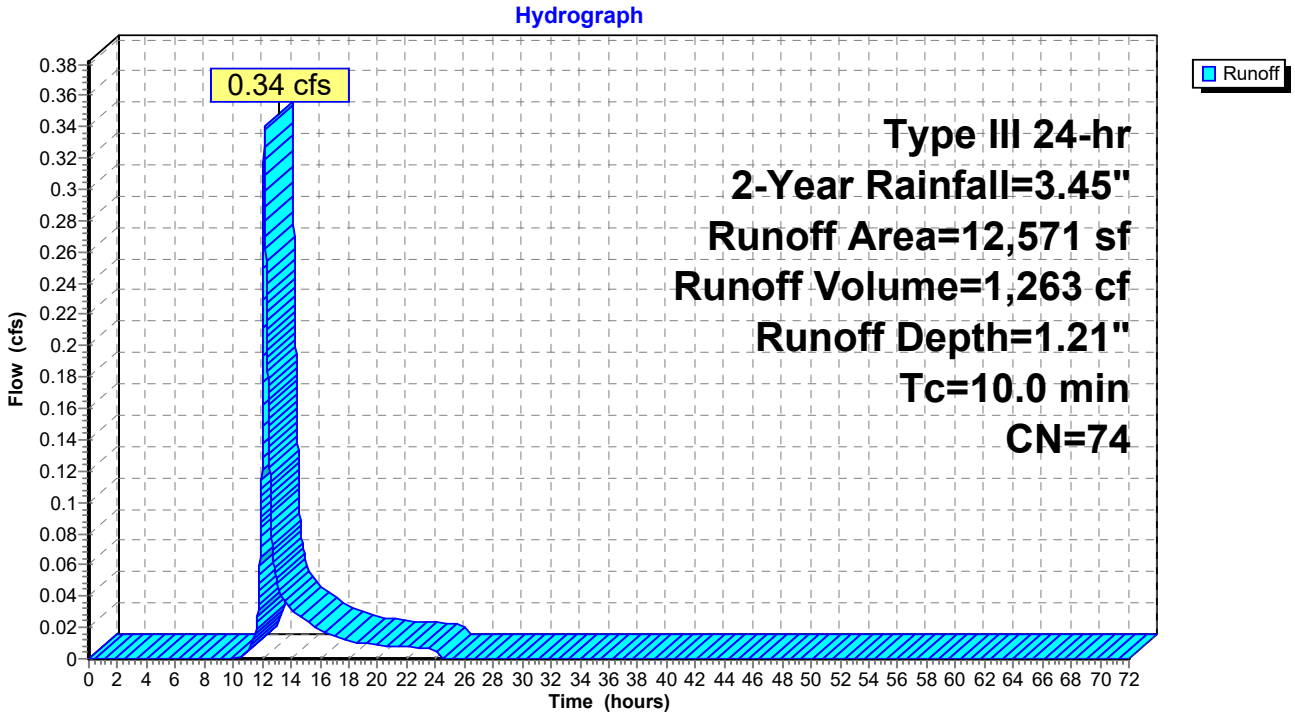
Runoff = 0.34 cfs @ 12.15 hrs, Volume= 1,263 cf, Depth= 1.21"
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	12,571	74	Lawn, Good, HSG C
	12,571	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2C: Drainage Subarea #2C 'SA2C'



Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'

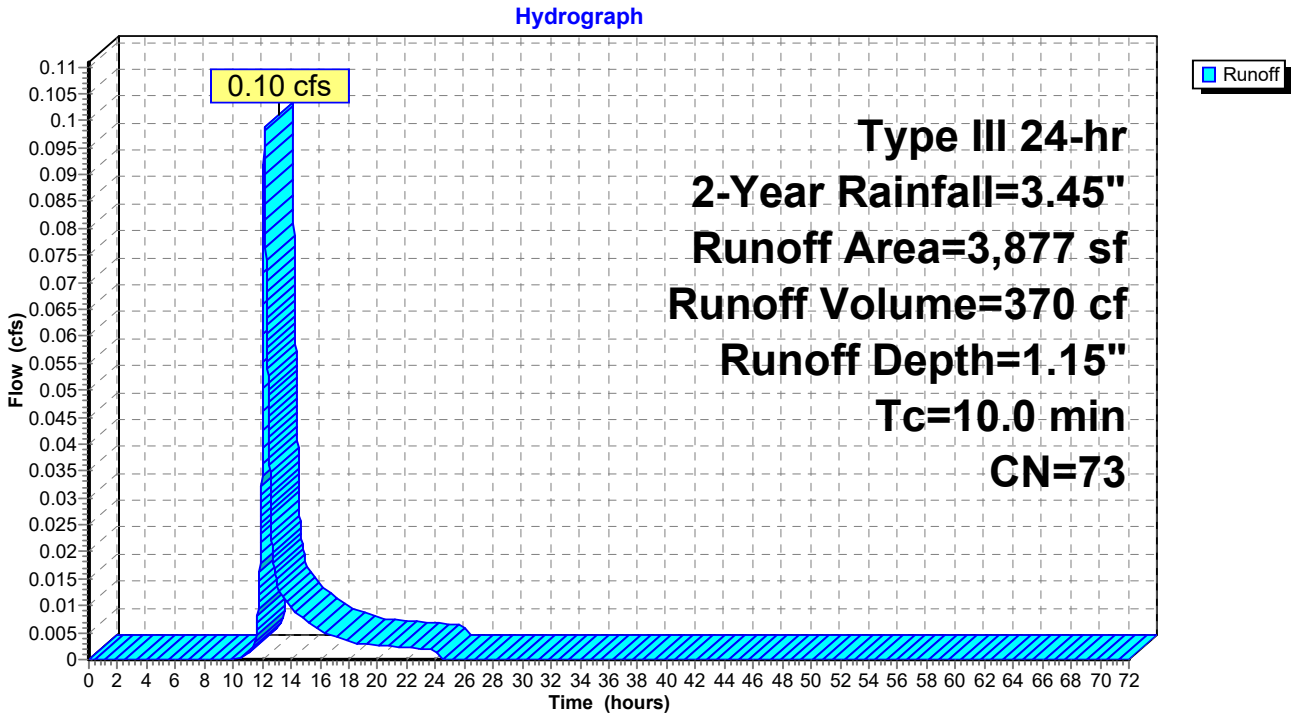
Runoff = 0.10 cfs @ 12.15 hrs, Volume= 370 cf, Depth= 1.15"
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	2,138	74	Lawn, Good, HSG C
*	1,349	70	Woods, Good, HSG C
*	390	77	Woods, Good, HSG D
	3,877	73	Weighted Average
	3,877	73	100.00% Pervious Area

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

Subcatchment SA2D: Drainage Subarea #2D 'SA2D'



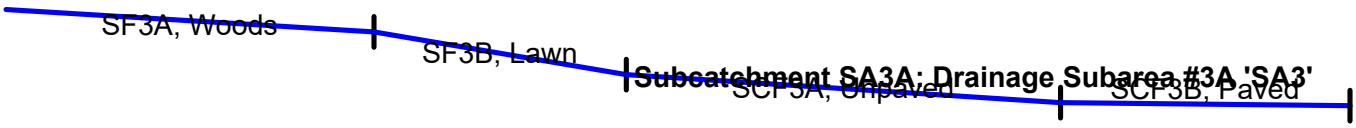
Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'

Runoff = 2.28 cfs @ 12.27 hrs, Volume= 10,364 cf, Depth= 1.67"
Routed to Pond BB-C : Bioretention Basin C 'BB-C'

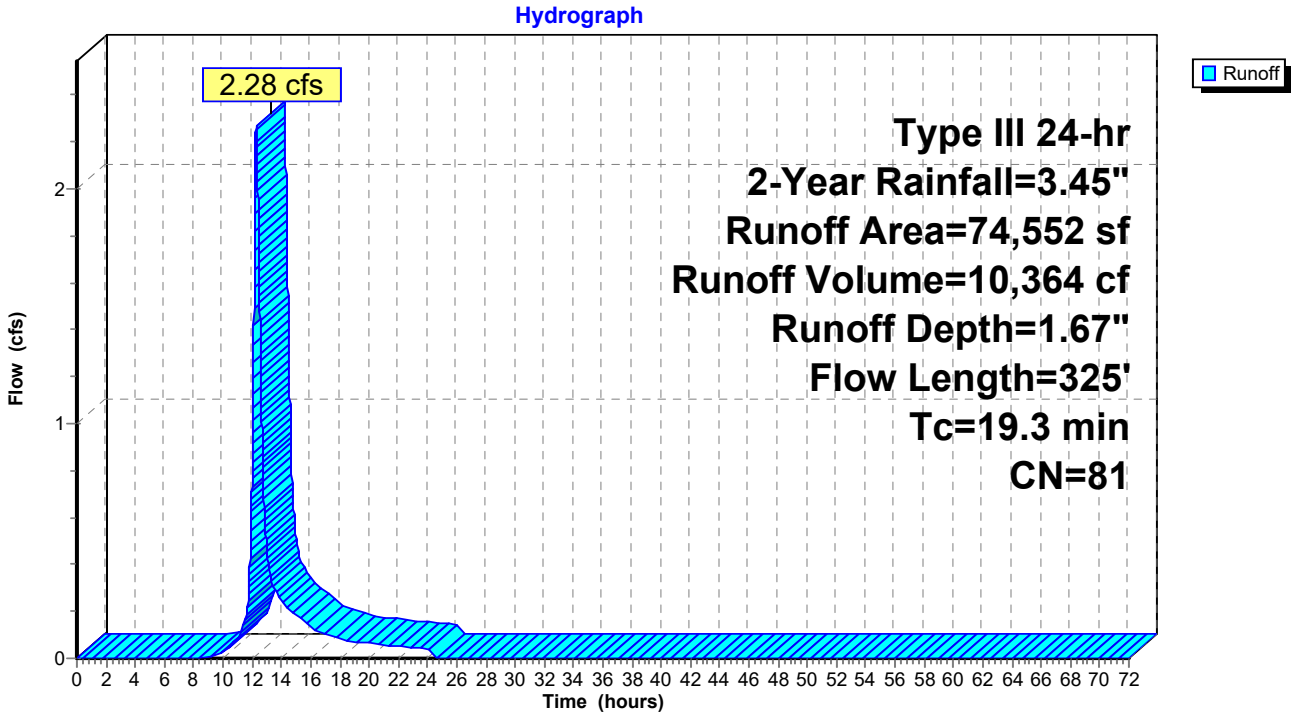
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	21,859	98	Bldgs./Impervious
*	454	86	Open Deck (est.), HSG C
*	48,227	74	Lawn, Good, HSG C
*	4,012	70	Woods, Good, HSG C
	74,552	81	Weighted Average
	52,693	74	70.68% Pervious Area
	21,859	98	29.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	89	0.0810	0.10		**Sheet Flow, SF3A, Woods** n= 0.600 P2= 3.43"
3.5	61	0.2260	0.29		**Sheet Flow, SF3B, Lawn** n= 0.240 P2= 3.43"
0.4	105	0.0860	4.72		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
0.5	70	0.0140	2.40		**Shallow Concentrated Flow, SCF3B, Paved** Paved Kv= 20.3 fps
19.3	325	Total			



Subcatchment SA3A: Drainage Subarea #3A 'SA3'



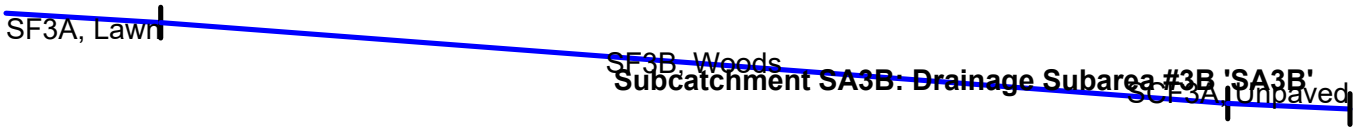
Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'

Runoff = 4.08 cfs @ 12.31 hrs, Volume= 20,441 cf, Depth= 1.09"
Routed to Reach SW : Diversion Swale

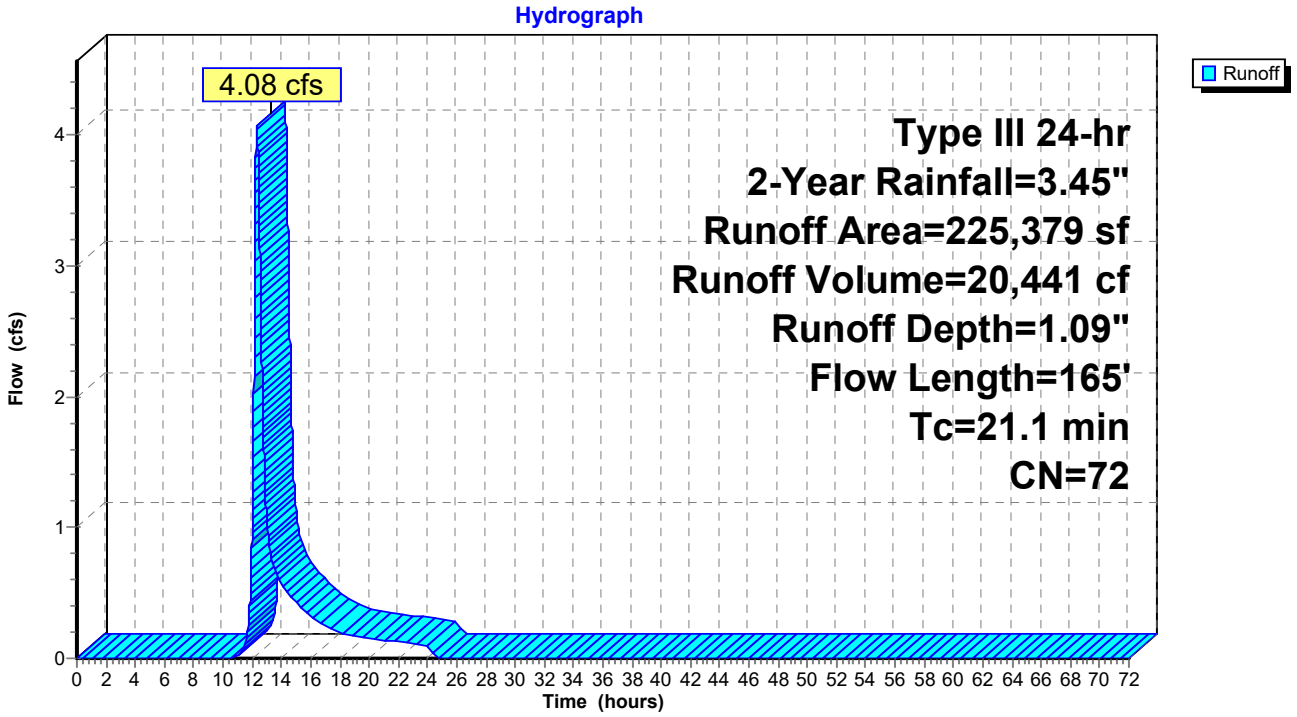
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	20,012	98	Bldgs./Impervious
*	596	92	Compact Gravel (est.), HSG C
*	1,211	86	Open Deck (est.), HSG C
*	372	61	Lawn, Good, HSG B
*	109,208	74	Lawn, Good, HSG C
*	32,752	55	Woods, Good, HSG B
*	61,228	70	Woods, Good, HSG C
	225,379	72	Weighted Average
	205,367	70	91.12% Pervious Area
	20,012	98	8.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		**Sheet Flow, SF3A, Lawn** n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		**Sheet Flow, SF3B, Woods** n= 0.600 P2= 3.43"
0.1	15	0.0600	3.94		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
21.1	165	Total			



Subcatchment SA3B: Drainage Subarea #3B 'SA3B'



Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'

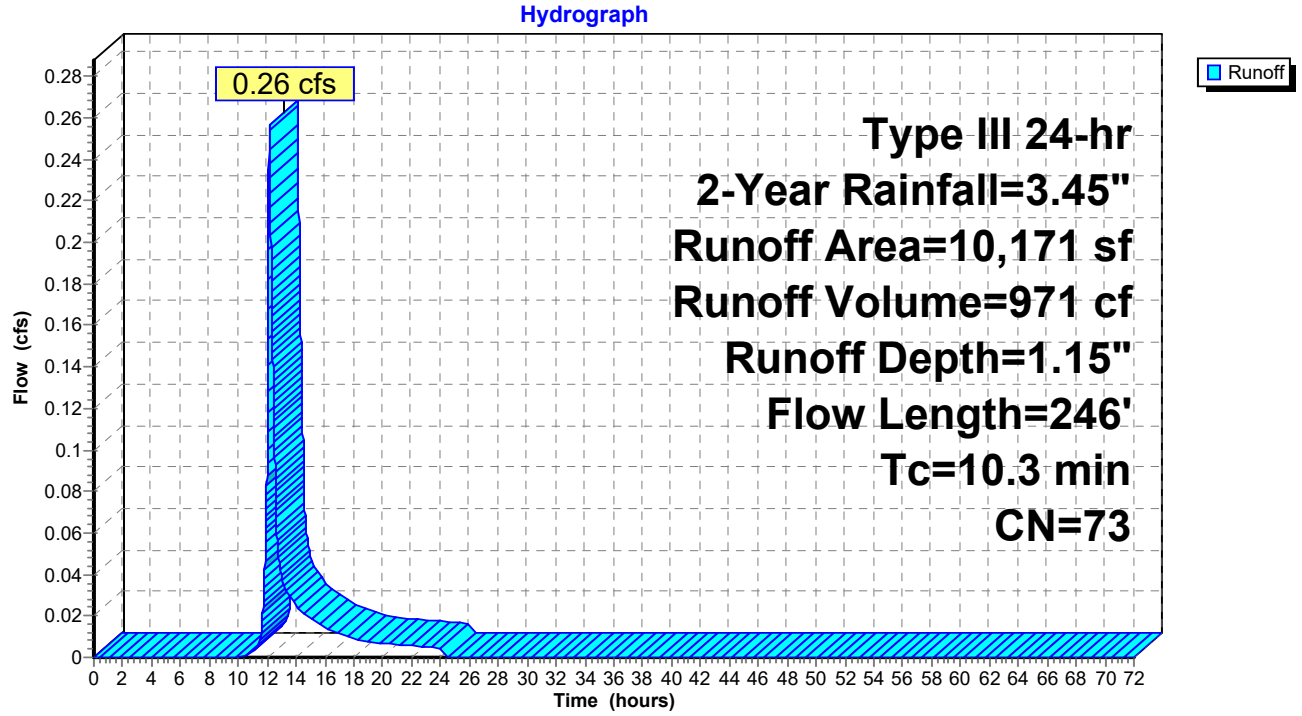
Runoff = 0.26 cfs @ 12.15 hrs, Volume= 971 cf, Depth= 1.15"
Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	7,957	74	Lawn, Good, HSG C
*	2,214	70	Woods, Good, HSG C
	10,171	73	Weighted Average
	10,171	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.1010	0.25		**Sheet Flow, SF4A, Lawn** n= 0.240 P2= 3.43"
0.3	96	0.1280	5.76		**Shallow Concentrated Flow, SCF4A, Woods** Unpaved Kv= 16.1 fps
10.3	246	Total			

Subcatchment SA4: Drainage Subarea #4 'SA4'



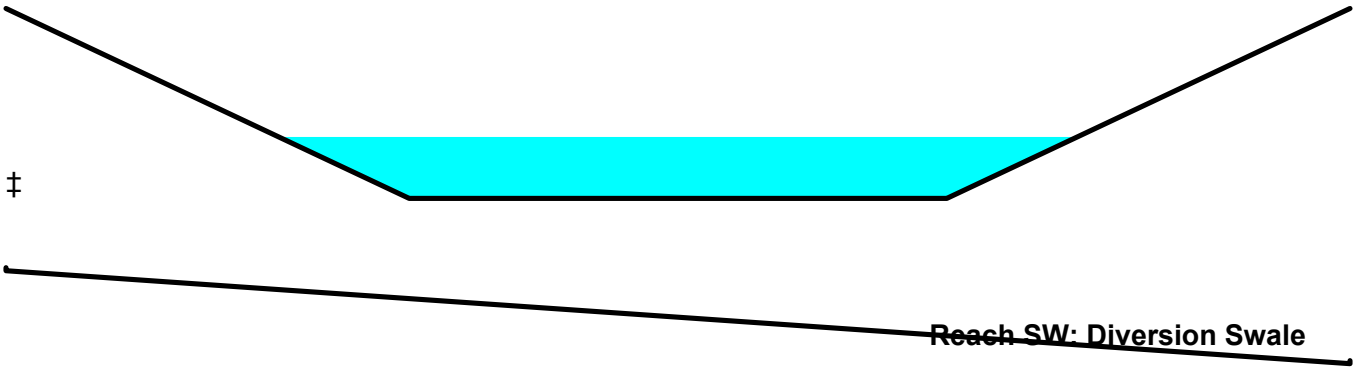
Summary for Reach SW: Diversion Swale

Inflow Area = 225,379 sf, 8.88% Impervious, Inflow Depth = 1.09" for 2-Year event
Inflow = 4.08 cfs @ 12.31 hrs, Volume= 20,441 cf
Outflow = 4.03 cfs @ 12.35 hrs, Volume= 20,441 cf, Atten= 1%, Lag= 2.3 min
Routed to Link AL3 : Analysis Line #3 (Northern PL)

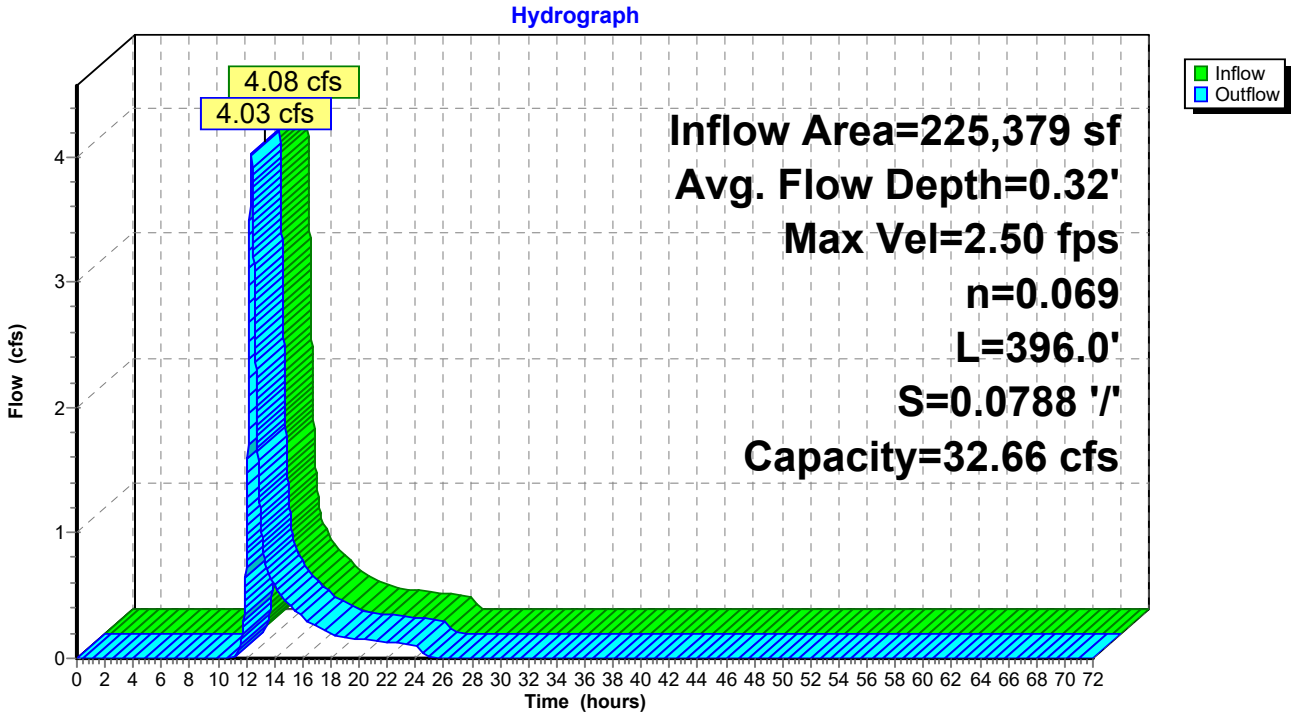
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.50 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 7.7 min

Peak Storage= 637 cf @ 12.35 hrs
Average Depth at Peak Storage= 0.32' , Surface Width= 5.94'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 32.66 cfs

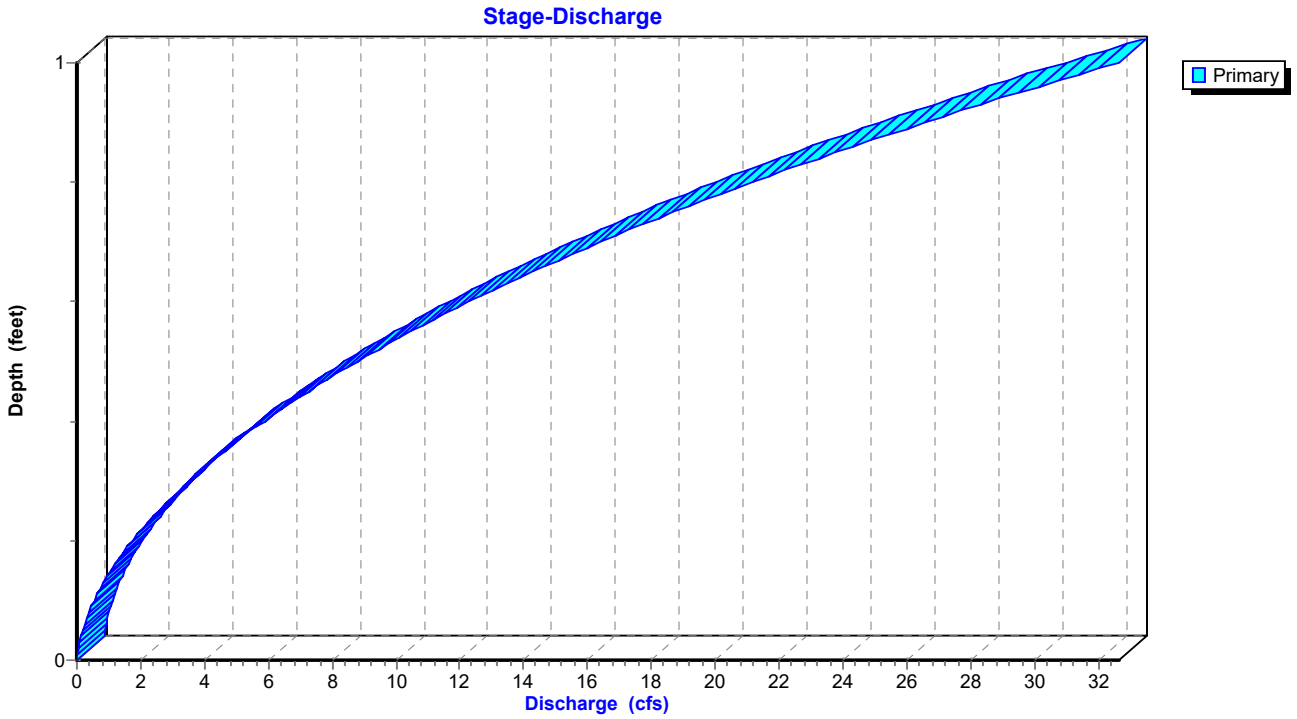
4.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 396.0' Slope= 0.0788 '/'
Inlet Invert= 419.20', Outlet Invert= 388.00'



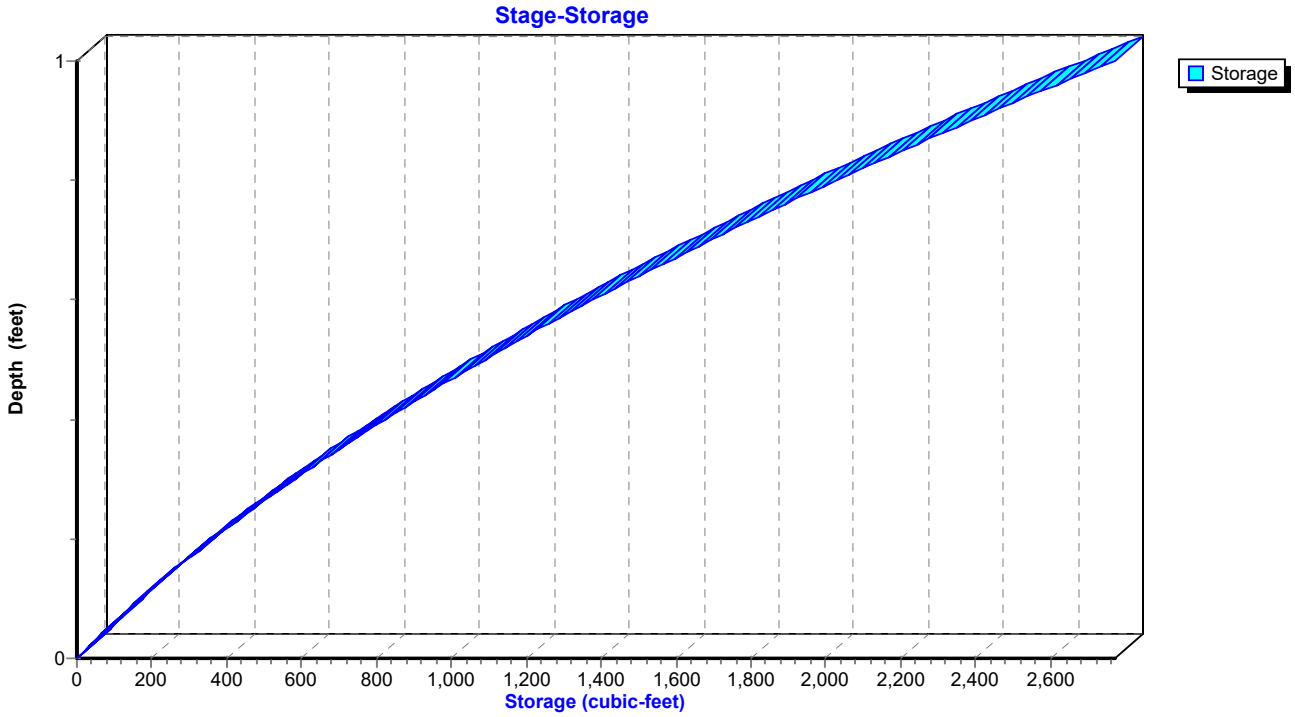
Reach SW: Diversion Swale



Reach SW: Diversion Swale



Reach SW: Diversion Swale



Summary for Pond BB-A: Bioretention Basin A 'BB-A'

[79] Warning: Submerged Pond WQB Primary device # 1 INLET by 1.39'

Inflow Area = 483,502 sf, 17.93% Impervious, Inflow Depth = 1.30" for 2-Year event
Inflow = 12.14 cfs @ 12.30 hrs, Volume= 52,491 cf
Outflow = 1.83 cfs @ 13.46 hrs, Volume= 52,491 cf, Atten= 85%, Lag= 69.9 min
Discarded = 0.23 cfs @ 13.46 hrs, Volume= 19,102 cf
Primary = 1.60 cfs @ 13.46 hrs, Volume= 33,389 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 346.39' @ 13.46 hrs Surf.Area= 9,890 sf Storage= 25,308 cf

Plug-Flow detention time= 365.3 min calculated for 52,484 cf (100% of inflow)
Center-of-Mass det. time= 365.5 min (1,228.3 - 862.8)

Volume	Invert	Avail.Storage	Storage Description
#1	343.00'	37,180 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

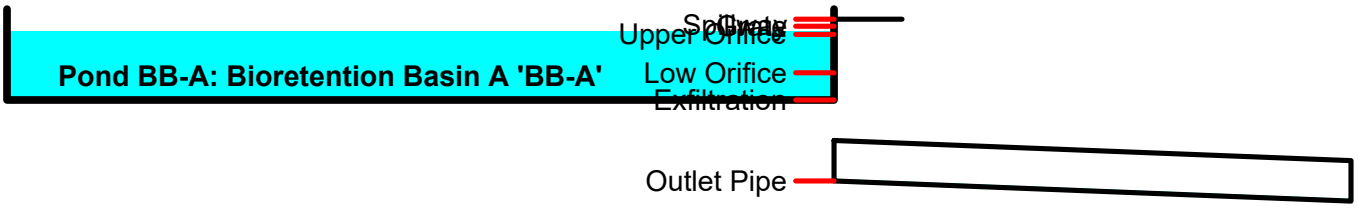
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
343.00	5,164	425.1	0	0	5,164
344.00	6,467	444.0	5,803	5,803	6,541
345.00	7,852	466.6	7,148	12,952	8,241
346.00	9,304	489.1	8,568	21,519	10,018
347.00	10,823	511.6	10,054	31,573	11,878
347.50	11,607	522.8	5,606	37,180	12,836

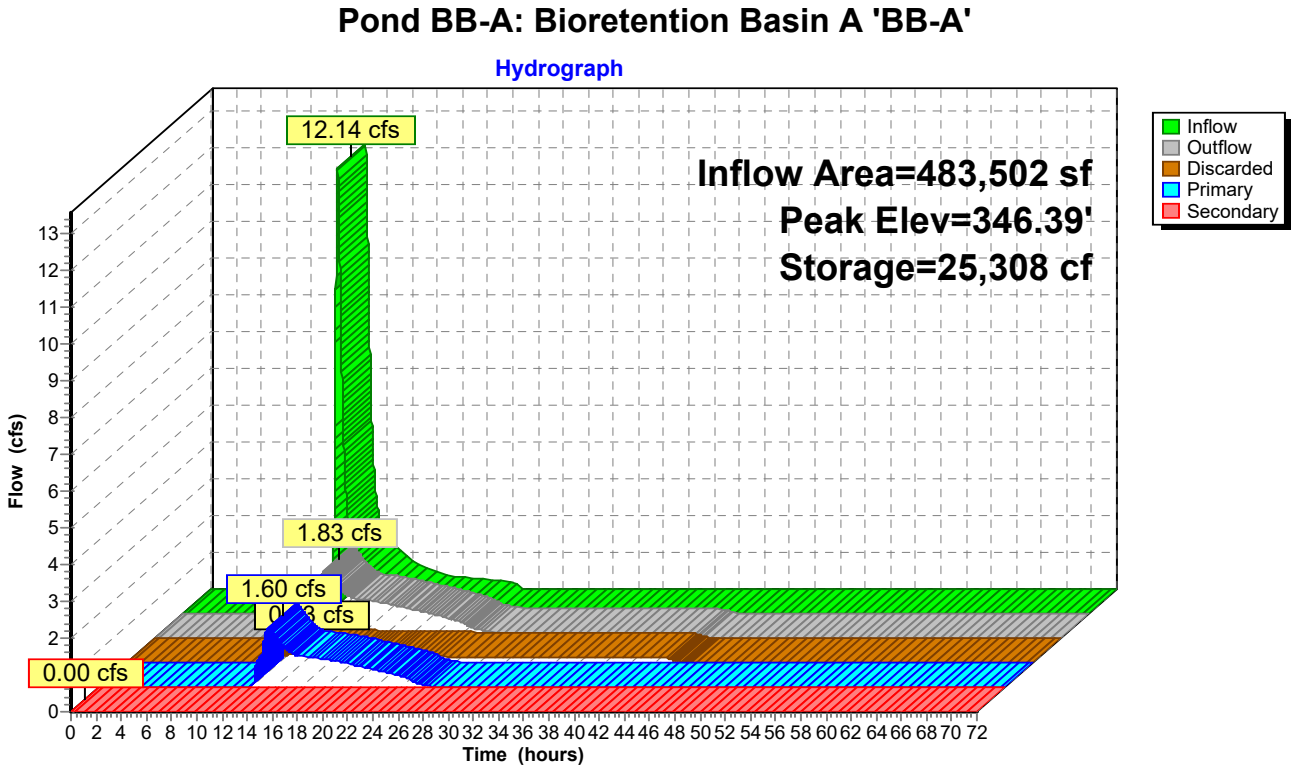
Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round Outlet Pipe** L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	344.35'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.25'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	346.65'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#5	Secondary	347.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	343.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.23 cfs @ 13.46 hrs HW=346.39' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 0.23 cfs)

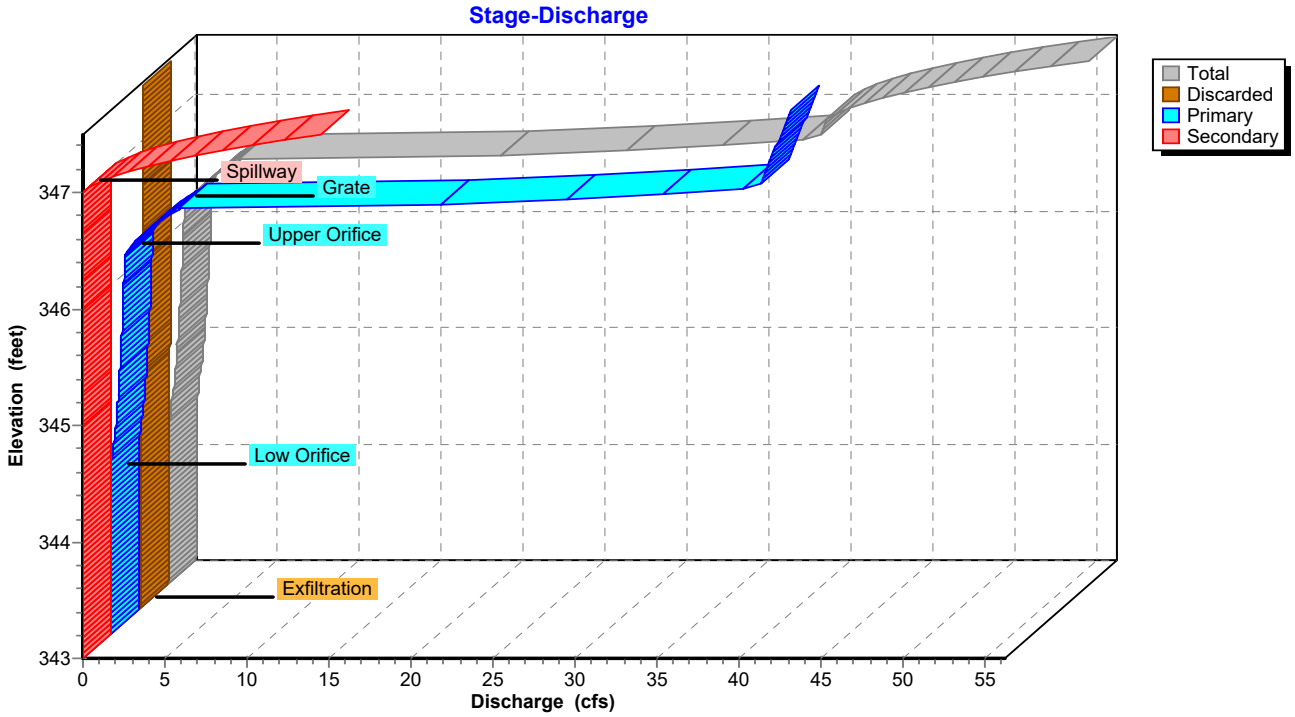
Primary OutFlow Max=1.60 cfs @ 13.46 hrs HW=346.39' (Free Discharge)
└**1=Outlet Pipe** (Passes 1.60 cfs of 38.25 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.89 cfs @ 6.53 fps)
  └**3=Upper Orifice** (Orifice Controls 0.71 cfs @ 1.22 fps)
  └**4=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=343.00' (Free Discharge)
└**5=Spillway** (Controls 0.00 cfs)

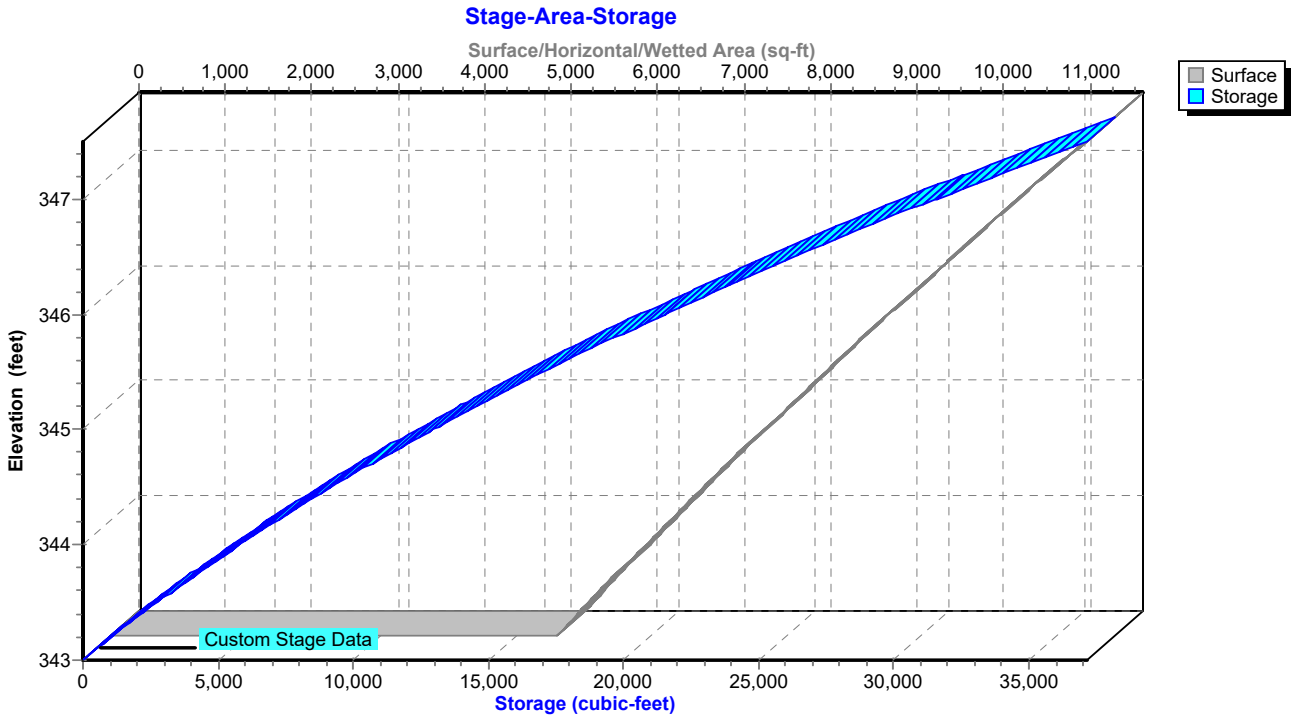




Pond BB-A: Bioretention Basin A 'BB-A'



Pond BB-A: Bioretention Basin A 'BB-A'



Summary for Pond BB-B: Bioretention Basin B 'BB-B'

[79] Warning: Submerged Pond BB-A Primary device # 1 OUTLET by 0.85'

Inflow Area = 496,073 sf, 17.47% Impervious, Inflow Depth = 0.84" for 2-Year event
Inflow = 1.64 cfs @ 13.46 hrs, Volume= 34,652 cf
Outflow = 1.48 cfs @ 13.93 hrs, Volume= 34,652 cf, Atten= 10%, Lag= 28.3 min
Discarded = 0.08 cfs @ 13.93 hrs, Volume= 4,906 cf
Primary = 1.40 cfs @ 13.93 hrs, Volume= 29,745 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 338.85' @ 13.93 hrs Surf.Area= 3,619 sf Storage= 4,049 cf

Plug-Flow detention time= 76.1 min calculated for 34,647 cf (100% of inflow)
Center-of-Mass det. time= 76.2 min (1,108.1 - 1,032.0)

Volume	Invert	Avail.Storage	Storage Description
#1	337.50'	36,426 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

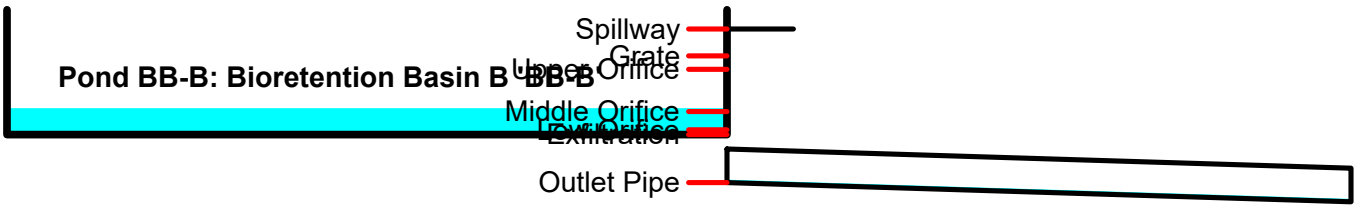
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
337.50	2,408	287.3	0	0	2,408
339.00	3,765	315.6	4,592	4,592	3,839
340.00	4,739	334.4	4,243	8,835	4,864
341.00	5,771	353.3	5,247	14,081	5,954
342.00	6,859	372.1	6,307	20,388	7,099
343.00	8,004	391.0	7,424	27,813	8,308
344.00	9,237	411.1	8,613	36,426	9,652

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**21.0" Round Outlet Pipe** L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	337.75'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	338.70'	**48.0" W x 6.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	340.90'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	341.60'	**48.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#6	Secondary	343.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	337.50'	**1.000 in/hr Exfiltration over Surface area**

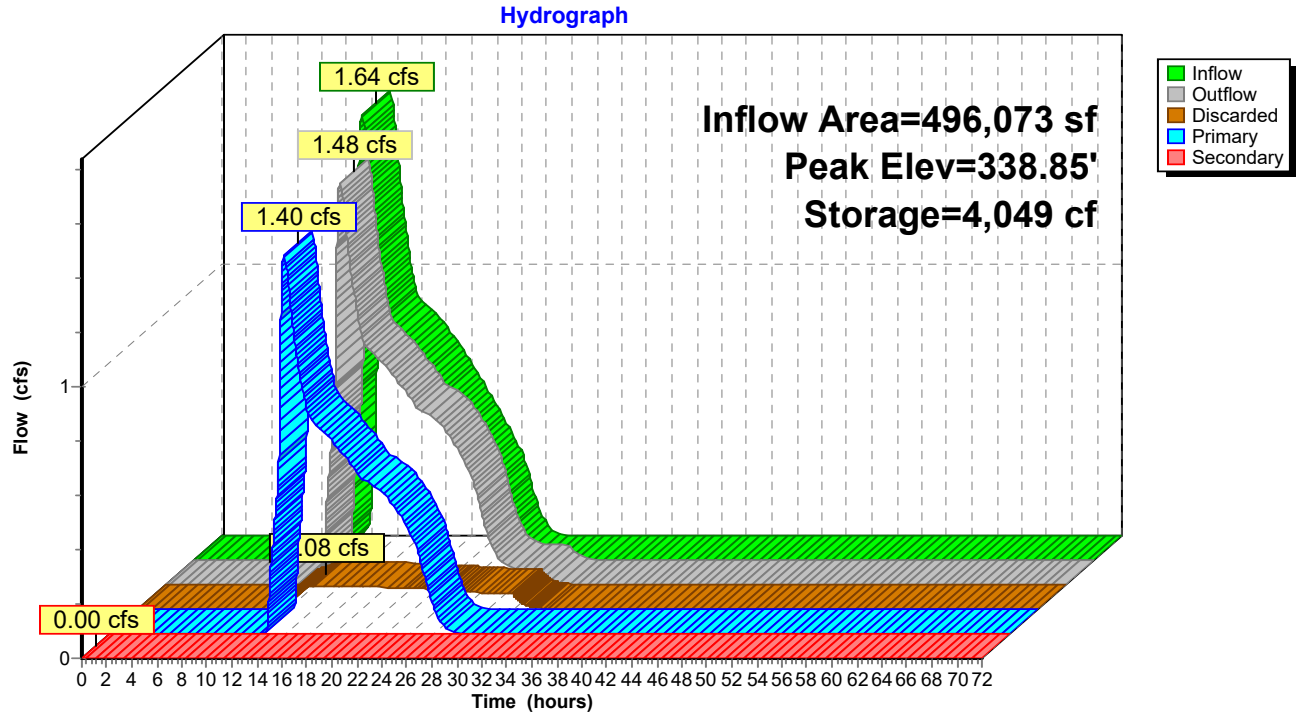
Discarded OutFlow Max=0.08 cfs @ 13.93 hrs HW=338.85' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=1.39 cfs @ 13.93 hrs HW=338.85' (Free Discharge)
└**1=Outlet Pipe** (Passes 1.39 cfs of 19.99 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.62 cfs @ 4.55 fps)
  └**3=Middle Orifice** (Orifice Controls 0.77 cfs @ 1.26 fps)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

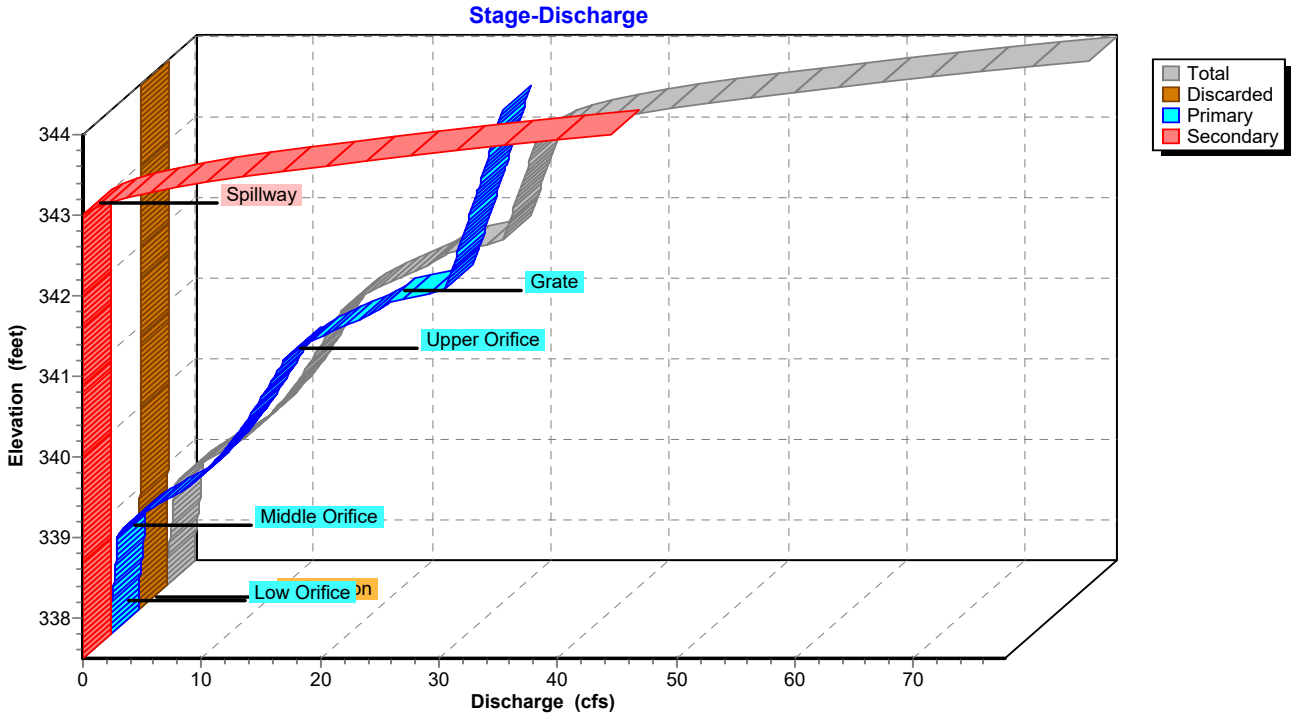
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=337.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)



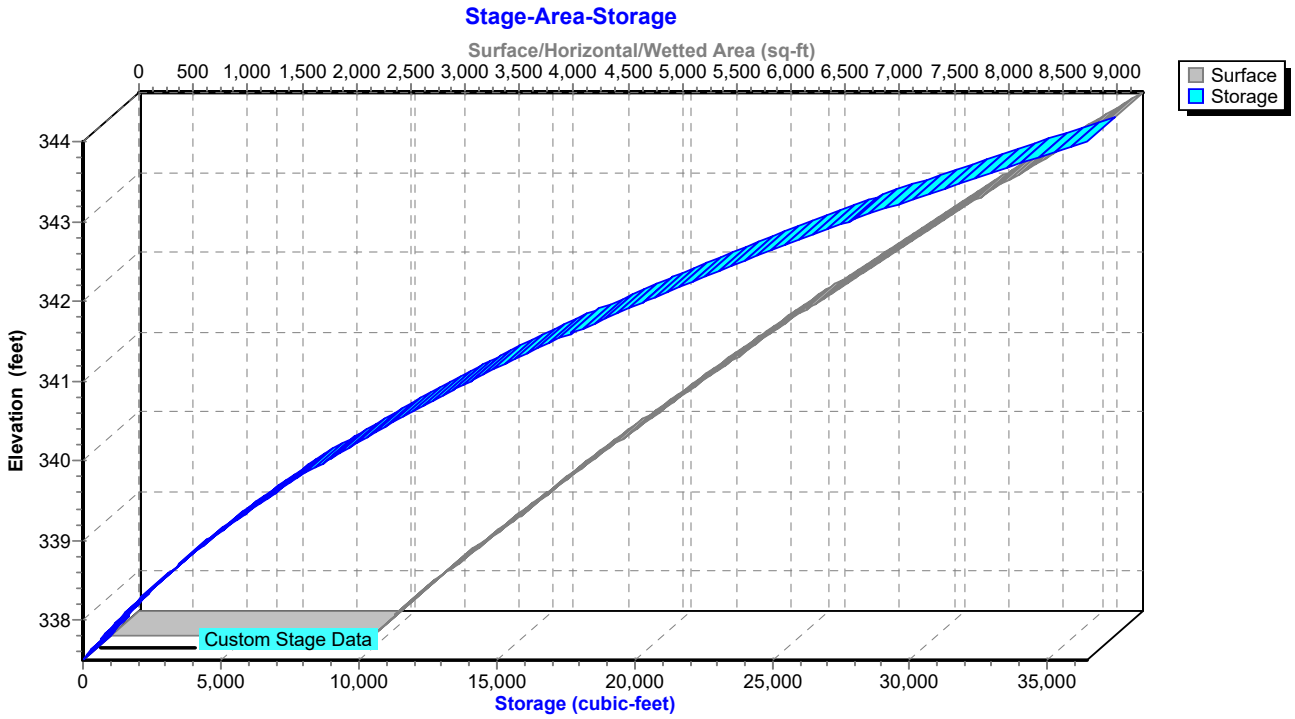
Pond BB-B: Bioretention Basin B 'BB-B'



Pond BB-B: Bioretention Basin B 'BB-B'



Pond BB-B: Bioretention Basin B 'BB-B'



Summary for Pond BB-C: Bioretention Basin C 'BB-C'

Inflow Area = 74,552 sf, 29.32% Impervious, Inflow Depth = 1.67" for 2-Year event
Inflow = 2.28 cfs @ 12.27 hrs, Volume= 10,364 cf
Outflow = 0.89 cfs @ 12.70 hrs, Volume= 10,364 cf, Atten= 61%, Lag= 25.7 min
Discarded = 0.06 cfs @ 12.70 hrs, Volume= 3,593 cf
Primary = 0.82 cfs @ 12.70 hrs, Volume= 6,771 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 389.28' @ 12.70 hrs Surf.Area= 2,716 sf Storage= 3,789 cf

Plug-Flow detention time= 152.4 min calculated for 10,362 cf (100% of inflow)
Center-of-Mass det. time= 152.4 min (1,000.6 - 848.2)

Volume	Invert	Avail.Storage	Storage Description
#1	387.50'	13,929 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

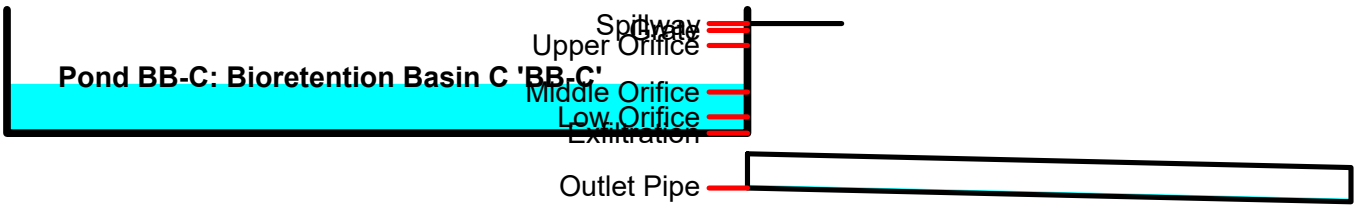
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
387.50	1,568	193.8	0	0	1,568
388.00	1,872	204.2	859	859	1,912
389.00	2,526	224.8	2,191	3,050	2,647
390.00	3,229	243.7	2,870	5,920	3,390
391.00	3,988	262.5	3,602	9,522	4,188
392.00	4,841	285.5	4,408	13,929	5,228

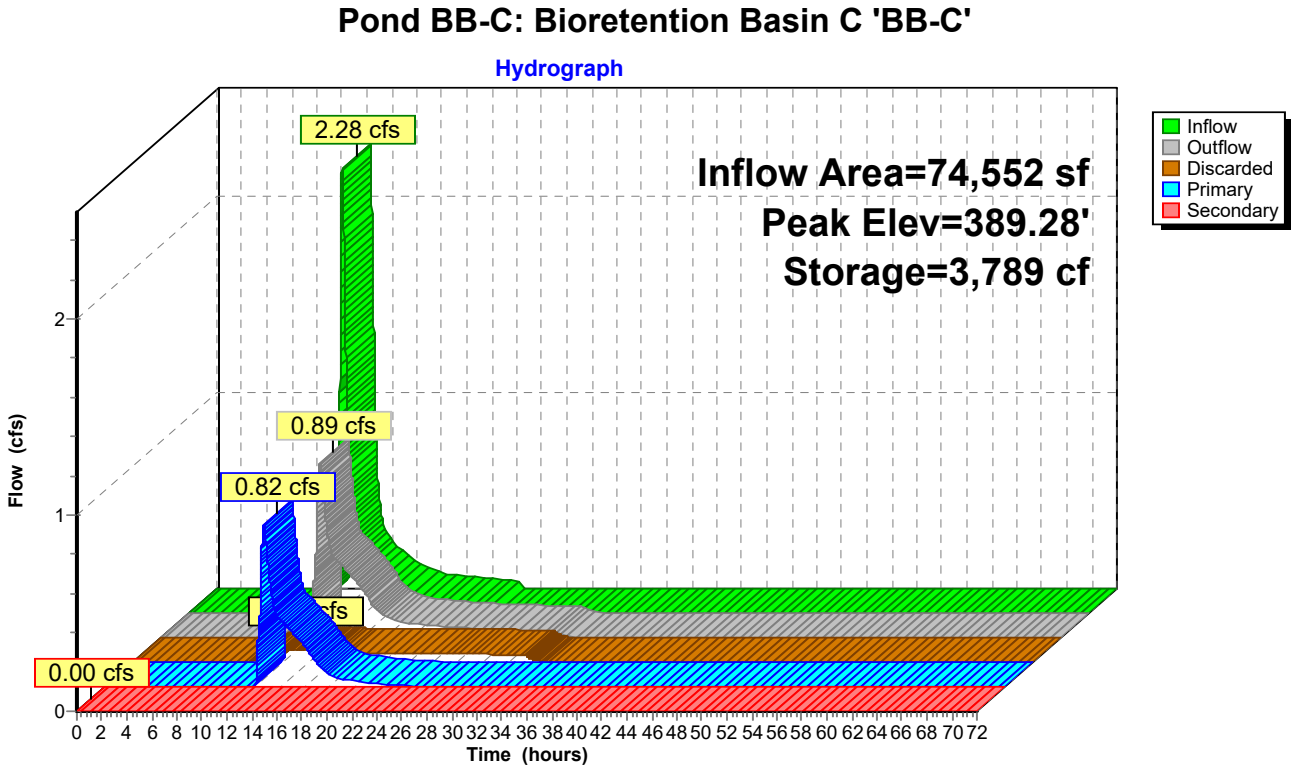
Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	**15.0" Round Outlet Pipe** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	388.10'	**4.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	389.00'	**10.0" W x 4.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.70'	**24.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#6	Secondary	391.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	387.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.06 cfs @ 12.70 hrs HW=389.28' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.06 cfs)

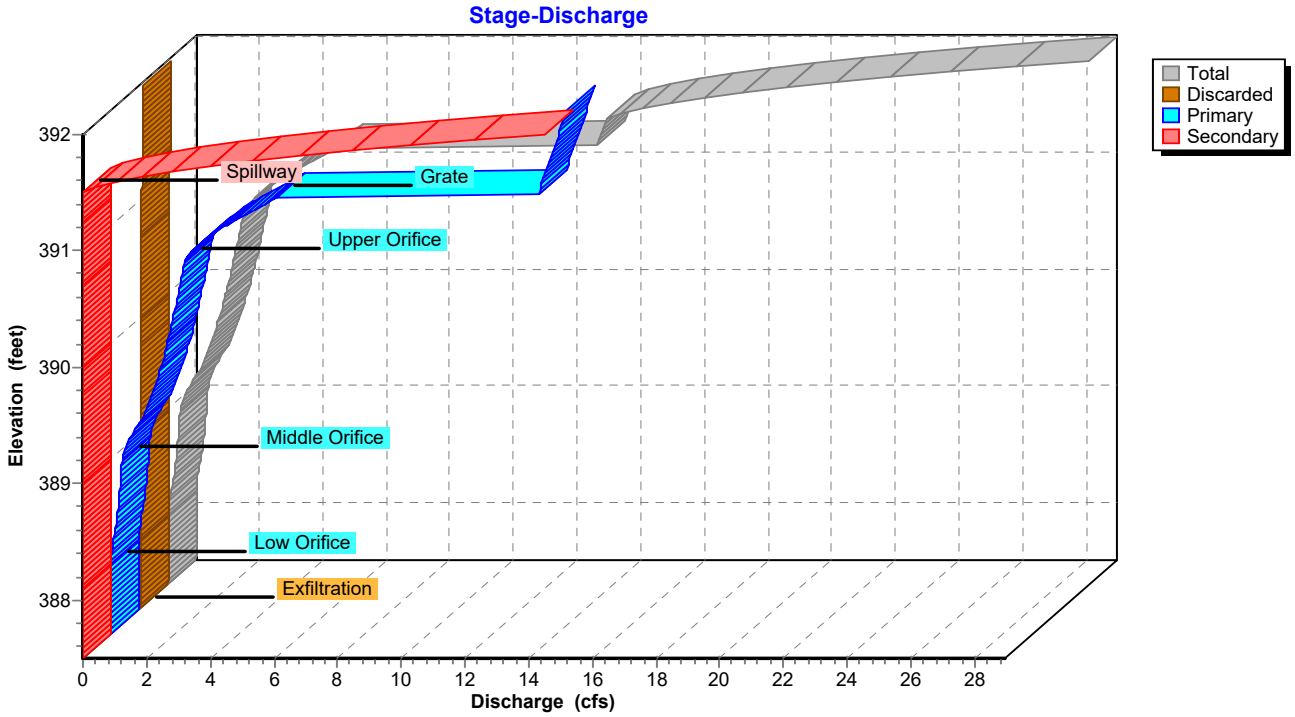
Primary OutFlow Max=0.82 cfs @ 12.70 hrs HW=389.28' (Free Discharge)
└**1=Outlet Pipe** (Passes 0.82 cfs of 10.50 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.42 cfs @ 4.85 fps)
  └**3=Middle Orifice** (Orifice Controls 0.40 cfs @ 1.70 fps)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=387.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)

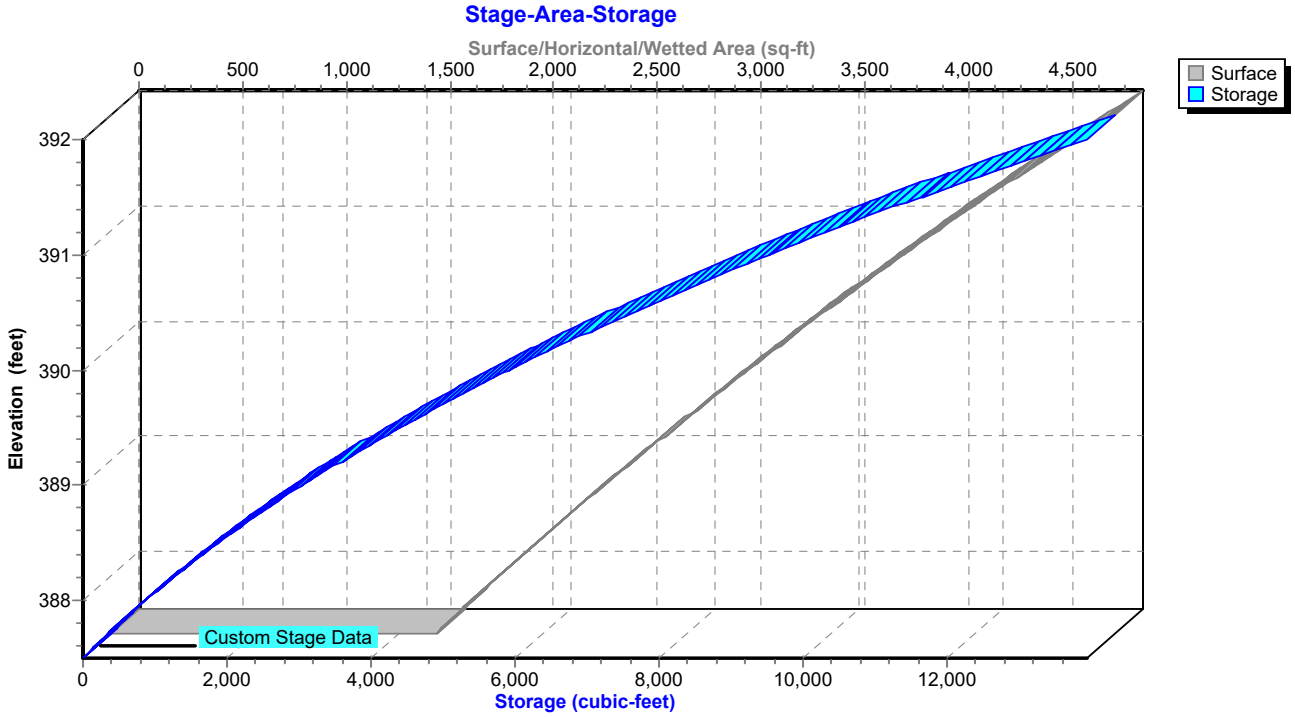




Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Summary for Pond WQB: Water Quality Basin 'WQB'

Inflow Area = 459,645 sf, 18.69% Impervious, Inflow Depth = 1.46" for 2-Year event
Inflow = 11.75 cfs @ 12.30 hrs, Volume= 55,904 cf
Outflow = 11.75 cfs @ 12.30 hrs, Volume= 55,904 cf, Atten= 0%, Lag= 0.1 min
Discarded = 0.07 cfs @ 12.30 hrs, Volume= 5,931 cf
Primary = 11.68 cfs @ 12.30 hrs, Volume= 49,973 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 356.27' @ 12.30 hrs Surf.Area= 2,871 sf Storage= 4,333 cf

Plug-Flow detention time= 76.2 min calculated for 55,896 cf (100% of inflow)
Center-of-Mass det. time= 76.4 min (935.3 - 858.9)

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,684 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
354.00	1,014	251.0	0	0	1,014
355.00	1,803	271.5	1,390	1,390	1,906
356.00	2,645	290.3	2,211	3,600	2,792
357.00	3,545	309.2	3,084	6,684	3,742

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**24.0" Round Outlet Pipe** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	**48.0" W x 6.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#4	Secondary	356.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	354.00'	**1.000 in/hr Exfiltration over Surface area**

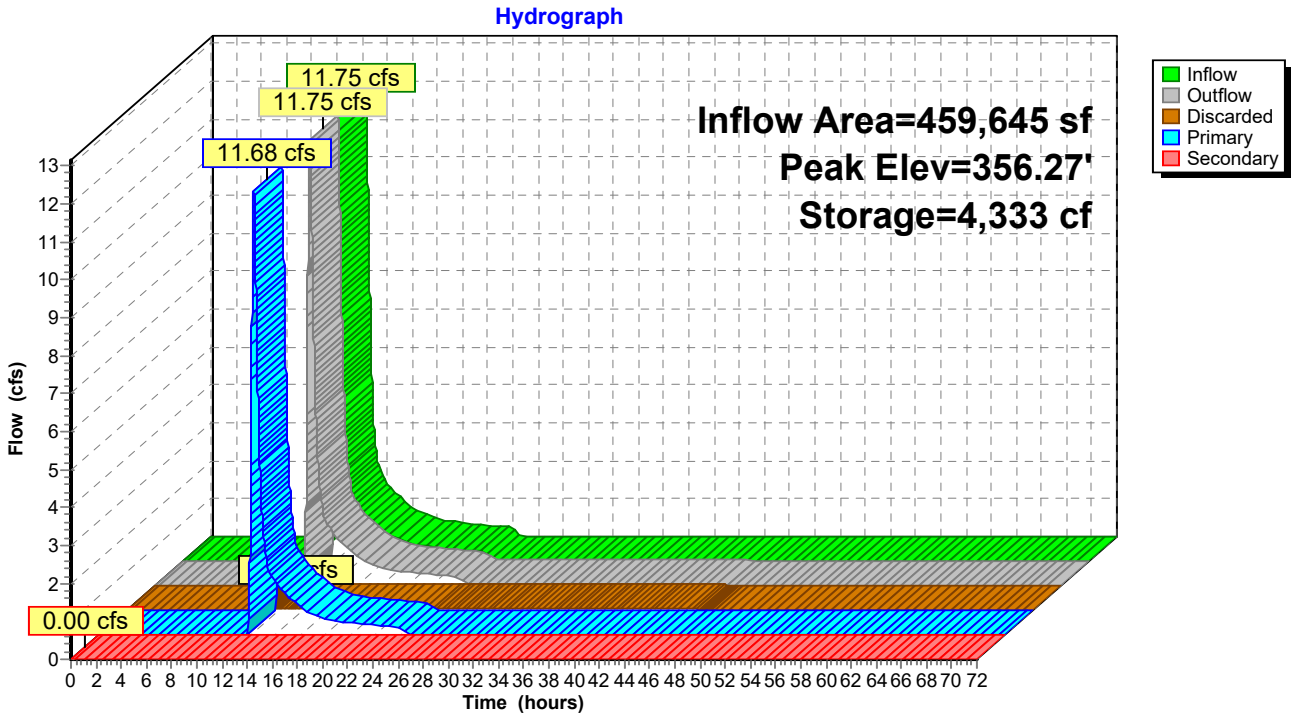
Discarded OutFlow Max=0.07 cfs @ 12.30 hrs HW=356.27' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=14.37 cfs @ 12.30 hrs HW=356.27' (Free Discharge)
└**1=Outlet Pipe** (Passes 14.37 cfs of 48.47 cfs potential flow)
├**2=Orifice** (Orifice Controls 4.73 cfs @ 2.36 fps)
└**3=Grate** (Orifice Controls 9.64 cfs @ 0.60 fps)

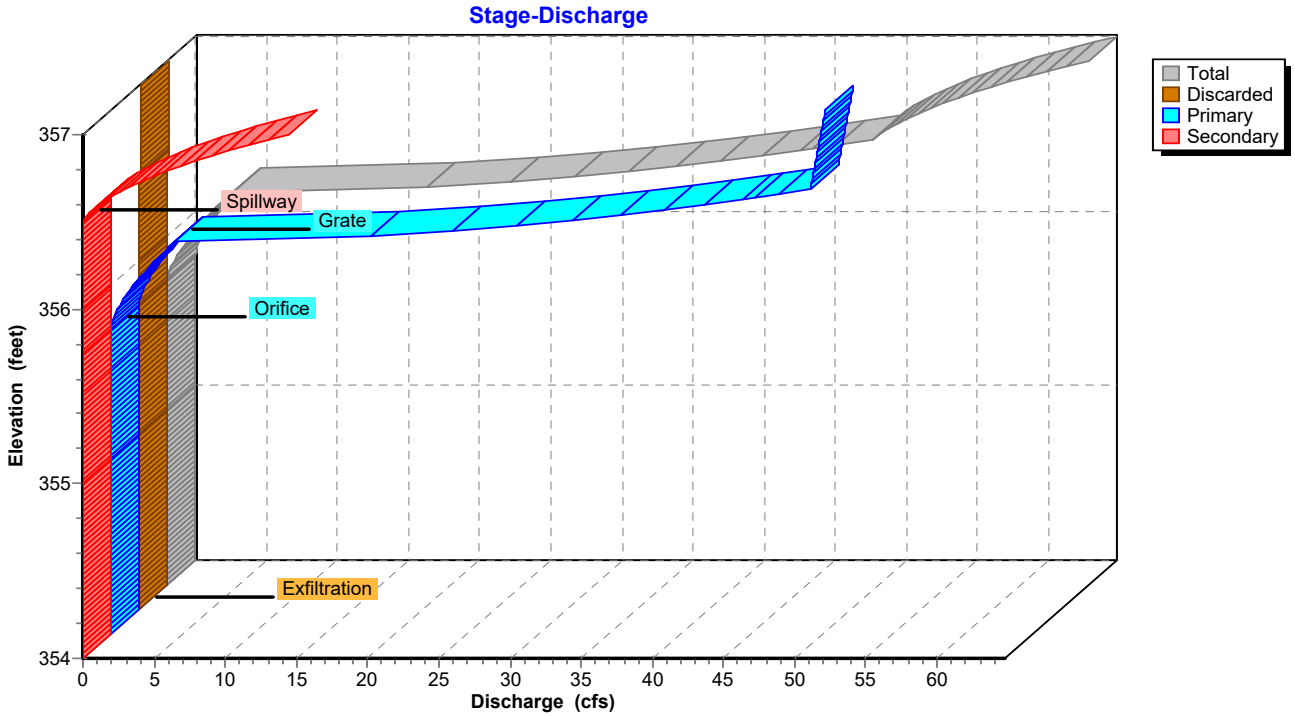
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)
└**4=Spillway** (Controls 0.00 cfs)

Pond WQB: Water Quality Basin 'WQB'

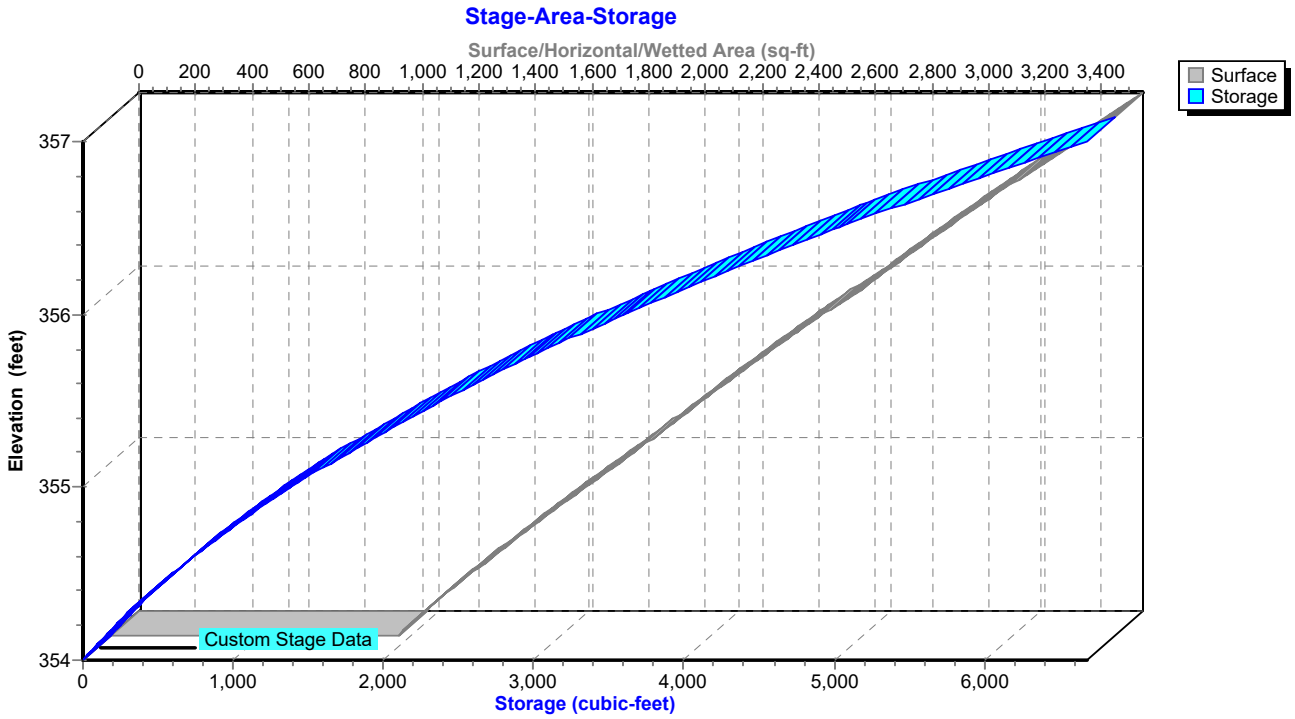
Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'

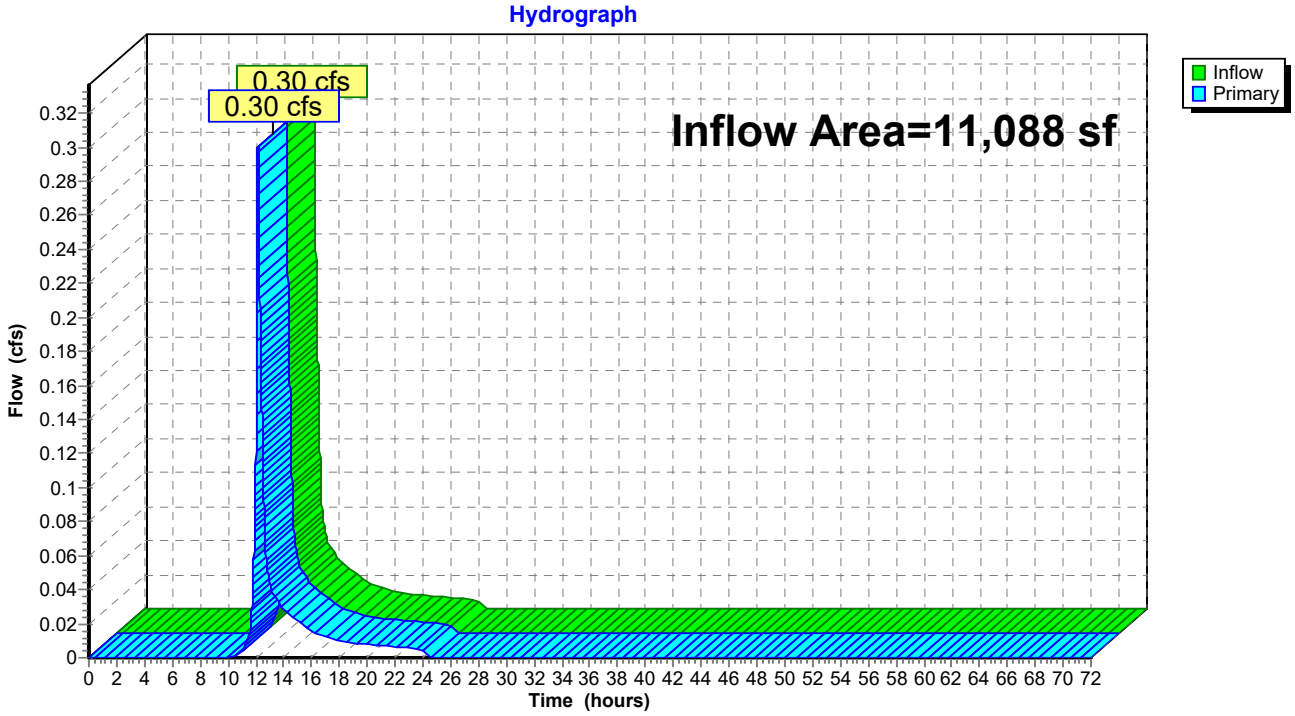


Summary for Link AL1: Analysis Line #1 (Southeastern PL)

Inflow Area = 11,088 sf, 1.43% Impervious, Inflow Depth = 1.21" for 2-Year event
Inflow = 0.30 cfs @ 12.15 hrs, Volume= 1,114 cf
Primary = 0.30 cfs @ 12.15 hrs, Volume= 1,114 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL1: Analysis Line #1 (Southeastern PL)

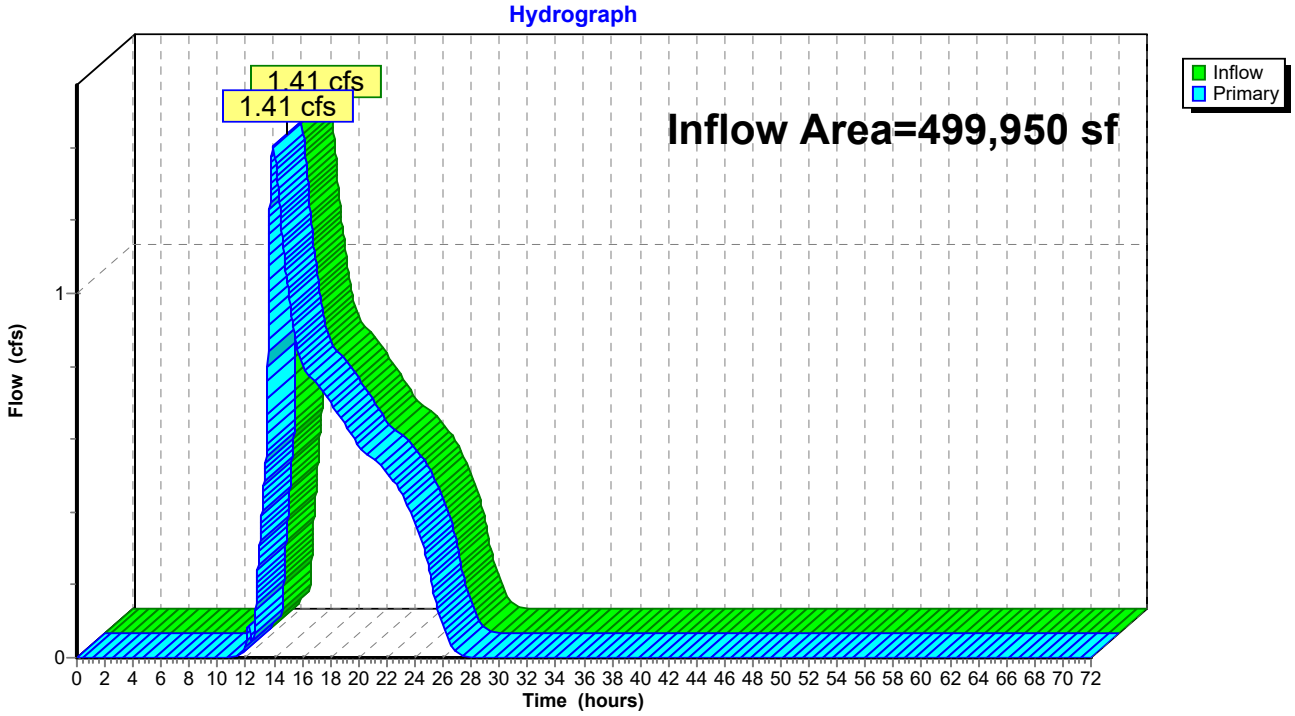


Summary for Link AL2: Analysis Line #2 (Wetlands)

Inflow Area = 499,950 sf, 17.34% Impervious, Inflow Depth = 0.72" for 2-Year event
Inflow = 1.41 cfs @ 13.93 hrs, Volume= 30,116 cf
Primary = 1.41 cfs @ 13.93 hrs, Volume= 30,116 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL2: Analysis Line #2 (Wetlands)

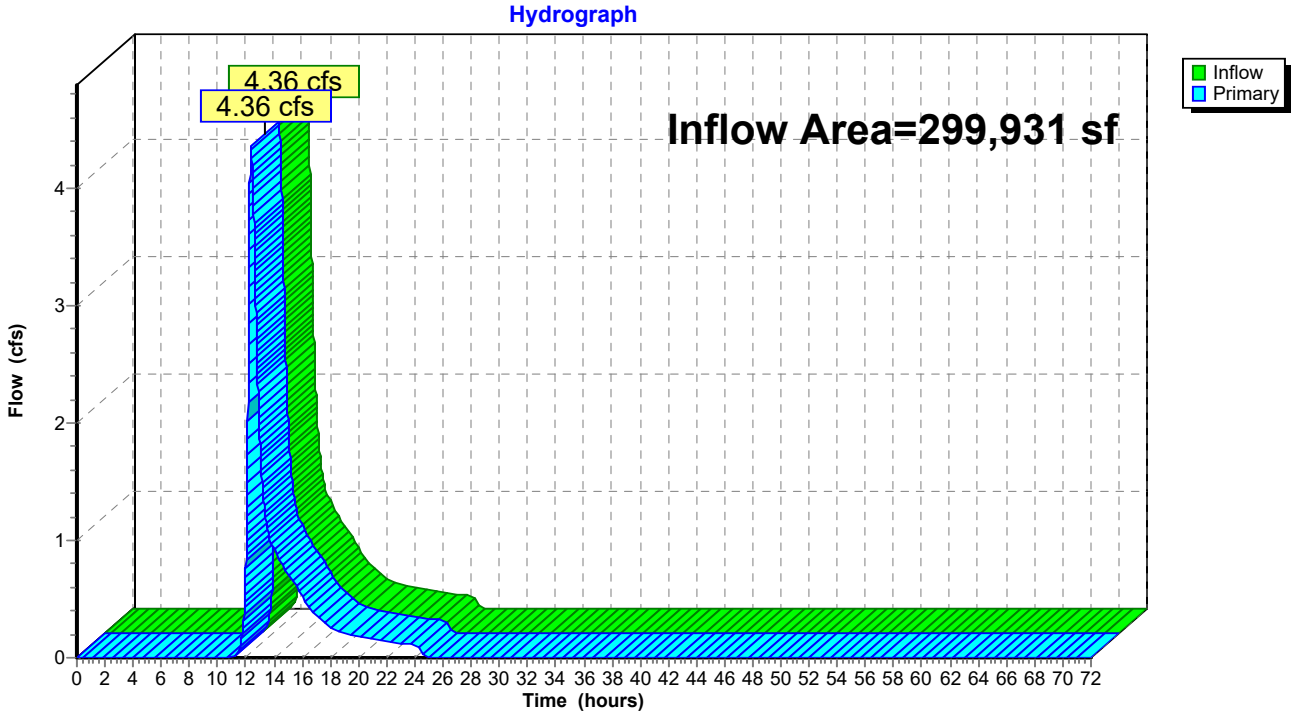


Summary for Link AL3: Analysis Line #3 (Northern PL)

Inflow Area = 299,931 sf, 13.96% Impervious, Inflow Depth = 1.09" for 2-Year event
Inflow = 4.36 cfs @ 12.36 hrs, Volume= 27,212 cf
Primary = 4.36 cfs @ 12.36 hrs, Volume= 27,212 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL3: Analysis Line #3 (Northern PL)

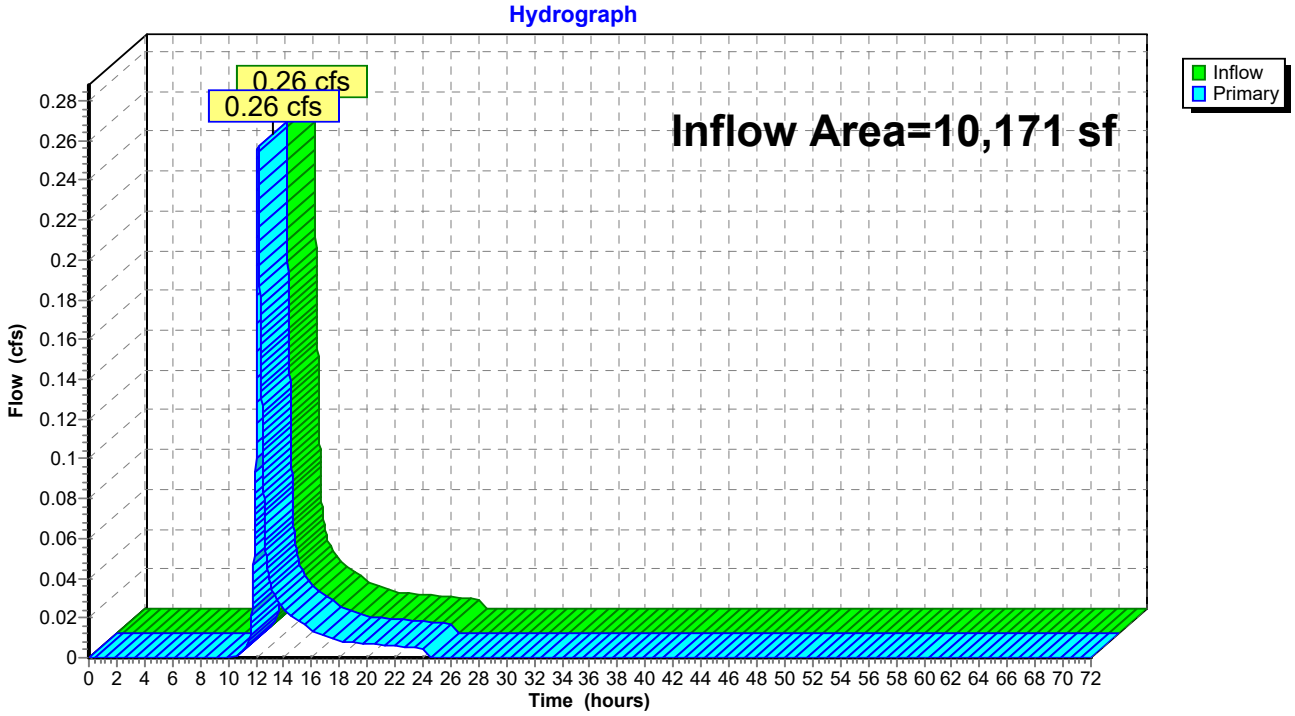


Summary for Link AL4: Analysis Line #4 (Northeastern PL)

Inflow Area = 10,171 sf, 0.00% Impervious, Inflow Depth = 1.15" for 2-Year event
Inflow = 0.26 cfs @ 12.15 hrs, Volume= 971 cf
Primary = 0.26 cfs @ 12.15 hrs, Volume= 971 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL4: Analysis Line #4 (Northeastern PL)

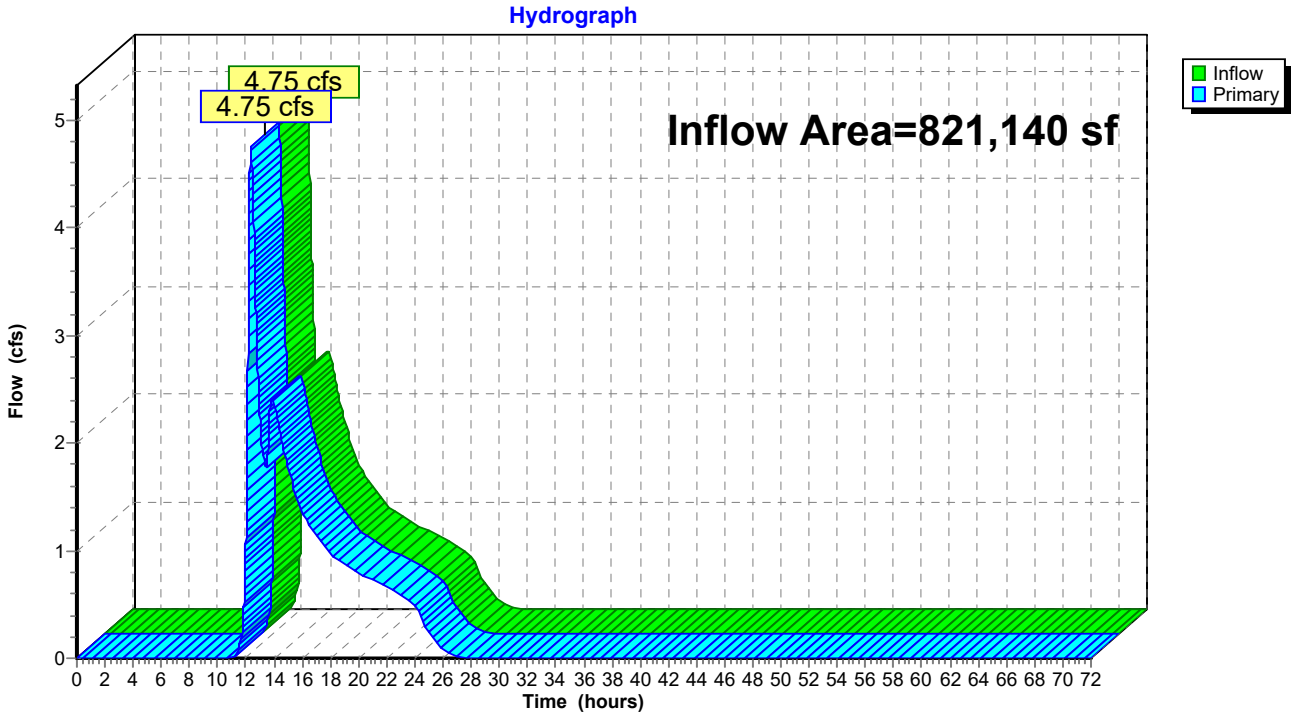


Summary for Link ALL: ALL

Inflow Area = 821,140 sf, 15.68% Impervious, Inflow Depth = 0.87" for 2-Year event
Inflow = 4.75 cfs @ 12.35 hrs, Volume= 59,413 cf
Primary = 4.75 cfs @ 12.35 hrs, Volume= 59,413 cf, Atten= 0%, Lag= 0.0 min

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

Link ALL: ALL



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment SA1: Drainage Subarea #1 Runoff Area=11,088 sf 1.43% Impervious Runoff Depth=2.46"
Tc=10.0 min CN=74 Runoff=0.64 cfs 2,273 cf

Subcatchment SA2A: Drainage Subarea Runoff Area=10.552 ac 18.69% Impervious Runoff Depth=2.81"
Flow Length=697' Tc=20.8 min CN=78 Runoff=23.07 cfs 107,781 cf

Subcatchment SA2B: Drainage Subarea Runoff Area=23,857 sf 3.29% Impervious Runoff Depth=2.55"
Tc=10.0 min CN=75 Runoff=1.42 cfs 5,064 cf

Subcatchment SA2C: Drainage Subarea Runoff Area=12,571 sf 0.00% Impervious Runoff Depth=2.46"
Tc=10.0 min CN=74 Runoff=0.72 cfs 2,577 cf

Subcatchment SA2D: Drainage Subarea #2D Runoff Area=3,877 sf 0.00% Impervious Runoff Depth=2.37"
Tc=10.0 min CN=73 Runoff=0.21 cfs 767 cf

Subcatchment SA3A: Drainage Subarea Runoff Area=74,552 sf 29.32% Impervious Runoff Depth=3.09"
Flow Length=325' Tc=19.3 min CN=81 Runoff=4.24 cfs 19,207 cf

Subcatchment SA3B: Drainage Subarea Runoff Area=225,379 sf 8.88% Impervious Runoff Depth=2.29"
Flow Length=165' Tc=21.1 min CN=72 Runoff=9.06 cfs 43,023 cf

Subcatchment SA4: Drainage Subarea #4 Runoff Area=10,171 sf 0.00% Impervious Runoff Depth=2.37"
Flow Length=246' Tc=10.3 min CN=73 Runoff=0.56 cfs 2,013 cf

Reach SW: Diversion Swale Avg. Flow Depth=0.51' Max Vel=3.22 fps Inflow=9.06 cfs 43,023 cf
n=0.069 L=396.0' S=0.0788 '/' Capacity=32.66 cfs Outflow=8.98 cfs 43,023 cf

Pond BB-A: Bioretention Basin A 'BB-A' Peak Elev=346.70' Storage=28,434 cf Inflow=23.93 cfs 106,530 cf
Discarded=0.24 cfs 21,507 cf Primary=22.42 cfs 85,023 cf Secondary=0.00 cfs 0 cf Outflow=22.66 cfs 106,530 cf

Pond BB-B: Bioretention Basin B 'BB-B' Peak Elev=340.47' Storage=11,185 cf Inflow=22.81 cfs 87,601 cf
Discarded=0.12 cfs 5,828 cf Primary=12.91 cfs 81,773 cf Secondary=0.00 cfs 0 cf Outflow=13.03 cfs 87,601 cf

Pond BB-C: Bioretention Basin C 'BB-C' Peak Elev=390.13' Storage=6,331 cf Inflow=4.24 cfs 19,207 cf
Discarded=0.08 cfs 4,089 cf Primary=1.88 cfs 15,118 cf Secondary=0.00 cfs 0 cf Outflow=1.96 cfs 19,207 cf

Pond WQB: Water Quality Basin 'WQB' Peak Elev=356.30' Storage=4,445 cf Inflow=23.07 cfs 107,781 cf
Discarded=0.07 cfs 6,315 cf Primary=23.00 cfs 101,467 cf Secondary=0.00 cfs 0 cf Outflow=23.07 cfs 107,781 cf

Link AL1: Analysis Line #1 (Southeastern PL) Inflow=0.64 cfs 2,273 cf
Primary=0.64 cfs 2,273 cf

Link AL2: Analysis Line #2 (Wetlands) Inflow=12.96 cfs 82,540 cf
Primary=12.96 cfs 82,540 cf

Link AL3: Analysis Line #3 (Northern PL) Inflow=10.53 cfs 58,141 cf
Primary=10.53 cfs 58,141 cf

Link AL4: Analysis Line #4 (Northeastern PL) Inflow=0.56 cfs 2,013 cf
Primary=0.56 cfs 2,013 cf

Link ALL: ALL Inflow=21.60 cfs 144,967 cf
Primary=21.60 cfs 144,967 cf

Total Runoff Area = 821,140 sf Runoff Volume = 182,706 cf Average Runoff Depth = 2.67"
84.32% Pervious = 692,426 sf 15.68% Impervious = 128,714 sf

Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'

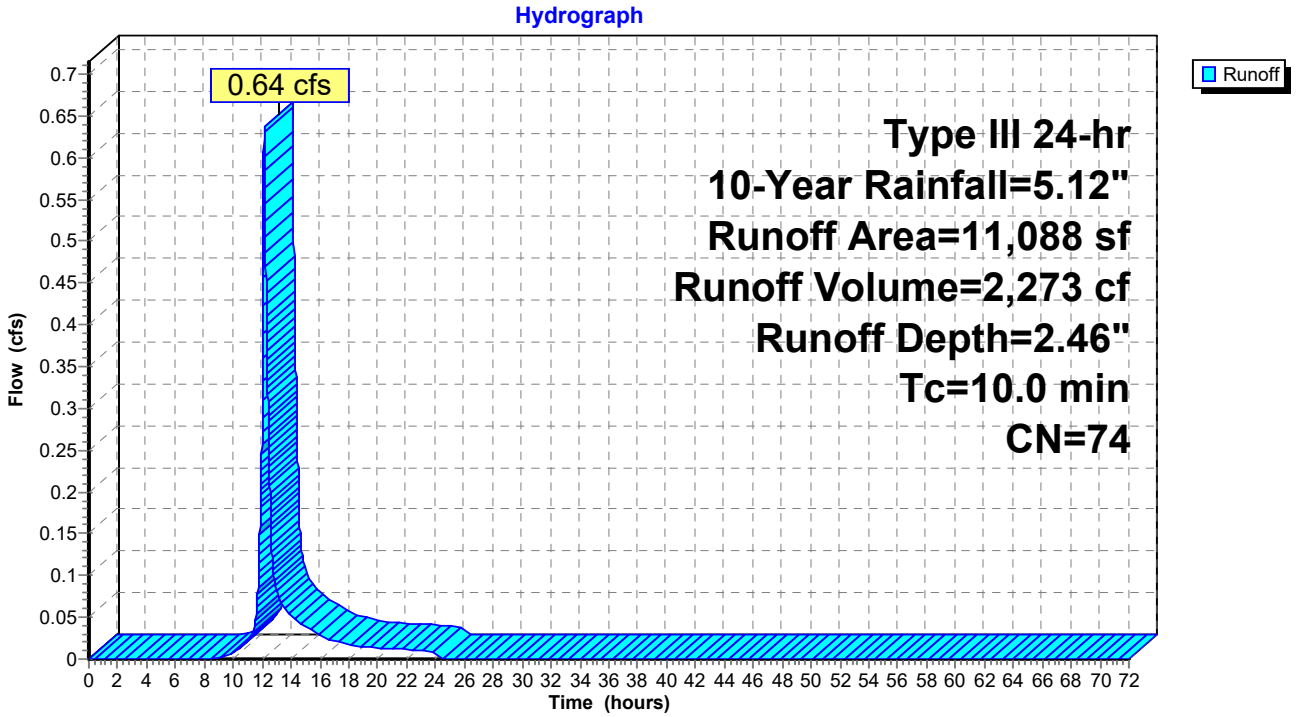
Runoff = 0.64 cfs @ 12.14 hrs, Volume= 2,273 cf, Depth= 2.46"
Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	159	98	Bldgs./Impervious
*	10,517	74	Lawn, Good, HSG C
*	412	70	Woods, Good, HSG C
	11,088	74	Weighted Average
	10,929	74	98.57% Pervious Area
	159	98	1.43% Impervious Area

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

Subcatchment SA1: Drainage Subarea #1 'SA1'



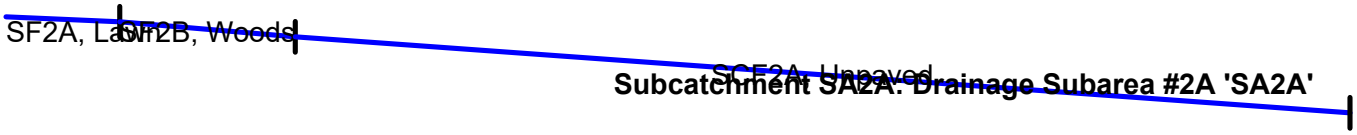
Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'

Runoff = 23.07 cfs @ 12.28 hrs, Volume= 107,781 cf, Depth= 2.81"
Routed to Pond WQB : Water Quality Basin 'WQB'

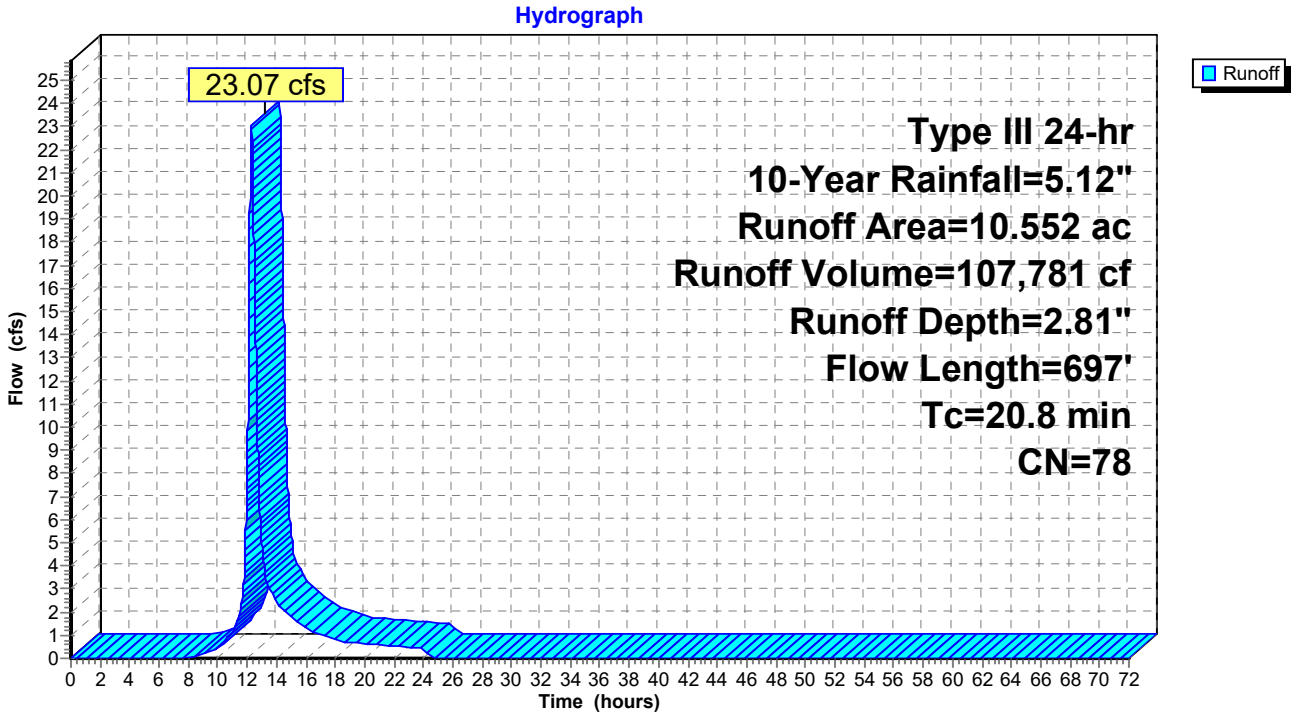
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (ac)	CN	Description
*	1.972	98	Bldgs./Impervious
*	0.064	92	Compact Gravel (est.), HSG C
*	0.077	86	Open Deck (est.), HSG C
*	5.552	74	Lawn, Good, HSG C
*	2.887	70	Woods, Good, HSG C
	10.552	78	Weighted Average
	8.580	73	81.31% Pervious Area
	1.972	98	18.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	59	0.0590	0.17		**Sheet Flow, SF2A, Lawn** n= 0.240 P2= 3.43"
13.1	91	0.1180	0.12		**Sheet Flow, SF2B, Woods** n= 0.600 P2= 3.43"
1.8	547	0.0990	5.07		**Shallow Concentrated Flow, SCF2A, Unpaved** Unpaved Kv= 16.1 fps
20.8	697	Total			



Subcatchment SA2A: Drainage Subarea #2A 'SA2A'



Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'

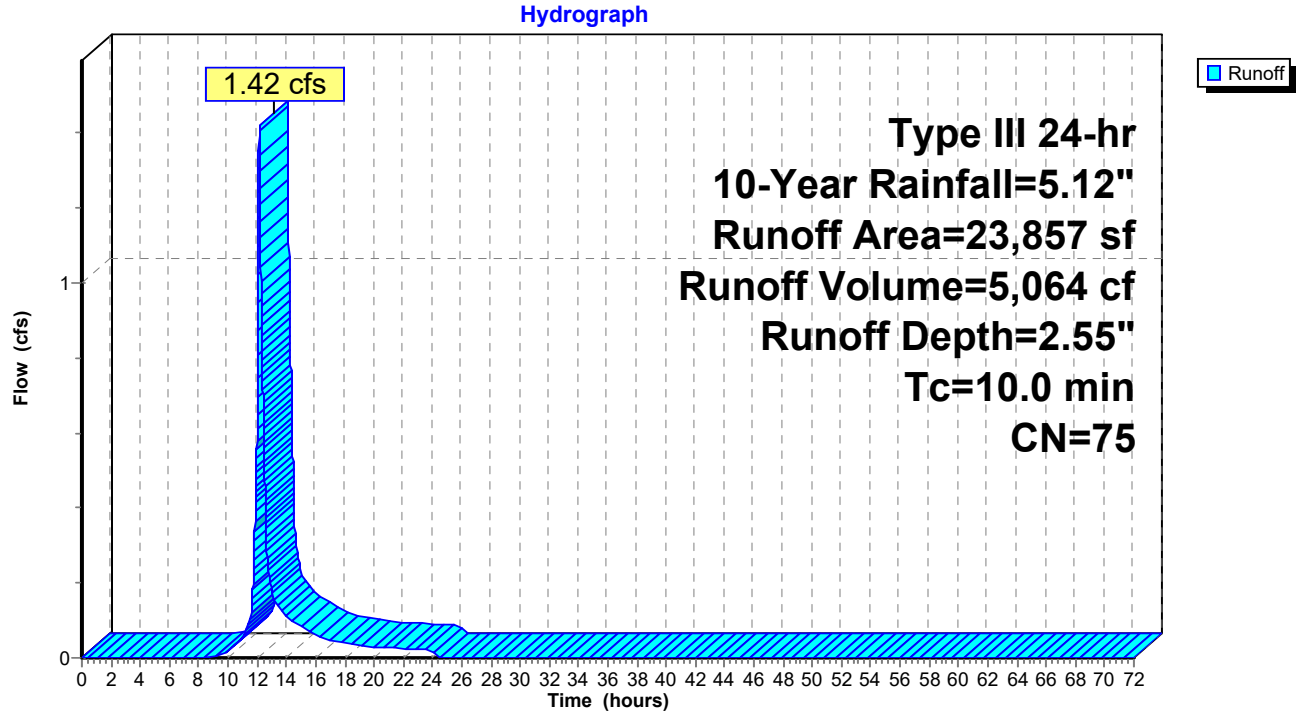
Runoff = 1.42 cfs @ 12.14 hrs, Volume= 5,064 cf, Depth= 2.55"
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	784	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	22,922	74	Lawn, Good, HSG C
	23,857	75	Weighted Average
	23,073	74	96.71% Pervious Area
	784	98	3.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2B: Drainage Subarea #2B 'SA2B'



Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'

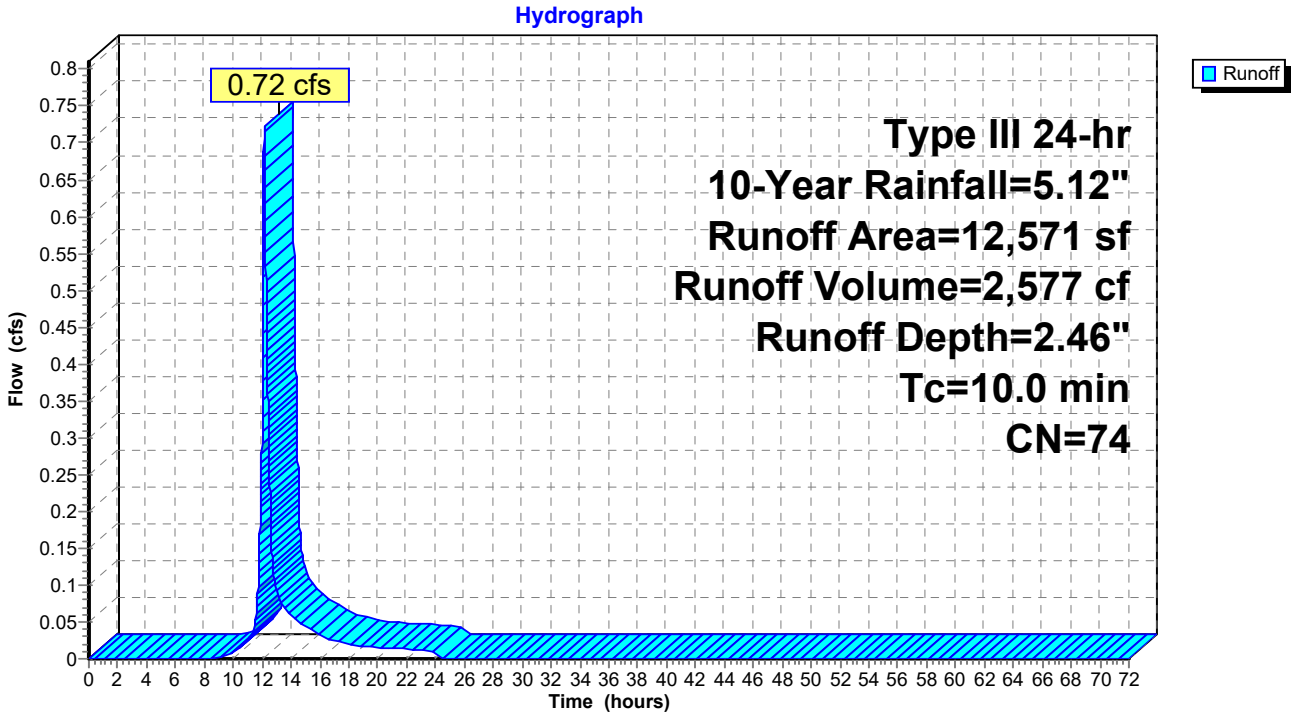
Runoff = 0.72 cfs @ 12.14 hrs, Volume= 2,577 cf, Depth= 2.46"
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	12,571	74	Lawn, Good, HSG C
	12,571	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2C: Drainage Subarea #2C 'SA2C'



Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'

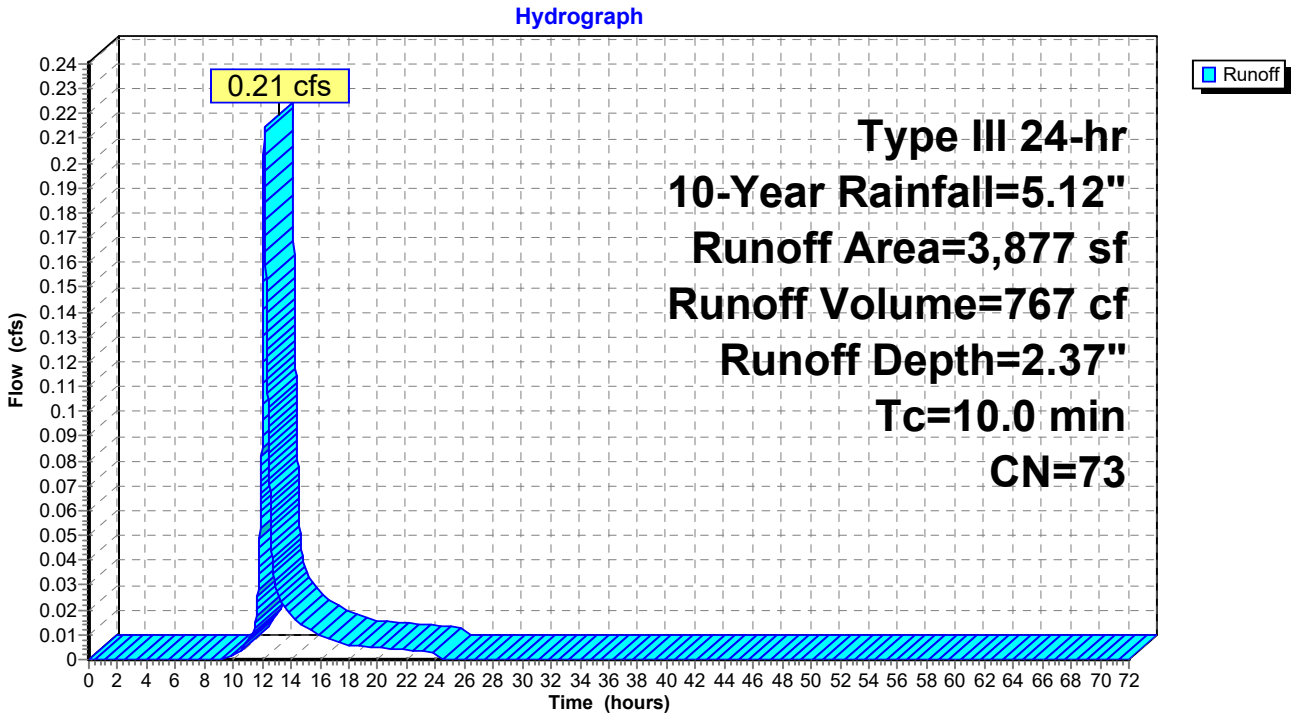
Runoff = 0.21 cfs @ 12.14 hrs, Volume= 767 cf, Depth= 2.37"
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	2,138	74	Lawn, Good, HSG C
*	1,349	70	Woods, Good, HSG C
*	390	77	Woods, Good, HSG D
	3,877	73	Weighted Average
	3,877	73	100.00% Pervious Area

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

Subcatchment SA2D: Drainage Subarea #2D 'SA2D'



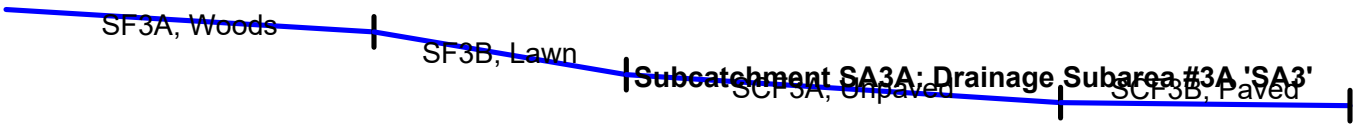
Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'

Runoff = 4.24 cfs @ 12.26 hrs, Volume= 19,207 cf, Depth= 3.09"
Routed to Pond BB-C : Bioretention Basin C 'BB-C'

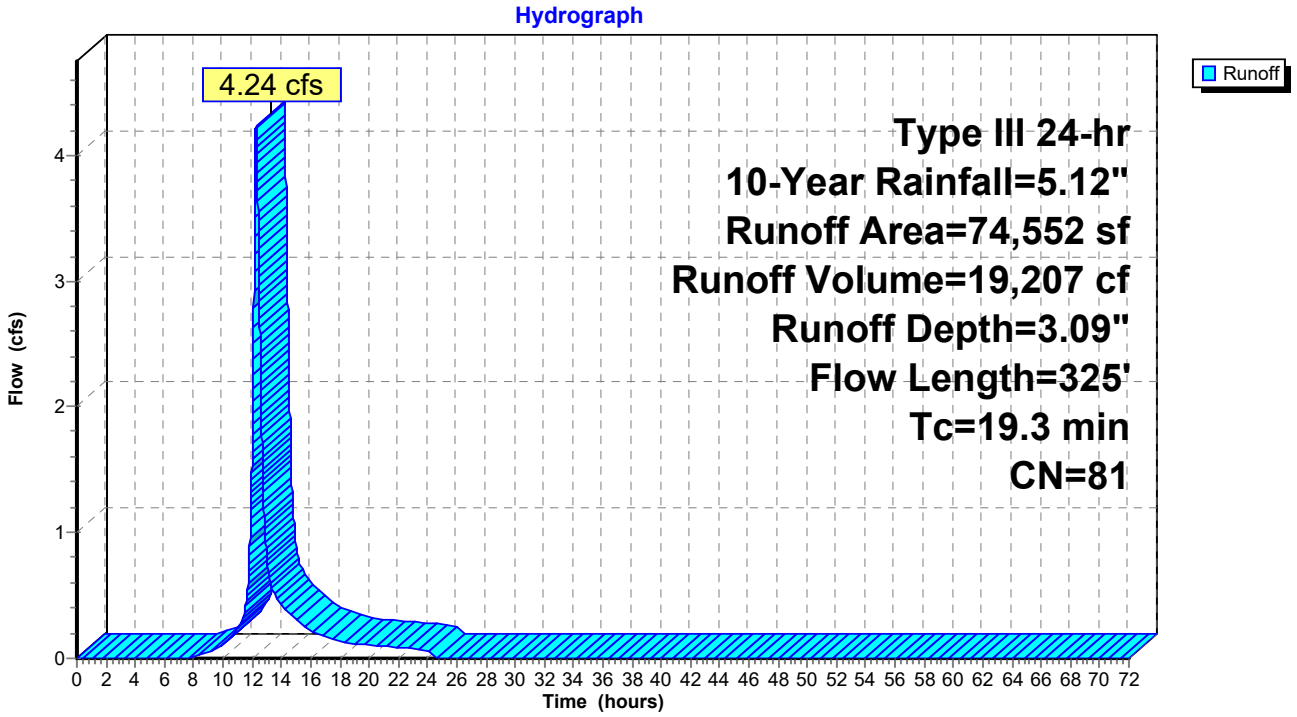
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	21,859	98	Bldgs./Impervious
*	454	86	Open Deck (est.), HSG C
*	48,227	74	Lawn, Good, HSG C
*	4,012	70	Woods, Good, HSG C
	74,552	81	Weighted Average
	52,693	74	70.68% Pervious Area
	21,859	98	29.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	89	0.0810	0.10		**Sheet Flow, SF3A, Woods** n= 0.600 P2= 3.43"
3.5	61	0.2260	0.29		**Sheet Flow, SF3B, Lawn** n= 0.240 P2= 3.43"
0.4	105	0.0860	4.72		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
0.5	70	0.0140	2.40		**Shallow Concentrated Flow, SCF3B, Paved** Paved Kv= 20.3 fps
19.3	325	Total			



Subcatchment SA3A: Drainage Subarea #3A 'SA3'



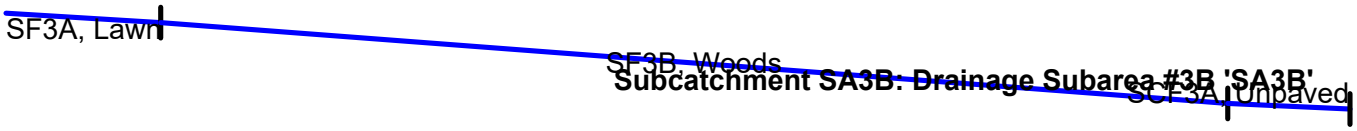
Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'

Runoff = 9.06 cfs @ 12.31 hrs, Volume= 43,023 cf, Depth= 2.29"
Routed to Reach SW : Diversion Swale

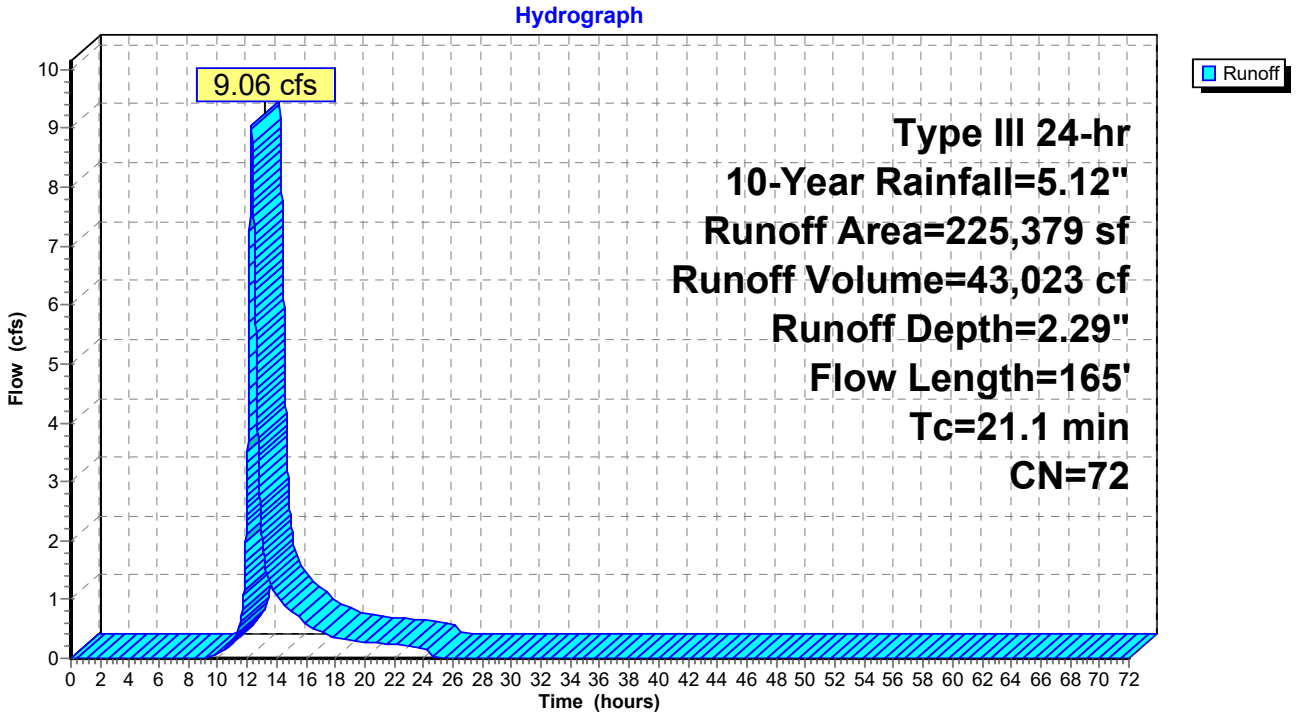
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	20,012	98	Bldgs./Impervious
*	596	92	Compact Gravel (est.), HSG C
*	1,211	86	Open Deck (est.), HSG C
*	372	61	Lawn, Good, HSG B
*	109,208	74	Lawn, Good, HSG C
*	32,752	55	Woods, Good, HSG B
*	61,228	70	Woods, Good, HSG C
	225,379	72	Weighted Average
	205,367	70	91.12% Pervious Area
	20,012	98	8.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		**Sheet Flow, SF3A, Lawn** n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		**Sheet Flow, SF3B, Woods** n= 0.600 P2= 3.43"
0.1	15	0.0600	3.94		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
21.1	165	Total			



Subcatchment SA3B: Drainage Subarea #3B 'SA3B'



Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'

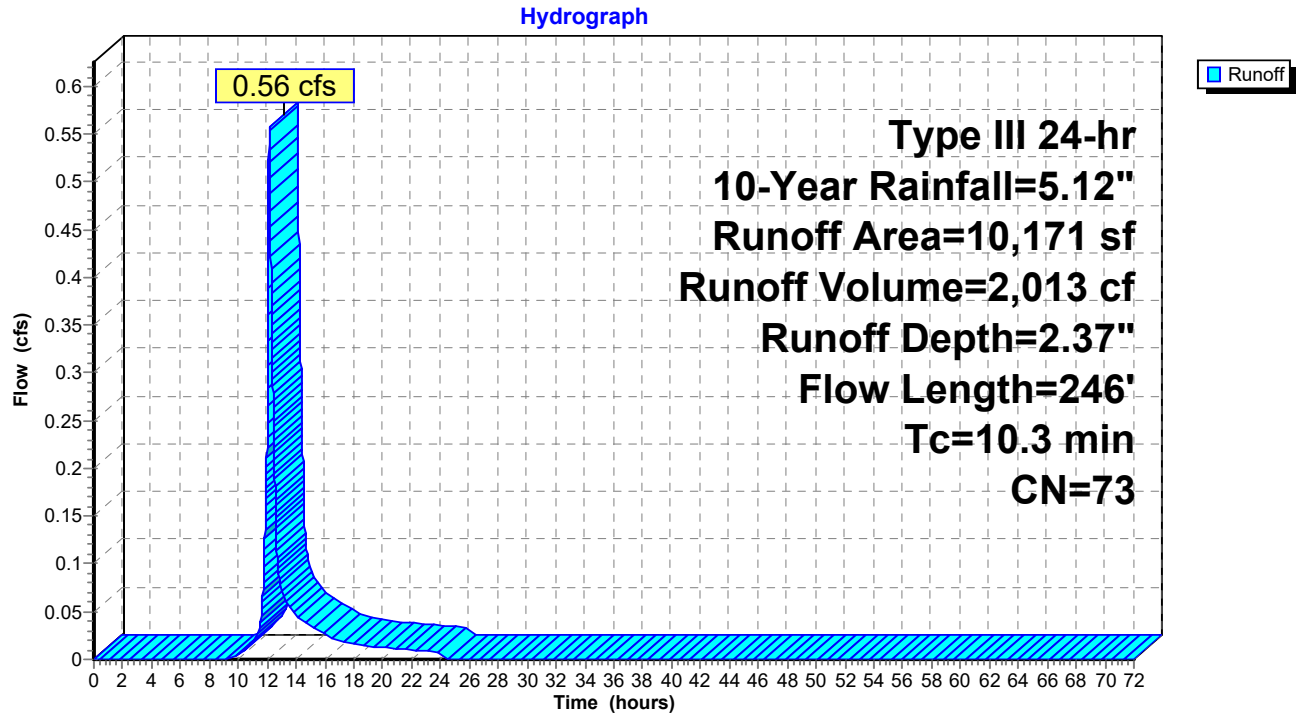
Runoff = 0.56 cfs @ 12.15 hrs, Volume= 2,013 cf, Depth= 2.37"
Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	7,957	74	Lawn, Good, HSG C
*	2,214	70	Woods, Good, HSG C
	10,171	73	Weighted Average
	10,171	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.1010	0.25		**Sheet Flow, SF4A, Lawn** n= 0.240 P2= 3.43"
0.3	96	0.1280	5.76		**Shallow Concentrated Flow, SCF4A, Woods** Unpaved Kv= 16.1 fps
10.3	246	Total			

Subcatchment SA4: Drainage Subarea #4 'SA4'



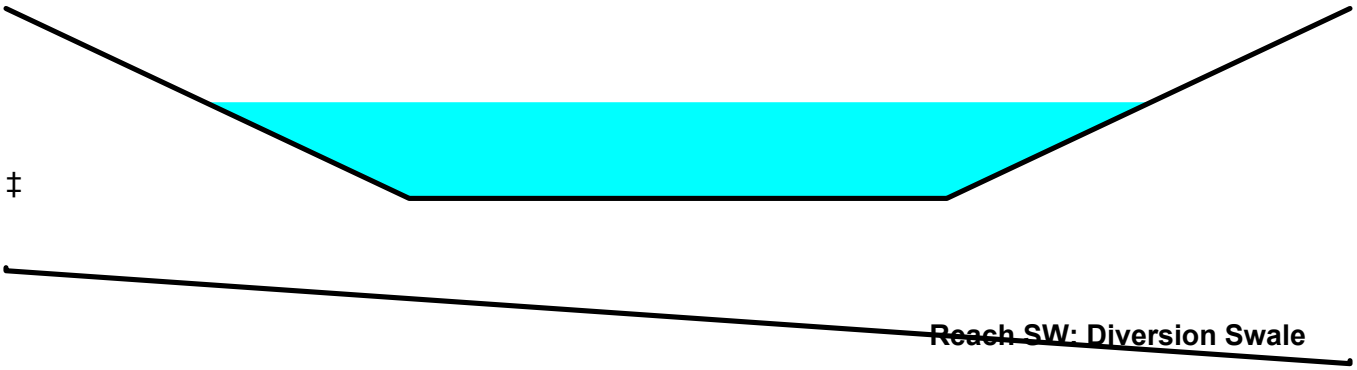
Summary for Reach SW: Diversion Swale

Inflow Area = 225,379 sf, 8.88% Impervious, Inflow Depth = 2.29" for 10-Year event
Inflow = 9.06 cfs @ 12.31 hrs, Volume= 43,023 cf
Outflow = 8.98 cfs @ 12.32 hrs, Volume= 43,023 cf, Atten= 1%, Lag= 1.2 min
Routed to Link AL3 : Analysis Line #3 (Northern PL)

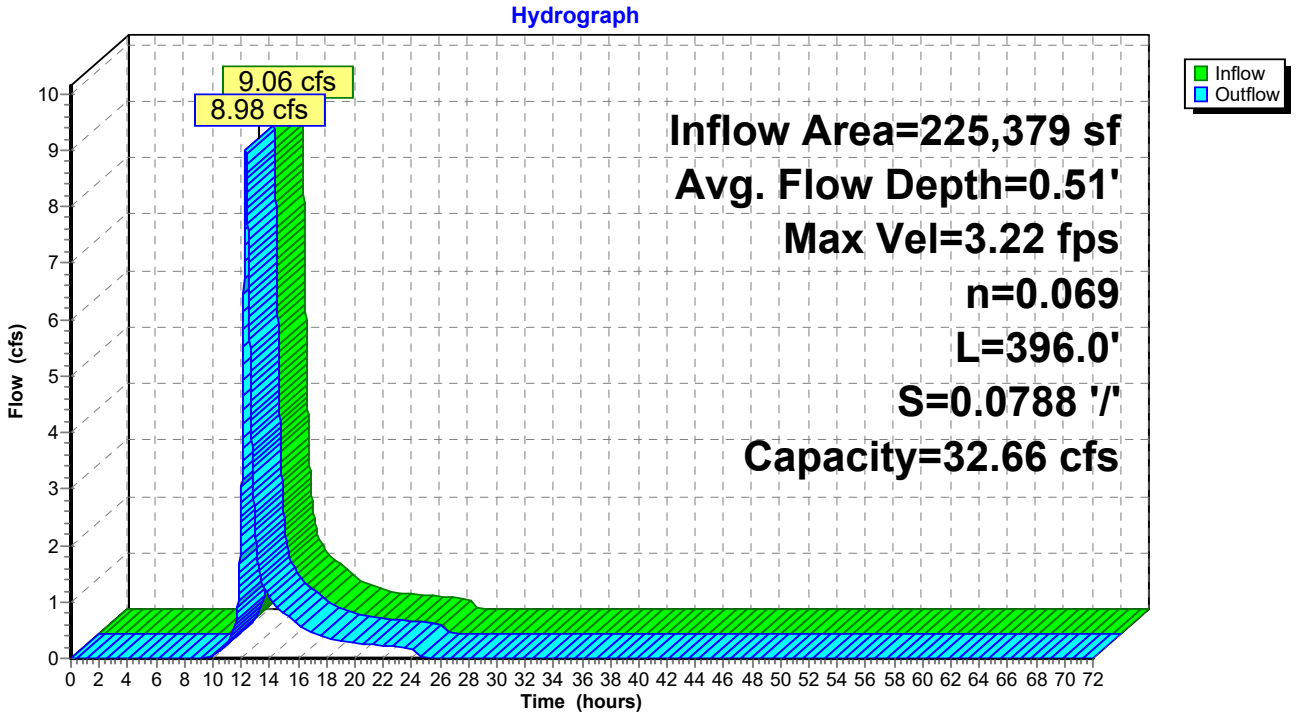
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.22 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 1.05 fps, Avg. Travel Time= 6.3 min

Peak Storage= 1,106 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.51' , Surface Width= 7.04'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 32.66 cfs

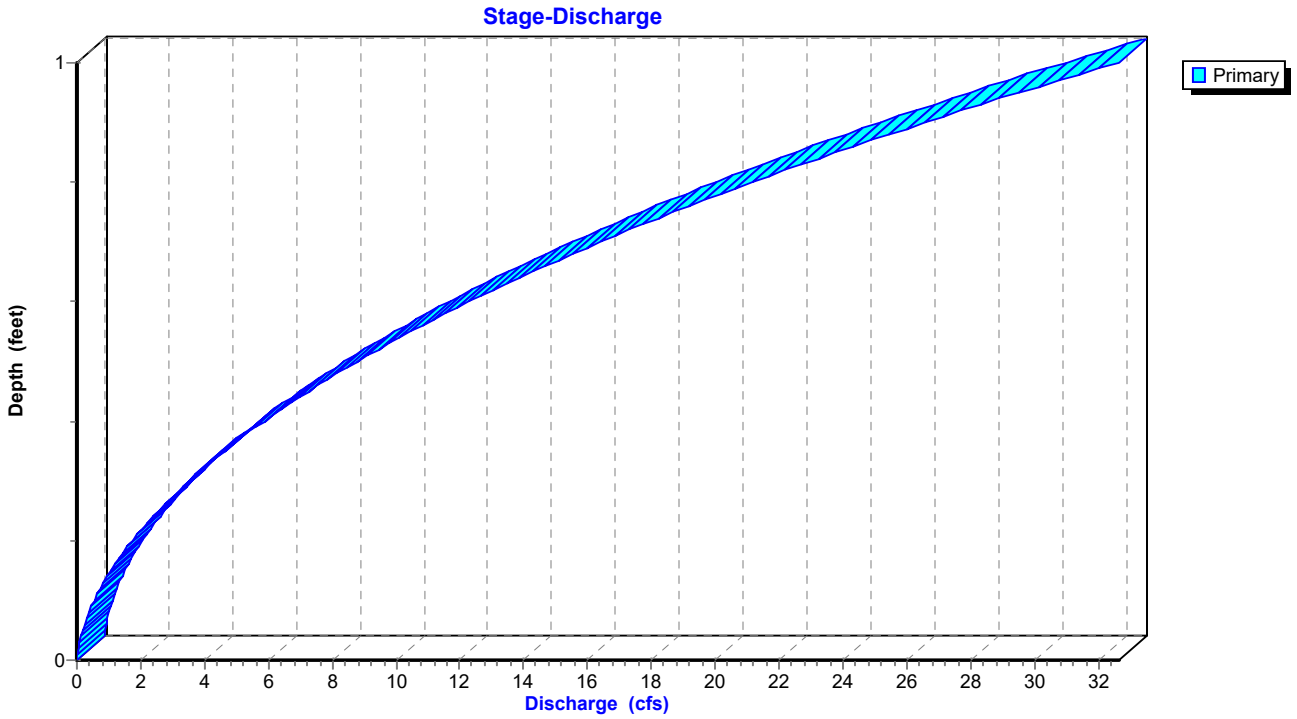
4.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 396.0' Slope= 0.0788 '/'
Inlet Invert= 419.20', Outlet Invert= 388.00'



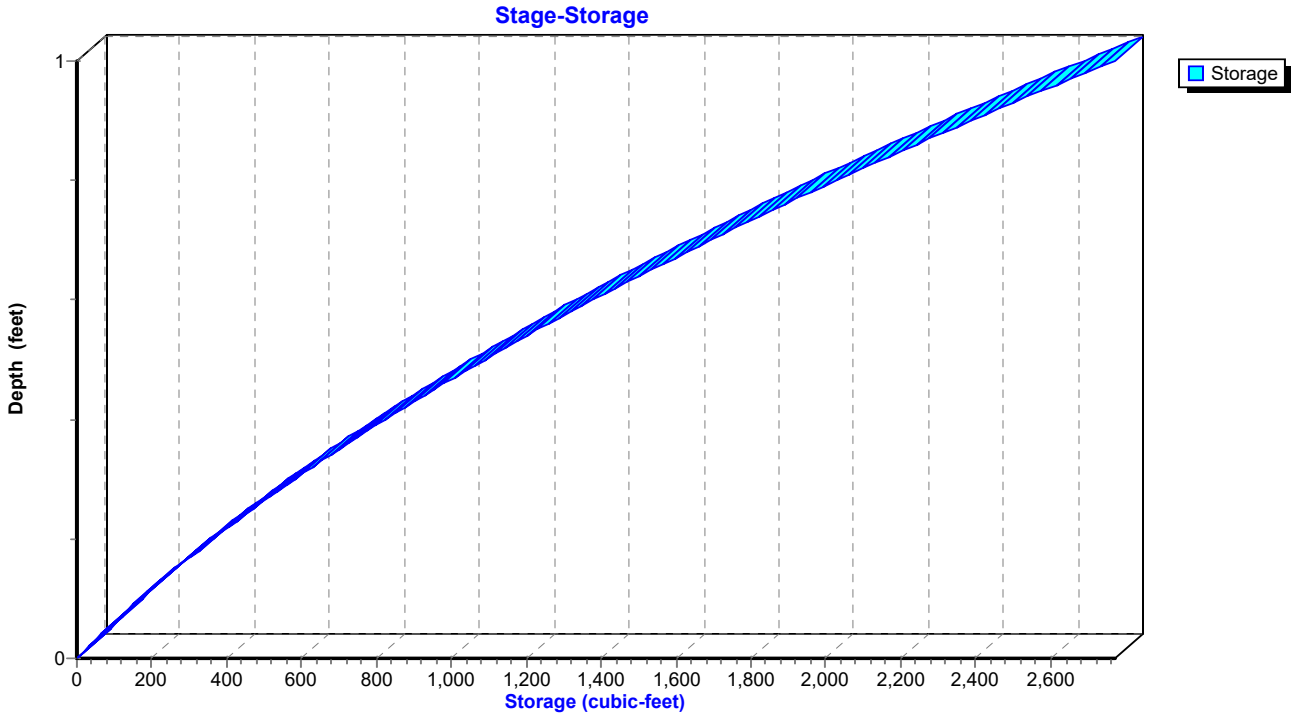
Reach SW: Diversion Swale



Reach SW: Diversion Swale



Reach SW: Diversion Swale



Summary for Pond BB-A: Bioretention Basin A 'BB-A'

[79] Warning: Submerged Pond WQB Primary device # 1 INLET by 1.70'

Inflow Area = 483,502 sf, 17.93% Impervious, Inflow Depth = 2.64" for 10-Year event
Inflow = 23.93 cfs @ 12.28 hrs, Volume= 106,530 cf
Outflow = 22.66 cfs @ 12.36 hrs, Volume= 106,530 cf, Atten= 5%, Lag= 4.5 min
Discarded = 0.24 cfs @ 12.36 hrs, Volume= 21,507 cf
Primary = 22.42 cfs @ 12.36 hrs, Volume= 85,023 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 346.70' @ 12.36 hrs Surf.Area= 10,361 sf Storage= 28,434 cf

Plug-Flow detention time= 221.3 min calculated for 106,515 cf (100% of inflow)
Center-of-Mass det. time= 221.5 min (1,066.2 - 844.8)

Volume	Invert	Avail.Storage	Storage Description
#1	343.00'	37,180 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

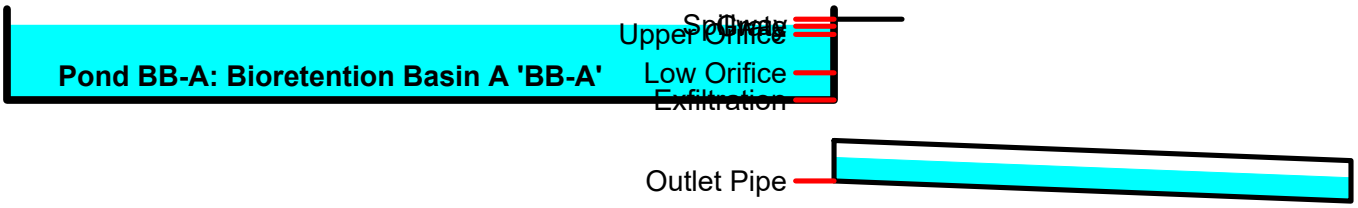
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
343.00	5,164	425.1	0	0	5,164
344.00	6,467	444.0	5,803	5,803	6,541
345.00	7,852	466.6	7,148	12,952	8,241
346.00	9,304	489.1	8,568	21,519	10,018
347.00	10,823	511.6	10,054	31,573	11,878
347.50	11,607	522.8	5,606	37,180	12,836

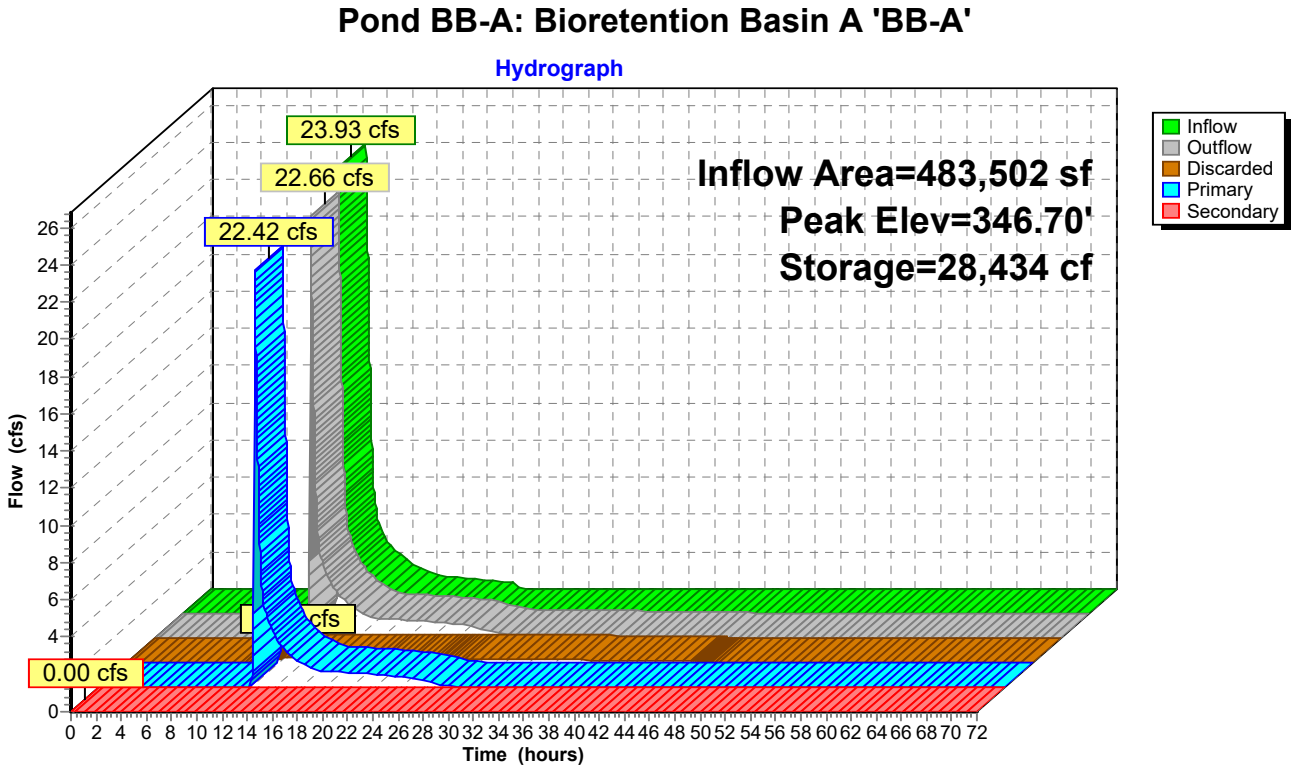
Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round Outlet Pipe** L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	344.35'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.25'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	346.65'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#5	Secondary	347.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	343.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.24 cfs @ 12.36 hrs HW=346.70' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 0.24 cfs)

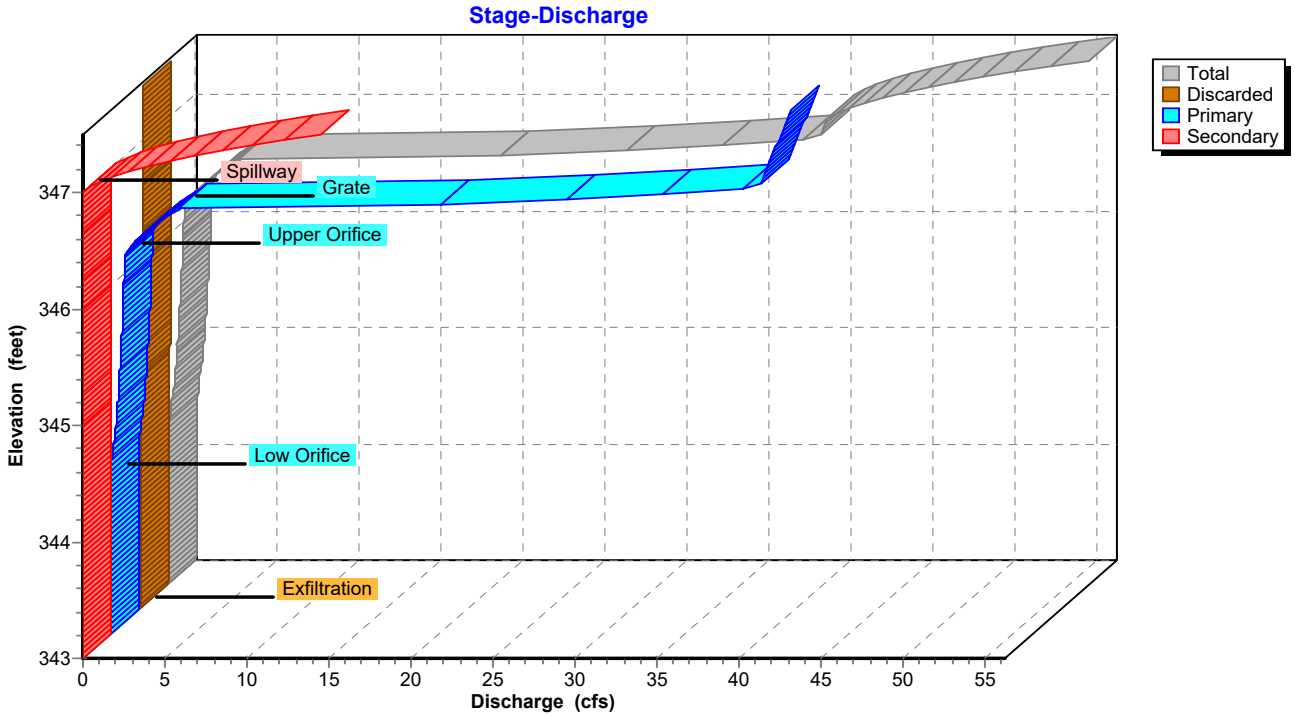
Primary OutFlow Max=22.71 cfs @ 12.36 hrs HW=346.70' (Free Discharge)
└**1=Outlet Pipe** (Passes 22.71 cfs of 39.16 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.96 cfs @ 7.05 fps)
  └**3=Upper Orifice** (Orifice Controls 3.92 cfs @ 2.16 fps)
  └**4=Grate** (Orifice Controls 17.82 cfs @ 1.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=343.00' (Free Discharge)
└**5=Spillway** (Controls 0.00 cfs)

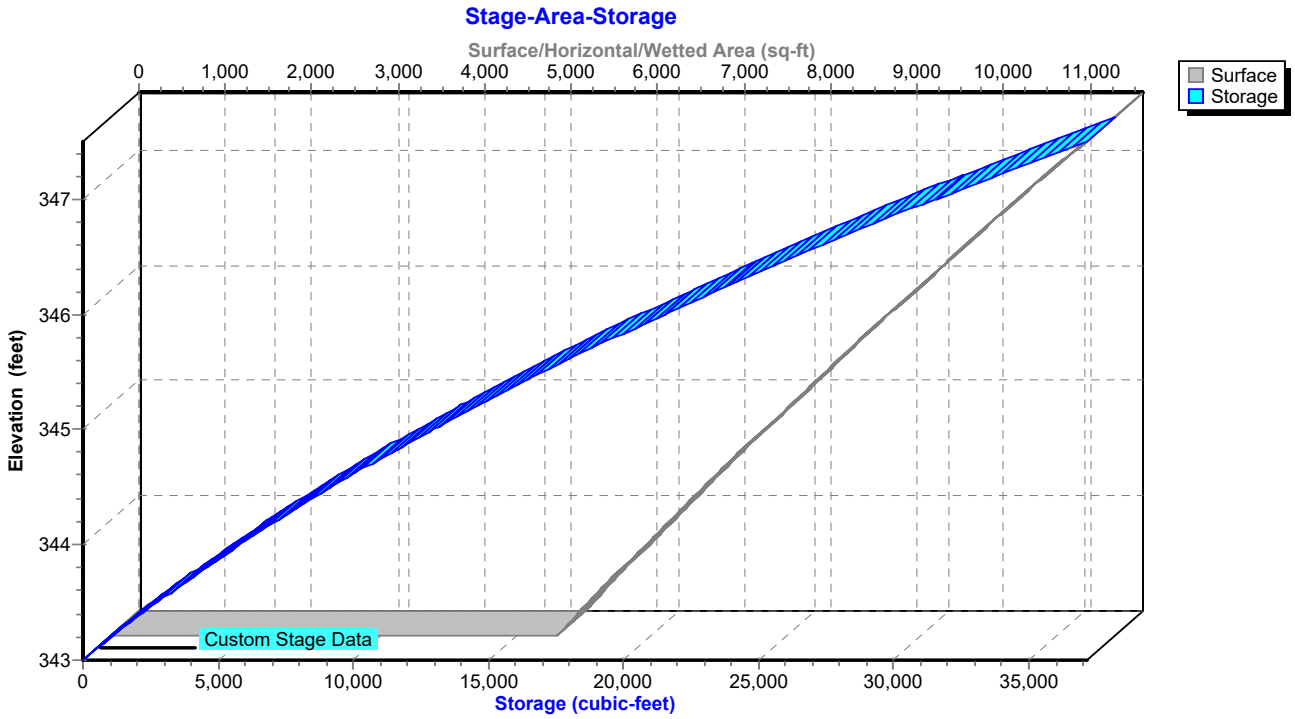




Pond BB-A: Bioretention Basin A 'BB-A'



Pond BB-A: Bioretention Basin A 'BB-A'



Summary for Pond BB-B: Bioretention Basin B 'BB-B'

[79] Warning: Submerged Pond BB-A Primary device # 1 INLET by 1.47'

Inflow Area = 496,073 sf, 17.47% Impervious, Inflow Depth = 2.12" for 10-Year event
Inflow = 22.81 cfs @ 12.36 hrs, Volume= 87,601 cf
Outflow = 13.03 cfs @ 12.61 hrs, Volume= 87,601 cf, Atten= 43%, Lag= 15.2 min
Discarded = 0.12 cfs @ 12.61 hrs, Volume= 5,828 cf
Primary = 12.91 cfs @ 12.61 hrs, Volume= 81,773 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 340.47' @ 12.61 hrs Surf.Area= 5,214 sf Storage= 11,185 cf

Plug-Flow detention time= 42.1 min calculated for 87,601 cf (100% of inflow)
Center-of-Mass det. time= 42.1 min (976.6 - 934.5)

Volume	Invert	Avail.Storage	Storage Description
#1	337.50'	36,426 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

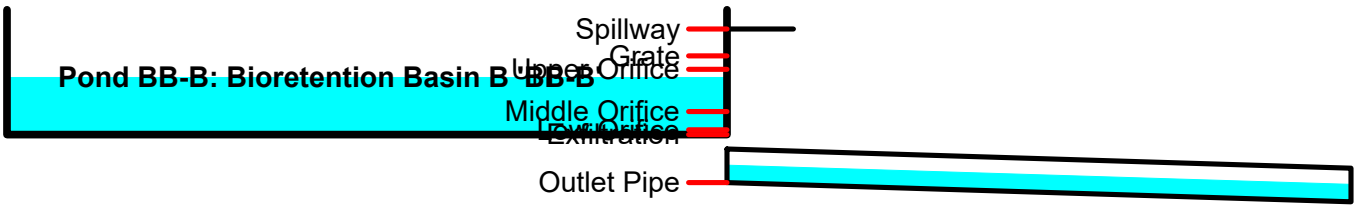
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
337.50	2,408	287.3	0	0	2,408
339.00	3,765	315.6	4,592	4,592	3,839
340.00	4,739	334.4	4,243	8,835	4,864
341.00	5,771	353.3	5,247	14,081	5,954
342.00	6,859	372.1	6,307	20,388	7,099
343.00	8,004	391.0	7,424	27,813	8,308
344.00	9,237	411.1	8,613	36,426	9,652

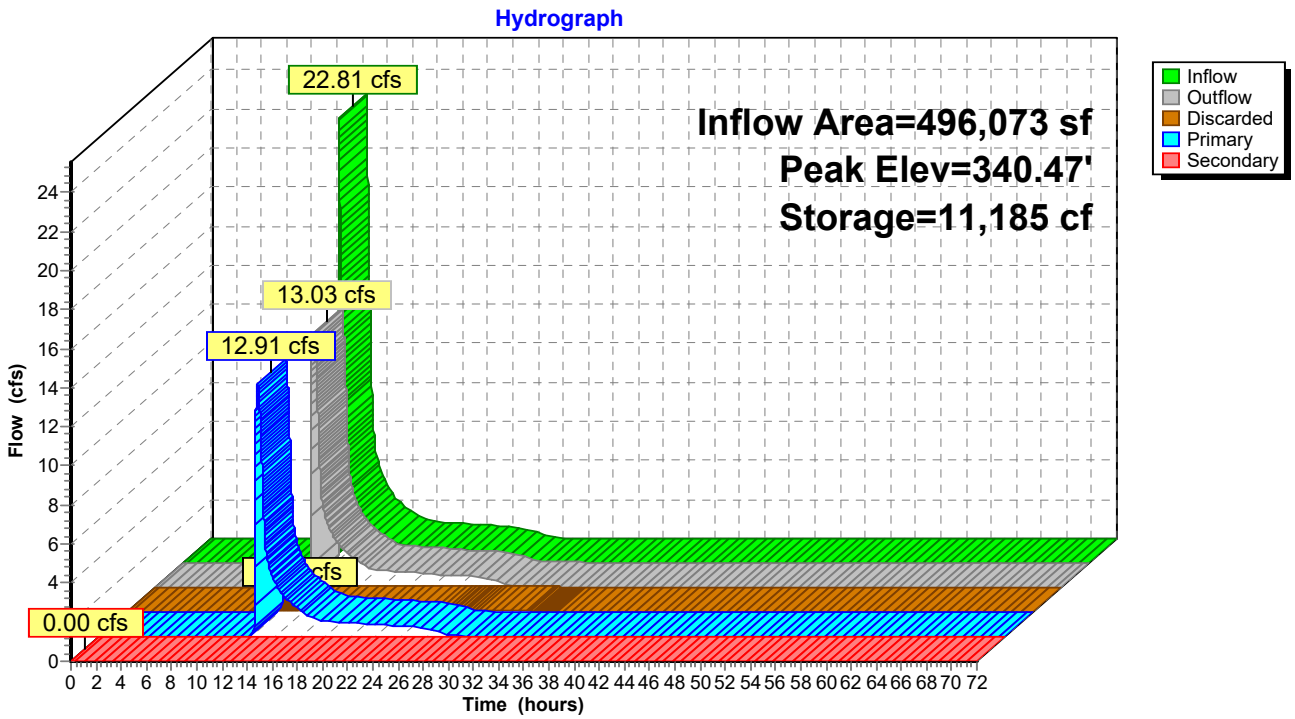
Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**21.0" Round Outlet Pipe** L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	337.75'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	338.70'	**48.0" W x 6.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	340.90'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	341.60'	**48.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#6	Secondary	343.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	337.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 12.61 hrs HW=340.47' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.12 cfs)

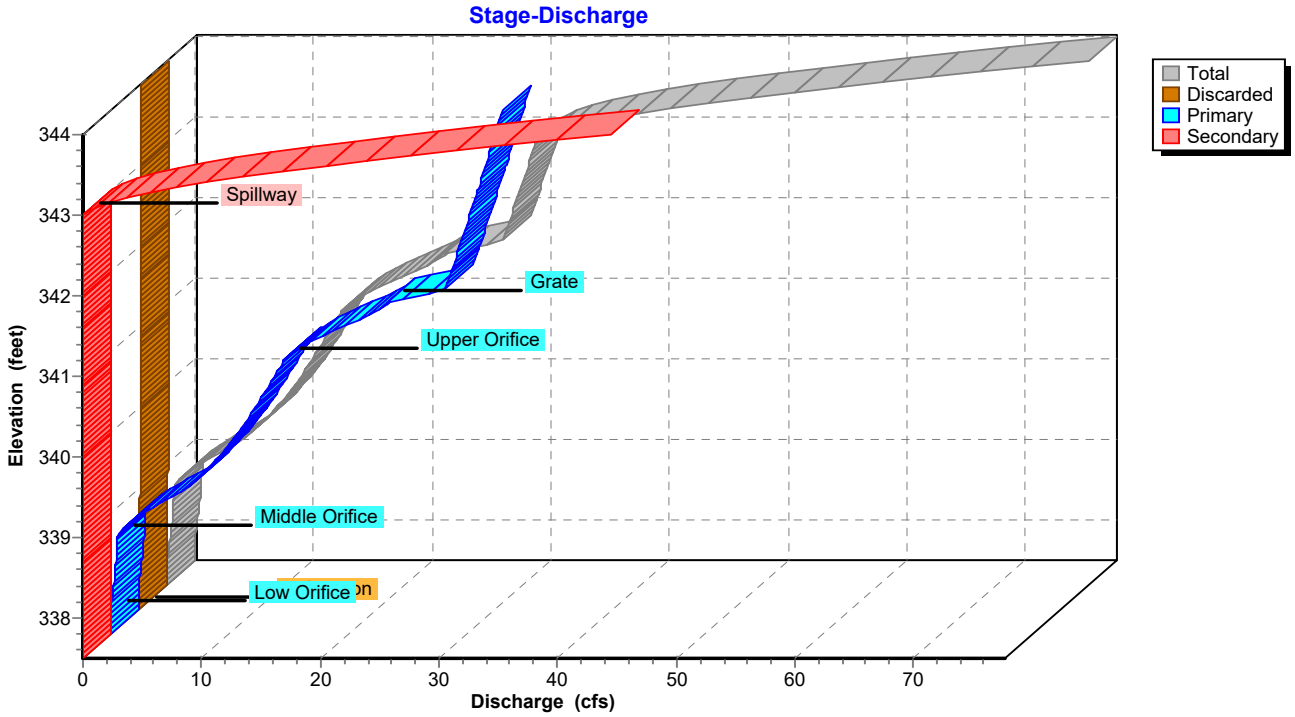
Primary OutFlow Max=12.91 cfs @ 12.61 hrs HW=340.47' (Free Discharge)
└**1=Outlet Pipe** (Passes 12.91 cfs of 24.83 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 1.04 cfs @ 7.63 fps)
  └**3=Middle Orifice** (Orifice Controls 11.87 cfs @ 5.93 fps)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=337.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)

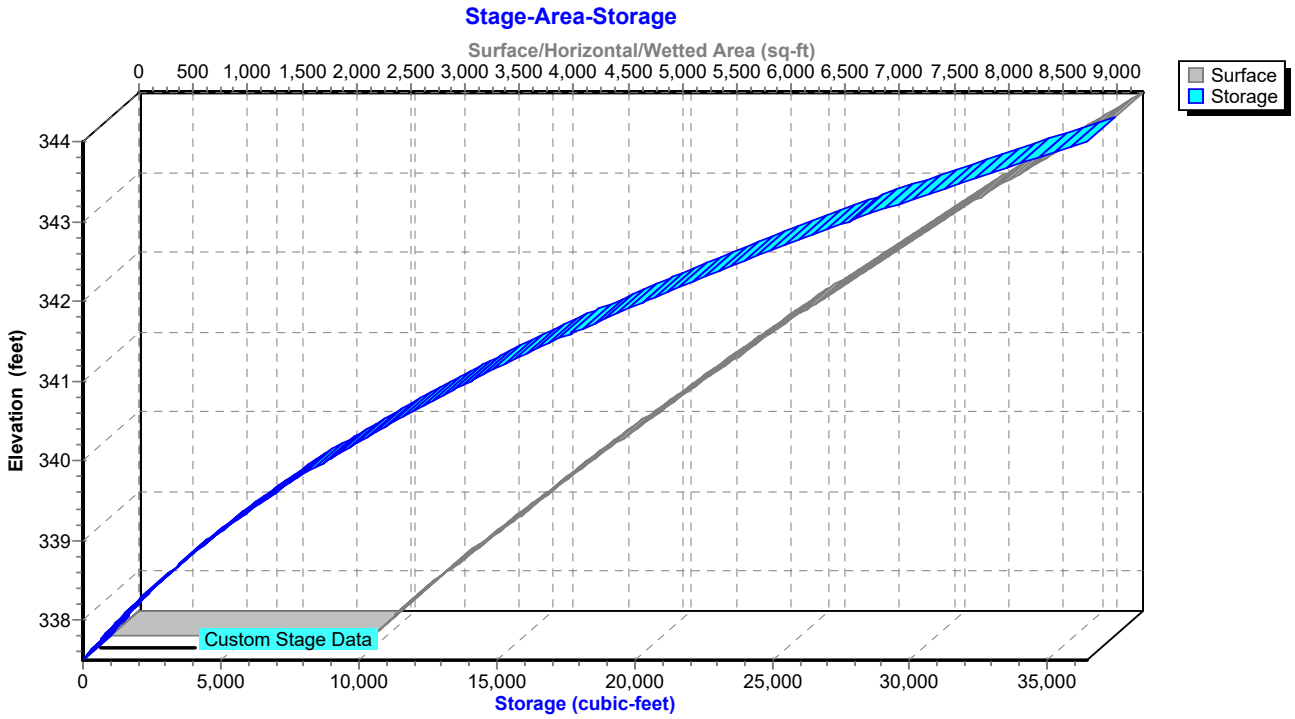




Pond BB-B: Bioretention Basin B 'BB-B'



Pond BB-B: Bioretention Basin B 'BB-B'



Summary for Pond BB-C: Bioretention Basin C 'BB-C'

Inflow Area = 74,552 sf, 29.32% Impervious, Inflow Depth = 3.09" for 10-Year event
Inflow = 4.24 cfs @ 12.26 hrs, Volume= 19,207 cf
Outflow = 1.96 cfs @ 12.63 hrs, Volume= 19,207 cf, Atten= 54%, Lag= 21.9 min
Discarded = 0.08 cfs @ 12.63 hrs, Volume= 4,089 cf
Primary = 1.88 cfs @ 12.63 hrs, Volume= 15,118 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 390.13' @ 12.63 hrs Surf.Area= 3,320 sf Storage= 6,331 cf

Plug-Flow detention time= 109.4 min calculated for 19,204 cf (100% of inflow)
Center-of-Mass det. time= 109.5 min (939.9 - 830.4)

Volume	Invert	Avail.Storage	Storage Description
#1	387.50'	13,929 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

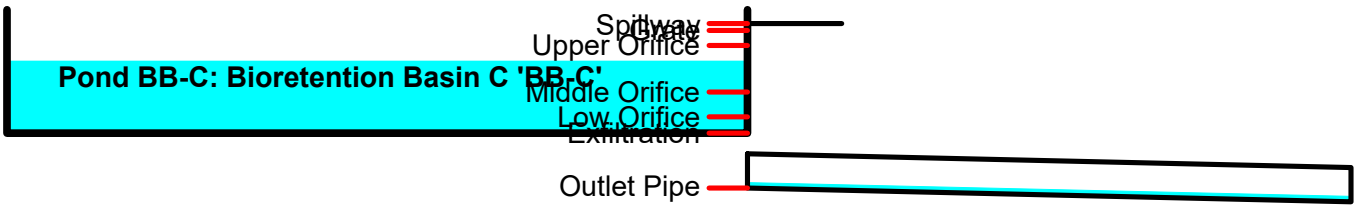
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
387.50	1,568	193.8	0	0	1,568
388.00	1,872	204.2	859	859	1,912
389.00	2,526	224.8	2,191	3,050	2,647
390.00	3,229	243.7	2,870	5,920	3,390
391.00	3,988	262.5	3,602	9,522	4,188
392.00	4,841	285.5	4,408	13,929	5,228

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	**15.0" Round Outlet Pipe** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	388.10'	**4.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	389.00'	**10.0" W x 4.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.70'	**24.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#6	Secondary	391.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	387.50'	**1.000 in/hr Exfiltration over Surface area**

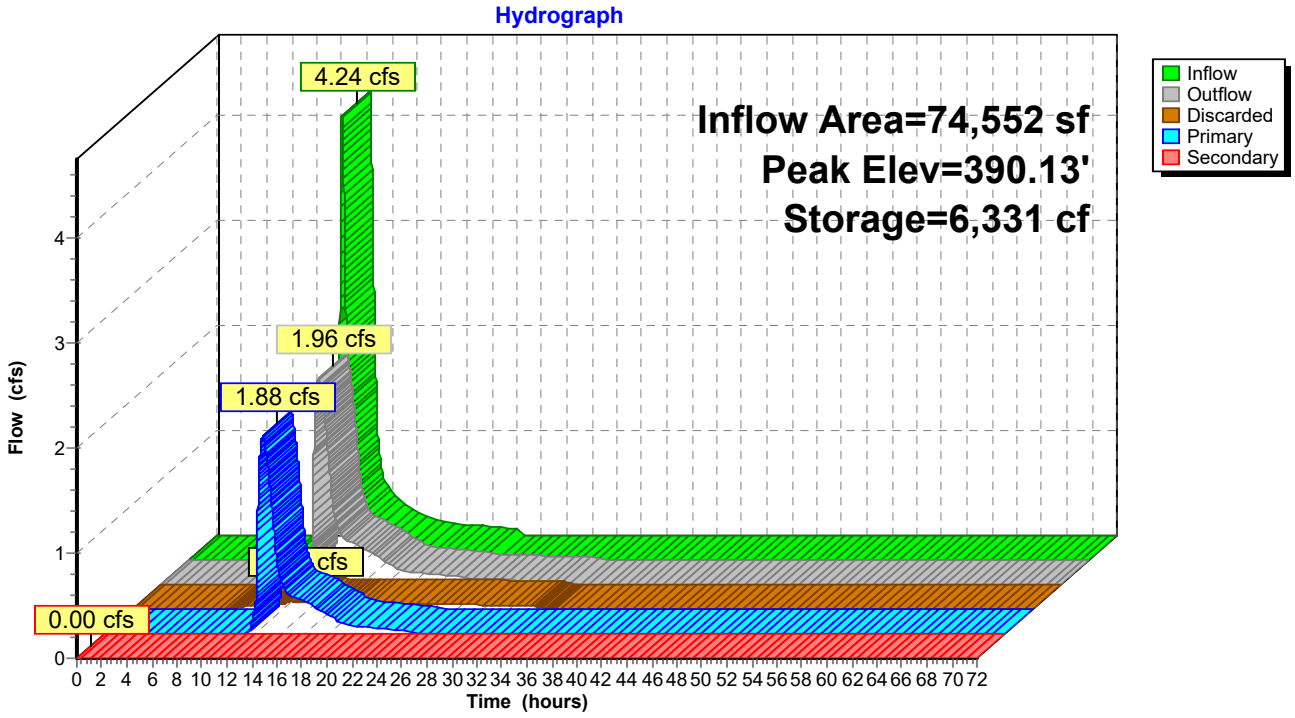
Discarded OutFlow Max=0.08 cfs @ 12.63 hrs HW=390.13' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=1.88 cfs @ 12.63 hrs HW=390.13' (Free Discharge)
└**1=Outlet Pipe** (Passes 1.88 cfs of 11.82 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.57 cfs @ 6.56 fps)
  └**3=Middle Orifice** (Orifice Controls 1.31 cfs @ 4.71 fps)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

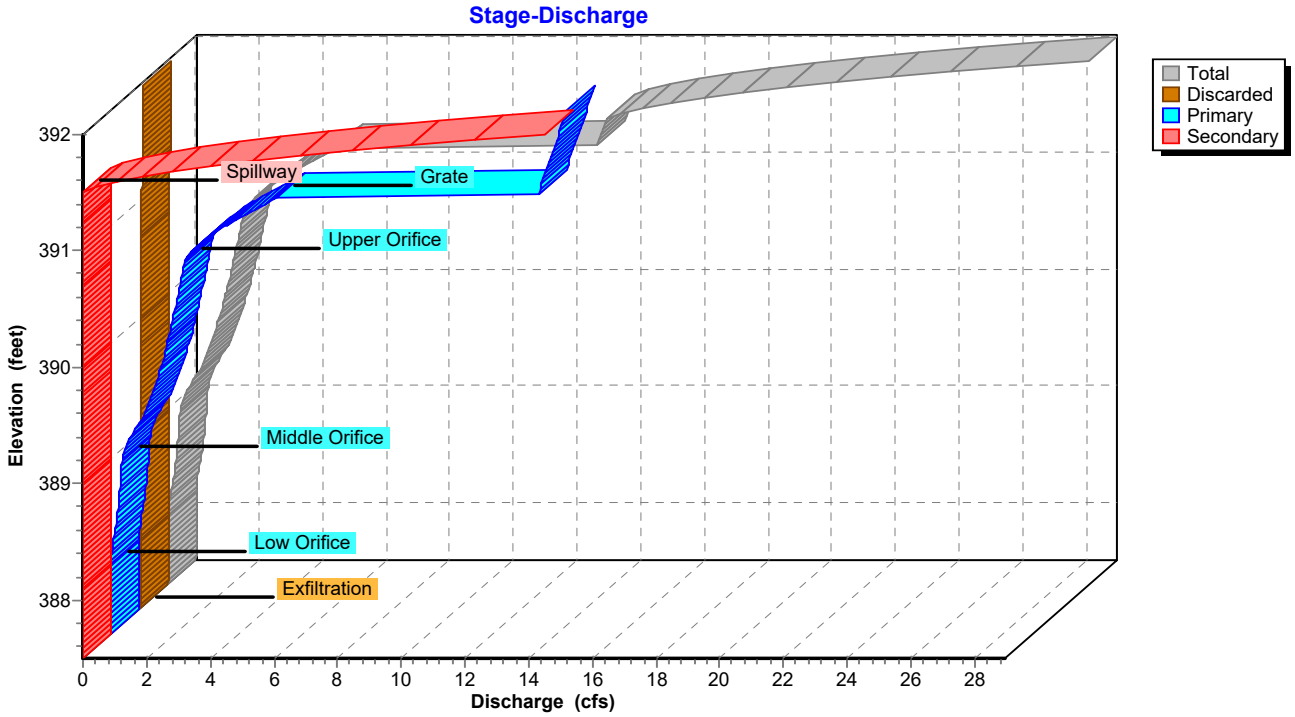
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=387.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)



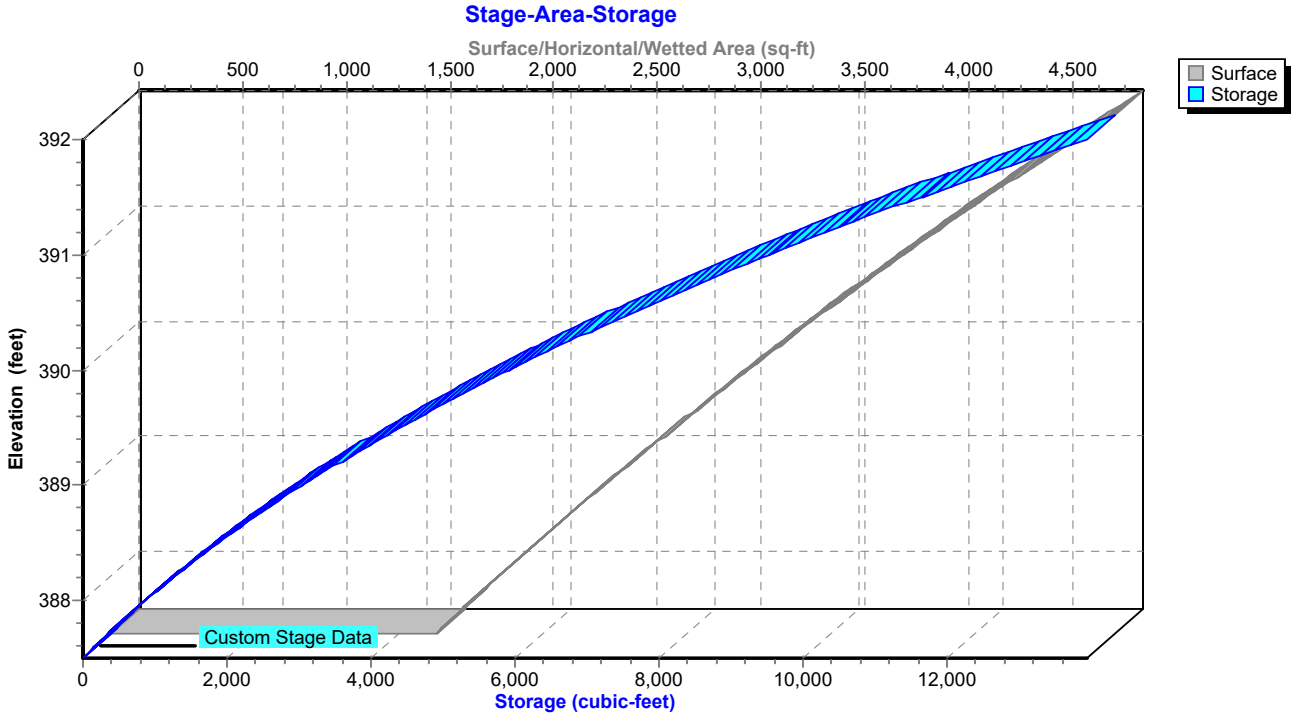
Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Summary for Pond WQB: Water Quality Basin 'WQB'

Inflow Area = 459,645 sf, 18.69% Impervious, Inflow Depth = 2.81" for 10-Year event
Inflow = 23.07 cfs @ 12.28 hrs, Volume= 107,781 cf
Outflow = 23.07 cfs @ 12.29 hrs, Volume= 107,781 cf, Atten= 0%, Lag= 0.2 min
Discarded = 0.07 cfs @ 12.29 hrs, Volume= 6,315 cf
Primary = 23.00 cfs @ 12.29 hrs, Volume= 101,467 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 356.30' @ 12.29 hrs Surf.Area= 2,905 sf Storage= 4,445 cf

Plug-Flow detention time= 43.5 min calculated for 107,781 cf (100% of inflow)
Center-of-Mass det. time= 43.4 min (883.2 - 839.8)

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,684 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
354.00	1,014	251.0	0	0	1,014
355.00	1,803	271.5	1,390	1,390	1,906
356.00	2,645	290.3	2,211	3,600	2,792
357.00	3,545	309.2	3,084	6,684	3,742

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**24.0" Round Outlet Pipe** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	**48.0" W x 6.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#4	Secondary	356.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	354.00'	**1.000 in/hr Exfiltration over Surface area**

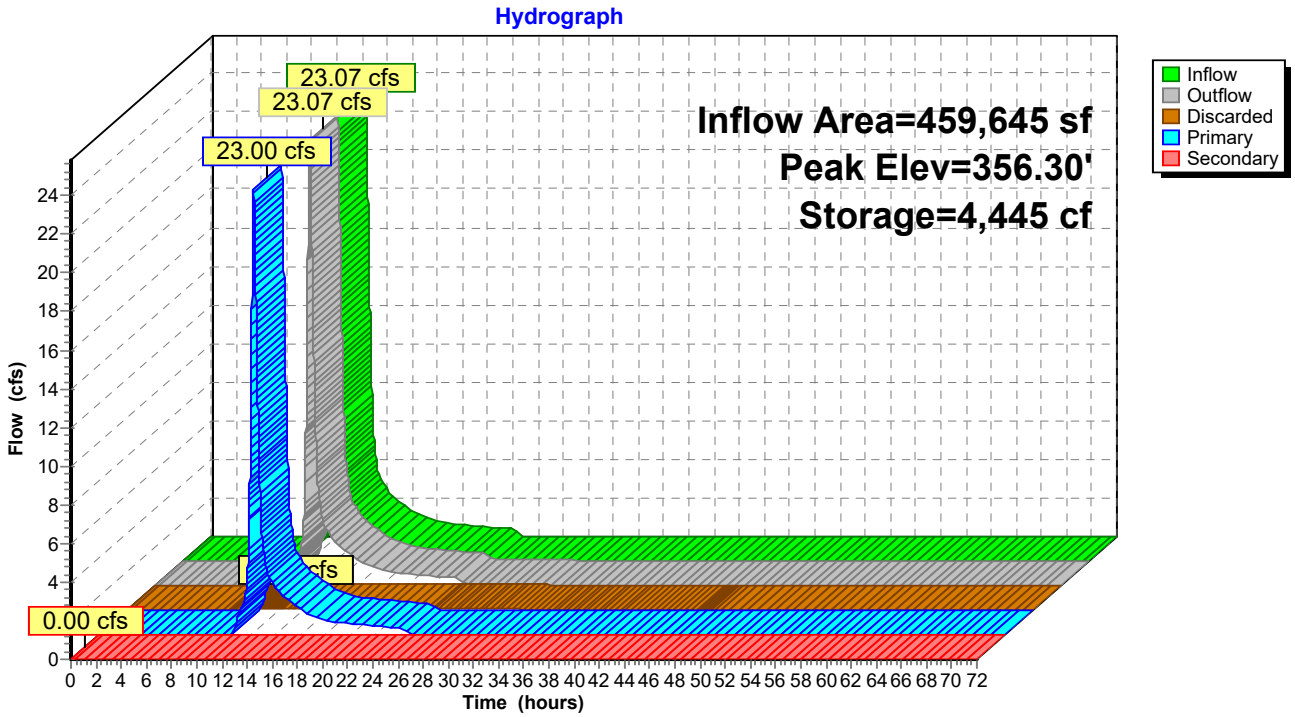
Discarded OutFlow Max=0.07 cfs @ 12.29 hrs HW=356.30' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=23.13 cfs @ 12.29 hrs HW=356.30' (Free Discharge)
└**1=Outlet Pipe** (Passes 23.13 cfs of 48.56 cfs potential flow)
├**2=Orifice** (Orifice Controls 5.14 cfs @ 2.57 fps)
└**3=Grate** (Orifice Controls 17.99 cfs @ 1.12 fps)

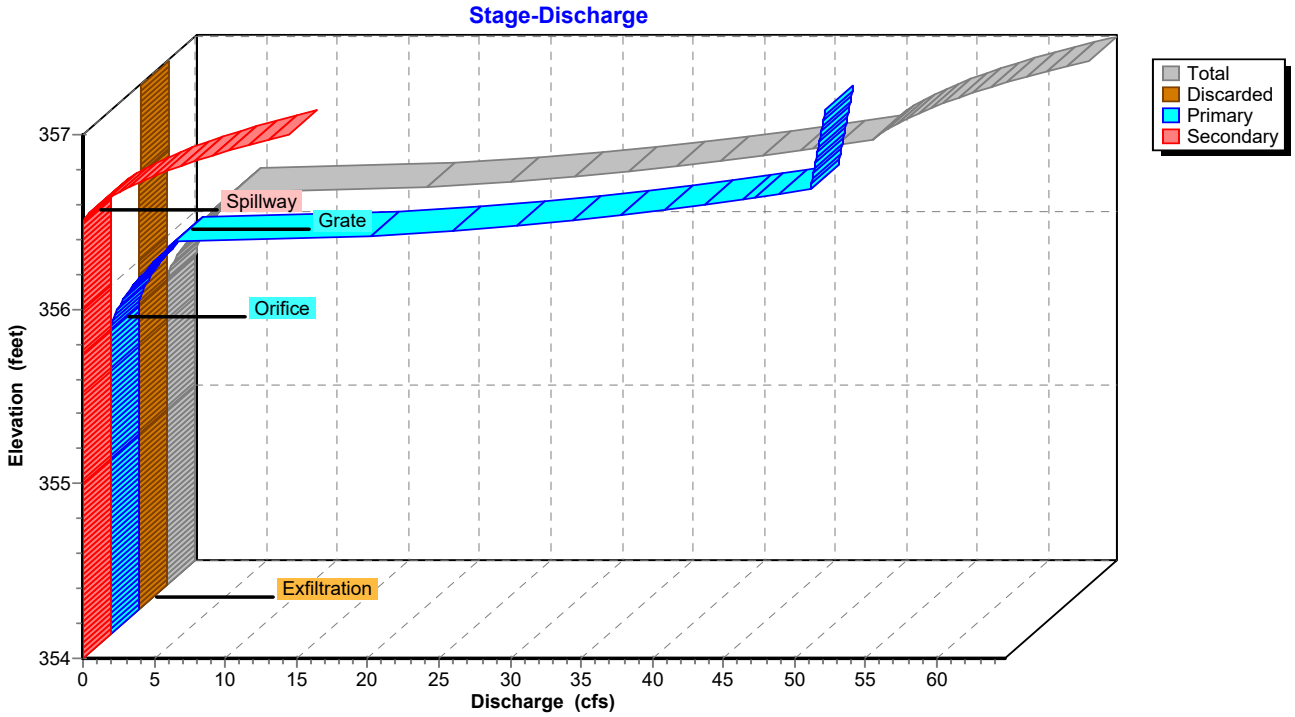
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)
└**4=Spillway** (Controls 0.00 cfs)

Pond WQB: Water Quality Basin 'WQB'

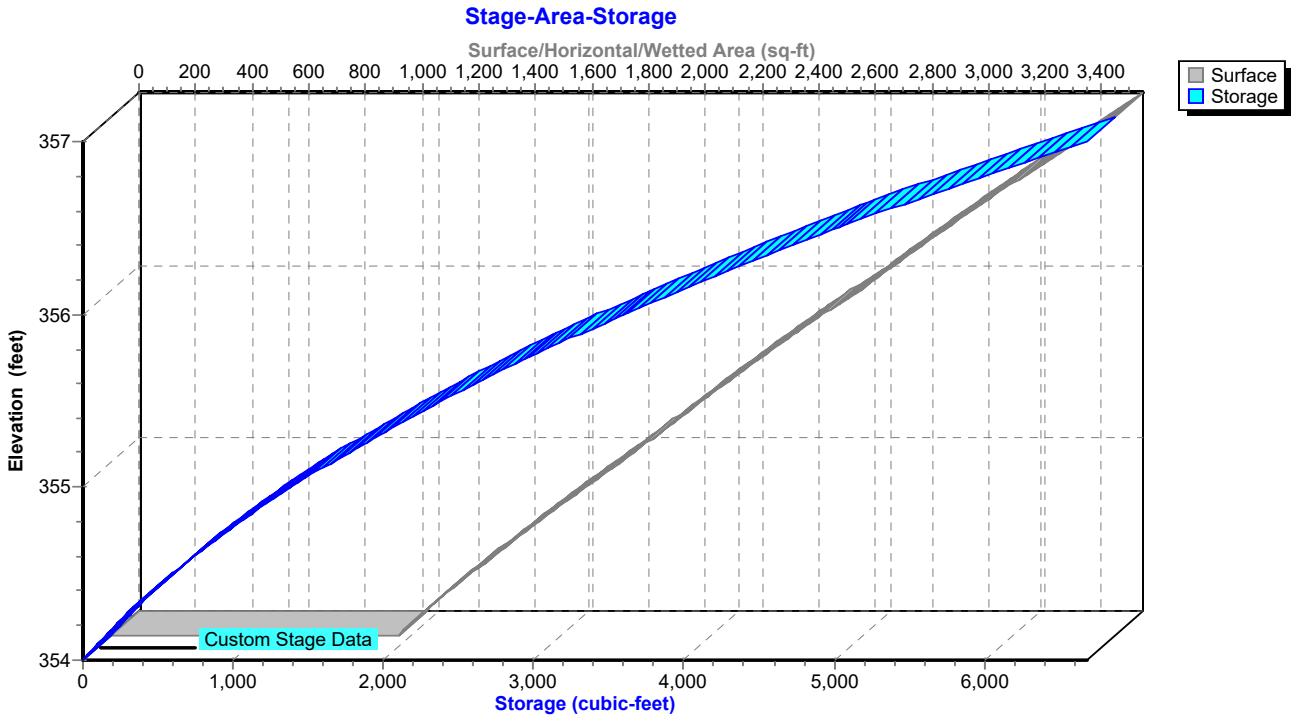
Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'

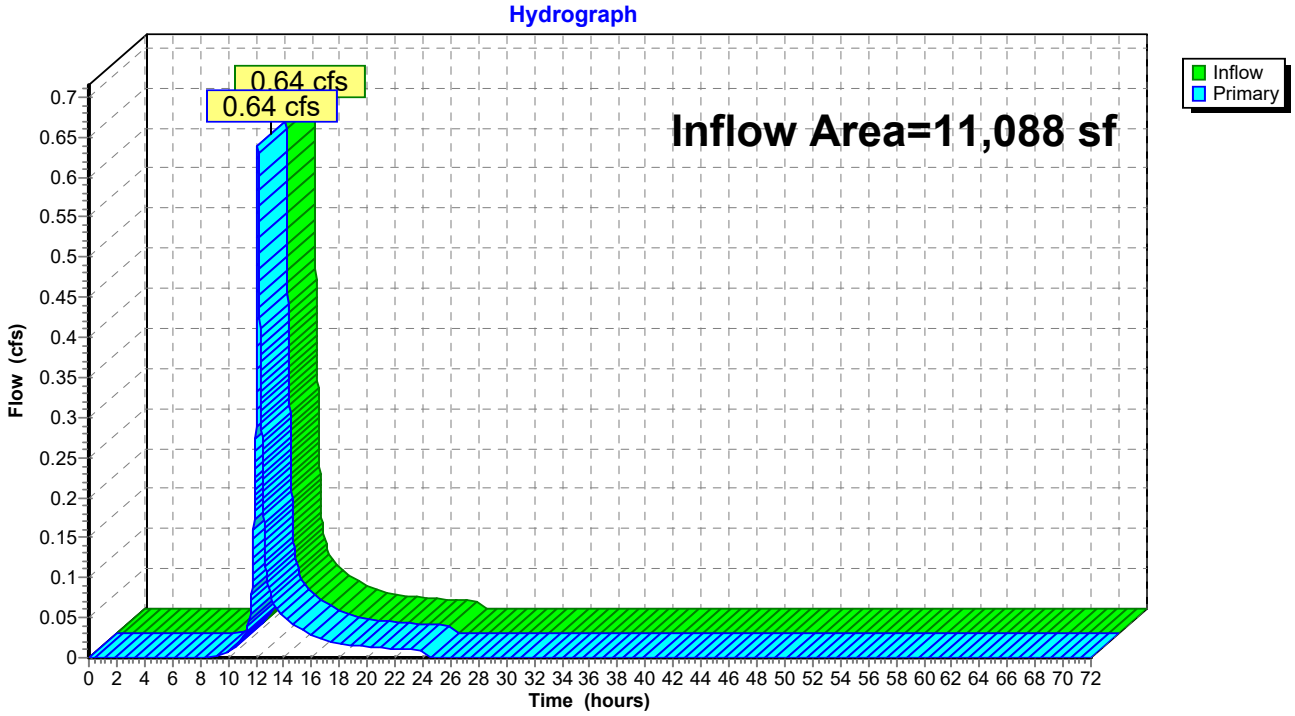


Summary for Link AL1: Analysis Line #1 (Southeastern PL)

Inflow Area = 11,088 sf, 1.43% Impervious, Inflow Depth = 2.46" for 10-Year event
Inflow = 0.64 cfs @ 12.14 hrs, Volume= 2,273 cf
Primary = 0.64 cfs @ 12.14 hrs, Volume= 2,273 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL1: Analysis Line #1 (Southeastern PL)

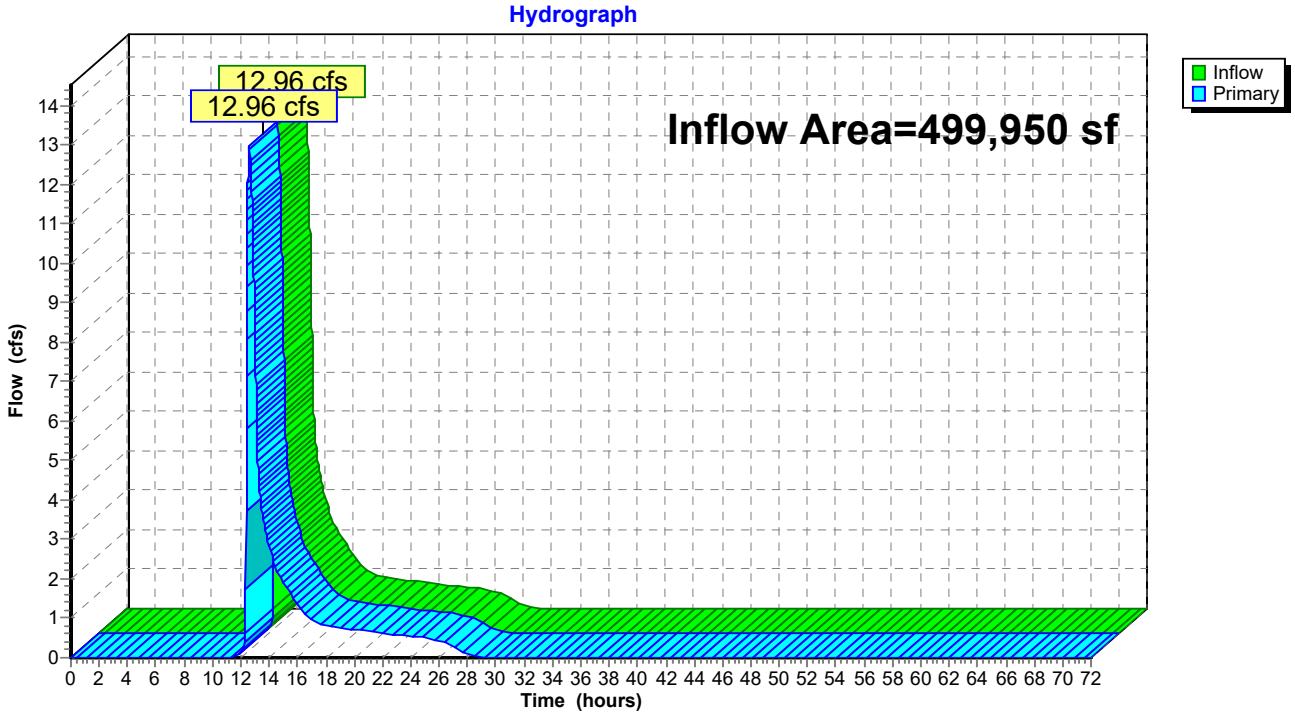


Summary for Link AL2: Analysis Line #2 (Wetlands)

Inflow Area = 499,950 sf, 17.34% Impervious, Inflow Depth = 1.98" for 10-Year event
Inflow = 12.96 cfs @ 12.61 hrs, Volume= 82,540 cf
Primary = 12.96 cfs @ 12.61 hrs, Volume= 82,540 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL2: Analysis Line #2 (Wetlands)

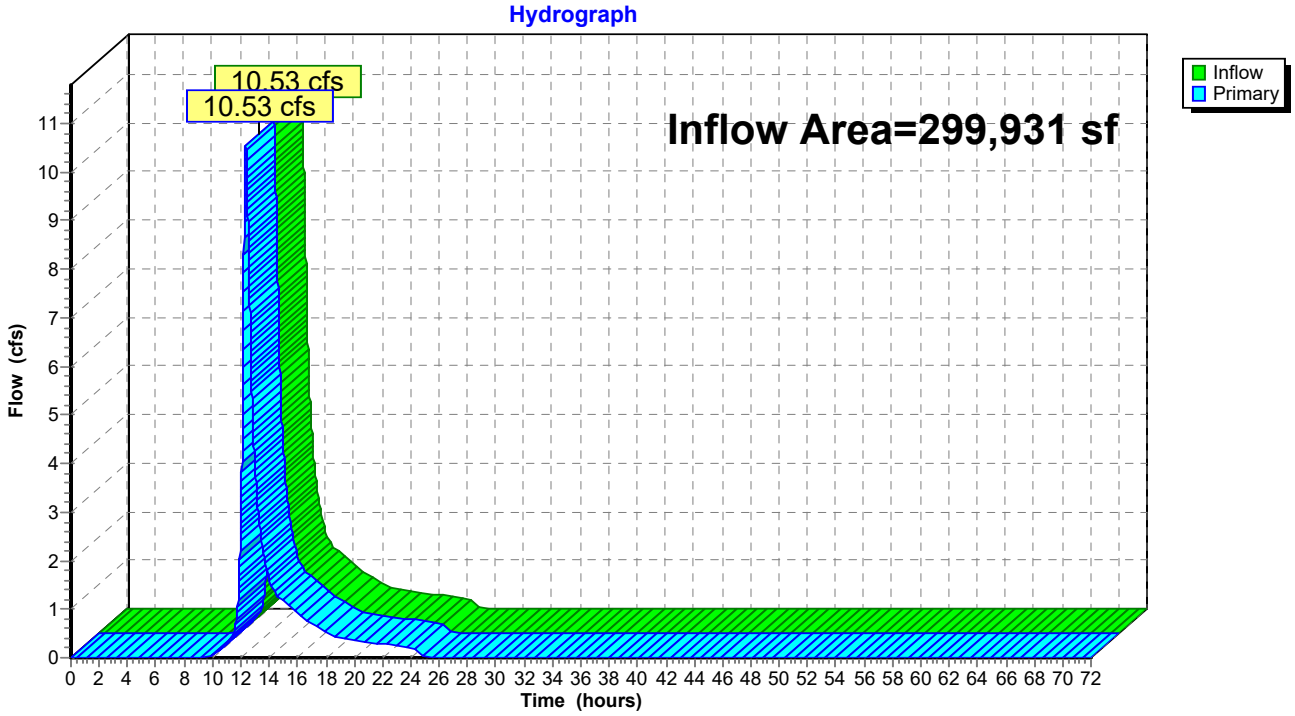


Summary for Link AL3: Analysis Line #3 (Northern PL)

Inflow Area = 299,931 sf, 13.96% Impervious, Inflow Depth = 2.33" for 10-Year event
Inflow = 10.53 cfs @ 12.34 hrs, Volume= 58,141 cf
Primary = 10.53 cfs @ 12.34 hrs, Volume= 58,141 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL3: Analysis Line #3 (Northern PL)

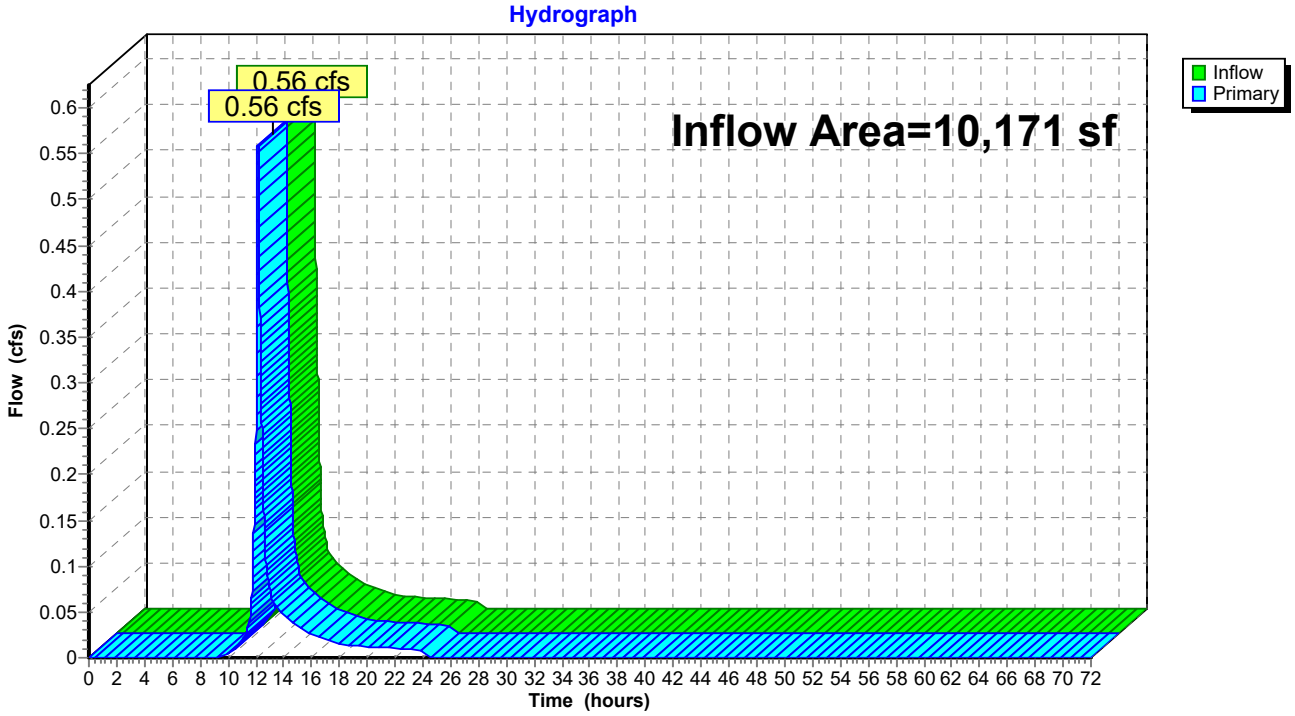


Summary for Link AL4: Analysis Line #4 (Northeastern PL)

Inflow Area = 10,171 sf, 0.00% Impervious, Inflow Depth = 2.37" for 10-Year event
Inflow = 0.56 cfs @ 12.15 hrs, Volume= 2,013 cf
Primary = 0.56 cfs @ 12.15 hrs, Volume= 2,013 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL4: Analysis Line #4 (Northeastern PL)

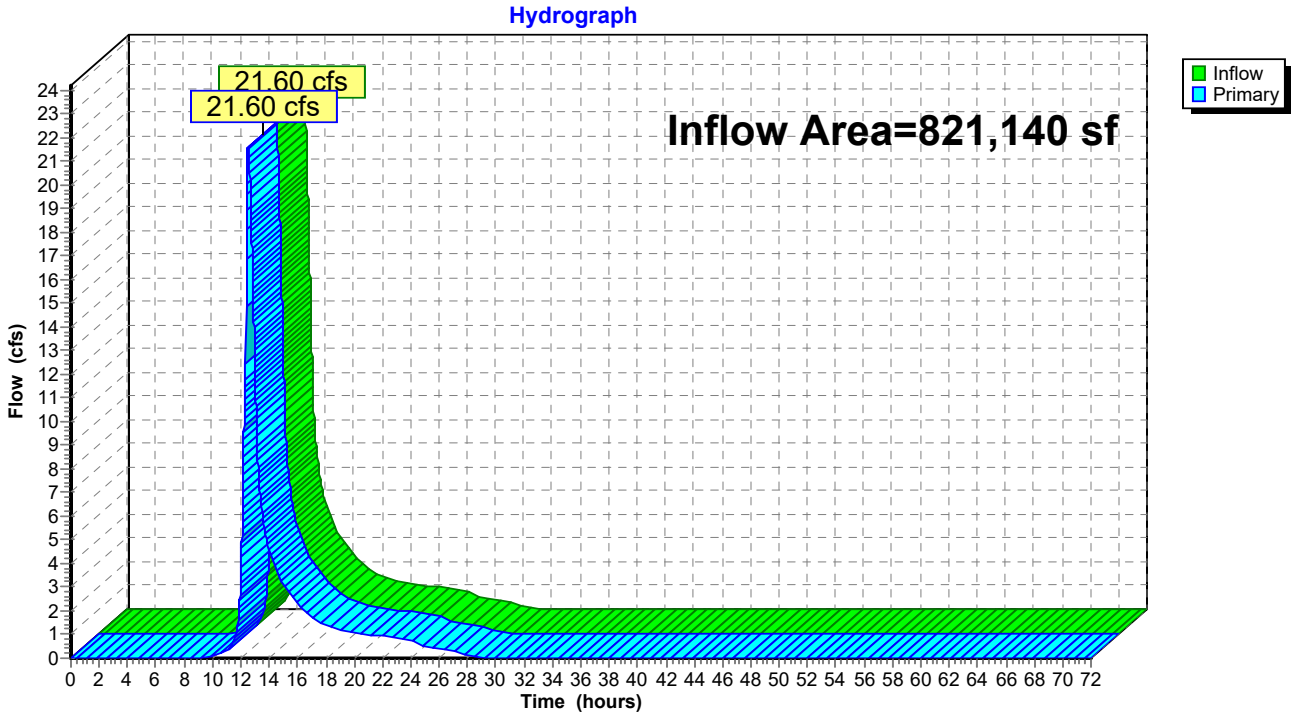


Summary for Link ALL: ALL

Inflow Area = 821,140 sf, 15.68% Impervious, Inflow Depth = 2.12" for 10-Year event
Inflow = 21.60 cfs @ 12.51 hrs, Volume= 144,967 cf
Primary = 21.60 cfs @ 12.51 hrs, Volume= 144,967 cf, Atten= 0%, Lag= 0.0 min

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

Link ALL: ALL



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment SA1: Drainage Subarea #1 Runoff Area=11,088 sf 1.43% Impervious Runoff Depth=3.32"
Tc=10.0 min CN=74 Runoff=0.87 cfs 3,068 cf

Subcatchment SA2A: Drainage Subarea Runoff Area=10.552 ac 18.69% Impervious Runoff Depth=3.72"
Flow Length=697' Tc=20.8 min CN=78 Runoff=30.51 cfs 142,513 cf

Subcatchment SA2B: Drainage Subarea Runoff Area=23,857 sf 3.29% Impervious Runoff Depth=3.42"
Tc=10.0 min CN=75 Runoff=1.92 cfs 6,797 cf

Subcatchment SA2C: Drainage Subarea Runoff Area=12,571 sf 0.00% Impervious Runoff Depth=3.32"
Tc=10.0 min CN=74 Runoff=0.98 cfs 3,478 cf

Subcatchment SA2D: Drainage Subarea #2D Runoff Area=3,877 sf 0.00% Impervious Runoff Depth=3.22"
Tc=10.0 min CN=73 Runoff=0.29 cfs 1,041 cf

Subcatchment SA3A: Drainage Subarea Runoff Area=74,552 sf 29.32% Impervious Runoff Depth=4.03"
Flow Length=325' Tc=19.3 min CN=81 Runoff=5.51 cfs 25,036 cf

Subcatchment SA3B: Drainage Subarea Runoff Area=225,379 sf 8.88% Impervious Runoff Depth=3.12"
Flow Length=165' Tc=21.1 min CN=72 Runoff=12.46 cfs 58,685 cf

Subcatchment SA4: Drainage Subarea #4 Runoff Area=10,171 sf 0.00% Impervious Runoff Depth=3.22"
Flow Length=246' Tc=10.3 min CN=73 Runoff=0.76 cfs 2,731 cf

Reach SW: Diversion Swale Avg. Flow Depth=0.60' Max Vel=3.54 fps Inflow=12.46 cfs 58,685 cf
n=0.069 L=396.0' S=0.0788 '/' Capacity=32.66 cfs Outflow=12.38 cfs 58,685 cf

Pond BB-A: Bioretention Basin A 'BB-A' Peak Elev=346.76' Storage=29,033 cf Inflow=31.66 cfs 142,794 cf
Discarded=0.24 cfs 22,725 cf Primary=31.19 cfs 120,069 cf Secondary=0.00 cfs 0 cf Outflow=31.43 cfs 142,794 cf

Pond BB-B: Bioretention Basin B 'BB-B' Peak Elev=341.57' Storage=17,534 cf Inflow=31.77 cfs 123,546 cf
Discarded=0.15 cfs 6,292 cf Primary=22.95 cfs 117,254 cf Secondary=0.00 cfs 0 cf Outflow=23.10 cfs 123,546 cf

Pond BB-C: Bioretention Basin C 'BB-C' Peak Elev=390.67' Storage=8,259 cf Inflow=5.51 cfs 25,036 cf
Discarded=0.09 cfs 4,355 cf Primary=2.29 cfs 20,681 cf Secondary=0.00 cfs 0 cf Outflow=2.38 cfs 25,036 cf

Pond WQB: Water Quality Basin 'WQB' Peak Elev=356.35' Storage=4,591 cf Inflow=30.51 cfs 142,513 cf
Discarded=0.07 cfs 6,516 cf Primary=30.42 cfs 135,997 cf Secondary=0.00 cfs 0 cf Outflow=30.49 cfs 142,513 cf

Link AL1: Analysis Line #1 (Southeastern PL) Inflow=0.87 cfs 3,068 cf
Primary=0.87 cfs 3,068 cf

Link AL2: Analysis Line #2 (Wetlands) Inflow=23.05 cfs 118,295 cf
Primary=23.05 cfs 118,295 cf

Link AL3: Analysis Line #3 (Northern PL) Inflow=14.32 cfs 79,366 cf
Primary=14.32 cfs 79,366 cf

Link AL4: Analysis Line #4 (Northeastern PL) Inflow=0.76 cfs 2,731 cf
Primary=0.76 cfs 2,731 cf

Link ALL: ALL Inflow=35.98 cfs 203,459 cf
Primary=35.98 cfs 203,459 cf

Total Runoff Area = 821,140 sf Runoff Volume = 243,347 cf Average Runoff Depth = 3.56"
84.32% Pervious = 692,426 sf 15.68% Impervious = 128,714 sf

Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'

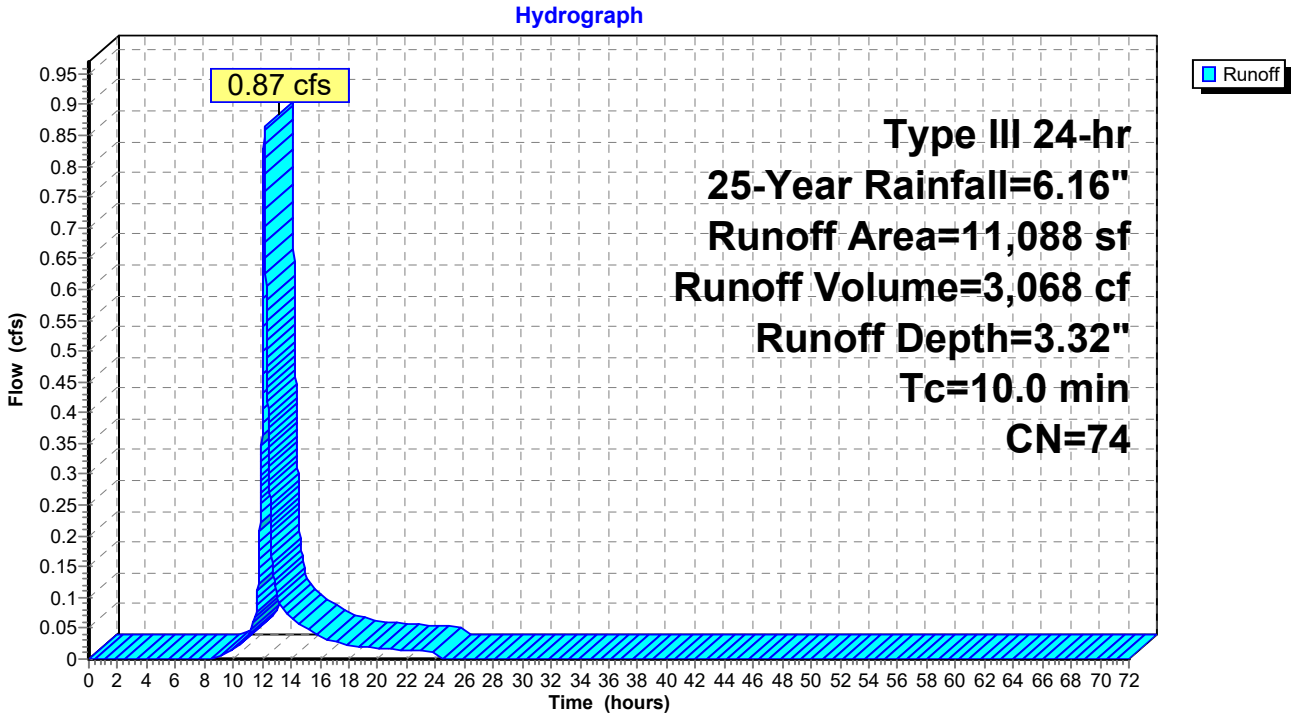
Runoff = 0.87 cfs @ 12.14 hrs, Volume= 3,068 cf, Depth= 3.32"
Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	159	98	Bldgs./Impervious
*	10,517	74	Lawn, Good, HSG C
*	412	70	Woods, Good, HSG C
	11,088	74	Weighted Average
	10,929	74	98.57% Pervious Area
	159	98	1.43% Impervious Area

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

Subcatchment SA1: Drainage Subarea #1 'SA1'



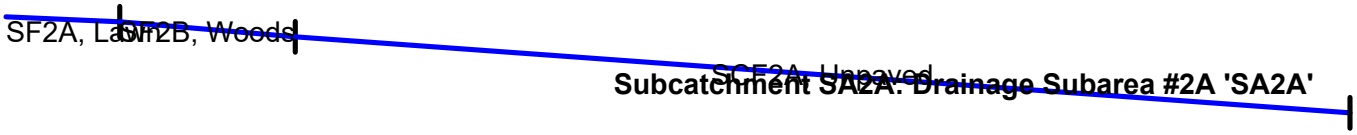
Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'

Runoff = 30.51 cfs @ 12.28 hrs, Volume= 142,513 cf, Depth= 3.72"
Routed to Pond WQB : Water Quality Basin 'WQB'

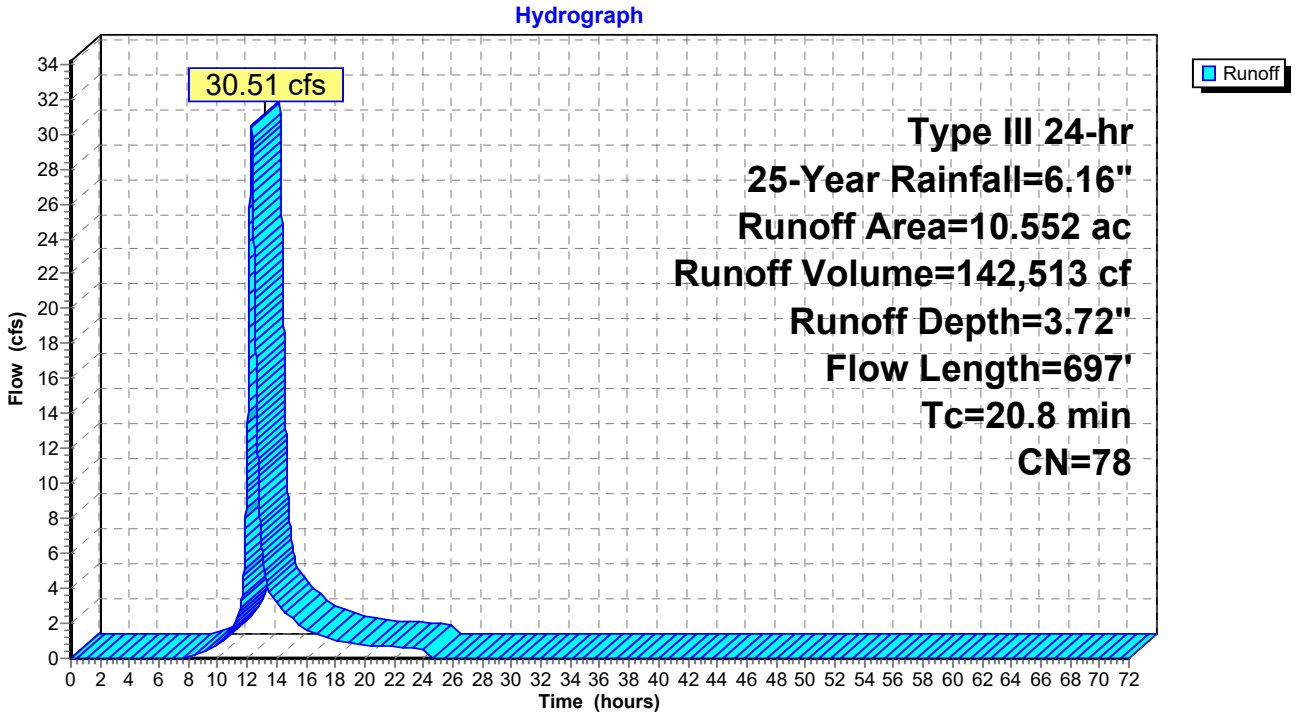
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (ac)	CN	Description
*	1.972	98	Bldgs./Impervious
*	0.064	92	Compact Gravel (est.), HSG C
*	0.077	86	Open Deck (est.), HSG C
*	5.552	74	Lawn, Good, HSG C
*	2.887	70	Woods, Good, HSG C
	10.552	78	Weighted Average
	8.580	73	81.31% Pervious Area
	1.972	98	18.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	59	0.0590	0.17		**Sheet Flow, SF2A, Lawn** n= 0.240 P2= 3.43"
13.1	91	0.1180	0.12		**Sheet Flow, SF2B, Woods** n= 0.600 P2= 3.43"
1.8	547	0.0990	5.07		**Shallow Concentrated Flow, SCF2A, Unpaved** Unpaved Kv= 16.1 fps
20.8	697	Total			



Subcatchment SA2A: Drainage Subarea #2A 'SA2A'



Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'

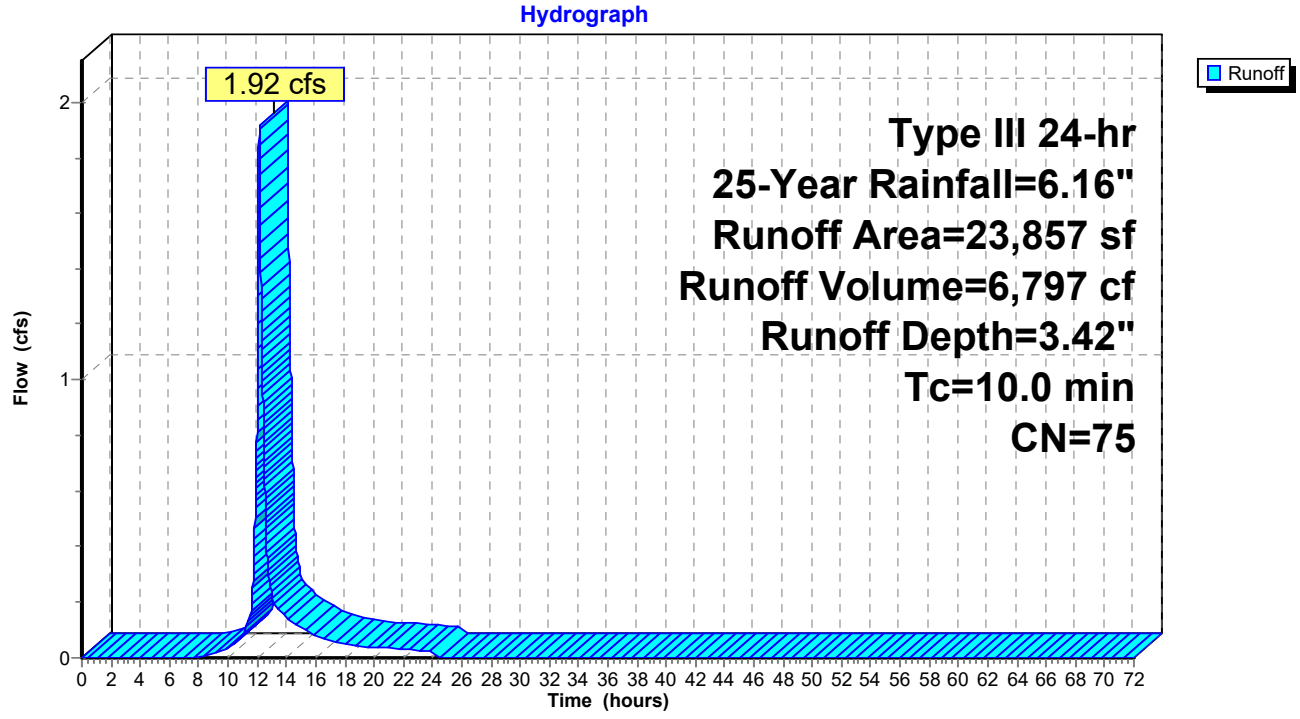
Runoff = 1.92 cfs @ 12.14 hrs, Volume= 6,797 cf, Depth= 3.42"
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	784	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	22,922	74	Lawn, Good, HSG C
	23,857	75	Weighted Average
	23,073	74	96.71% Pervious Area
	784	98	3.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2B: Drainage Subarea #2B 'SA2B'



Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'

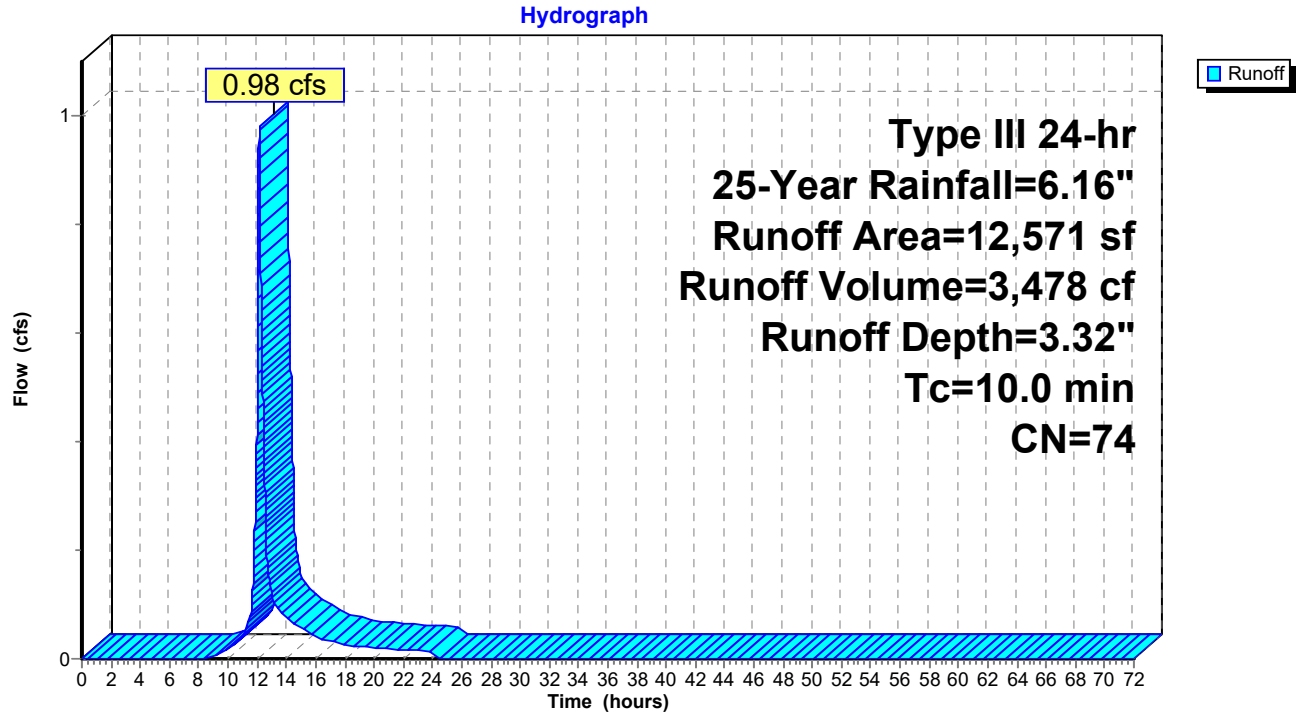
Runoff = 0.98 cfs @ 12.14 hrs, Volume= 3,478 cf, Depth= 3.32"
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	12,571	74	Lawn, Good, HSG C
	12,571	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2C: Drainage Subarea #2C 'SA2C'



Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'

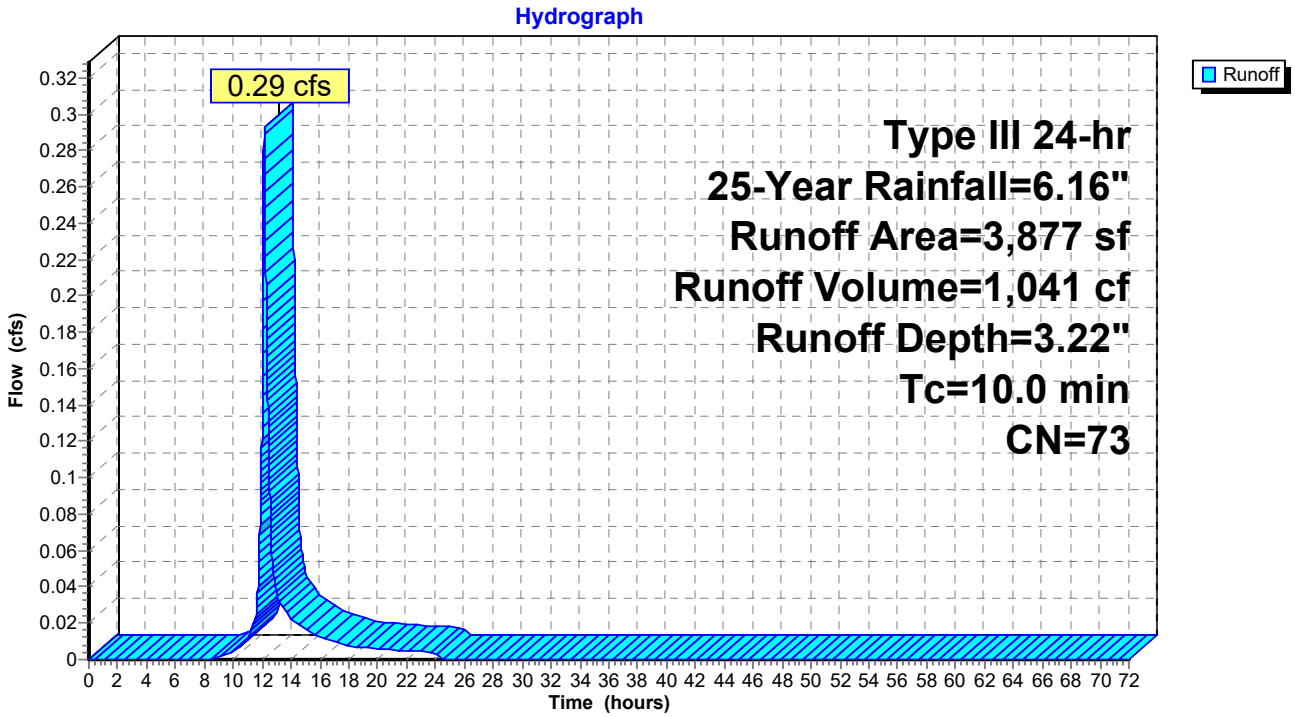
Runoff = 0.29 cfs @ 12.14 hrs, Volume= 1,041 cf, Depth= 3.22"
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	2,138	74	Lawn, Good, HSG C
*	1,349	70	Woods, Good, HSG C
*	390	77	Woods, Good, HSG D
	3,877	73	Weighted Average
	3,877	73	100.00% Pervious Area

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

Subcatchment SA2D: Drainage Subarea #2D 'SA2D'



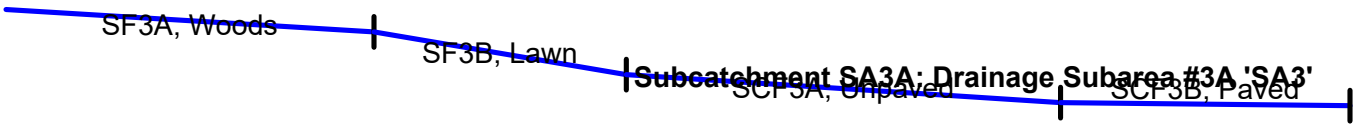
Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'

Runoff = 5.51 cfs @ 12.26 hrs, Volume= 25,036 cf, Depth= 4.03"
Routed to Pond BB-C : Bioretention Basin C 'BB-C'

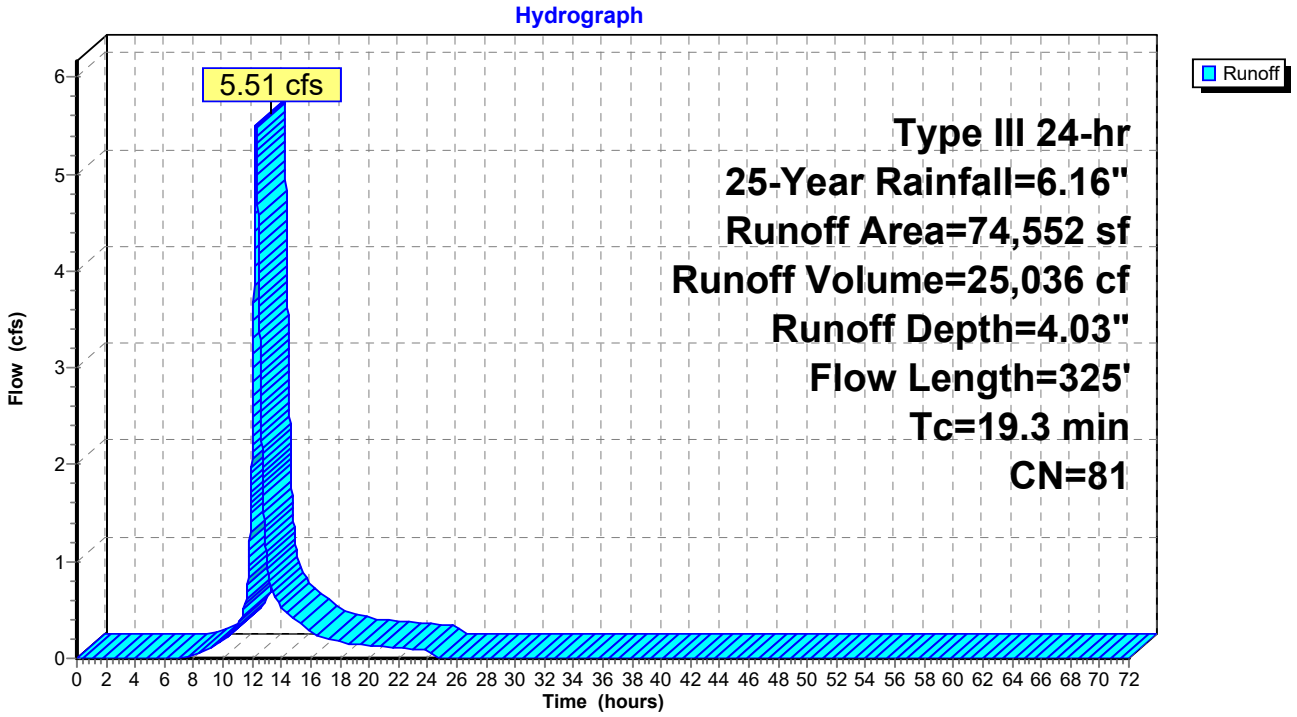
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	21,859	98	Bldgs./Impervious
*	454	86	Open Deck (est.), HSG C
*	48,227	74	Lawn, Good, HSG C
*	4,012	70	Woods, Good, HSG C
	74,552	81	Weighted Average
	52,693	74	70.68% Pervious Area
	21,859	98	29.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	89	0.0810	0.10		**Sheet Flow, SF3A, Woods** n= 0.600 P2= 3.43"
3.5	61	0.2260	0.29		**Sheet Flow, SF3B, Lawn** n= 0.240 P2= 3.43"
0.4	105	0.0860	4.72		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
0.5	70	0.0140	2.40		**Shallow Concentrated Flow, SCF3B, Paved** Paved Kv= 20.3 fps
19.3	325	Total			



Subcatchment SA3A: Drainage Subarea #3A 'SA3'



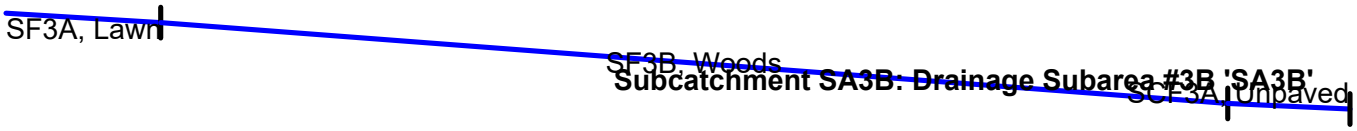
Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'

Runoff = 12.46 cfs @ 12.30 hrs, Volume= 58,685 cf, Depth= 3.12"
Routed to Reach SW : Diversion Swale

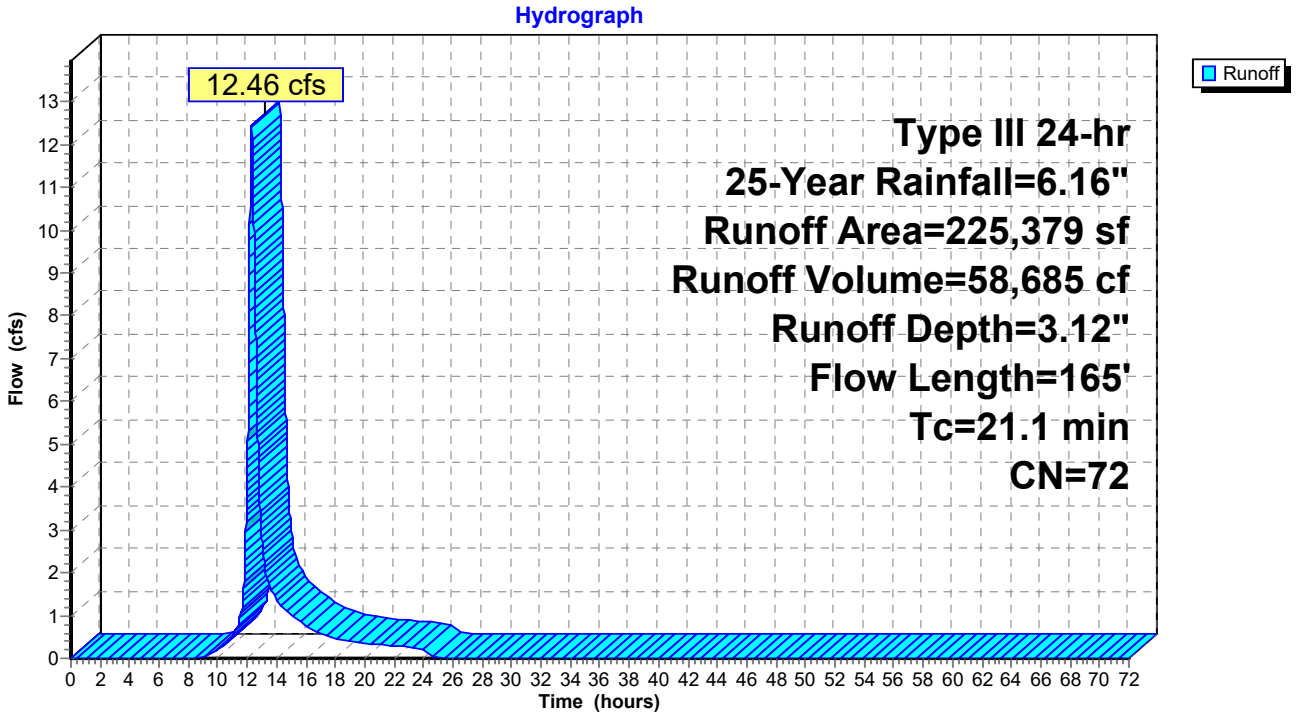
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	20,012	98	Bldgs./Impervious
*	596	92	Compact Gravel (est.), HSG C
*	1,211	86	Open Deck (est.), HSG C
*	372	61	Lawn, Good, HSG B
*	109,208	74	Lawn, Good, HSG C
*	32,752	55	Woods, Good, HSG B
*	61,228	70	Woods, Good, HSG C
	225,379	72	Weighted Average
	205,367	70	91.12% Pervious Area
	20,012	98	8.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		**Sheet Flow, SF3A, Lawn** n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		**Sheet Flow, SF3B, Woods** n= 0.600 P2= 3.43"
0.1	15	0.0600	3.94		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
21.1	165	Total			



Subcatchment SA3B: Drainage Subarea #3B 'SA3B'



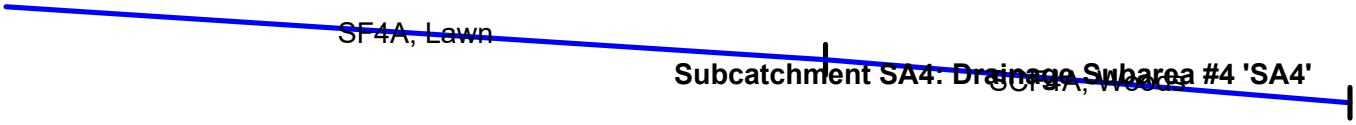
Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'

Runoff = 0.76 cfs @ 12.14 hrs, Volume= 2,731 cf, Depth= 3.22"
Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

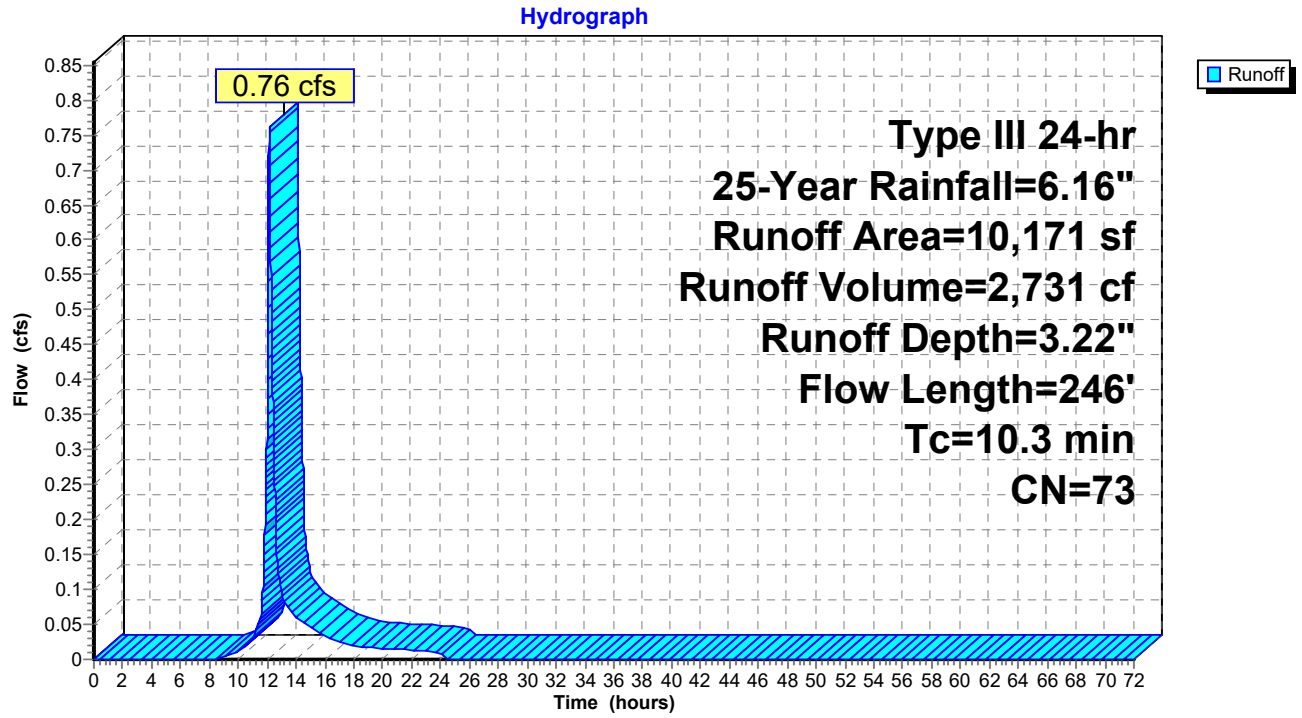
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	7,957	74	Lawn, Good, HSG C
*	2,214	70	Woods, Good, HSG C
	10,171	73	Weighted Average
	10,171	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.1010	0.25		**Sheet Flow, SF4A, Lawn** n= 0.240 P2= 3.43"
0.3	96	0.1280	5.76		**Shallow Concentrated Flow, SCF4A, Woods** Unpaved Kv= 16.1 fps
10.3	246	Total			



Subcatchment SA4: Drainage Subarea #4 'SA4'



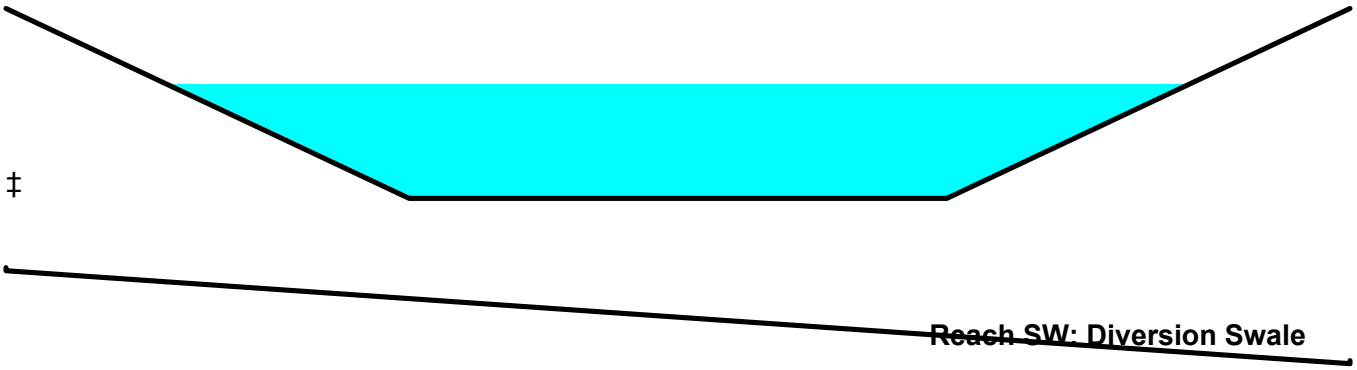
Summary for Reach SW: Diversion Swale

Inflow Area = 225,379 sf, 8.88% Impervious, Inflow Depth = 3.12" for 25-Year event
Inflow = 12.46 cfs @ 12.30 hrs, Volume= 58,685 cf
Outflow = 12.38 cfs @ 12.32 hrs, Volume= 58,685 cf, Atten= 1%, Lag= 1.2 min
Routed to Link AL3 : Analysis Line #3 (Northern PL)

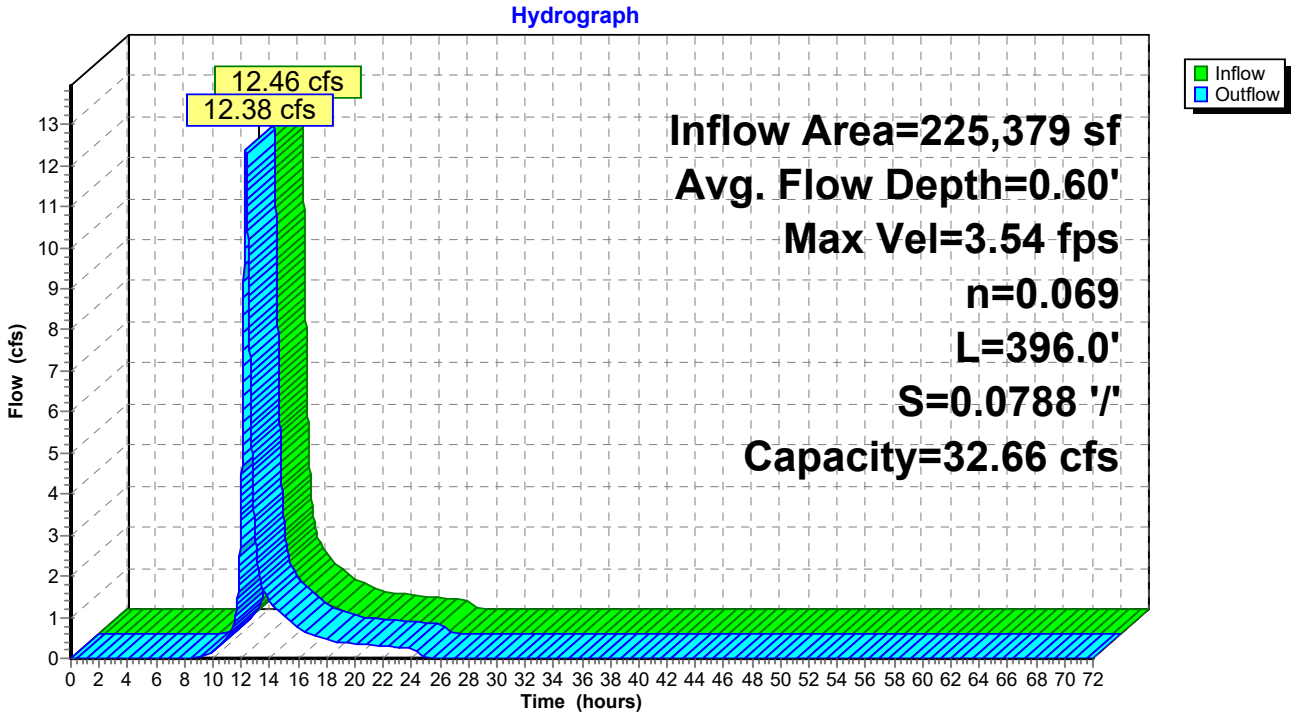
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.54 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 5.8 min

Peak Storage= 1,386 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.60' , Surface Width= 7.61'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 32.66 cfs

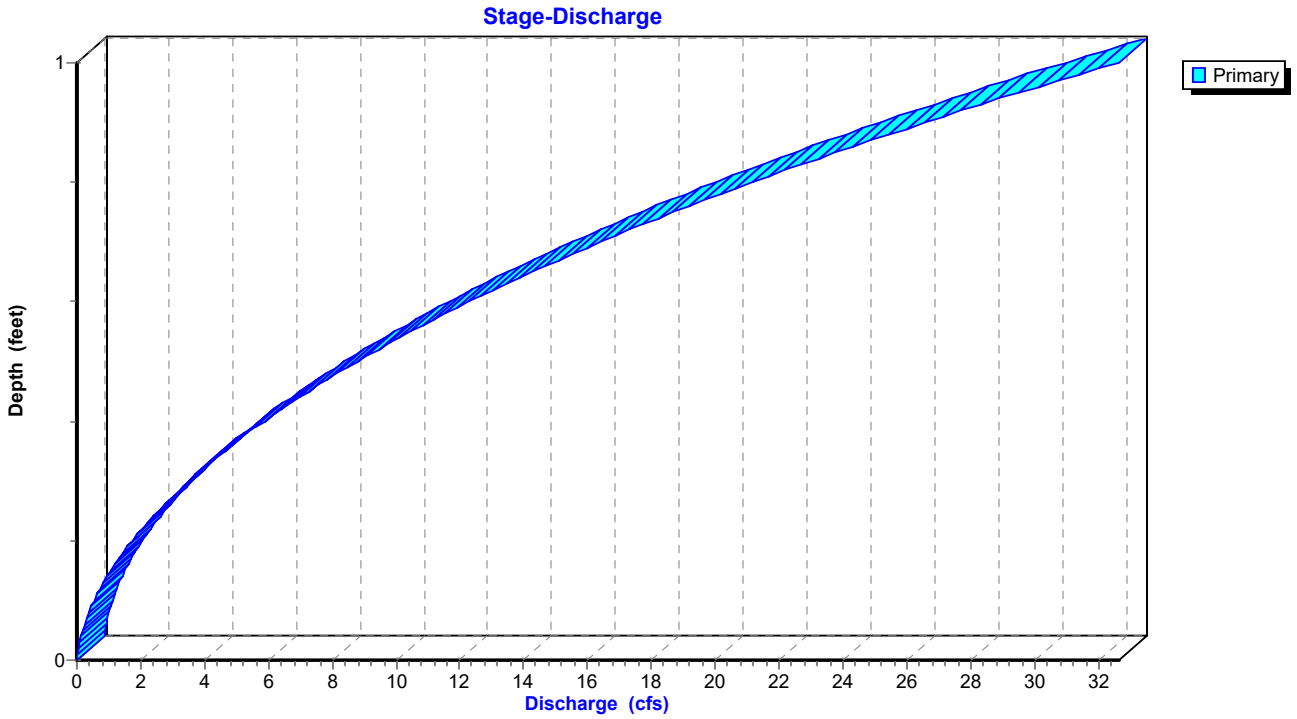
4.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 396.0' Slope= 0.0788 '/'
Inlet Invert= 419.20', Outlet Invert= 388.00'



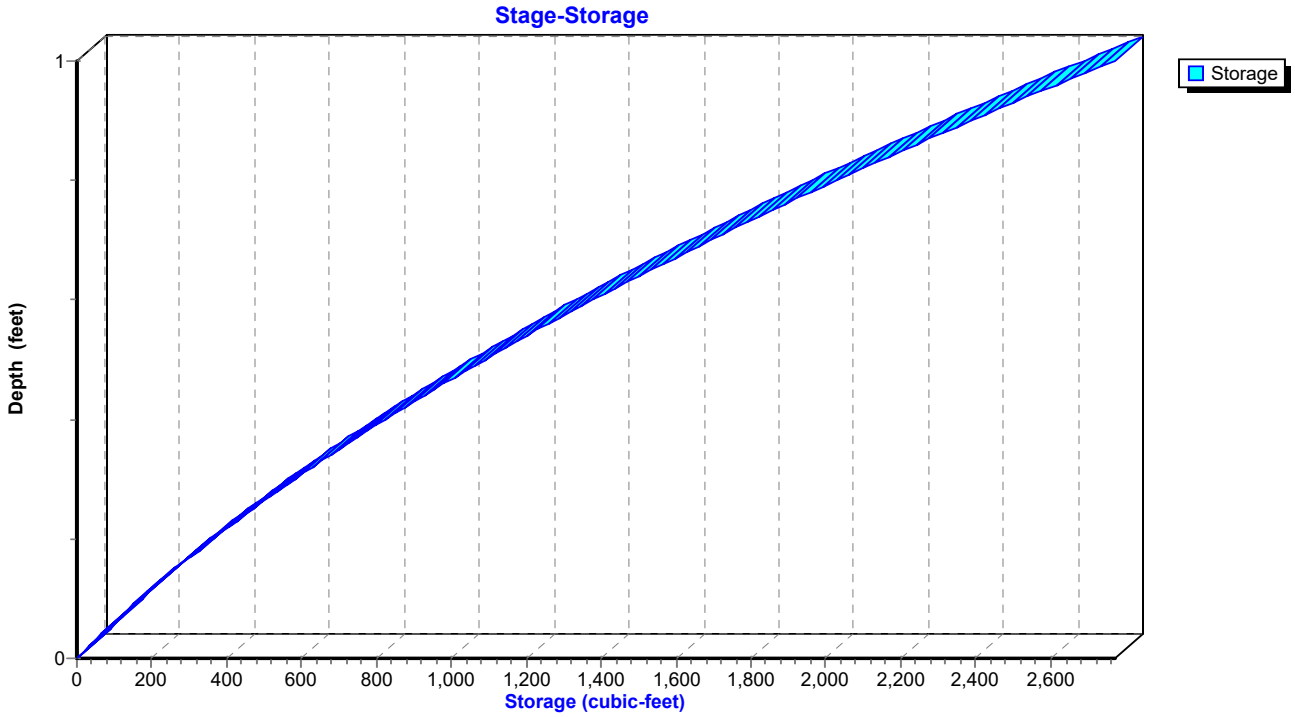
Reach SW: Diversion Swale



Reach SW: Diversion Swale



Reach SW: Diversion Swale



Summary for Pond BB-A: Bioretention Basin A 'BB-A'

[79] Warning: Submerged Pond WQB Primary device # 1 INLET by 1.76'

Inflow Area = 483,502 sf, 17.93% Impervious, Inflow Depth = 3.54" for 25-Year event
Inflow = 31.66 cfs @ 12.28 hrs, Volume= 142,794 cf
Outflow = 31.43 cfs @ 12.31 hrs, Volume= 142,794 cf, Atten= 1%, Lag= 1.6 min
Discarded = 0.24 cfs @ 12.31 hrs, Volume= 22,725 cf
Primary = 31.19 cfs @ 12.31 hrs, Volume= 120,069 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 346.76' @ 12.31 hrs Surf.Area= 10,450 sf Storage= 29,033 cf

Plug-Flow detention time= 180.3 min calculated for 142,774 cf (100% of inflow)
Center-of-Mass det. time= 180.4 min (1,017.3 - 836.9)

Volume	Invert	Avail.Storage	Storage Description
#1	343.00'	37,180 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

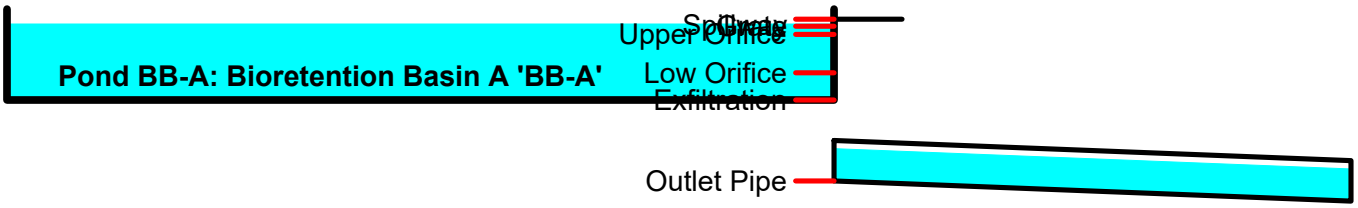
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
343.00	5,164	425.1	0	0	5,164
344.00	6,467	444.0	5,803	5,803	6,541
345.00	7,852	466.6	7,148	12,952	8,241
346.00	9,304	489.1	8,568	21,519	10,018
347.00	10,823	511.6	10,054	31,573	11,878
347.50	11,607	522.8	5,606	37,180	12,836

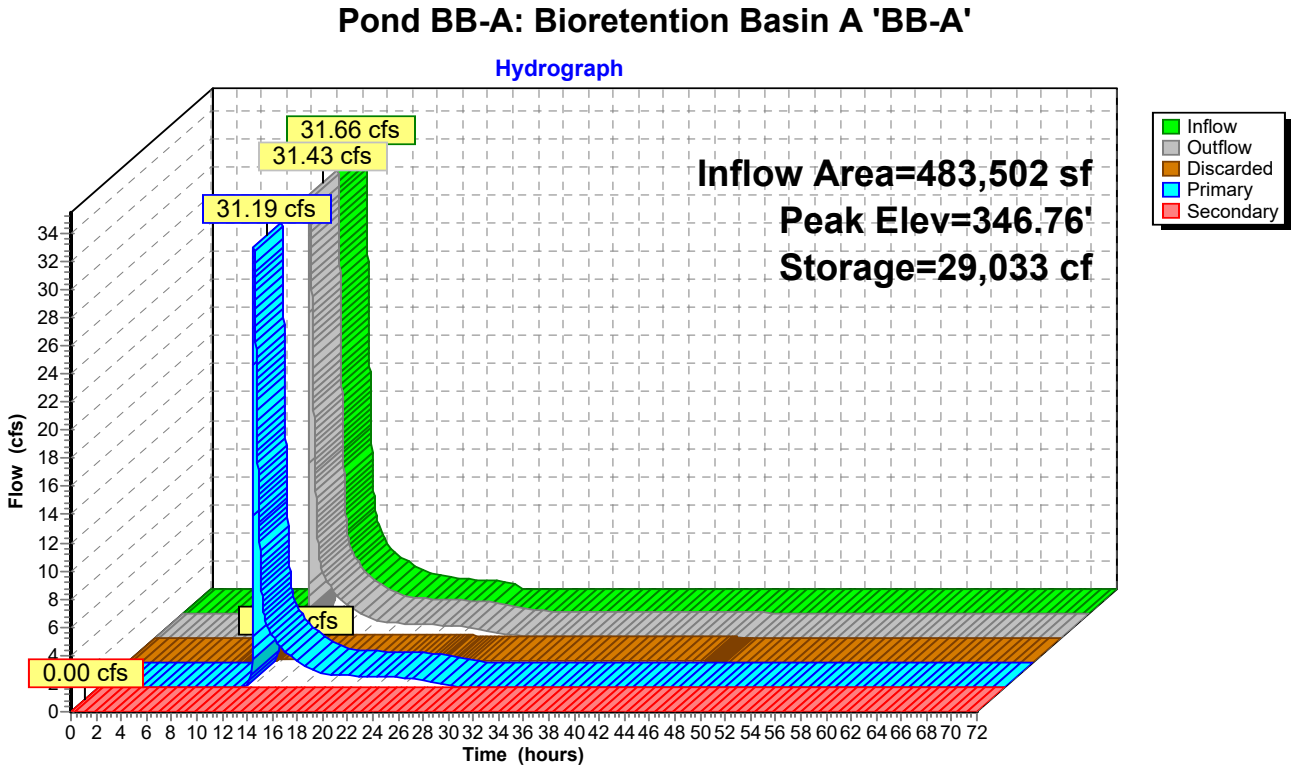
Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round Outlet Pipe** L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	344.35'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.25'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	346.65'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#5	Secondary	347.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	343.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.24 cfs @ 12.31 hrs HW=346.76' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 0.24 cfs)

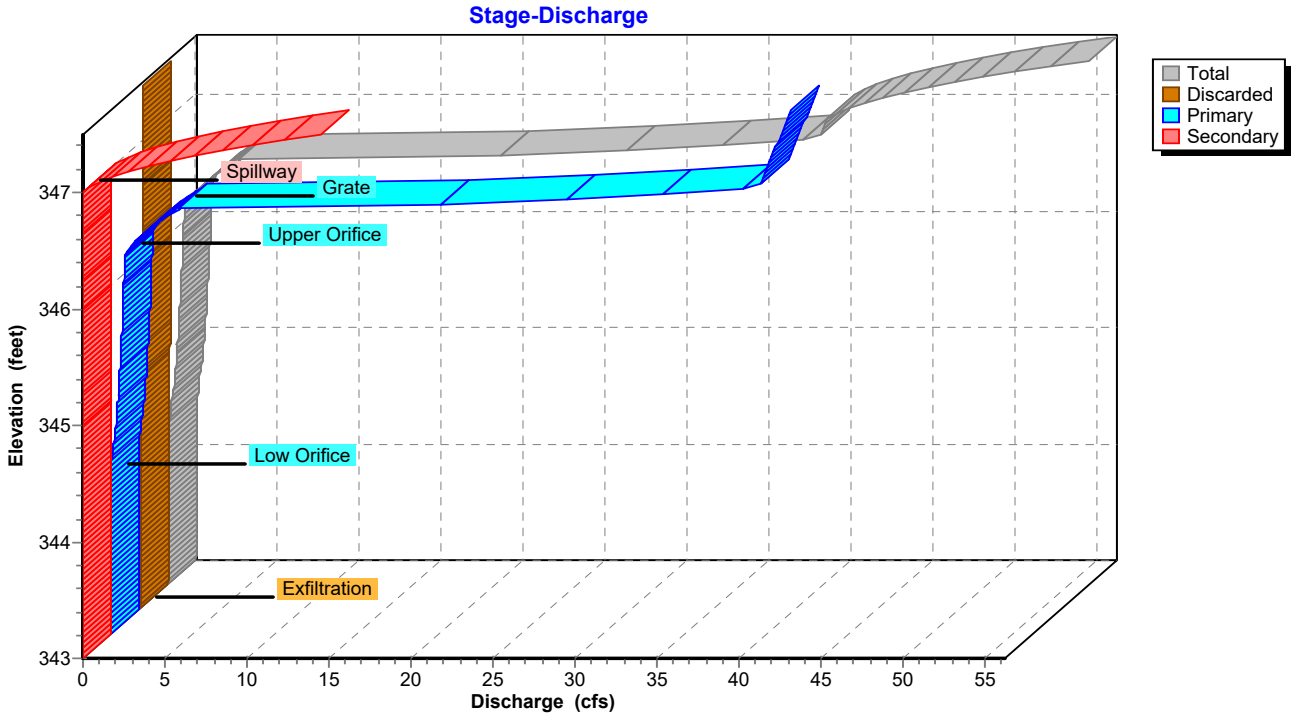
Primary OutFlow Max=31.34 cfs @ 12.31 hrs HW=346.76' (Free Discharge)
└**1=Outlet Pipe** (Passes 31.34 cfs of 39.33 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.97 cfs @ 7.15 fps)
  └**3=Upper Orifice** (Orifice Controls 4.68 cfs @ 2.34 fps)
  └**4=Grate** (Orifice Controls 25.69 cfs @ 1.61 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=343.00' (Free Discharge)
└**5=Spillway** (Controls 0.00 cfs)

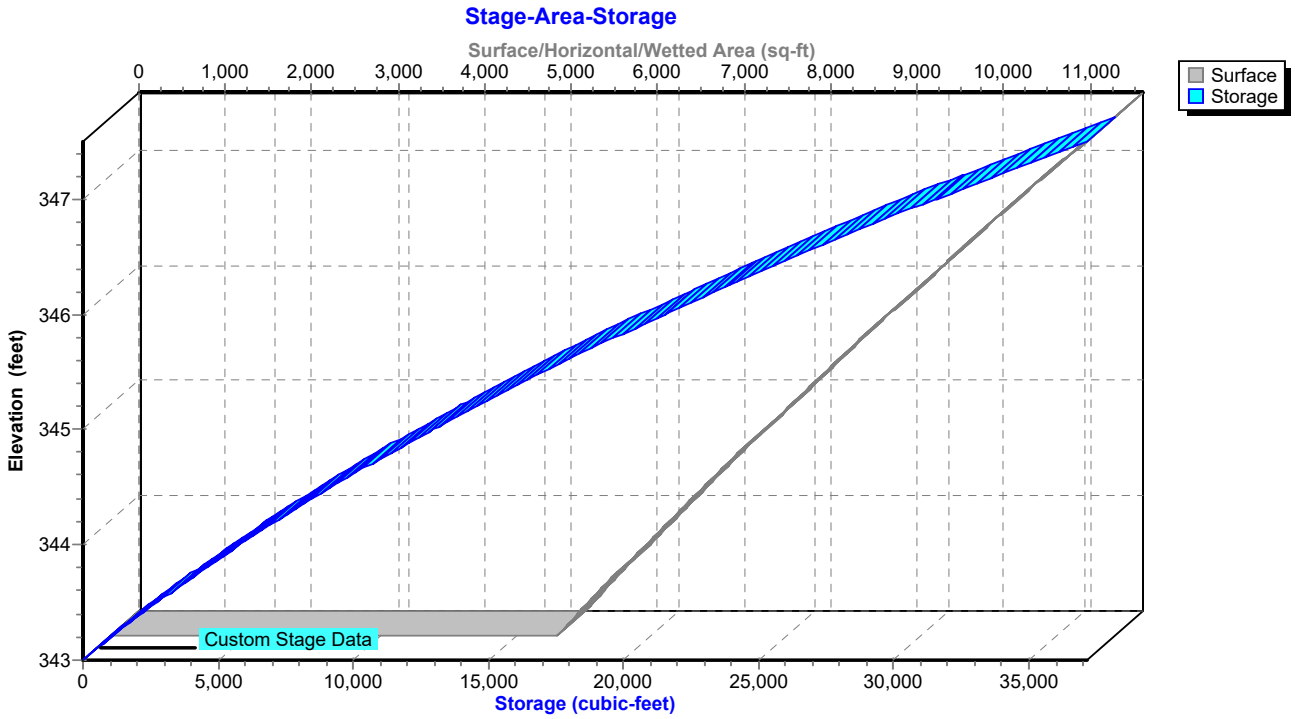




Pond BB-A: Bioretention Basin A 'BB-A'



Pond BB-A: Bioretention Basin A 'BB-A'



Summary for Pond BB-B: Bioretention Basin B 'BB-B'

[79] Warning: Submerged Pond BB-A Primary device # 1 INLET by 2.57'

Inflow Area = 496,073 sf, 17.47% Impervious, Inflow Depth = 2.99" for 25-Year event
Inflow = 31.77 cfs @ 12.31 hrs, Volume= 123,546 cf
Outflow = 23.10 cfs @ 12.50 hrs, Volume= 123,546 cf, Atten= 27%, Lag= 11.8 min
Discarded = 0.15 cfs @ 12.50 hrs, Volume= 6,292 cf
Primary = 22.95 cfs @ 12.50 hrs, Volume= 117,254 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 341.57' @ 12.50 hrs Surf.Area= 6,378 sf Storage= 17,534 cf

Plug-Flow detention time= 34.6 min calculated for 123,529 cf (100% of inflow)
Center-of-Mass det. time= 34.6 min (943.5 - 908.9)

Volume	Invert	Avail.Storage	Storage Description
#1	337.50'	36,426 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

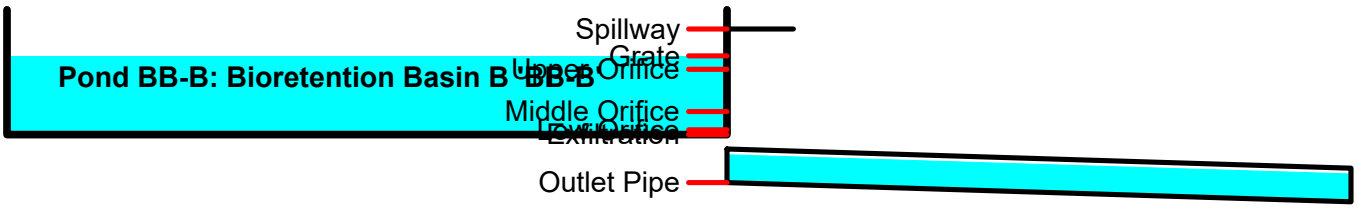
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
337.50	2,408	287.3	0	0	2,408
339.00	3,765	315.6	4,592	4,592	3,839
340.00	4,739	334.4	4,243	8,835	4,864
341.00	5,771	353.3	5,247	14,081	5,954
342.00	6,859	372.1	6,307	20,388	7,099
343.00	8,004	391.0	7,424	27,813	8,308
344.00	9,237	411.1	8,613	36,426	9,652

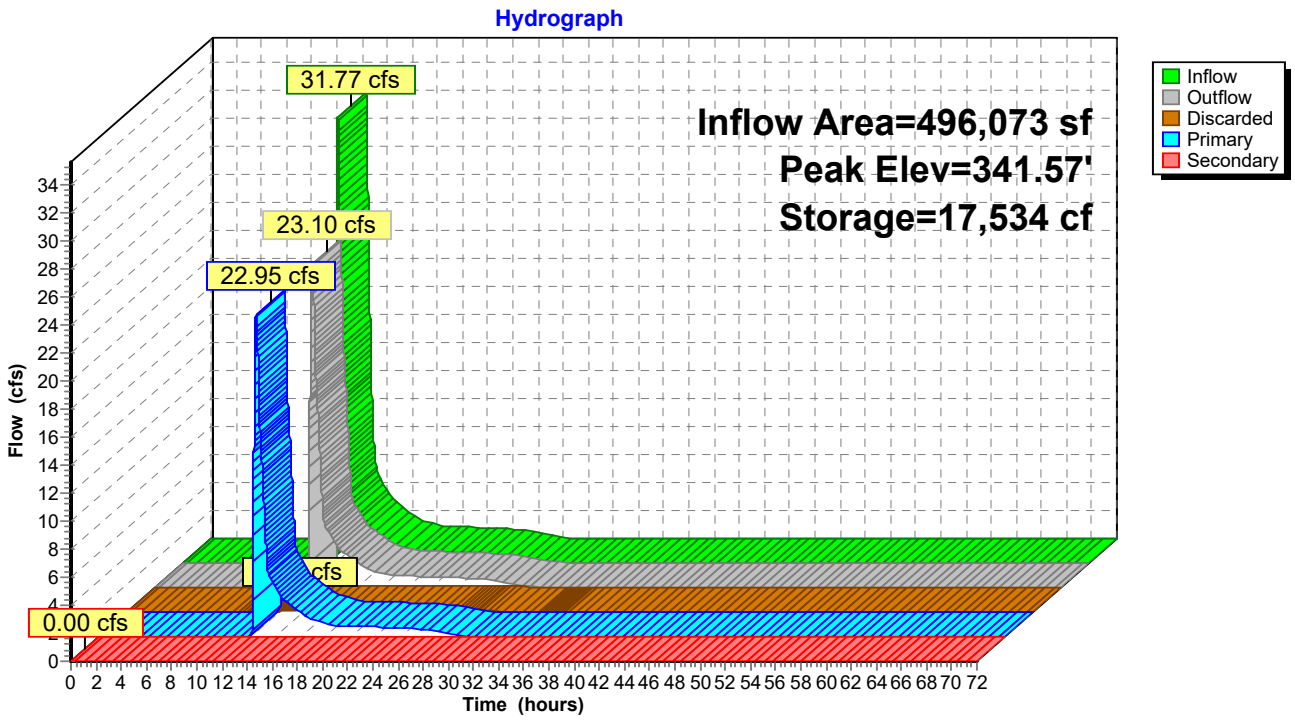
Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**21.0" Round Outlet Pipe** L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	337.75'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	338.70'	**48.0" W x 6.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	340.90'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	341.60'	**48.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#6	Secondary	343.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	337.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.15 cfs @ 12.50 hrs HW=341.57' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.15 cfs)

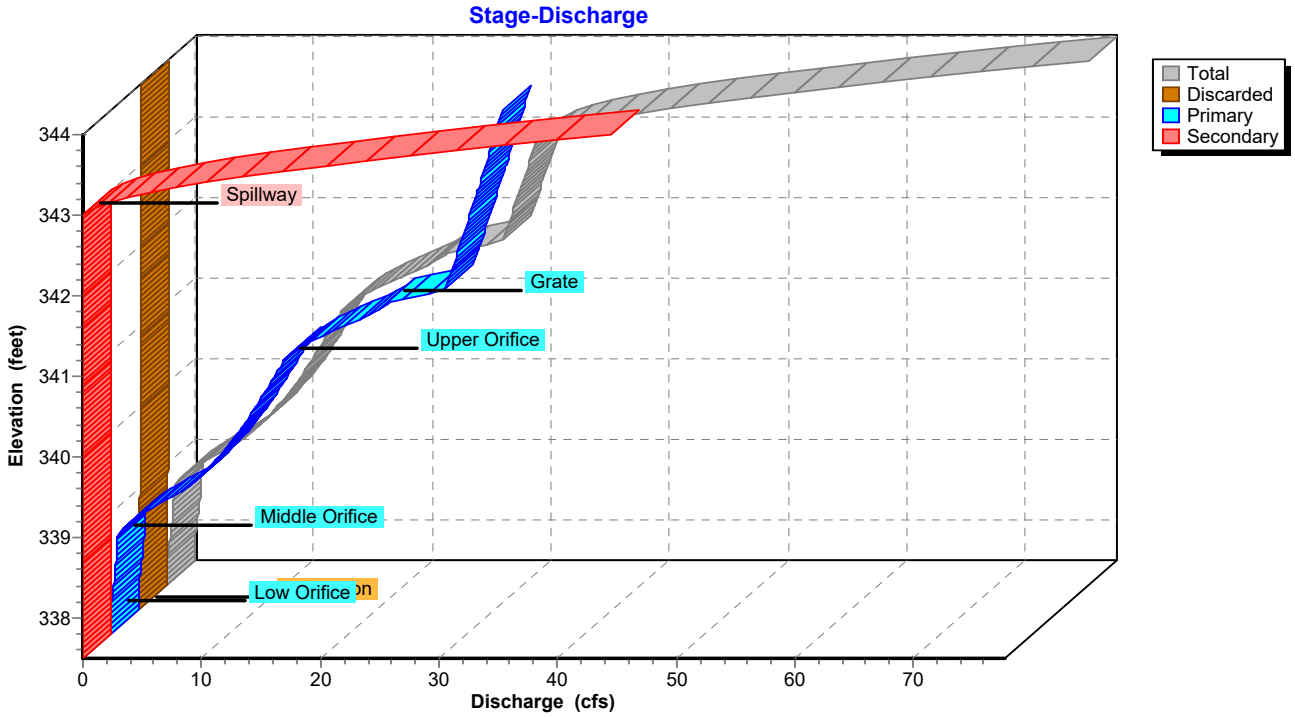
Primary OutFlow Max=22.95 cfs @ 12.50 hrs HW=341.57' (Free Discharge)
└**1=Outlet Pipe** (Passes 22.95 cfs of 27.63 cfs potential flow)
  ├**2=Low Orifice** (Orifice Controls 1.25 cfs @ 9.15 fps)
  ├**3=Middle Orifice** (Orifice Controls 15.58 cfs @ 7.79 fps)
  ├**4=Upper Orifice** (Orifice Controls 6.13 cfs @ 3.06 fps)
  └**5=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=337.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)

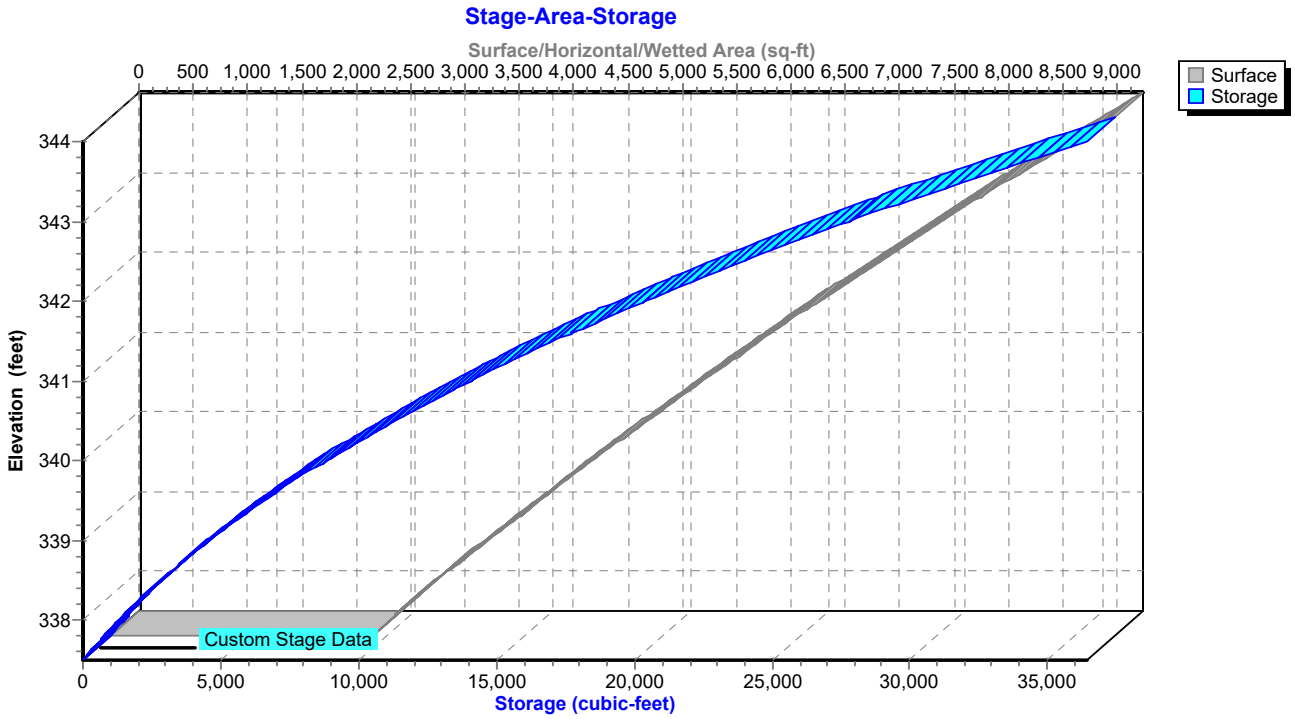




Pond BB-B: Bioretention Basin B 'BB-B'



Pond BB-B: Bioretention Basin B 'BB-B'



Summary for Pond BB-C: Bioretention Basin C 'BB-C'

Inflow Area = 74,552 sf, 29.32% Impervious, Inflow Depth = 4.03" for 25-Year event
Inflow = 5.51 cfs @ 12.26 hrs, Volume= 25,036 cf
Outflow = 2.38 cfs @ 12.64 hrs, Volume= 25,036 cf, Atten= 57%, Lag= 23.2 min
Discarded = 0.09 cfs @ 12.64 hrs, Volume= 4,355 cf
Primary = 2.29 cfs @ 12.64 hrs, Volume= 20,681 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 390.67' @ 12.64 hrs Surf.Area= 3,731 sf Storage= 8,259 cf

Plug-Flow detention time= 98.5 min calculated for 25,033 cf (100% of inflow)
Center-of-Mass det. time= 98.5 min (921.4 - 822.8)

Volume	Invert	Avail.Storage	Storage Description
#1	387.50'	13,929 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

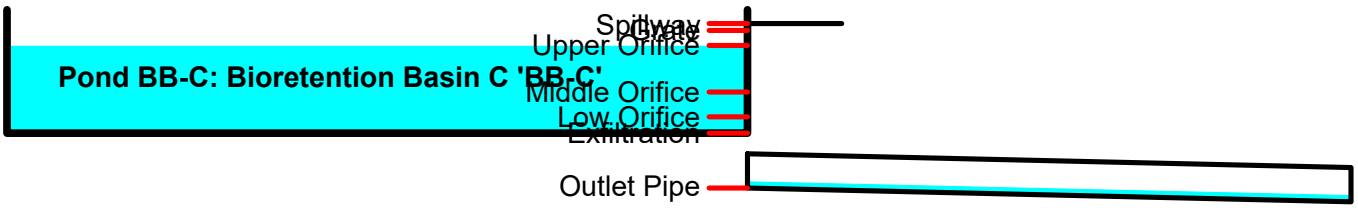
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
387.50	1,568	193.8	0	0	1,568
388.00	1,872	204.2	859	859	1,912
389.00	2,526	224.8	2,191	3,050	2,647
390.00	3,229	243.7	2,870	5,920	3,390
391.00	3,988	262.5	3,602	9,522	4,188
392.00	4,841	285.5	4,408	13,929	5,228

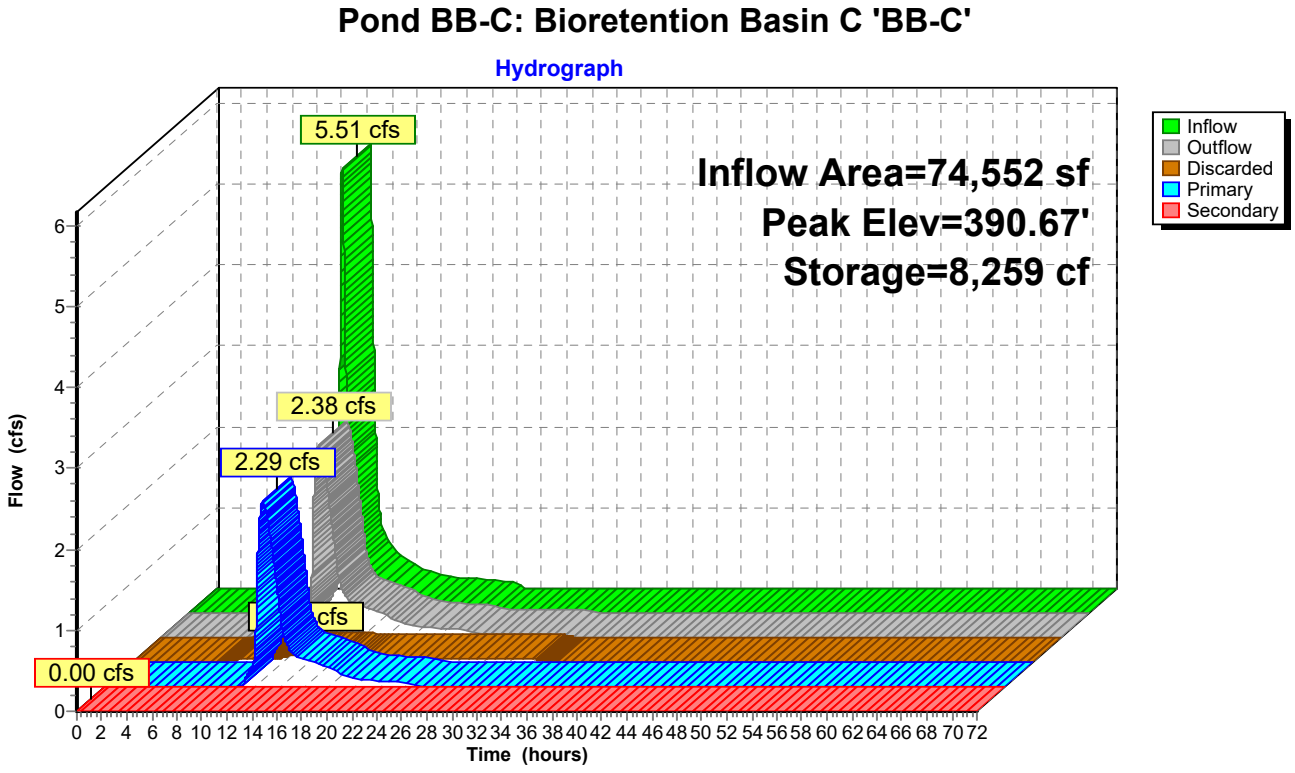
Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	**15.0" Round Outlet Pipe** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	388.10'	**4.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	389.00'	**10.0" W x 4.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.70'	**24.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#6	Secondary	391.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	387.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.64 hrs HW=390.67' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.09 cfs)

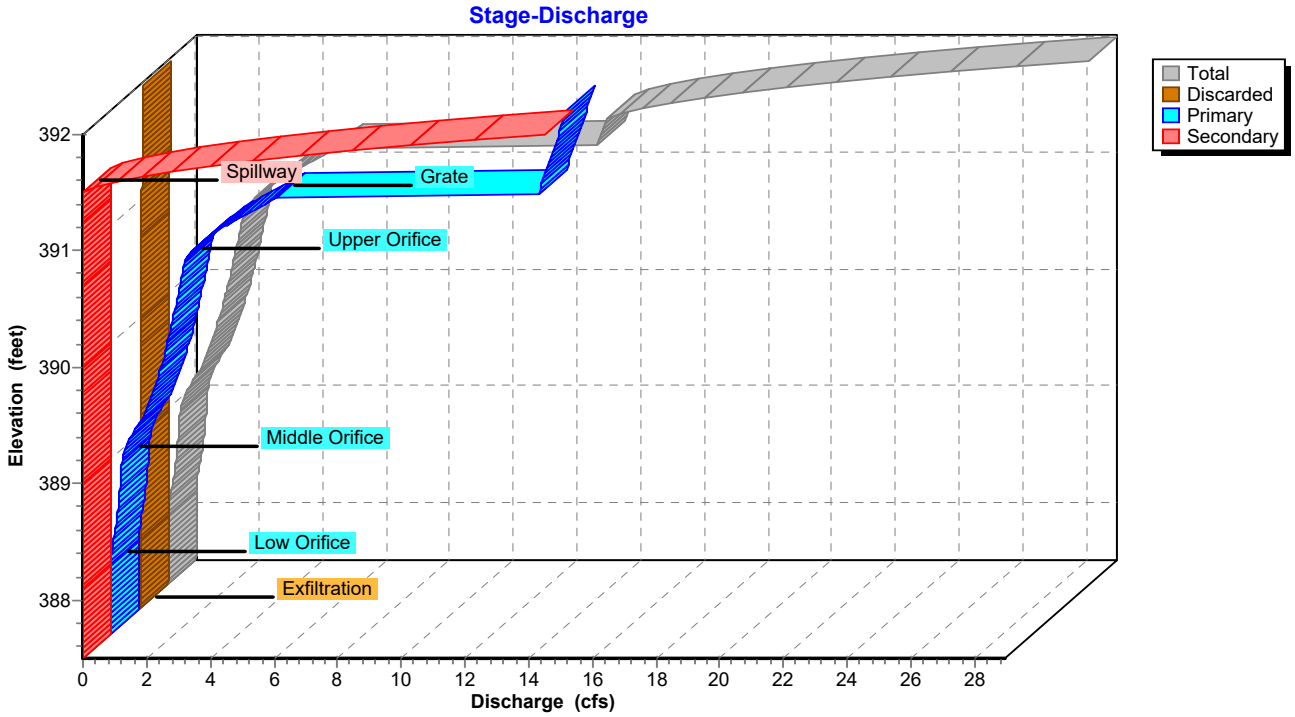
Primary OutFlow Max=2.29 cfs @ 12.64 hrs HW=390.67' (Free Discharge)
└**1=Outlet Pipe** (Passes 2.29 cfs of 12.60 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.65 cfs @ 7.47 fps)
  └**3=Middle Orifice** (Orifice Controls 1.64 cfs @ 5.91 fps)
  └**4=Upper Orifice** (Controls 0.00 cfs)
  └**5=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=387.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)

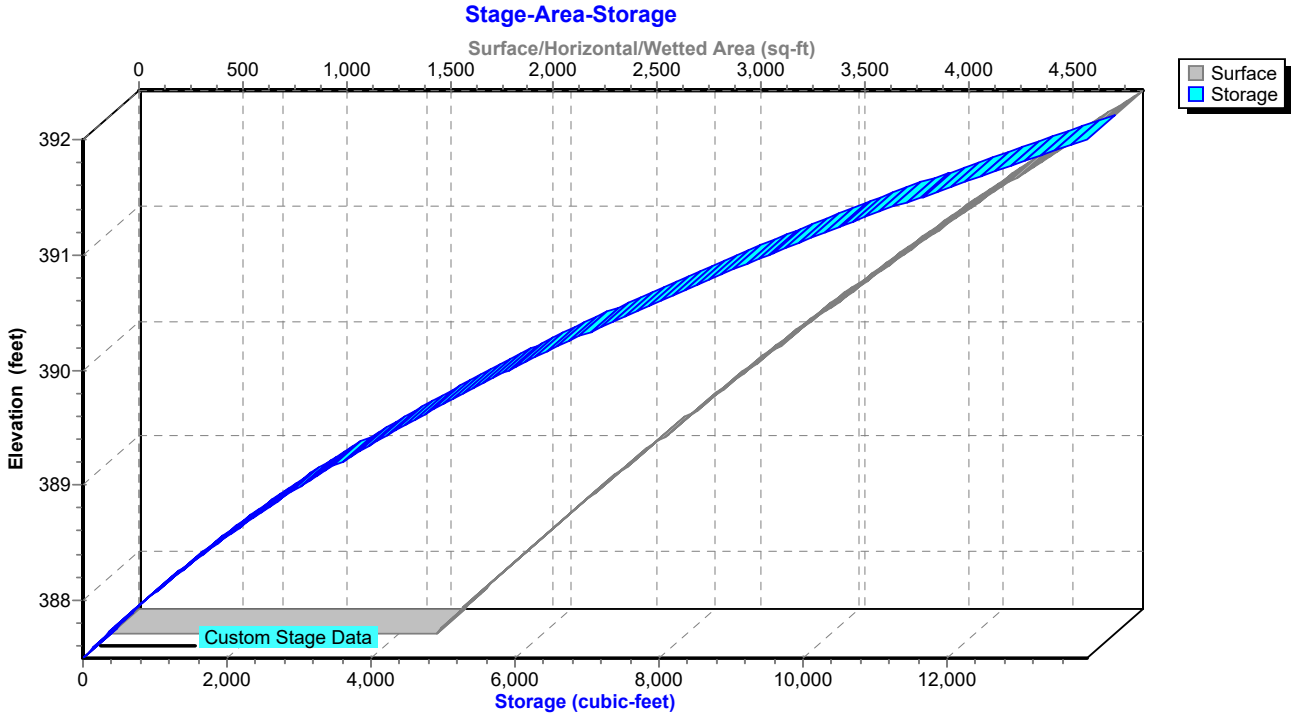




Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Summary for Pond WQB: Water Quality Basin 'WQB'

Inflow Area = 459,645 sf, 18.69% Impervious, Inflow Depth = 3.72" for 25-Year event
Inflow = 30.51 cfs @ 12.28 hrs, Volume= 142,513 cf
Outflow = 30.49 cfs @ 12.29 hrs, Volume= 142,513 cf, Atten= 0%, Lag= 0.5 min
Discarded = 0.07 cfs @ 12.29 hrs, Volume= 6,516 cf
Primary = 30.42 cfs @ 12.29 hrs, Volume= 135,997 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 356.35' @ 12.29 hrs Surf.Area= 2,949 sf Storage= 4,591 cf

Plug-Flow detention time= 34.2 min calculated for 142,493 cf (100% of inflow)
Center-of-Mass det. time= 34.4 min (866.2 - 831.8)

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,684 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
354.00	1,014	251.0	0	0	1,014
355.00	1,803	271.5	1,390	1,390	1,906
356.00	2,645	290.3	2,211	3,600	2,792
357.00	3,545	309.2	3,084	6,684	3,742

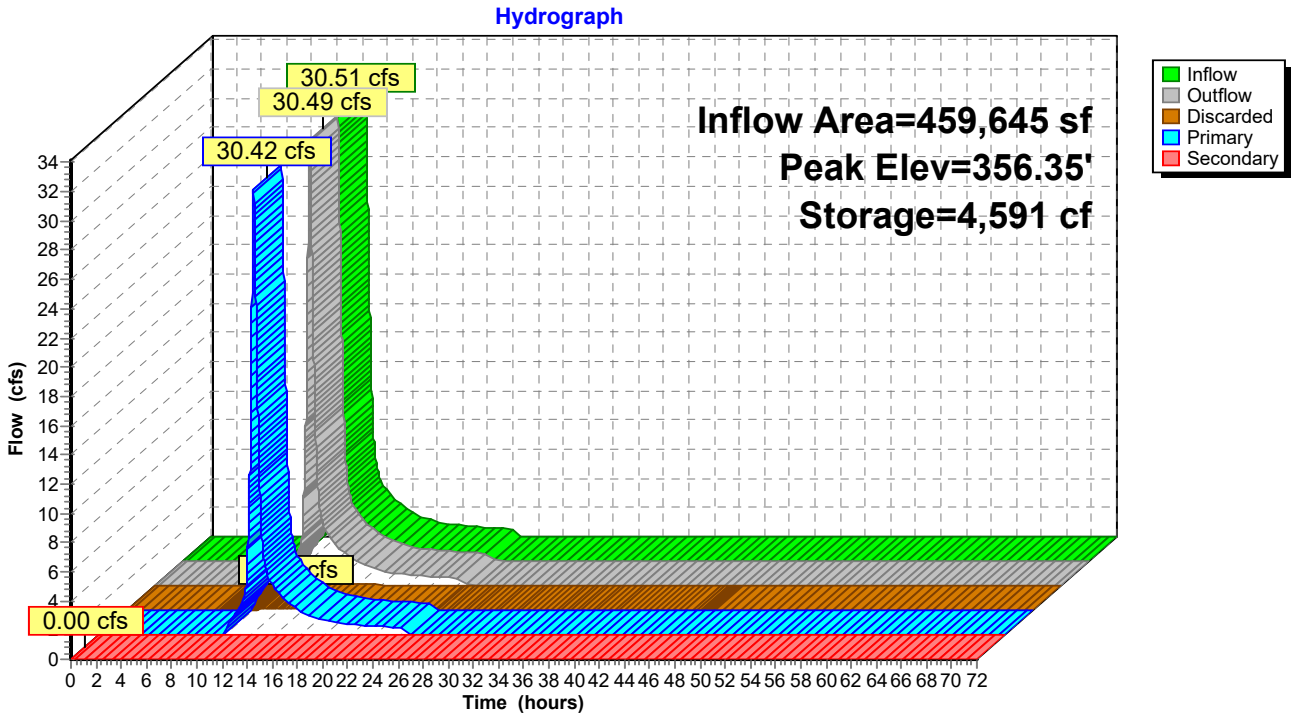
Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**24.0" Round Outlet Pipe** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	**48.0" W x 6.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#4	Secondary	356.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	354.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.07 cfs @ 12.29 hrs HW=356.35' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.07 cfs)

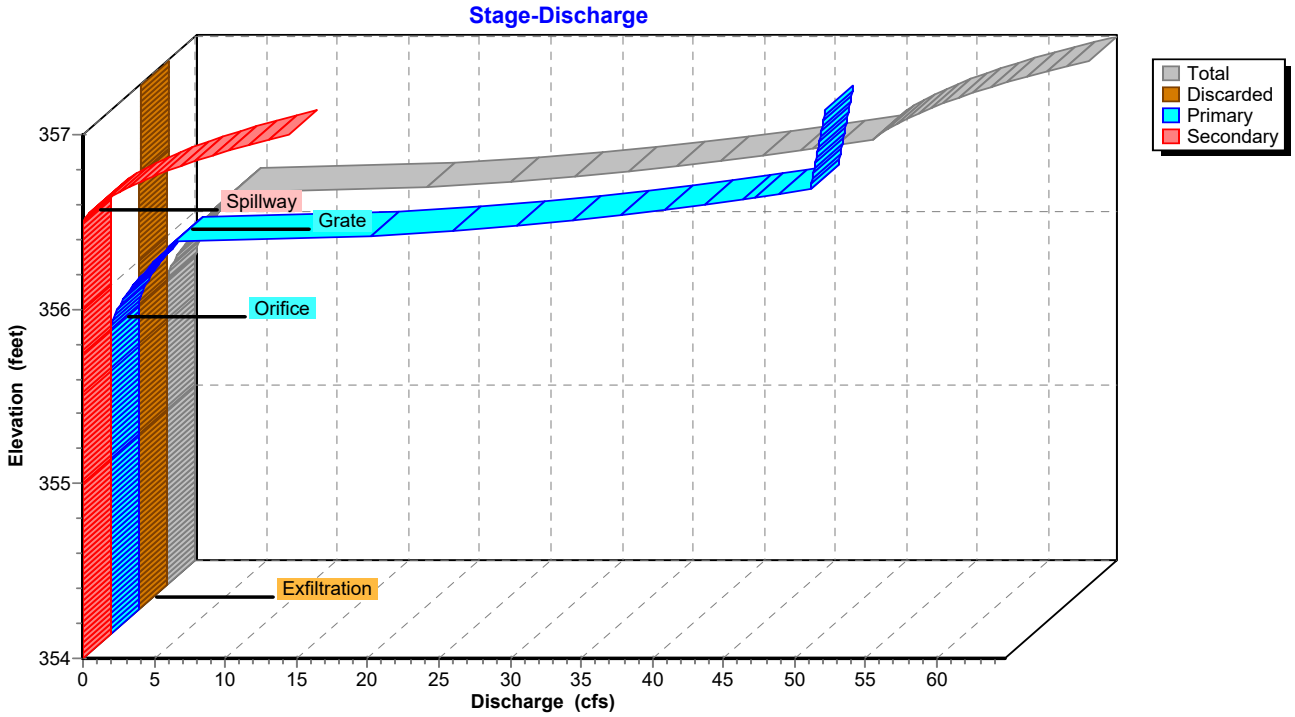
Primary OutFlow Max=30.48 cfs @ 12.29 hrs HW=356.35' (Free Discharge)
└**1=Outlet Pipe** (Passes 30.48 cfs of 48.67 cfs potential flow)
├**2=Orifice** (Orifice Controls 5.60 cfs @ 2.80 fps)
└**3=Grate** (Orifice Controls 24.89 cfs @ 1.56 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)
└**4=Spillway** (Controls 0.00 cfs)

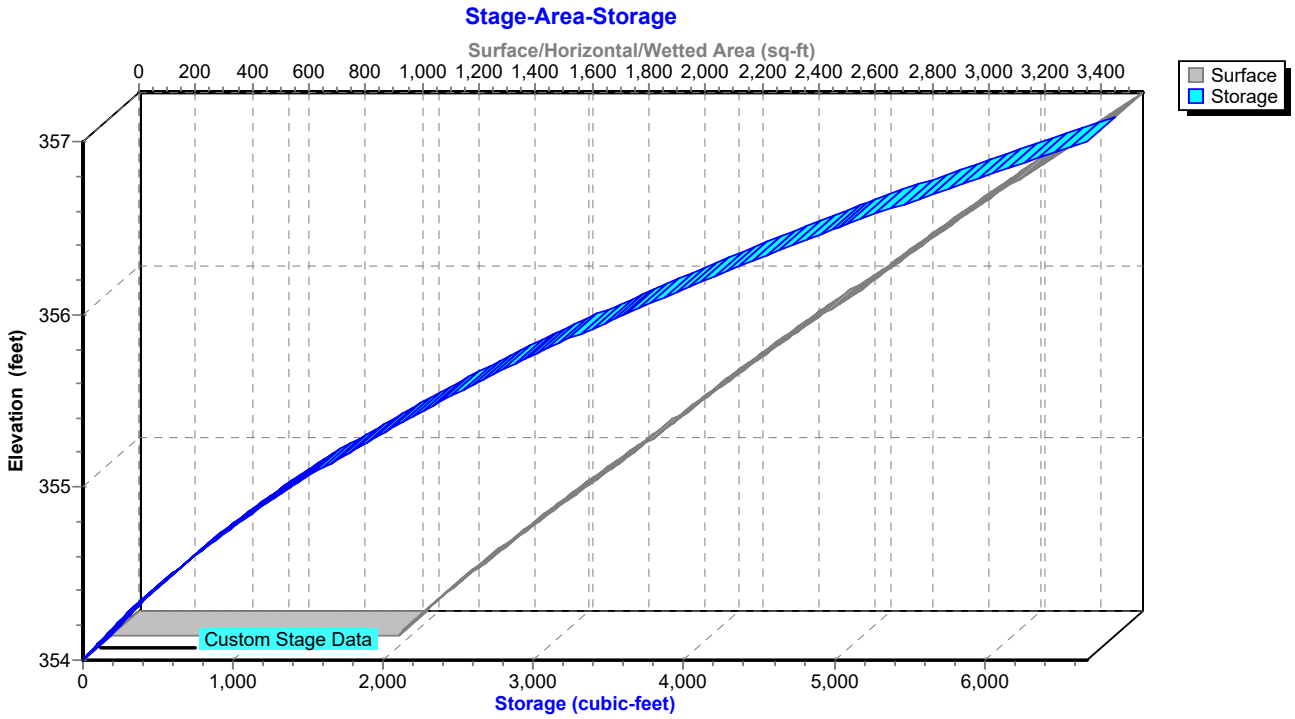
Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'

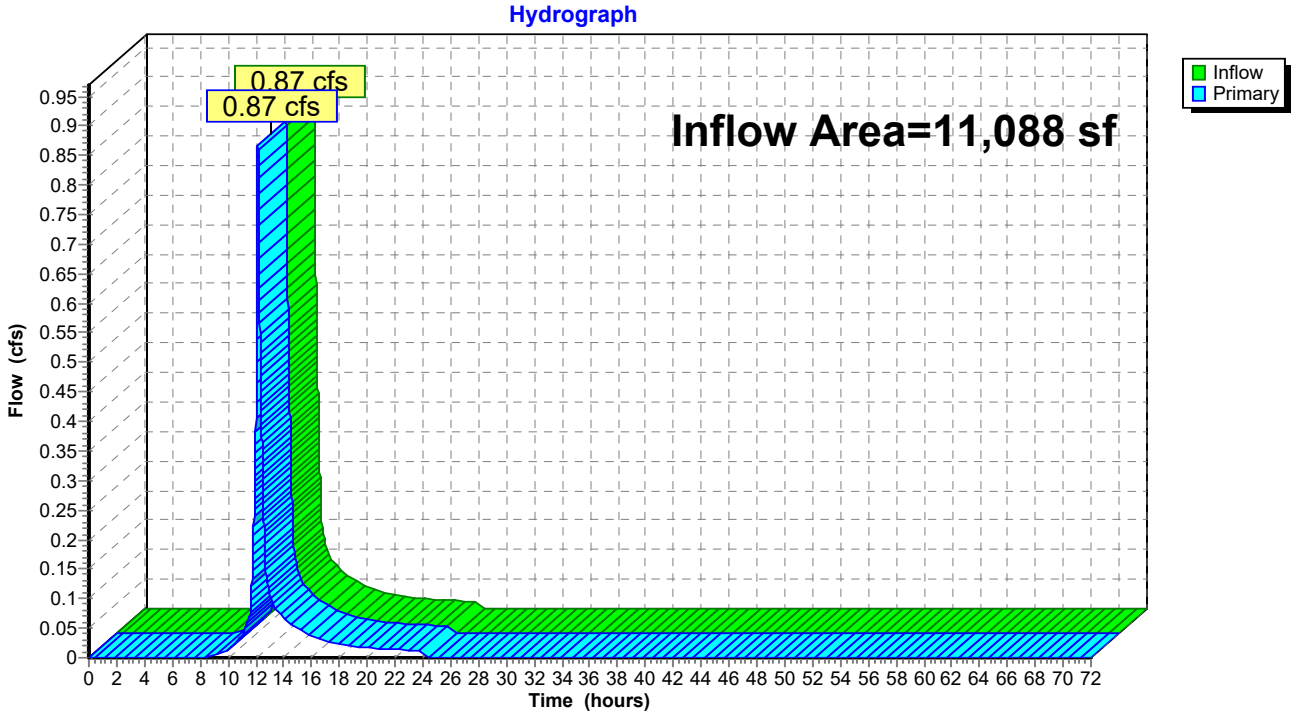


Summary for Link AL1: Analysis Line #1 (Southeastern PL)

Inflow Area = 11,088 sf, 1.43% Impervious, Inflow Depth = 3.32" for 25-Year event
Inflow = 0.87 cfs @ 12.14 hrs, Volume= 3,068 cf
Primary = 0.87 cfs @ 12.14 hrs, Volume= 3,068 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL1: Analysis Line #1 (Southeastern PL)

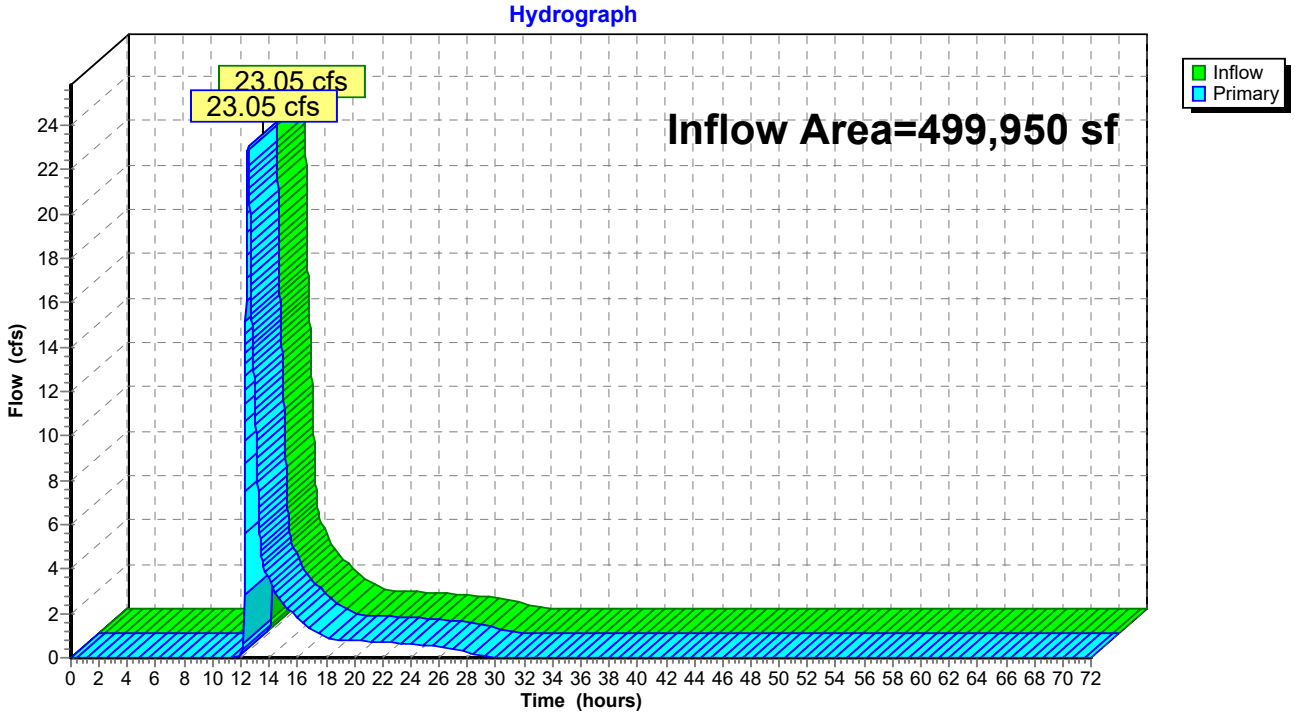


Summary for Link AL2: Analysis Line #2 (Wetlands)

Inflow Area = 499,950 sf, 17.34% Impervious, Inflow Depth = 2.84" for 25-Year event
Inflow = 23.05 cfs @ 12.50 hrs, Volume= 118,295 cf
Primary = 23.05 cfs @ 12.50 hrs, Volume= 118,295 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL2: Analysis Line #2 (Wetlands)

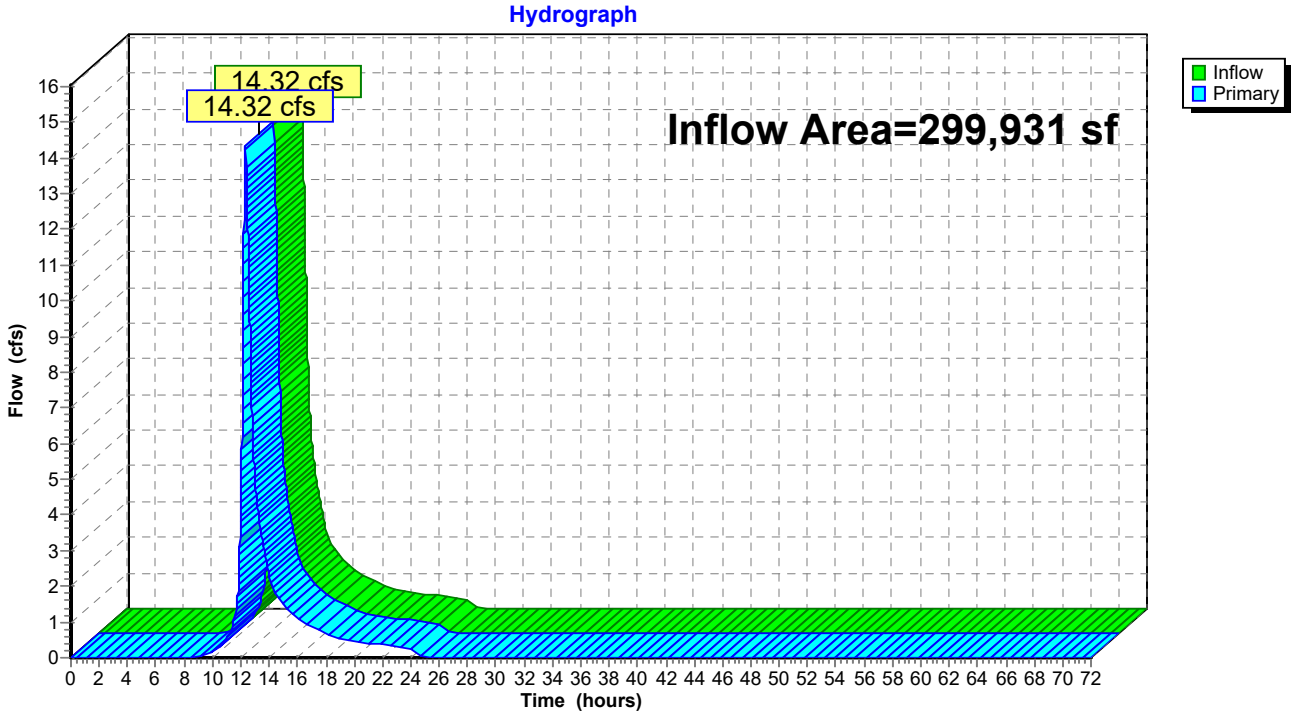


Summary for Link AL3: Analysis Line #3 (Northern PL)

Inflow Area = 299,931 sf, 13.96% Impervious, Inflow Depth = 3.18" for 25-Year event
Inflow = 14.32 cfs @ 12.33 hrs, Volume= 79,366 cf
Primary = 14.32 cfs @ 12.33 hrs, Volume= 79,366 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL3: Analysis Line #3 (Northern PL)

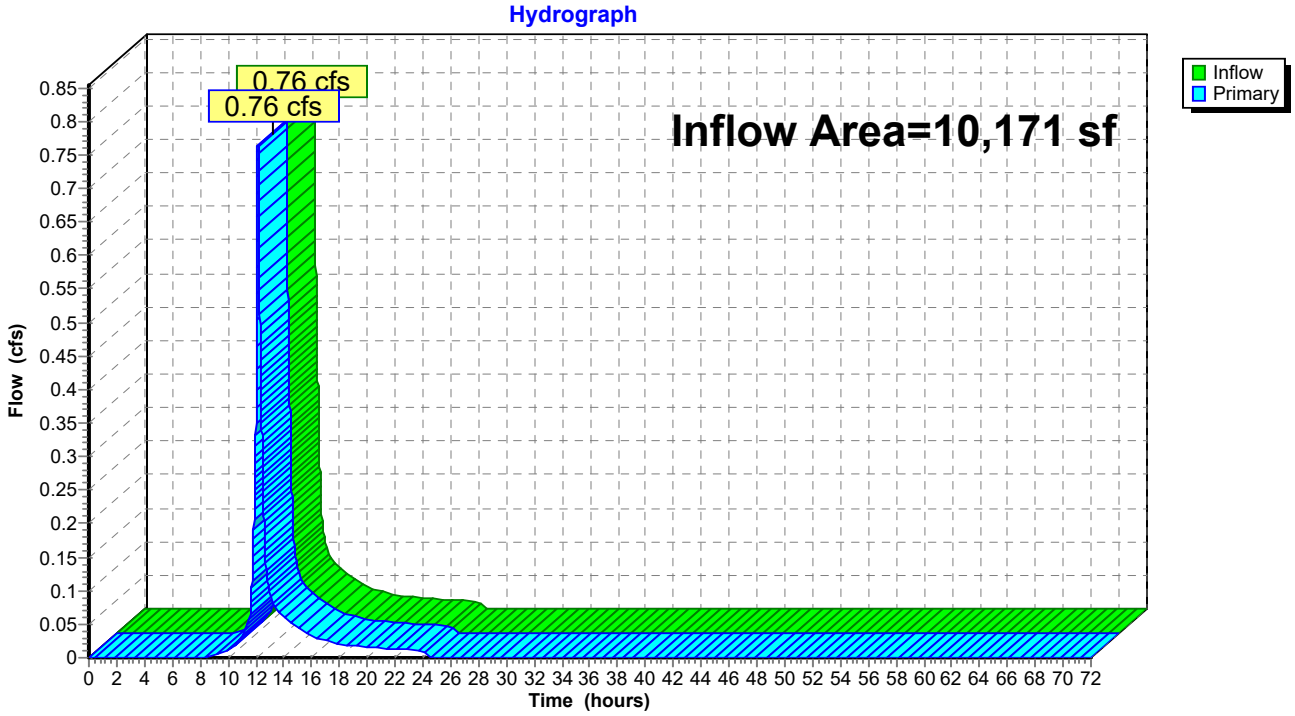


Summary for Link AL4: Analysis Line #4 (Northeastern PL)

Inflow Area = 10,171 sf, 0.00% Impervious, Inflow Depth = 3.22" for 25-Year event
Inflow = 0.76 cfs @ 12.14 hrs, Volume= 2,731 cf
Primary = 0.76 cfs @ 12.14 hrs, Volume= 2,731 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL4: Analysis Line #4 (Northeastern PL)

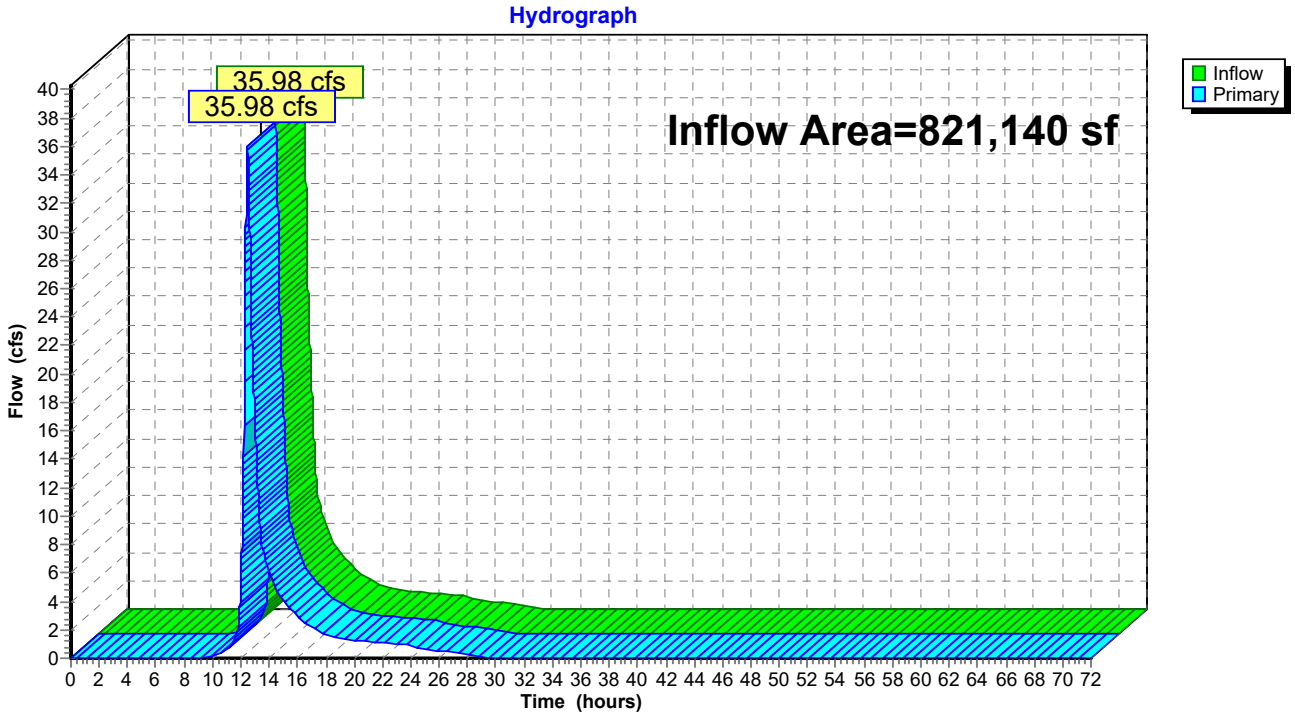


Summary for Link ALL: ALL

Inflow Area = 821,140 sf, 15.68% Impervious, Inflow Depth = 2.97" for 25-Year event
Inflow = 35.98 cfs @ 12.45 hrs, Volume= 203,459 cf
Primary = 35.98 cfs @ 12.45 hrs, Volume= 203,459 cf, Atten= 0%, Lag= 0.0 min

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

Link ALL: ALL



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment SA1: Drainage Subarea #1 Runoff Area=11,088 sf 1.43% Impervious Runoff Depth=4.71"
Tc=10.0 min CN=74 Runoff=1.23 cfs 4,354 cf

Subcatchment SA2A: Drainage Subarea Runoff Area=10.552 ac 18.69% Impervious Runoff Depth=5.17"
Flow Length=697' Tc=20.8 min CN=78 Runoff=42.19 cfs 198,016 cf

Subcatchment SA2B: Drainage Subarea Runoff Area=23,857 sf 3.29% Impervious Runoff Depth=4.83"
Tc=10.0 min CN=75 Runoff=2.70 cfs 9,594 cf

Subcatchment SA2C: Drainage Subarea Runoff Area=12,571 sf 0.00% Impervious Runoff Depth=4.71"
Tc=10.0 min CN=74 Runoff=1.39 cfs 4,936 cf

Subcatchment SA2D: Drainage Subarea #2D Runoff Area=3,877 sf 0.00% Impervious Runoff Depth=4.60"
Tc=10.0 min CN=73 Runoff=0.42 cfs 1,485 cf

Subcatchment SA3A: Drainage Subarea Runoff Area=74,552 sf 29.32% Impervious Runoff Depth=5.52"
Flow Length=325' Tc=19.3 min CN=81 Runoff=7.48 cfs 34,270 cf

Subcatchment SA3B: Drainage Subarea Runoff Area=225,379 sf 8.88% Impervious Runoff Depth=4.48"
Flow Length=165' Tc=21.1 min CN=72 Runoff=17.93 cfs 84,226 cf

Subcatchment SA4: Drainage Subarea #4 Runoff Area=10,171 sf 0.00% Impervious Runoff Depth=4.60"
Flow Length=246' Tc=10.3 min CN=73 Runoff=1.09 cfs 3,897 cf

Reach SW: Diversion Swale Avg. Flow Depth=0.73' Max Vel=3.94 fps Inflow=17.93 cfs 84,226 cf
n=0.069 L=396.0' S=0.0788 '/' Capacity=32.66 cfs Outflow=17.85 cfs 84,226 cf

Pond BB-A: Bioretention Basin A 'BB-A' Peak Elev=346.97' Storage=31,251 cf Inflow=43.76 cfs 200,830 cf
Discarded=0.25 cfs 24,283 cf Primary=39.94 cfs 176,547 cf Secondary=0.00 cfs 0 cf Outflow=40.19 cfs 200,830 cf

Pond BB-B: Bioretention Basin B 'BB-B' Peak Elev=343.00' Storage=27,824 cf Inflow=40.65 cfs 181,483 cf
Discarded=0.19 cfs 6,926 cf Primary=30.92 cfs 174,557 cf Secondary=0.01 cfs 0 cf Outflow=31.11 cfs 181,483 cf

Pond BB-C: Bioretention Basin C 'BB-C' Peak Elev=391.14' Storage=10,091 cf Inflow=7.48 cfs 34,270 cf
Discarded=0.09 cfs 4,688 cf Primary=4.47 cfs 29,582 cf Secondary=0.00 cfs 0 cf Outflow=4.56 cfs 34,270 cf

Pond WQB: Water Quality Basin 'WQB' Peak Elev=356.46' Storage=4,918 cf Inflow=42.19 cfs 198,016 cf
Discarded=0.07 cfs 6,779 cf Primary=42.05 cfs 191,237 cf Secondary=0.00 cfs 0 cf Outflow=42.12 cfs 198,016 cf

Link AL1: Analysis Line #1 (Southeastern PL) Inflow=1.23 cfs 4,354 cf
Primary=1.23 cfs 4,354 cf

Link AL2: Analysis Line #2 (Wetlands) Inflow=31.05 cfs 176,043 cf
Primary=31.05 cfs 176,043 cf

Link AL3: Analysis Line #3 (Northern PL) Inflow=20.69 cfs 113,808 cf
Primary=20.69 cfs 113,808 cf

Link AL4: Analysis Line #4 (Northeastern PL) Inflow=1.09 cfs 3,897 cf
Primary=1.09 cfs 3,897 cf

Link ALL: ALL Inflow=51.60 cfs 298,101 cf
Primary=51.60 cfs 298,101 cf

Total Runoff Area = 821,140 sf Runoff Volume = 340,777 cf Average Runoff Depth = 4.98"
84.32% Pervious = 692,426 sf 15.68% Impervious = 128,714 sf

Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'

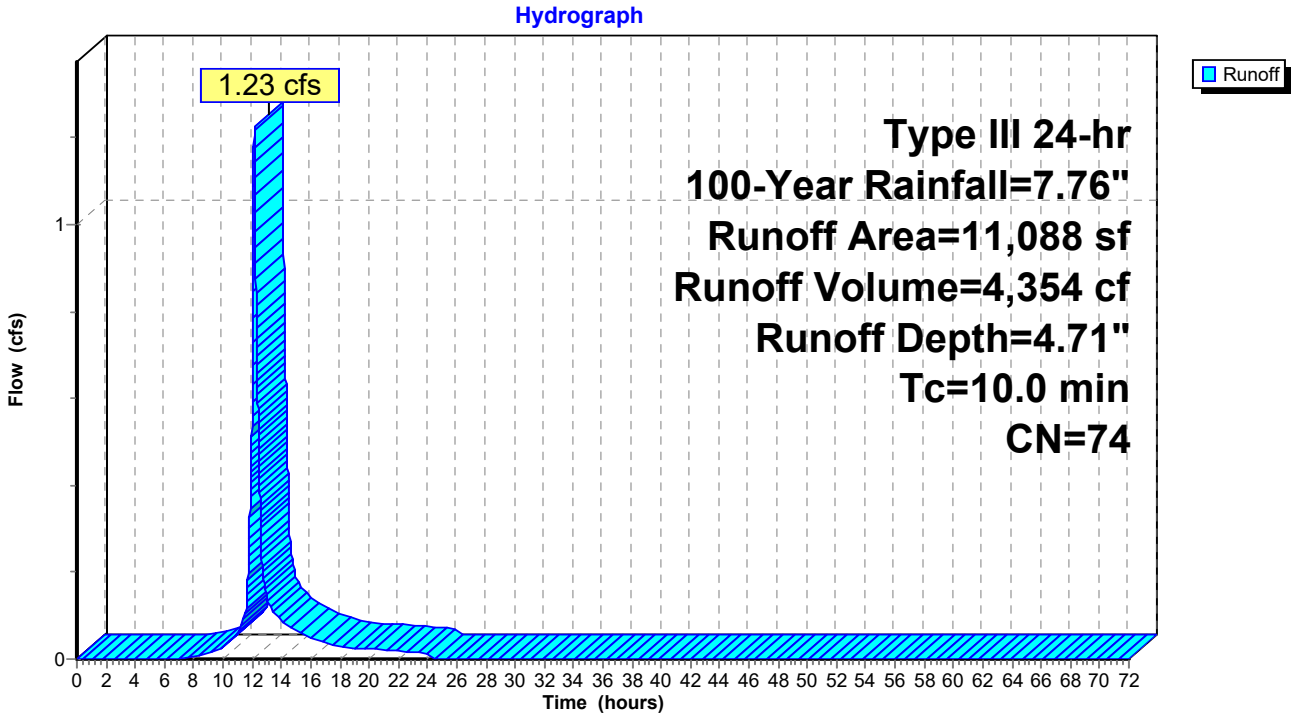
Runoff = 1.23 cfs @ 12.14 hrs, Volume= 4,354 cf, Depth= 4.71"
Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	159	98	Bldgs./Impervious
*	10,517	74	Lawn, Good, HSG C
*	412	70	Woods, Good, HSG C
	11,088	74	Weighted Average
	10,929	74	98.57% Pervious Area
	159	98	1.43% Impervious Area

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

Subcatchment SA1: Drainage Subarea #1 'SA1'



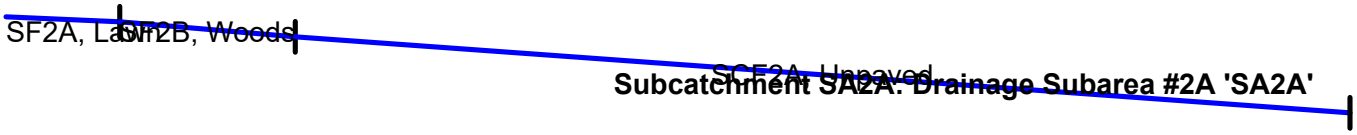
Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'

Runoff = 42.19 cfs @ 12.28 hrs, Volume= 198,016 cf, Depth= 5.17"
Routed to Pond WQB : Water Quality Basin 'WQB'

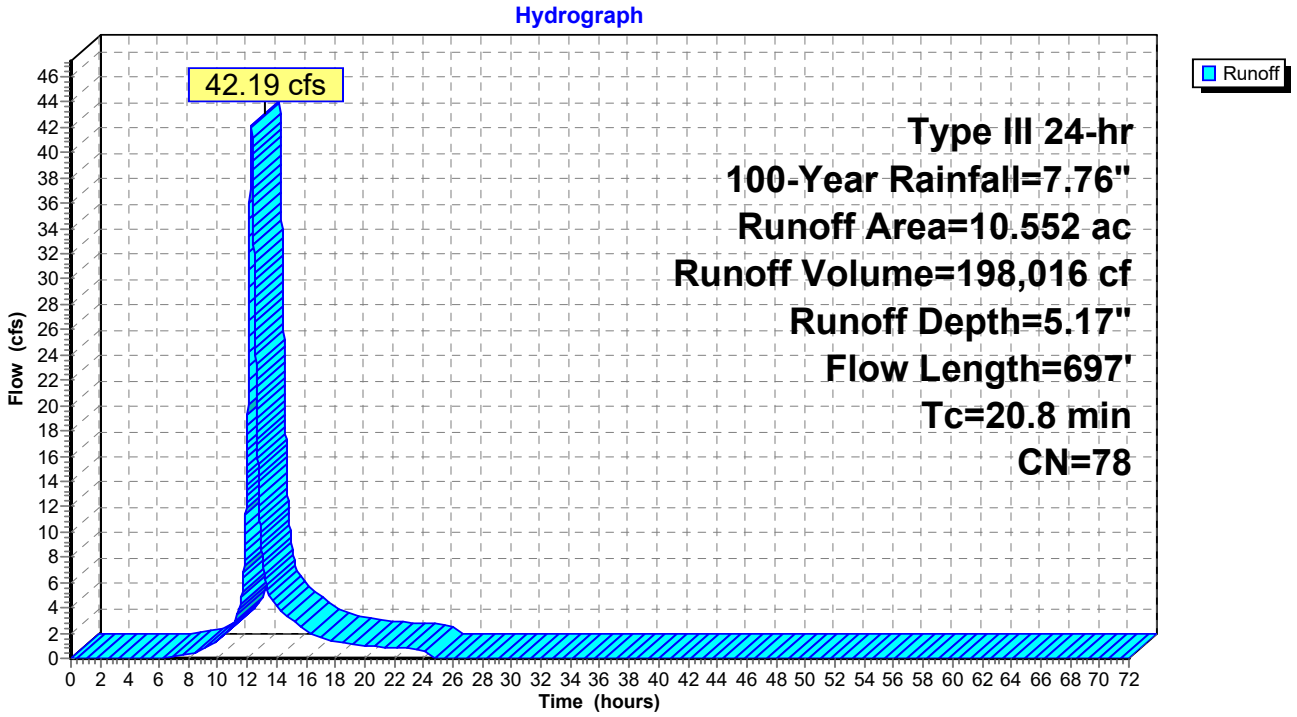
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (ac)	CN	Description
*	1.972	98	Bldgs./Impervious
*	0.064	92	Compact Gravel (est.), HSG C
*	0.077	86	Open Deck (est.), HSG C
*	5.552	74	Lawn, Good, HSG C
*	2.887	70	Woods, Good, HSG C
	10.552	78	Weighted Average
	8.580	73	81.31% Pervious Area
	1.972	98	18.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	59	0.0590	0.17		**Sheet Flow, SF2A, Lawn** n= 0.240 P2= 3.43"
13.1	91	0.1180	0.12		**Sheet Flow, SF2B, Woods** n= 0.600 P2= 3.43"
1.8	547	0.0990	5.07		**Shallow Concentrated Flow, SCF2A, Unpaved** Unpaved Kv= 16.1 fps
20.8	697	Total			



Subcatchment SA2A: Drainage Subarea #2A 'SA2A'



Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'

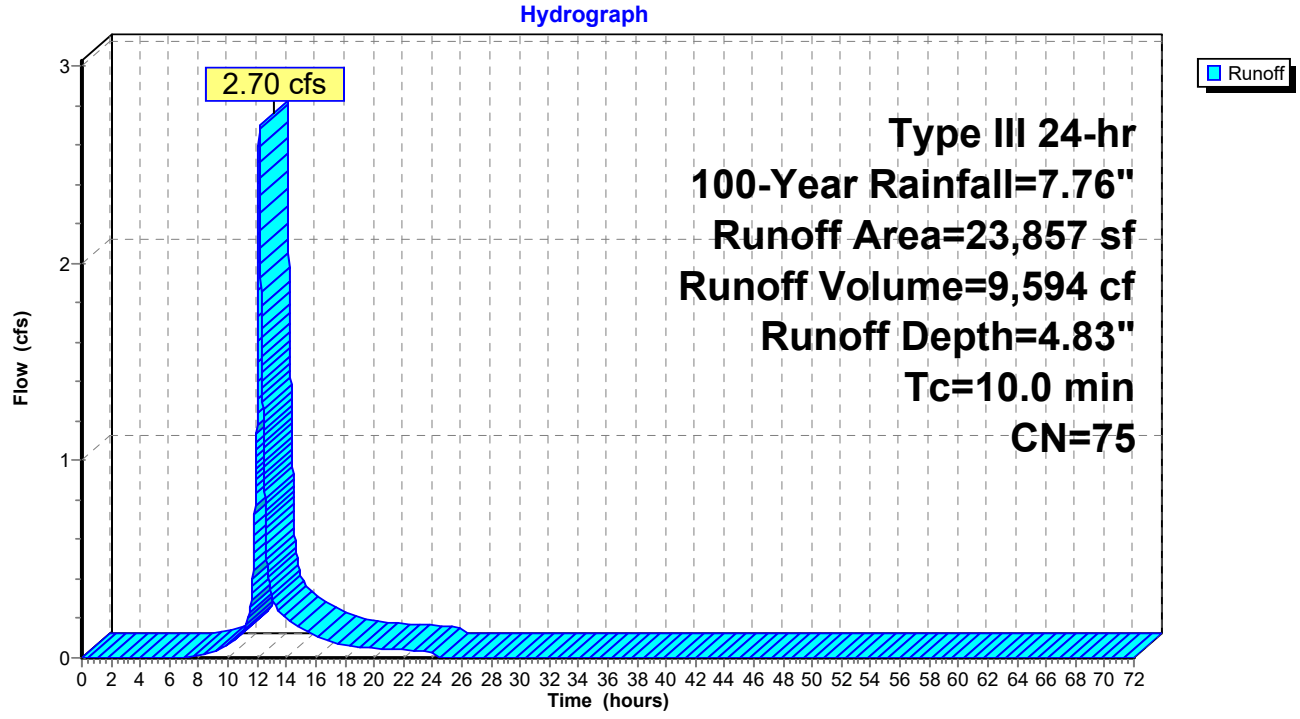
Runoff = 2.70 cfs @ 12.14 hrs, Volume= 9,594 cf, Depth= 4.83"
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	784	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	22,922	74	Lawn, Good, HSG C
	23,857	75	Weighted Average
	23,073	74	96.71% Pervious Area
	784	98	3.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2B: Drainage Subarea #2B 'SA2B'



Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'

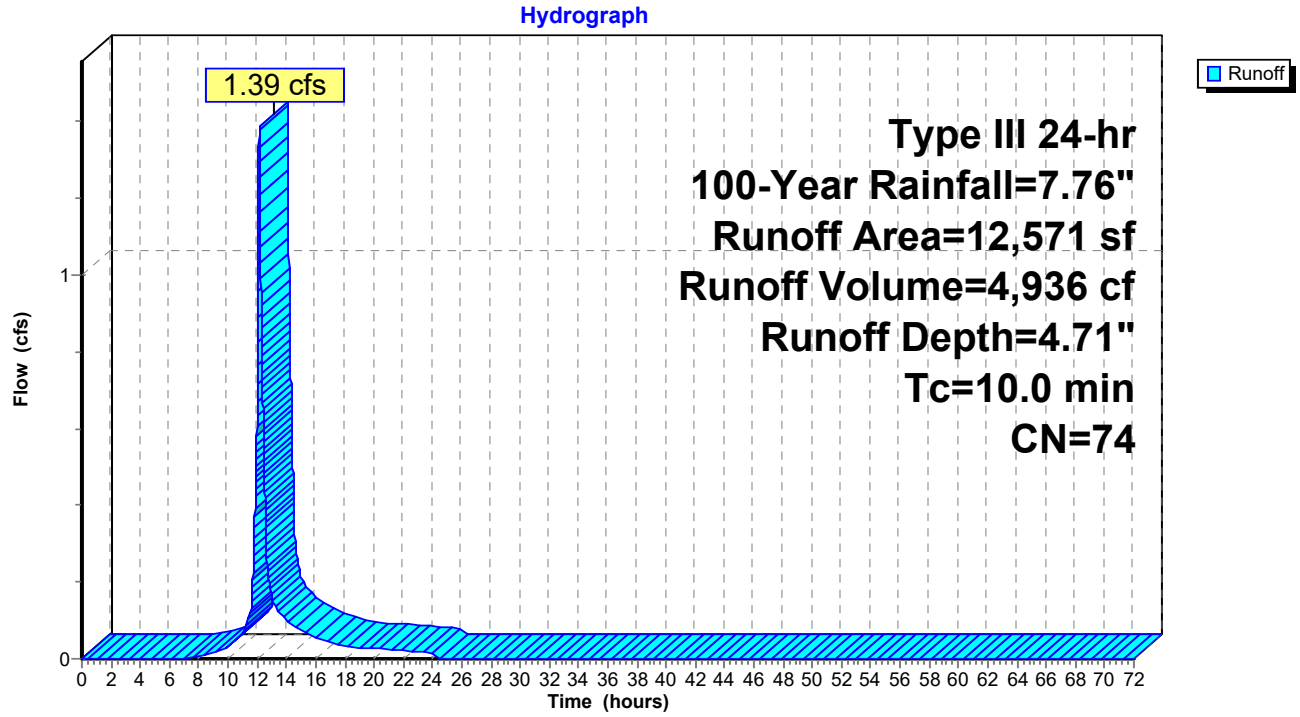
Runoff = 1.39 cfs @ 12.14 hrs, Volume= 4,936 cf, Depth= 4.71"
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	12,571	74	Lawn, Good, HSG C
	12,571	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Direct**
5.0	0	Total, Increased to minimum Tc = 10.0 min			

Subcatchment SA2C: Drainage Subarea #2C 'SA2C'



Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'

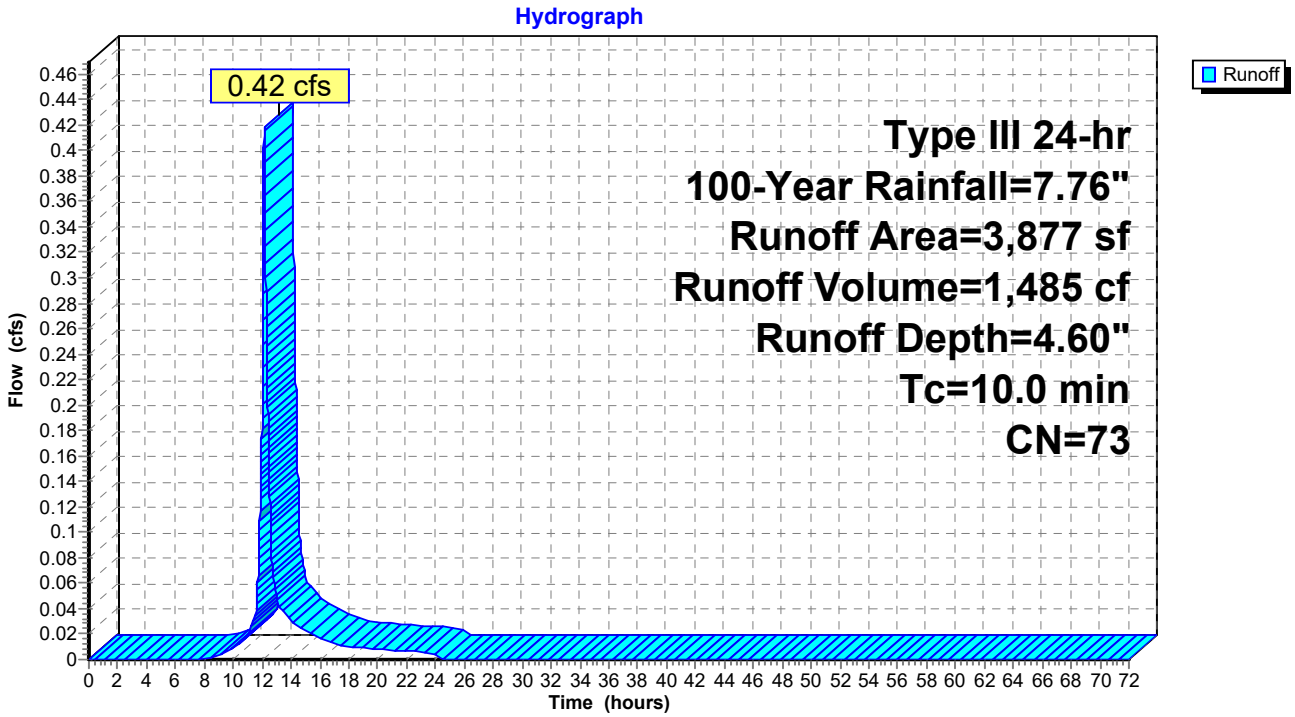
Runoff = 0.42 cfs @ 12.14 hrs, Volume= 1,485 cf, Depth= 4.60"
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	2,138	74	Lawn, Good, HSG C
*	1,349	70	Woods, Good, HSG C
*	390	77	Woods, Good, HSG D
	3,877	73	Weighted Average
	3,877	73	100.00% Pervious Area

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

Subcatchment SA2D: Drainage Subarea #2D 'SA2D'



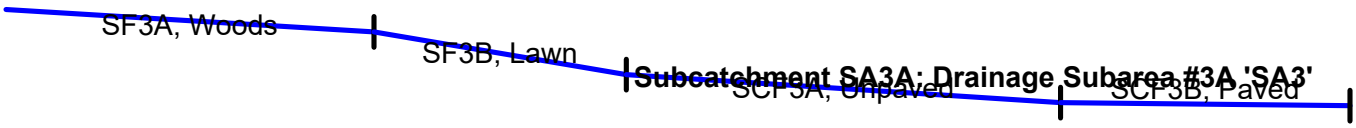
Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'

Runoff = 7.48 cfs @ 12.25 hrs, Volume= 34,270 cf, Depth= 5.52"
Routed to Pond BB-C : Bioretention Basin C 'BB-C'

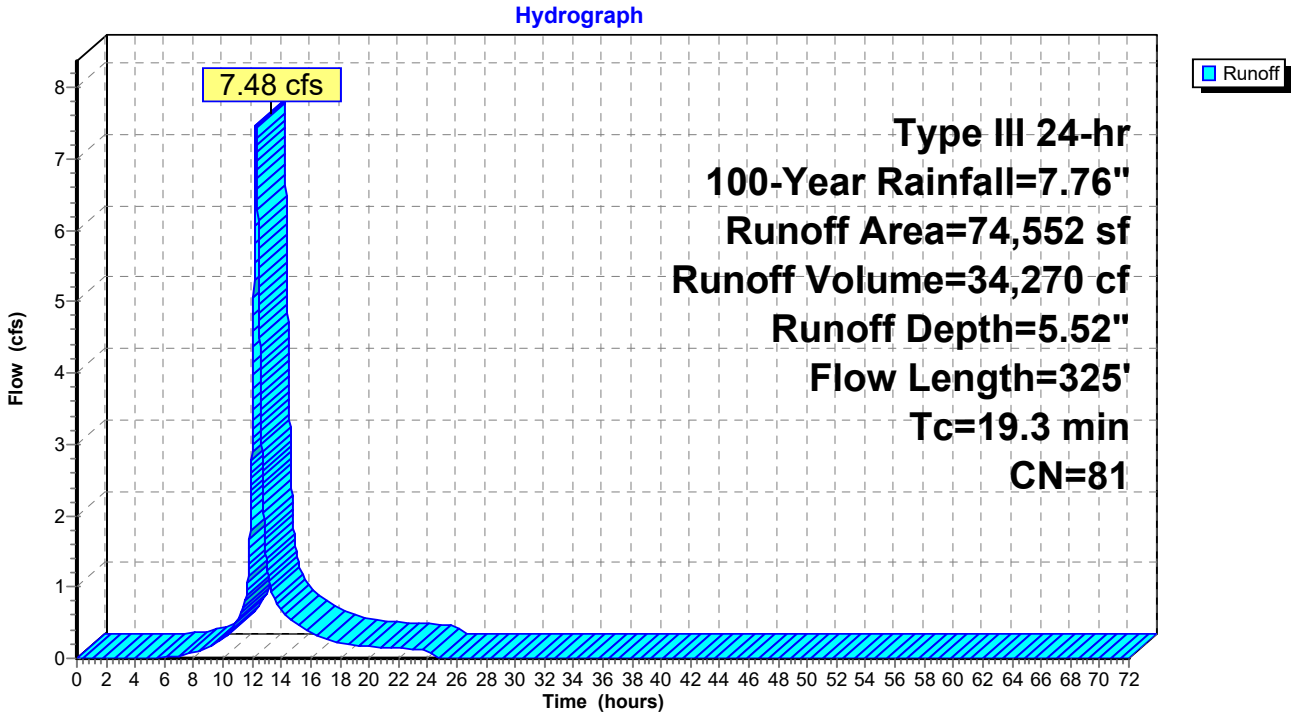
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	21,859	98	Bldgs./Impervious
*	454	86	Open Deck (est.), HSG C
*	48,227	74	Lawn, Good, HSG C
*	4,012	70	Woods, Good, HSG C
	74,552	81	Weighted Average
	52,693	74	70.68% Pervious Area
	21,859	98	29.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	89	0.0810	0.10		**Sheet Flow, SF3A, Woods** n= 0.600 P2= 3.43"
3.5	61	0.2260	0.29		**Sheet Flow, SF3B, Lawn** n= 0.240 P2= 3.43"
0.4	105	0.0860	4.72		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
0.5	70	0.0140	2.40		**Shallow Concentrated Flow, SCF3B, Paved** Paved Kv= 20.3 fps
19.3	325	Total			



Subcatchment SA3A: Drainage Subarea #3A 'SA3'



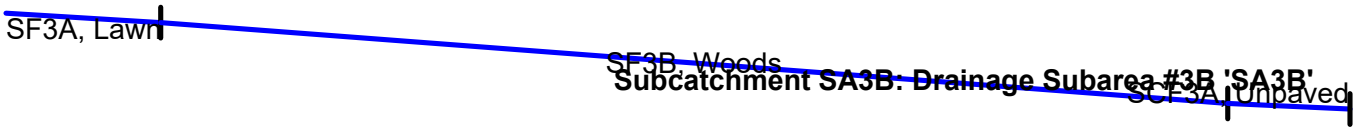
Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'

Runoff = 17.93 cfs @ 12.29 hrs, Volume= 84,226 cf, Depth= 4.48"
Routed to Reach SW : Diversion Swale

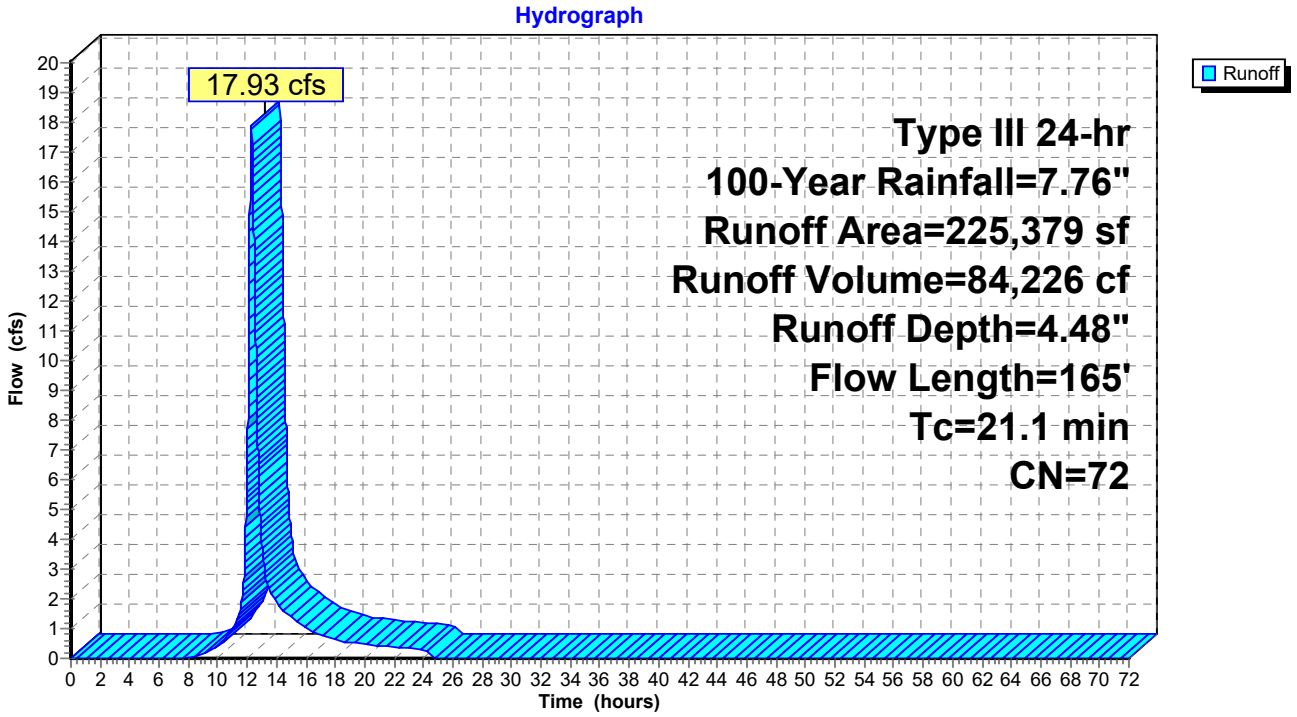
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	20,012	98	Bldgs./Impervious
*	596	92	Compact Gravel (est.), HSG C
*	1,211	86	Open Deck (est.), HSG C
*	372	61	Lawn, Good, HSG B
*	109,208	74	Lawn, Good, HSG C
*	32,752	55	Woods, Good, HSG B
*	61,228	70	Woods, Good, HSG C
	225,379	72	Weighted Average
	205,367	70	91.12% Pervious Area
	20,012	98	8.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		**Sheet Flow, SF3A, Lawn** n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		**Sheet Flow, SF3B, Woods** n= 0.600 P2= 3.43"
0.1	15	0.0600	3.94		**Shallow Concentrated Flow, SCF3A, Unpaved** Unpaved Kv= 16.1 fps
21.1	165	Total			



Subcatchment SA3B: Drainage Subarea #3B 'SA3B'



Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'

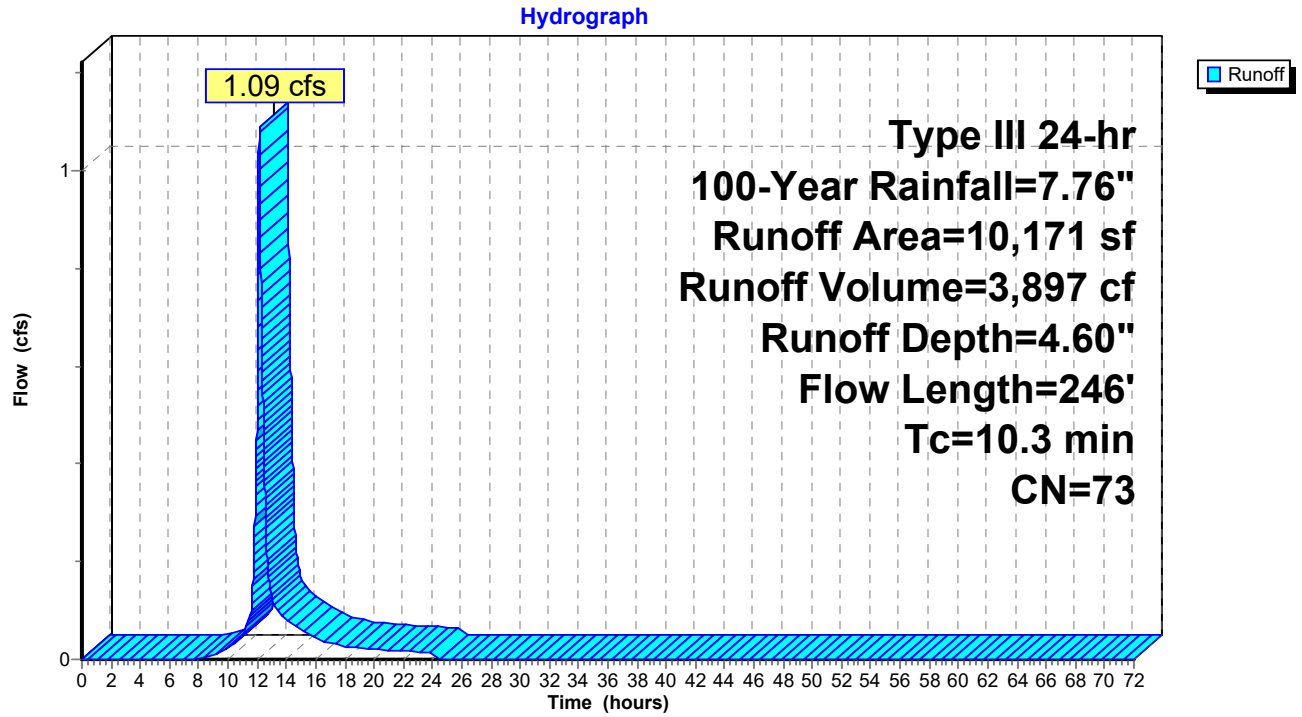
Runoff = 1.09 cfs @ 12.14 hrs, Volume= 3,897 cf, Depth= 4.60"
Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	7,957	74	Lawn, Good, HSG C
*	2,214	70	Woods, Good, HSG C
	10,171	73	Weighted Average
	10,171	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	150	0.1010	0.25		**Sheet Flow, SF4A, Lawn** n= 0.240 P2= 3.43"
0.3	96	0.1280	5.76		**Shallow Concentrated Flow, SCF4A, Woods** Unpaved Kv= 16.1 fps
10.3	246	Total			

Subcatchment SA4: Drainage Subarea #4 'SA4'



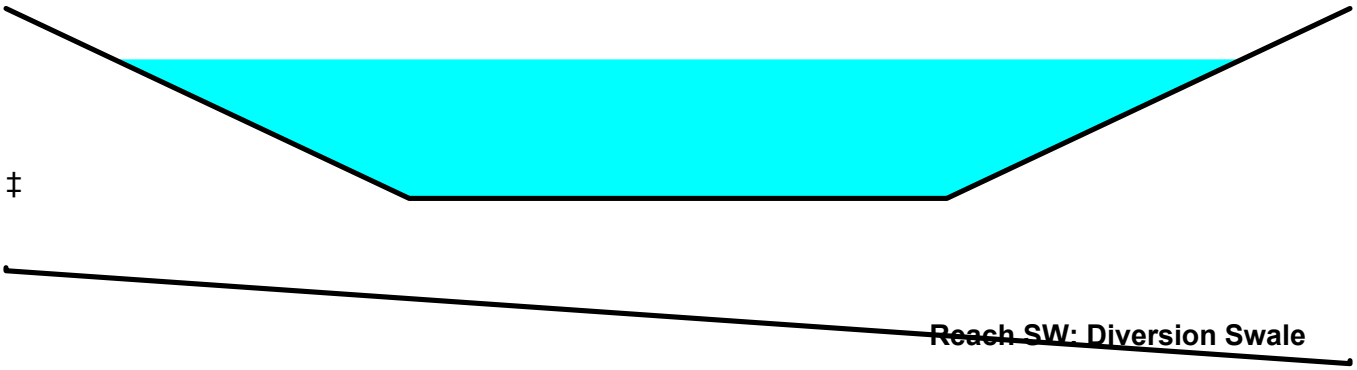
Summary for Reach SW: Diversion Swale

Inflow Area = 225,379 sf, 8.88% Impervious, Inflow Depth = 4.48" for 100-Year event
Inflow = 17.93 cfs @ 12.29 hrs, Volume= 84,226 cf
Outflow = 17.85 cfs @ 12.31 hrs, Volume= 84,226 cf, Atten= 0%, Lag= 1.2 min
Routed to Link AL3 : Analysis Line #3 (Northern PL)

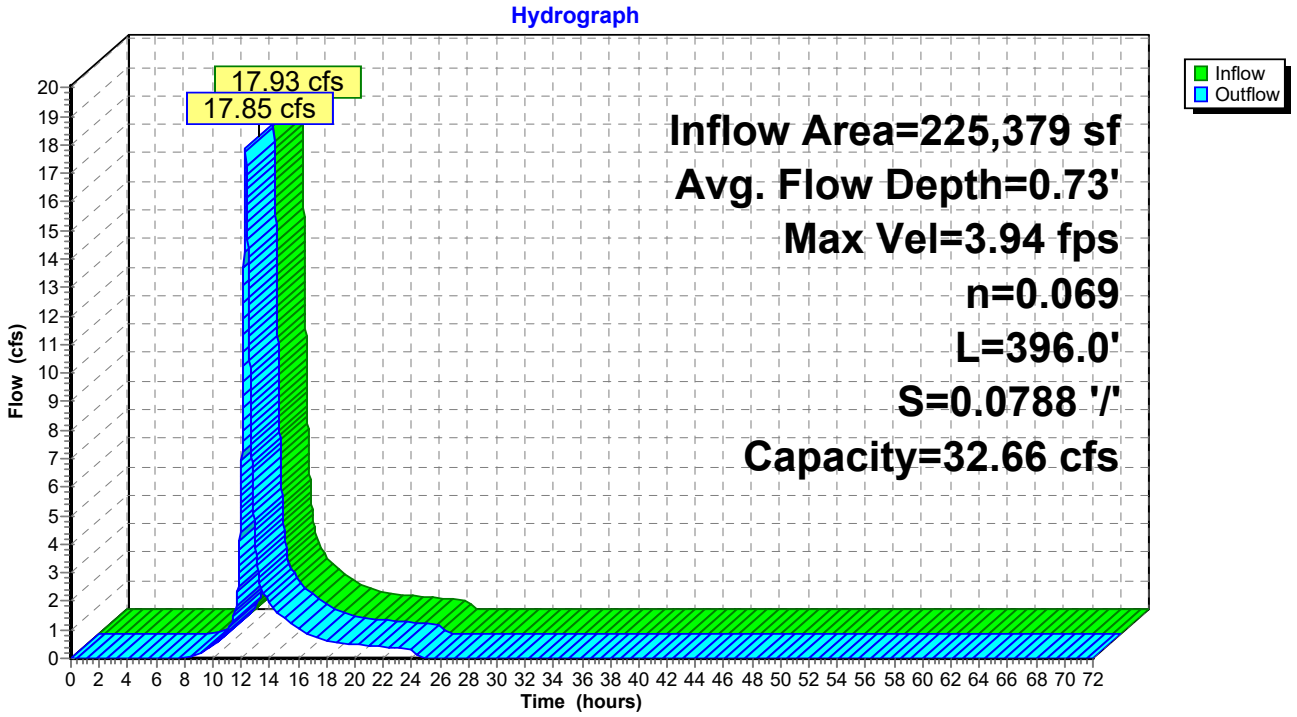
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.94 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.26 fps, Avg. Travel Time= 5.2 min

Peak Storage= 1,795 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.73' , Surface Width= 8.39'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 32.66 cfs

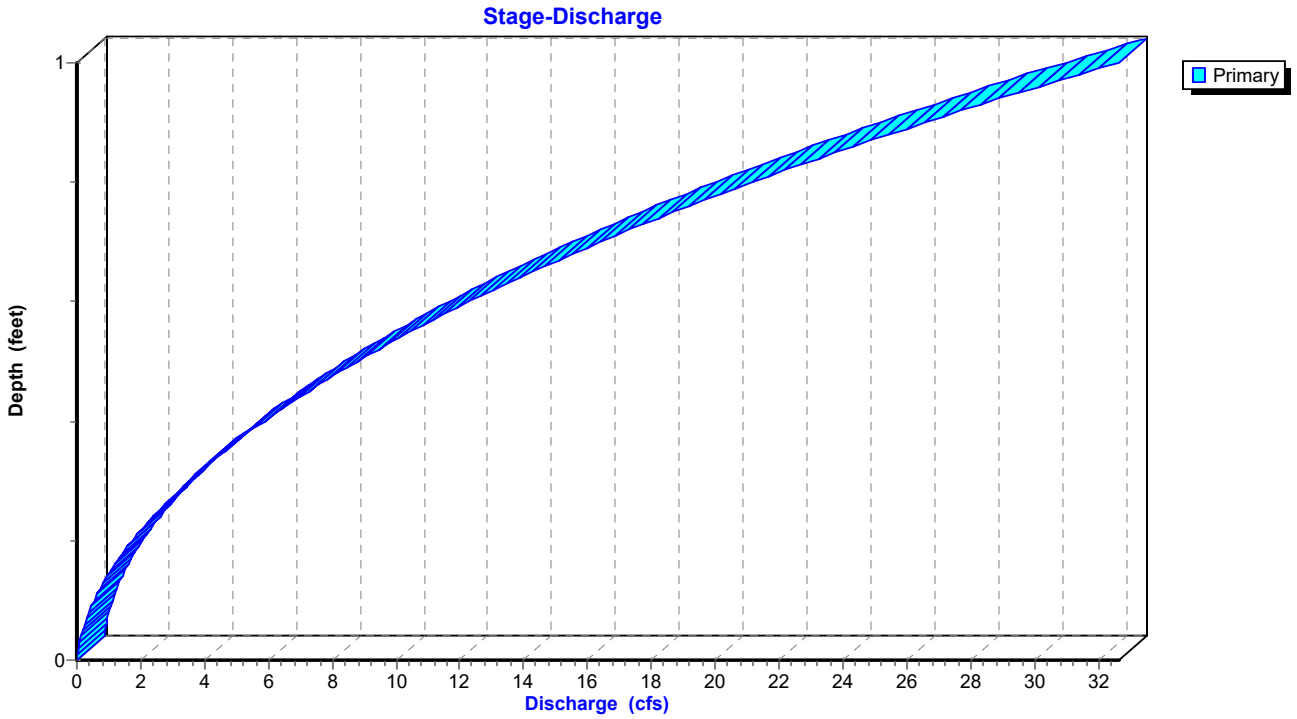
4.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 396.0' Slope= 0.0788 '/'
Inlet Invert= 419.20', Outlet Invert= 388.00'



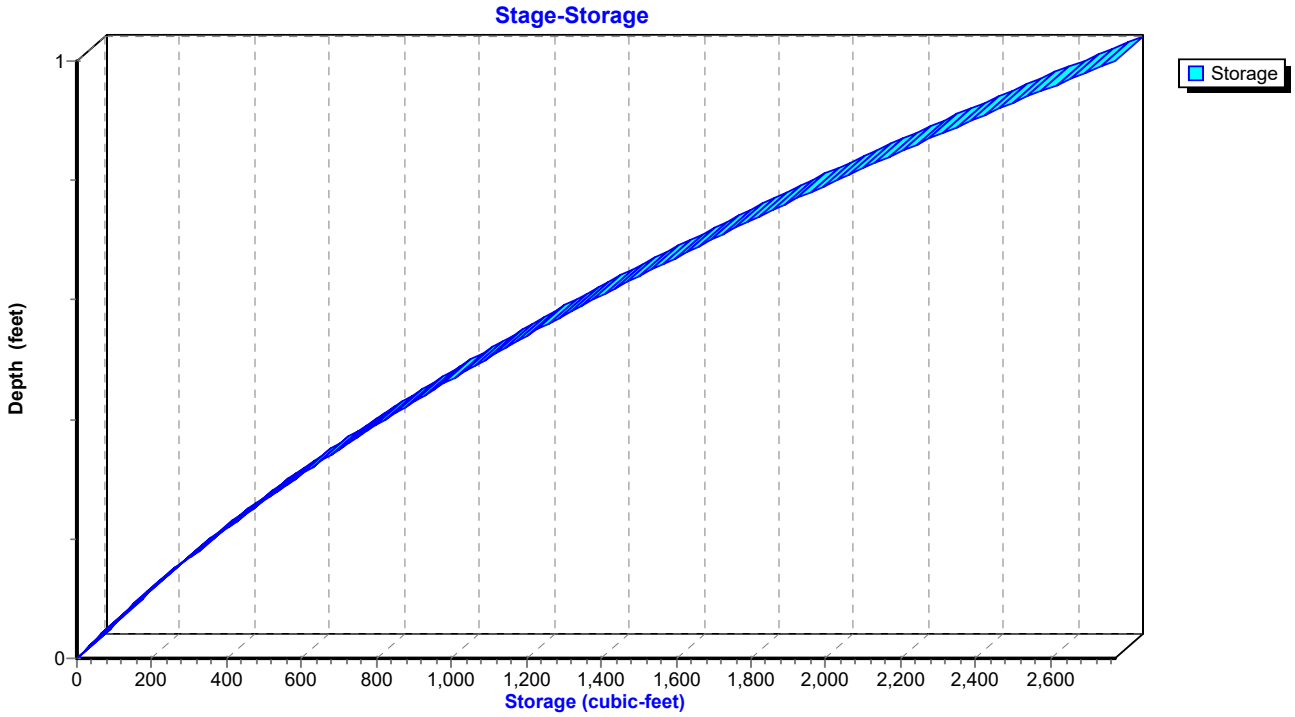
Reach SW: Diversion Swale



Reach SW: Diversion Swale



Reach SW: Diversion Swale



Summary for Pond BB-A: Bioretention Basin A 'BB-A'

[79] Warning: Submerged Pond WQB Primary device # 1 INLET by 1.97'

Inflow Area = 483,502 sf, 17.93% Impervious, Inflow Depth = 4.98" for 100-Year event
Inflow = 43.76 cfs @ 12.28 hrs, Volume= 200,830 cf
Outflow = 40.19 cfs @ 12.37 hrs, Volume= 200,830 cf, Atten= 8%, Lag= 5.4 min
Discarded = 0.25 cfs @ 12.37 hrs, Volume= 24,283 cf
Primary = 39.94 cfs @ 12.37 hrs, Volume= 176,547 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-B : Bioretention Basin B 'BB-B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 346.97' @ 12.37 hrs Surf.Area= 10,776 sf Storage= 31,251 cf

Plug-Flow detention time= 143.0 min calculated for 200,830 cf (100% of inflow)
Center-of-Mass det. time= 143.0 min (970.4 - 827.4)

Volume	Invert	Avail.Storage	Storage Description
#1	343.00'	37,180 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

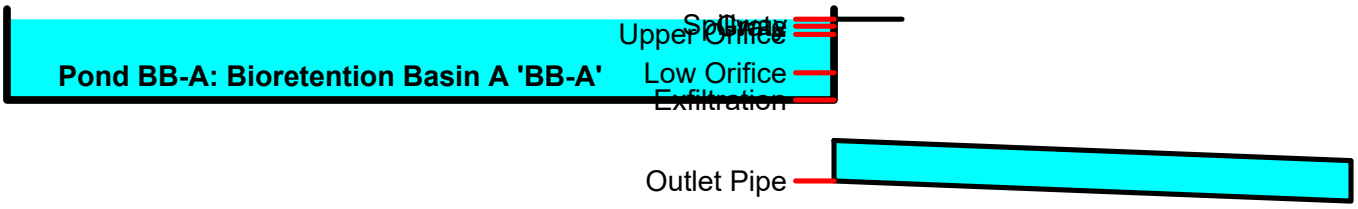
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
343.00	5,164	425.1	0	0	5,164
344.00	6,467	444.0	5,803	5,803	6,541
345.00	7,852	466.6	7,148	12,952	8,241
346.00	9,304	489.1	8,568	21,519	10,018
347.00	10,823	511.6	10,054	31,573	11,878
347.50	11,607	522.8	5,606	37,180	12,836

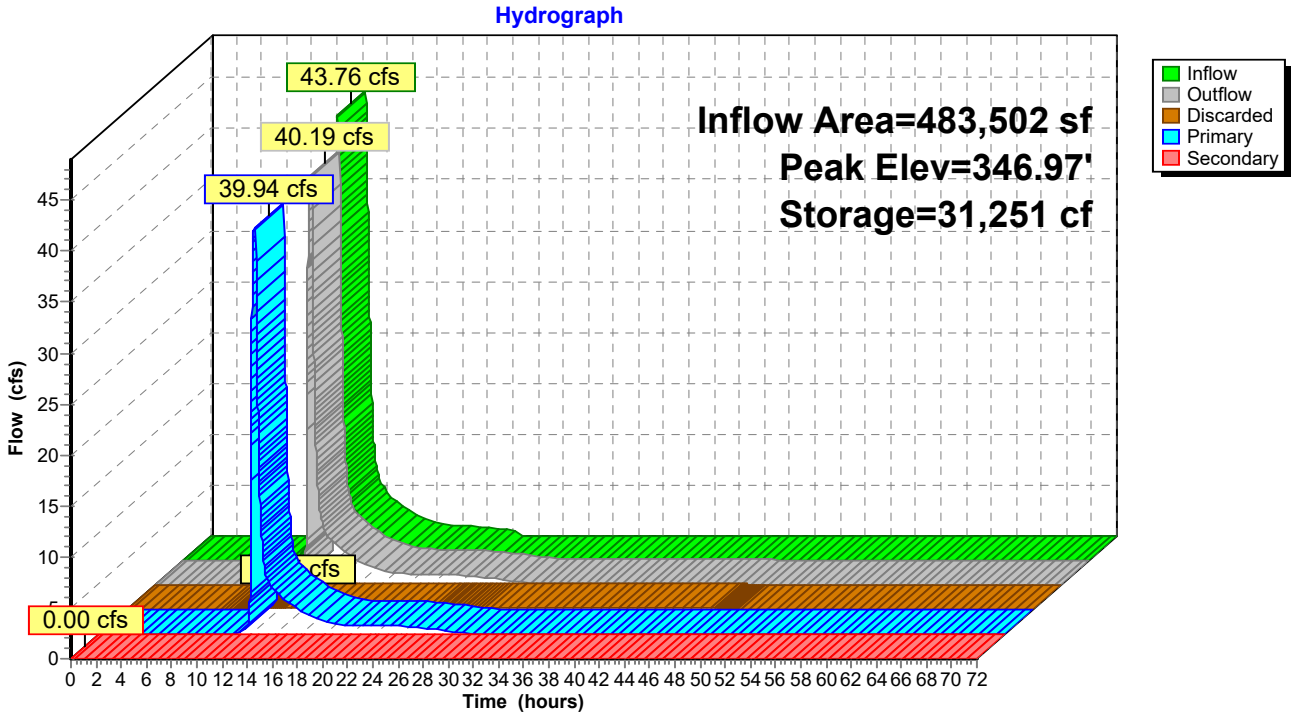
Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round Outlet Pipe** L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	344.35'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.25'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	346.65'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#5	Secondary	347.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	343.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.25 cfs @ 12.37 hrs HW=346.97' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 0.25 cfs)

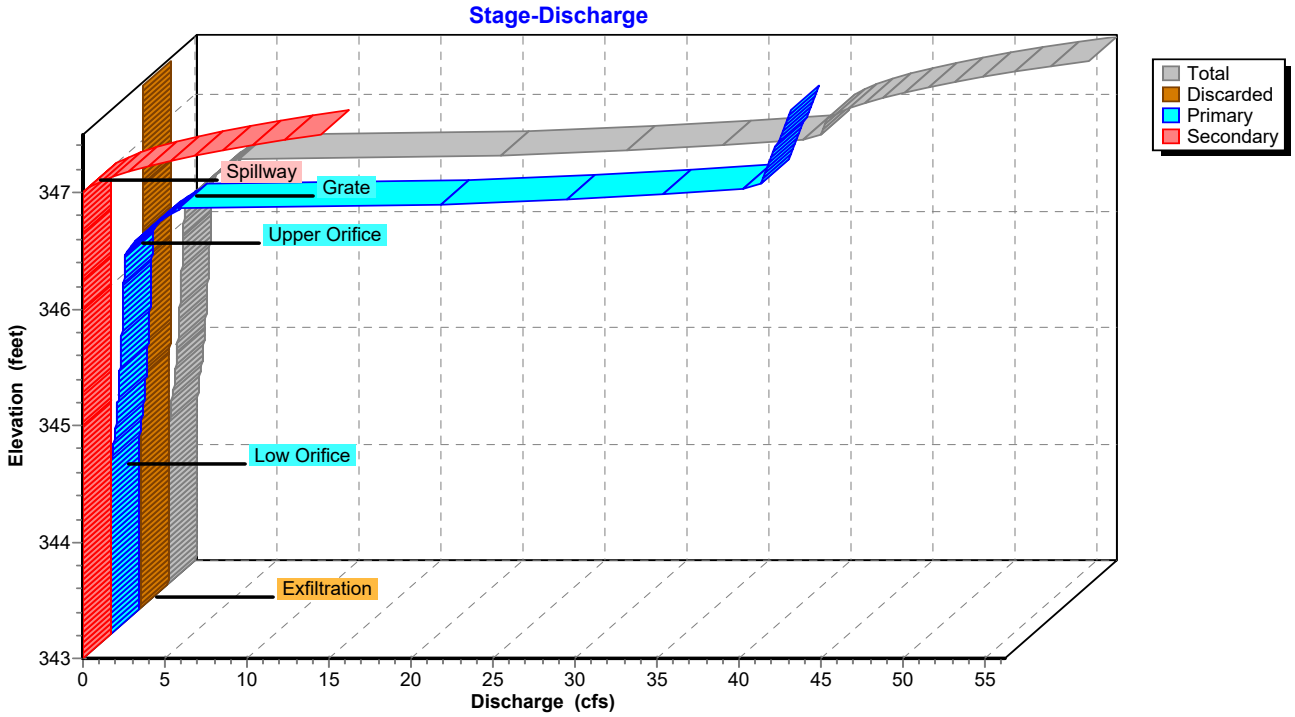
Primary OutFlow Max=39.94 cfs @ 12.37 hrs HW=346.97' (Free Discharge)
└**1=Outlet Pipe** (Inlet Controls 39.94 cfs @ 12.71 fps)
  └**2=Low Orifice** (Passes < 1.02 cfs potential flow)
  └**3=Upper Orifice** (Passes < 6.52 cfs potential flow)
  └**4=Grate** (Passes < 43.57 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=343.00' (Free Discharge)
└**5=Spillway** (Controls 0.00 cfs)

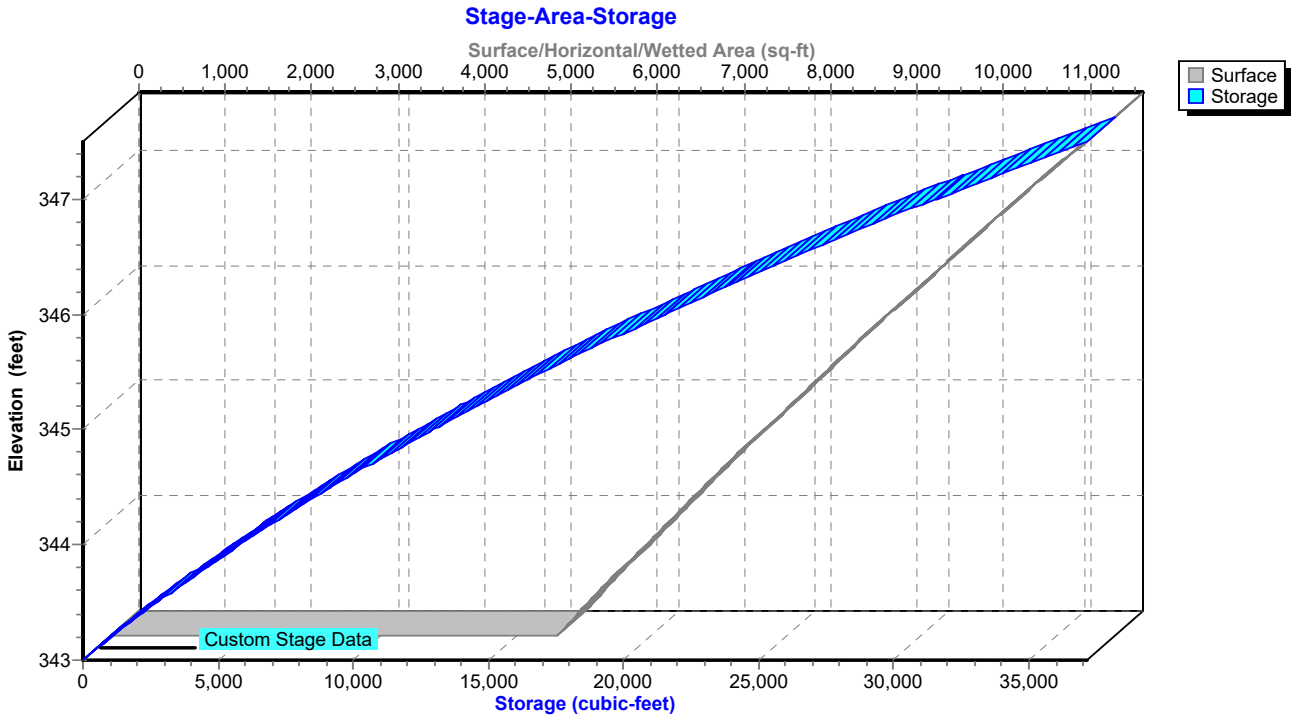




Pond BB-A: Bioretention Basin A 'BB-A'



Pond BB-A: Bioretention Basin A 'BB-A'



Summary for Pond BB-B: Bioretention Basin B 'BB-B'

[79] Warning: Submerged Pond BB-A Primary device # 1 INLET by 4.00'

Inflow Area = 496,073 sf, 17.47% Impervious, Inflow Depth = 4.39" for 100-Year event
Inflow = 40.65 cfs @ 12.34 hrs, Volume= 181,483 cf
Outflow = 31.11 cfs @ 12.53 hrs, Volume= 181,483 cf, Atten= 23%, Lag= 11.4 min
Discarded = 0.19 cfs @ 12.53 hrs, Volume= 6,926 cf
Primary = 30.92 cfs @ 12.53 hrs, Volume= 174,557 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)
Secondary = 0.01 cfs @ 12.53 hrs, Volume= 0 cf
Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 343.00' @ 12.53 hrs Surf.Area= 8,006 sf Storage= 27,824 cf

Plug-Flow detention time= 28.4 min calculated for 181,458 cf (100% of inflow)
Center-of-Mass det. time= 28.4 min (913.6 - 885.2)

Volume	Invert	Avail.Storage	Storage Description
#1	337.50'	36,426 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

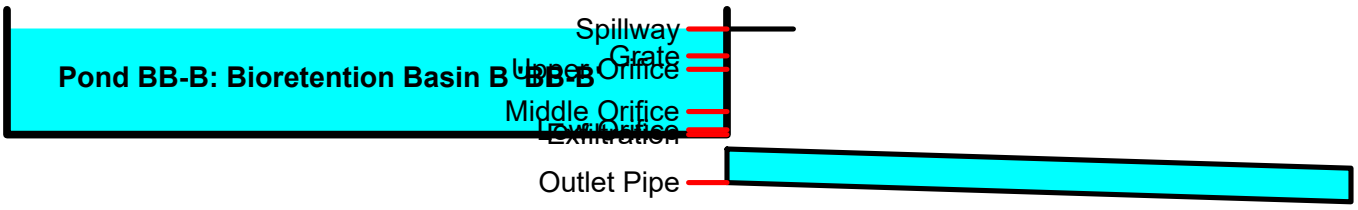
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
337.50	2,408	287.3	0	0	2,408
339.00	3,765	315.6	4,592	4,592	3,839
340.00	4,739	334.4	4,243	8,835	4,864
341.00	5,771	353.3	5,247	14,081	5,954
342.00	6,859	372.1	6,307	20,388	7,099
343.00	8,004	391.0	7,424	27,813	8,308
344.00	9,237	411.1	8,613	36,426	9,652

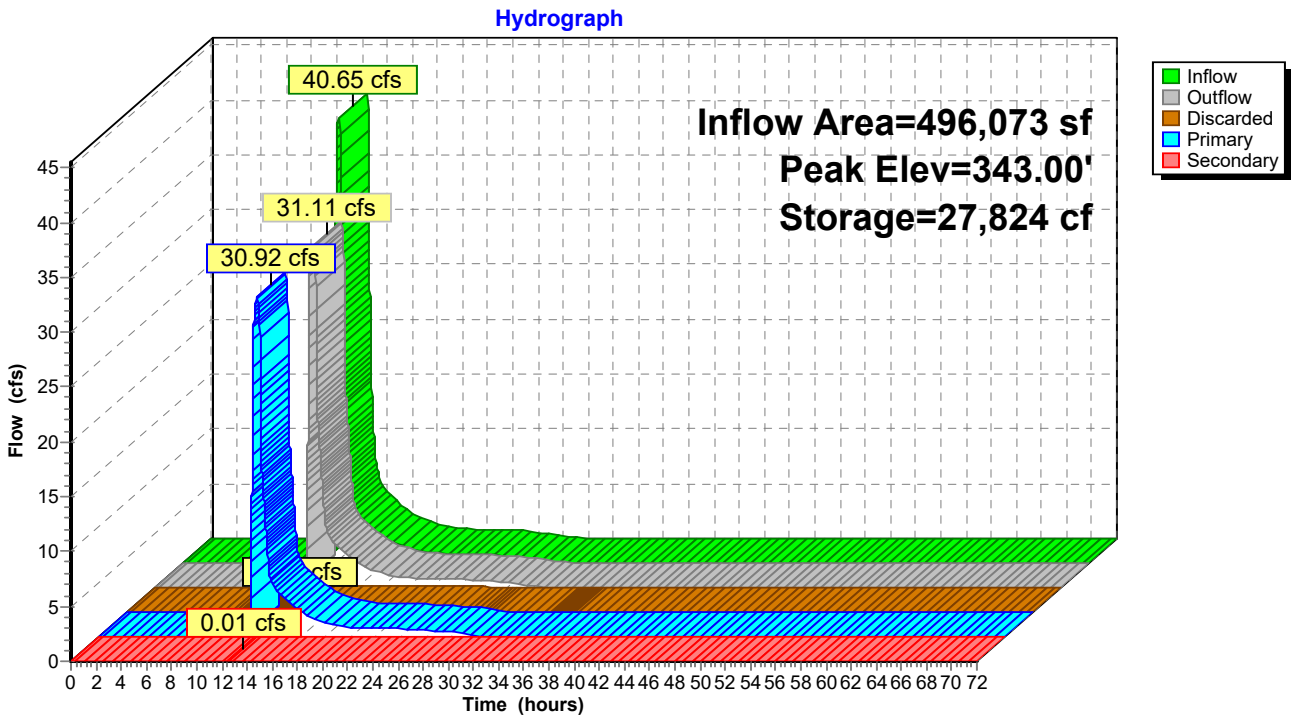
Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**21.0" Round Outlet Pipe** L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	337.75'	**5.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	338.70'	**48.0" W x 6.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	340.90'	**48.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	341.60'	**48.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#6	Secondary	343.00'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	337.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.19 cfs @ 12.53 hrs HW=343.00' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.19 cfs)

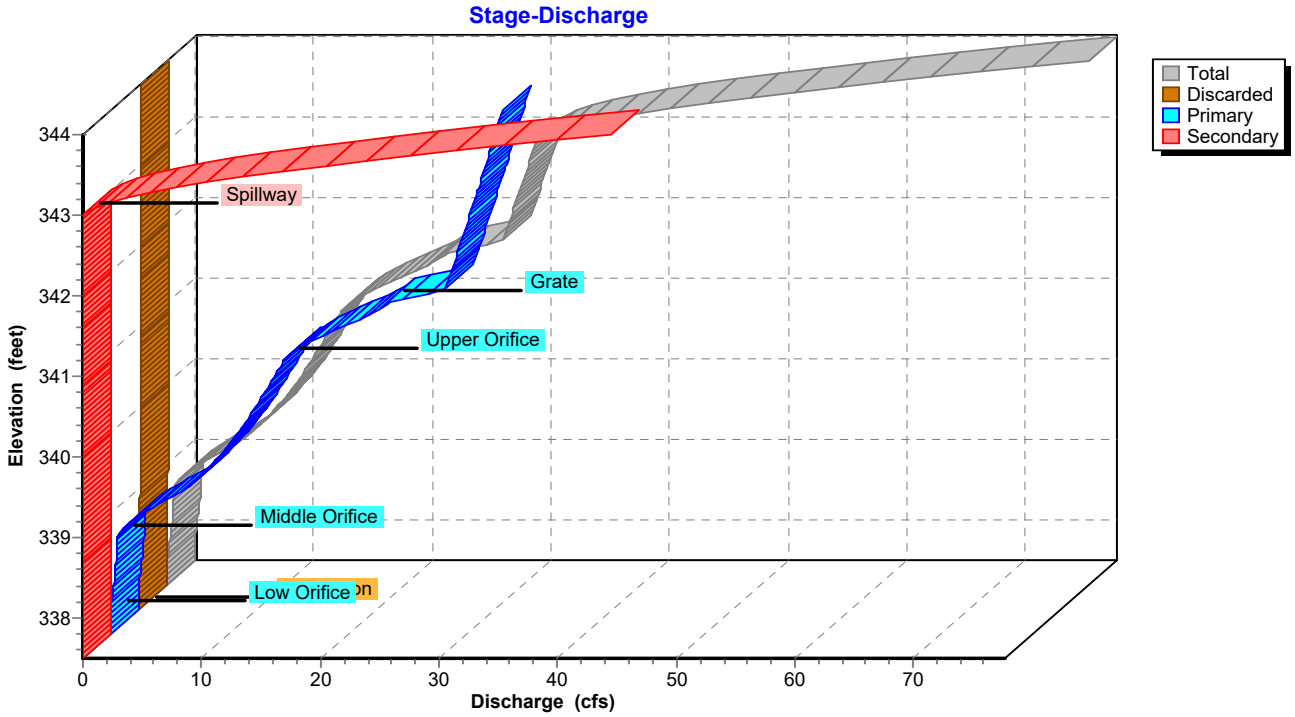
Primary OutFlow Max=30.92 cfs @ 12.53 hrs HW=343.00' (Free Discharge)
└**1=Outlet Pipe** (Inlet Controls 30.92 cfs @ 12.85 fps)
  └**2=Low Orifice** (Passes < 1.47 cfs potential flow)
  └**3=Middle Orifice** (Passes < 19.38 cfs potential flow)
  └**4=Upper Orifice** (Passes < 13.09 cfs potential flow)
  └**5=Grate** (Passes < 86.77 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 12.53 hrs HW=343.00' (Free Discharge)
└**6=Spillway** (Weir Controls 0.00 cfs @ 0.09 fps)

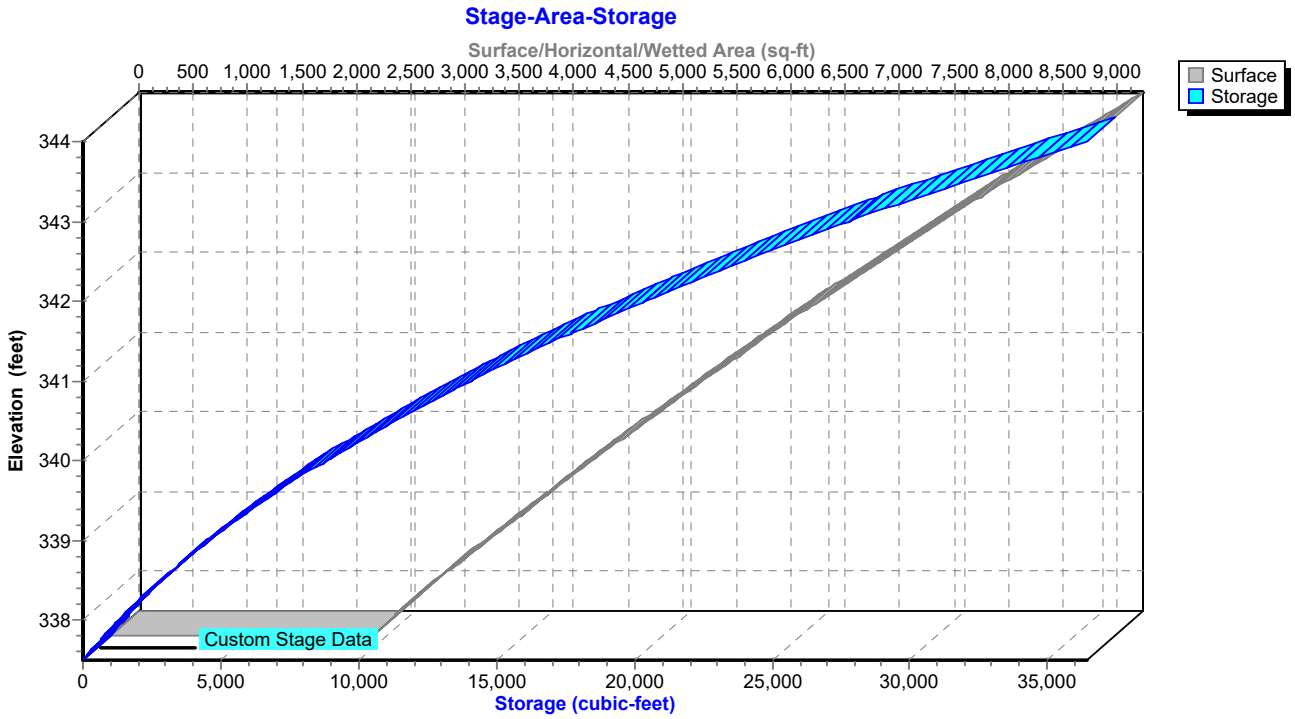




Pond BB-B: Bioretention Basin B 'BB-B'



Pond BB-B: Bioretention Basin B 'BB-B'



Summary for Pond BB-C: Bioretention Basin C 'BB-C'

Inflow Area = 74,552 sf, 29.32% Impervious, Inflow Depth = 5.52" for 100-Year event
Inflow = 7.48 cfs @ 12.25 hrs, Volume= 34,270 cf
Outflow = 4.56 cfs @ 12.51 hrs, Volume= 34,270 cf, Atten= 39%, Lag= 15.6 min
Discarded = 0.09 cfs @ 12.51 hrs, Volume= 4,688 cf
Primary = 4.47 cfs @ 12.51 hrs, Volume= 29,582 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 391.14' @ 12.51 hrs Surf.Area= 4,103 sf Storage= 10,091 cf

Plug-Flow detention time= 85.3 min calculated for 34,265 cf (100% of inflow)
Center-of-Mass det. time= 85.3 min (899.3 - 814.0)

Volume	Invert	Avail.Storage	Storage Description
#1	387.50'	13,929 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

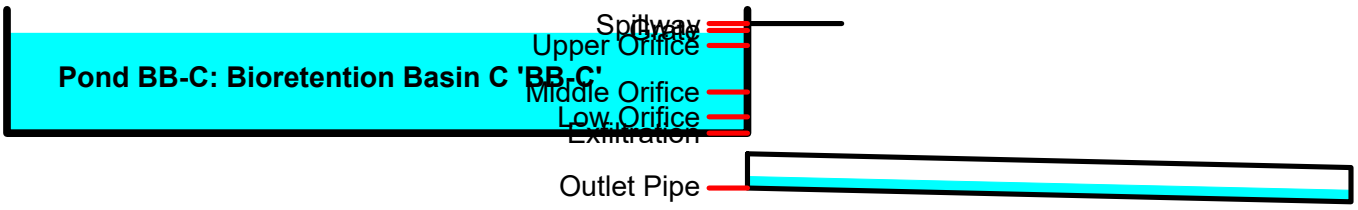
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
387.50	1,568	193.8	0	0	1,568
388.00	1,872	204.2	859	859	1,912
389.00	2,526	224.8	2,191	3,050	2,647
390.00	3,229	243.7	2,870	5,920	3,390
391.00	3,988	262.5	3,602	9,522	4,188
392.00	4,841	285.5	4,408	13,929	5,228

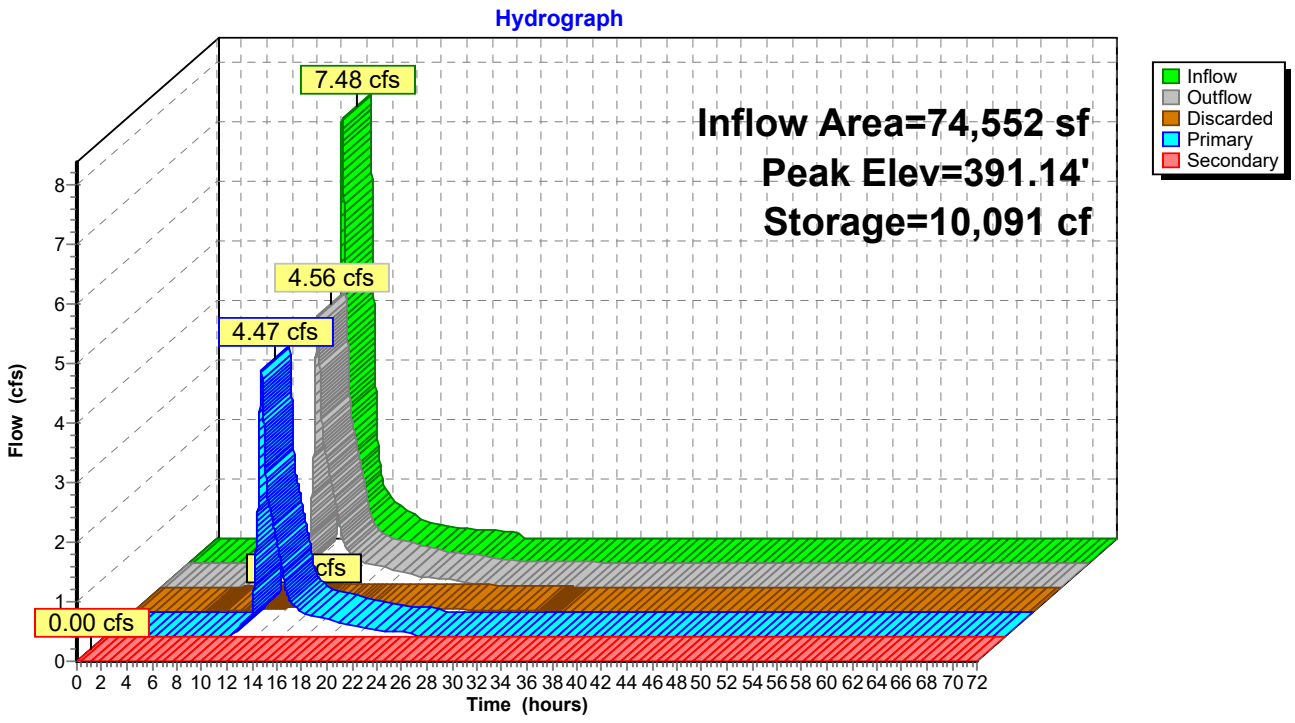
Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	**15.0" Round Outlet Pipe** L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	388.10'	**4.0" Vert. Low Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	389.00'	**10.0" W x 4.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.70'	**24.0" W x 6.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#6	Secondary	391.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#7	Discarded	387.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.51 hrs HW=391.14' (Free Discharge)
└**7=Exfiltration** (Exfiltration Controls 0.09 cfs)

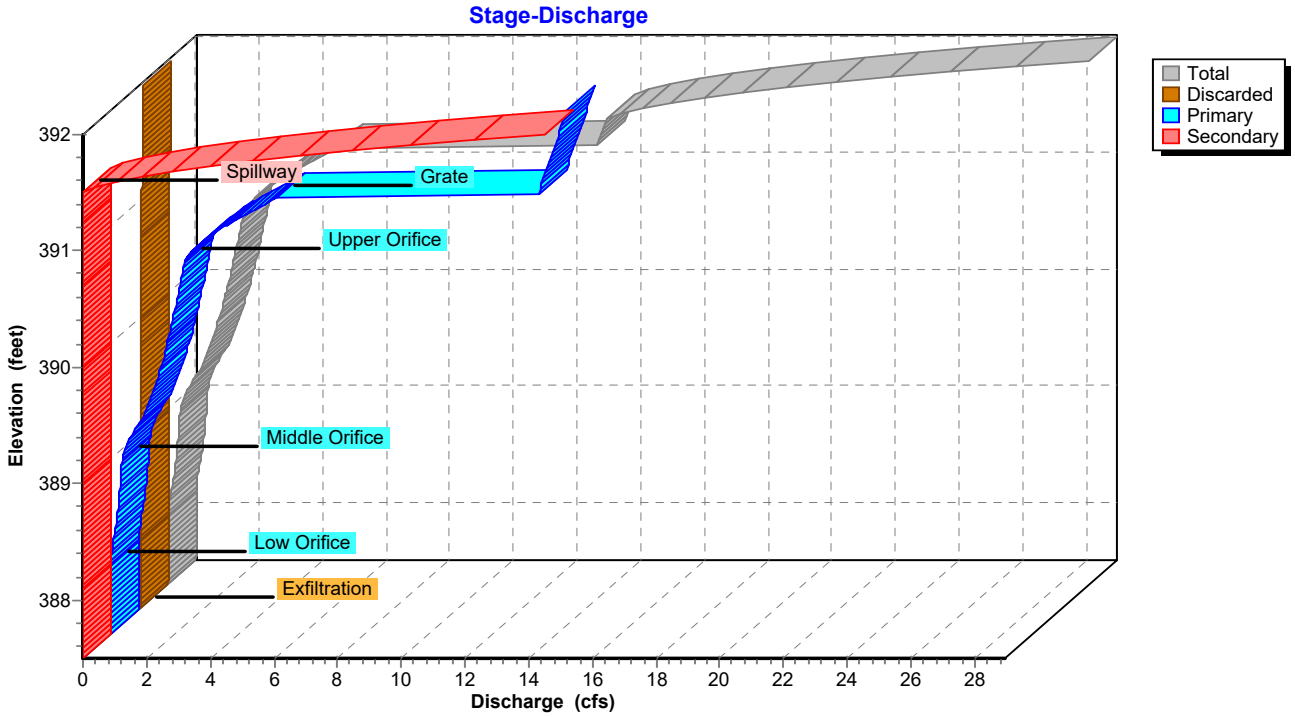
Primary OutFlow Max=4.47 cfs @ 12.51 hrs HW=391.14' (Free Discharge)
└**1=Outlet Pipe** (Passes 4.47 cfs of 13.23 cfs potential flow)
  └**2=Low Orifice** (Orifice Controls 0.71 cfs @ 8.16 fps)
  └**3=Middle Orifice** (Orifice Controls 1.88 cfs @ 6.76 fps)
  └**4=Upper Orifice** (Orifice Controls 1.88 cfs @ 2.13 fps)
  └**5=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=387.50' (Free Discharge)
└**6=Spillway** (Controls 0.00 cfs)

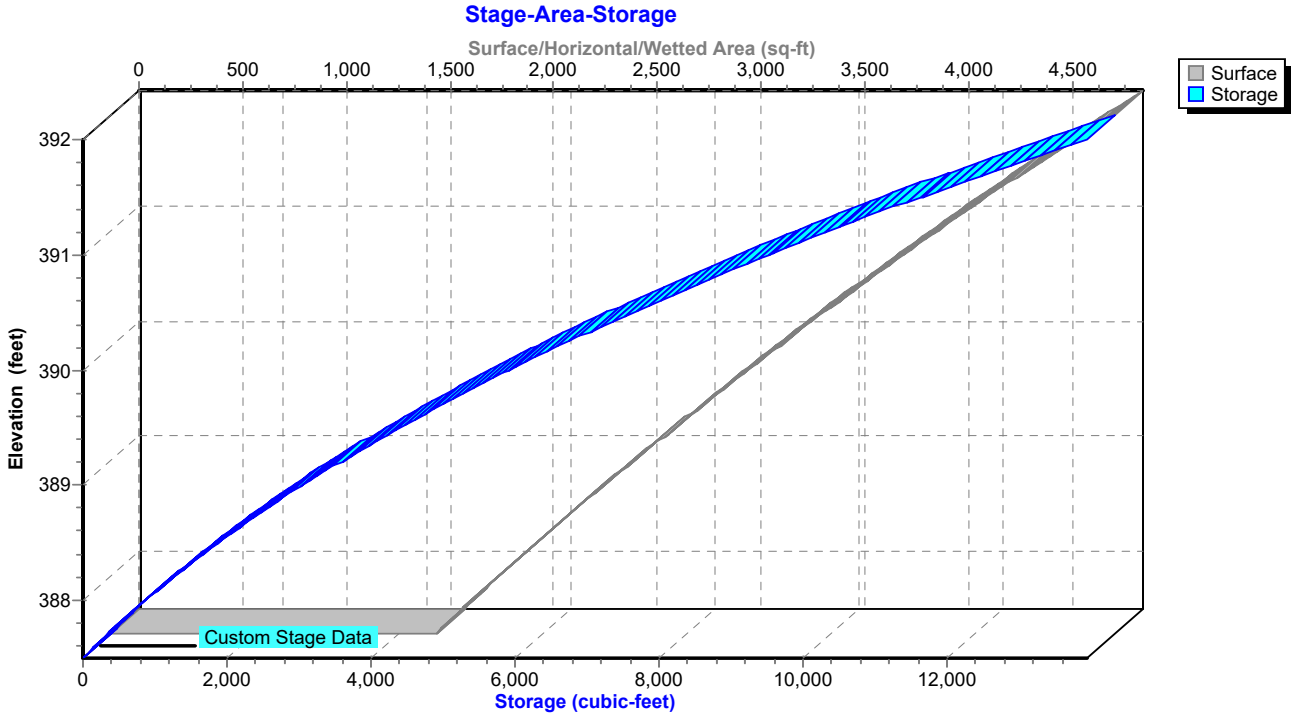




Pond BB-C: Bioretention Basin C 'BB-C'



Pond BB-C: Bioretention Basin C 'BB-C'



Summary for Pond WQB: Water Quality Basin 'WQB'

Inflow Area = 459,645 sf, 18.69% Impervious, Inflow Depth = 5.17" for 100-Year event
Inflow = 42.19 cfs @ 12.28 hrs, Volume= 198,016 cf
Outflow = 42.12 cfs @ 12.29 hrs, Volume= 198,016 cf, Atten= 0%, Lag= 0.7 min
Discarded = 0.07 cfs @ 12.29 hrs, Volume= 6,779 cf
Primary = 42.05 cfs @ 12.29 hrs, Volume= 191,237 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond BB-A : Bioretention Basin A 'BB-A'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 356.46' @ 12.29 hrs Surf.Area= 3,046 sf Storage= 4,918 cf

Plug-Flow detention time= 26.1 min calculated for 197,988 cf (100% of inflow)
Center-of-Mass det. time= 26.3 min (848.7 - 822.4)

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,684 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
354.00	1,014	251.0	0	0	1,014
355.00	1,803	271.5	1,390	1,390	1,906
356.00	2,645	290.3	2,211	3,600	2,792
357.00	3,545	309.2	3,084	6,684	3,742

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**24.0" Round Outlet Pipe** L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	**48.0" W x 6.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	**48.0" x 48.0" Horiz. Grate** C= 0.600
#4	Secondary	356.50'	**15.0' long + 2.0 '/' SideZ x 5.0' breadth Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	354.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.07 cfs @ 12.29 hrs HW=356.46' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=42.05 cfs @ 12.29 hrs HW=356.46' (Free Discharge)
└**1=Outlet Pipe** (Passes 42.05 cfs of 48.93 cfs potential flow)
├**2=Orifice** (Orifice Controls 6.47 cfs @ 3.24 fps)
└**3=Grate** (Orifice Controls 35.58 cfs @ 2.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)
└**4=Spillway** (Controls 0.00 cfs)

Pond WQB: Water Quality Basin 'WQB'

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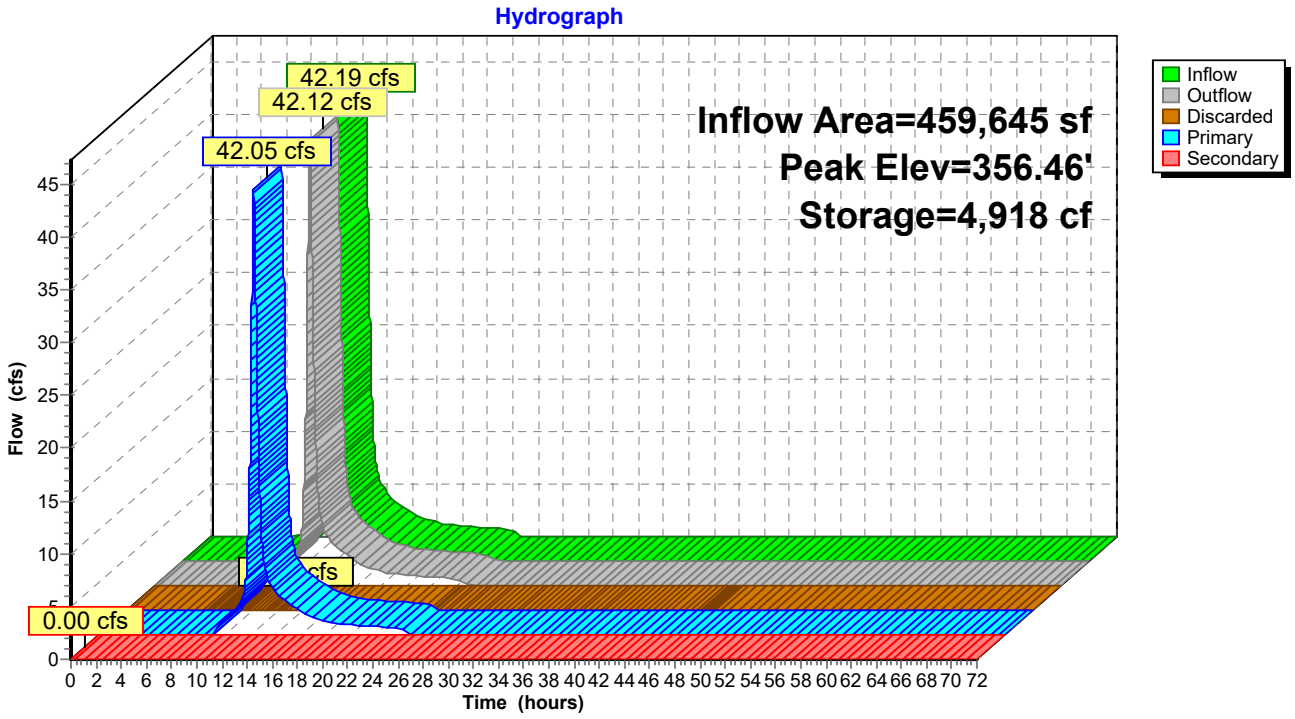
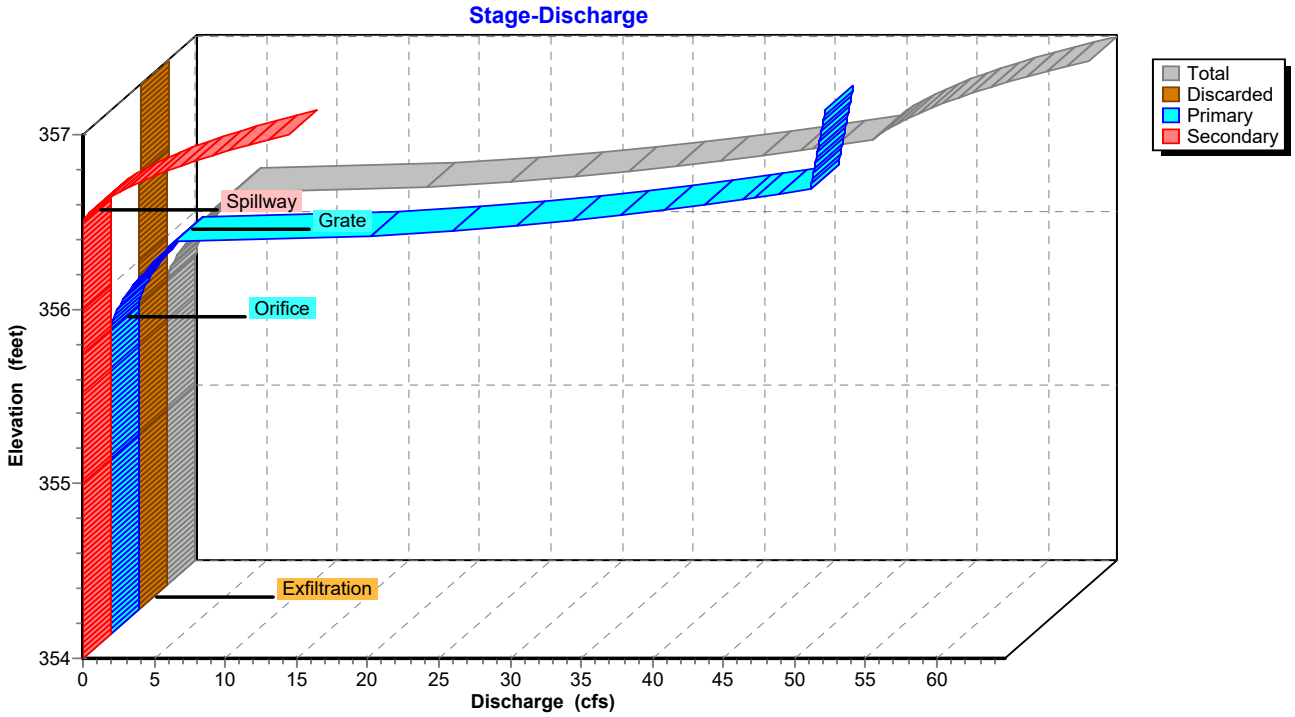
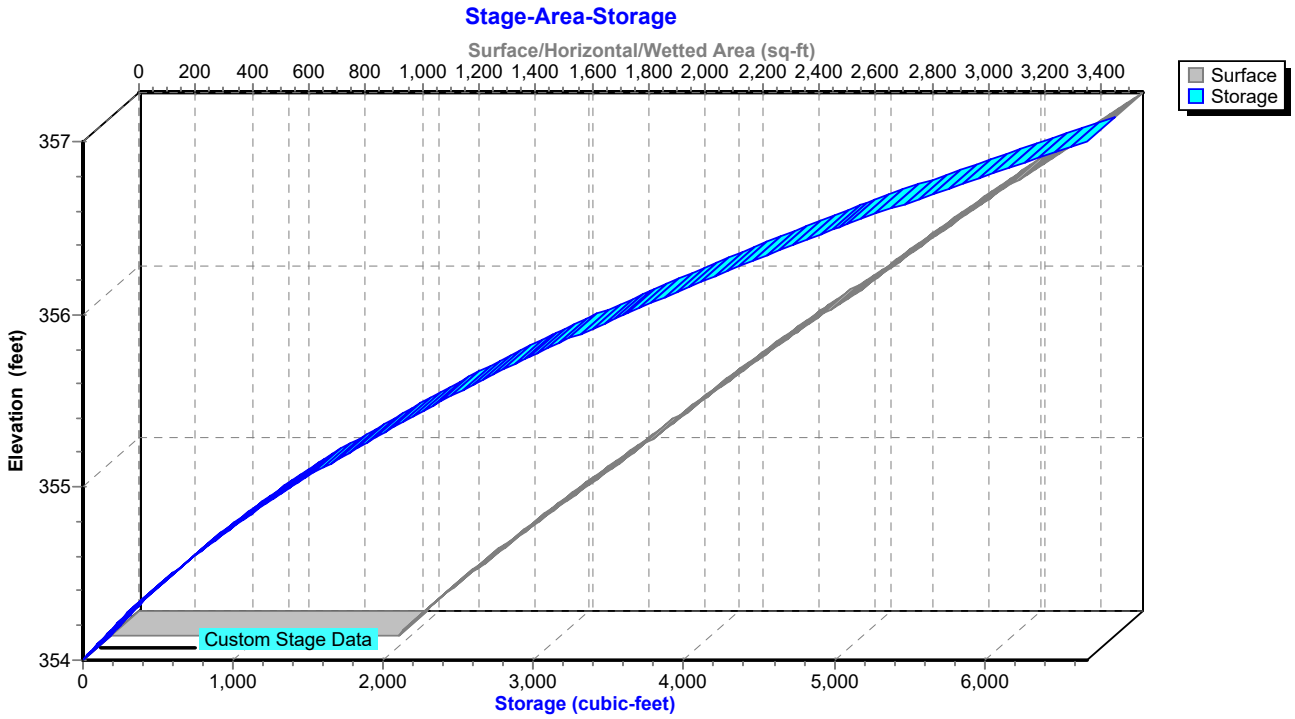


Pond WQB: Water Quality Basin 'WQB'



Pond WQB: Water Quality Basin 'WQB'

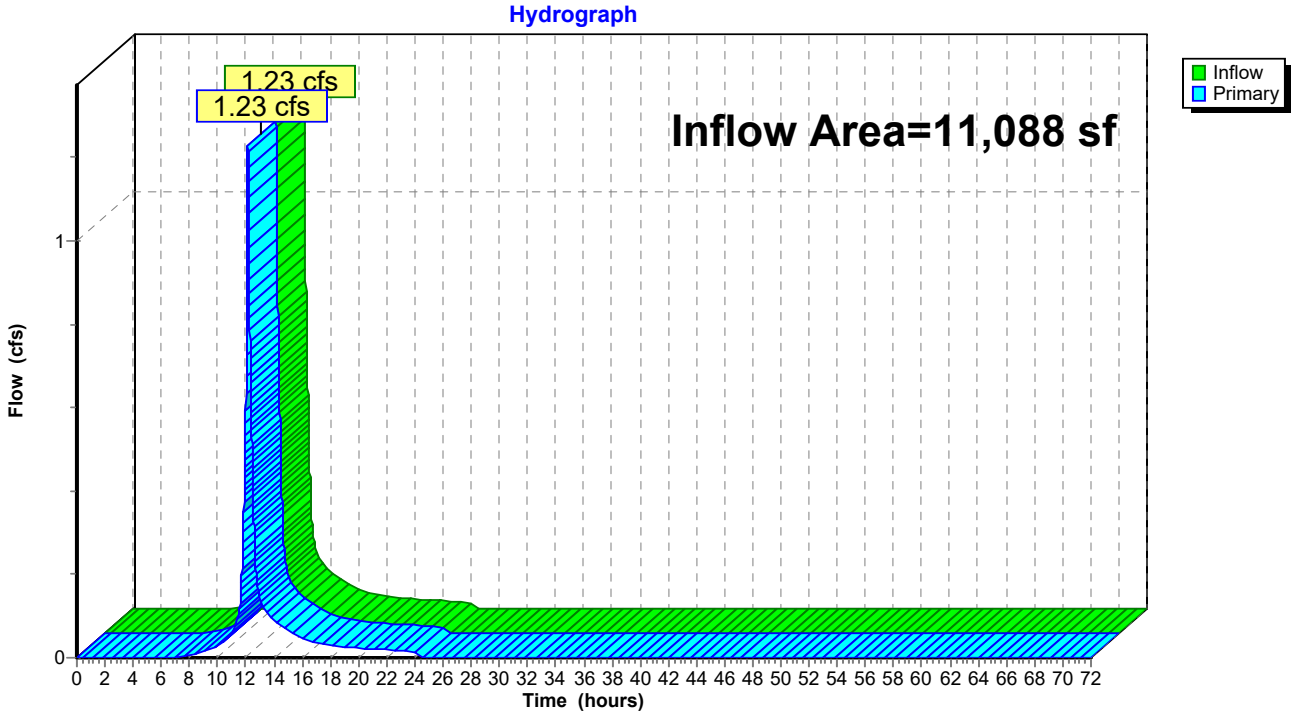


Summary for Link AL1: Analysis Line #1 (Southeastern PL)

Inflow Area = 11,088 sf, 1.43% Impervious, Inflow Depth = 4.71" for 100-Year event
Inflow = 1.23 cfs @ 12.14 hrs, Volume= 4,354 cf
Primary = 1.23 cfs @ 12.14 hrs, Volume= 4,354 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL1: Analysis Line #1 (Southeastern PL)

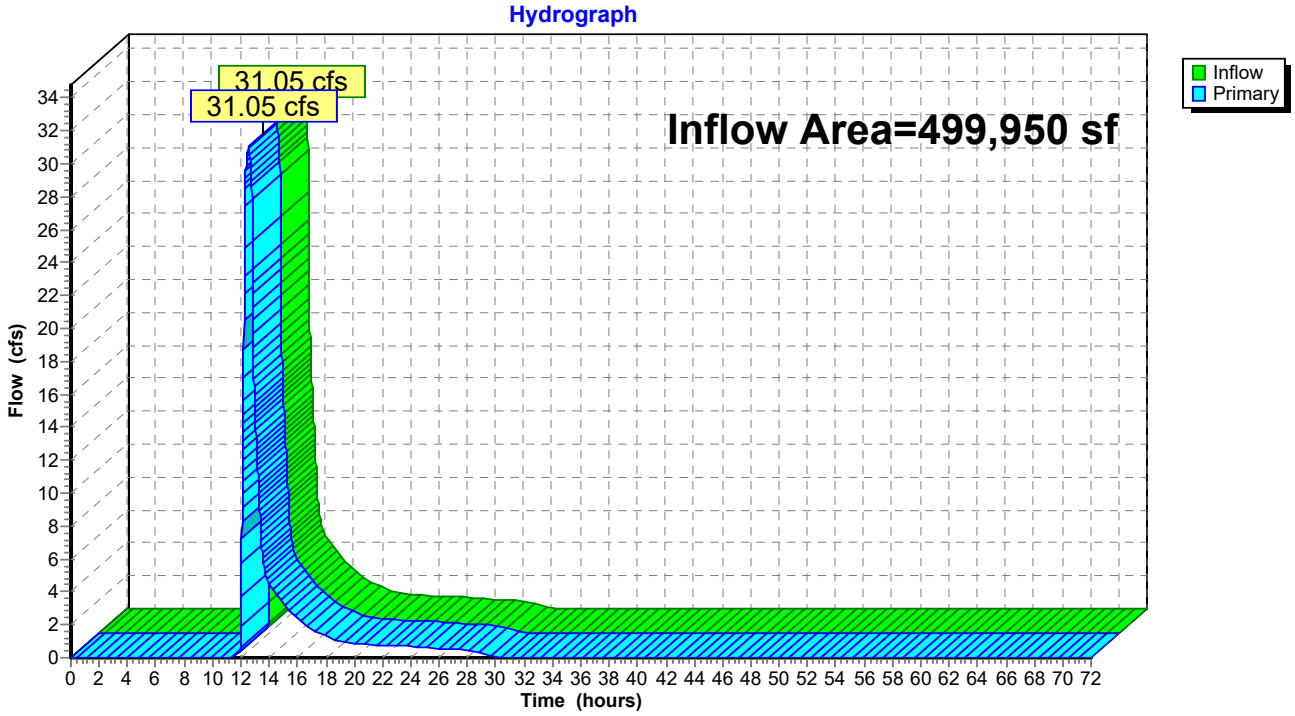


Summary for Link AL2: Analysis Line #2 (Wetlands)

Inflow Area = 499,950 sf, 17.34% Impervious, Inflow Depth = 4.23" for 100-Year event
Inflow = 31.05 cfs @ 12.53 hrs, Volume= 176,043 cf
Primary = 31.05 cfs @ 12.53 hrs, Volume= 176,043 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL2: Analysis Line #2 (Wetlands)

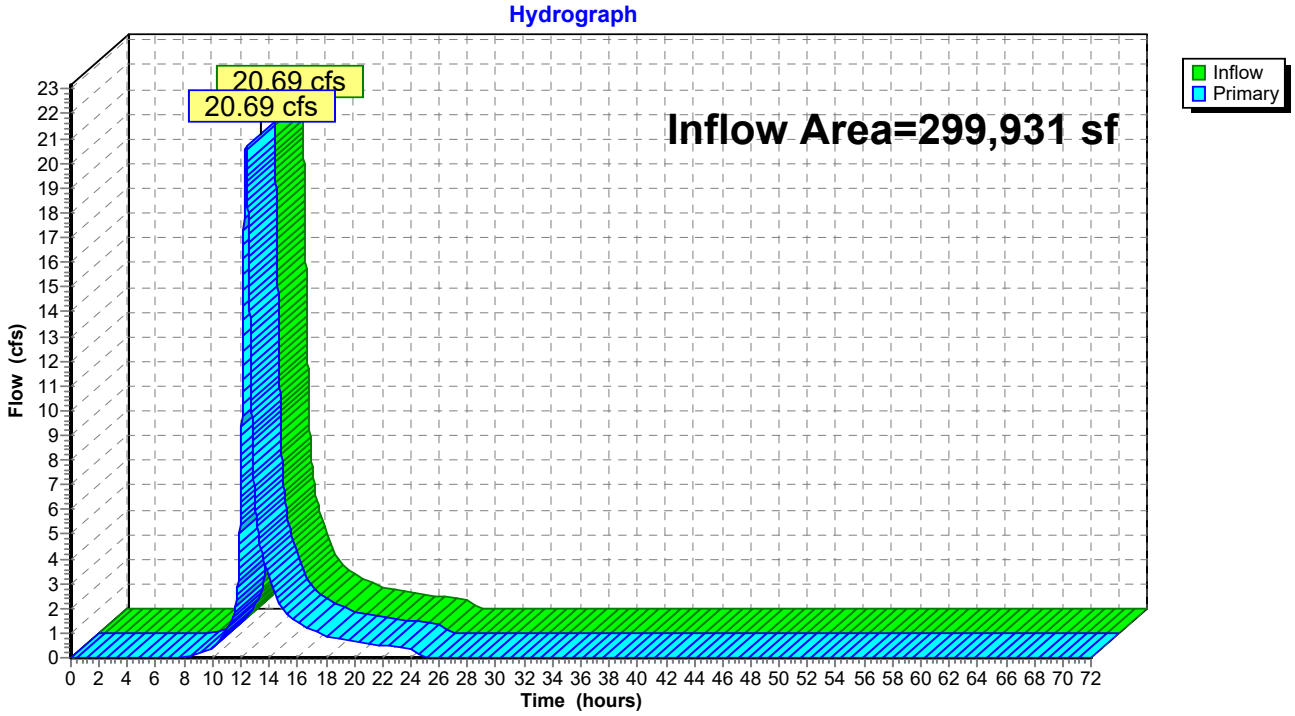


Summary for Link AL3: Analysis Line #3 (Northern PL)

Inflow Area = 299,931 sf, 13.96% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 20.69 cfs @ 12.35 hrs, Volume= 113,808 cf
Primary = 20.69 cfs @ 12.35 hrs, Volume= 113,808 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL3: Analysis Line #3 (Northern PL)

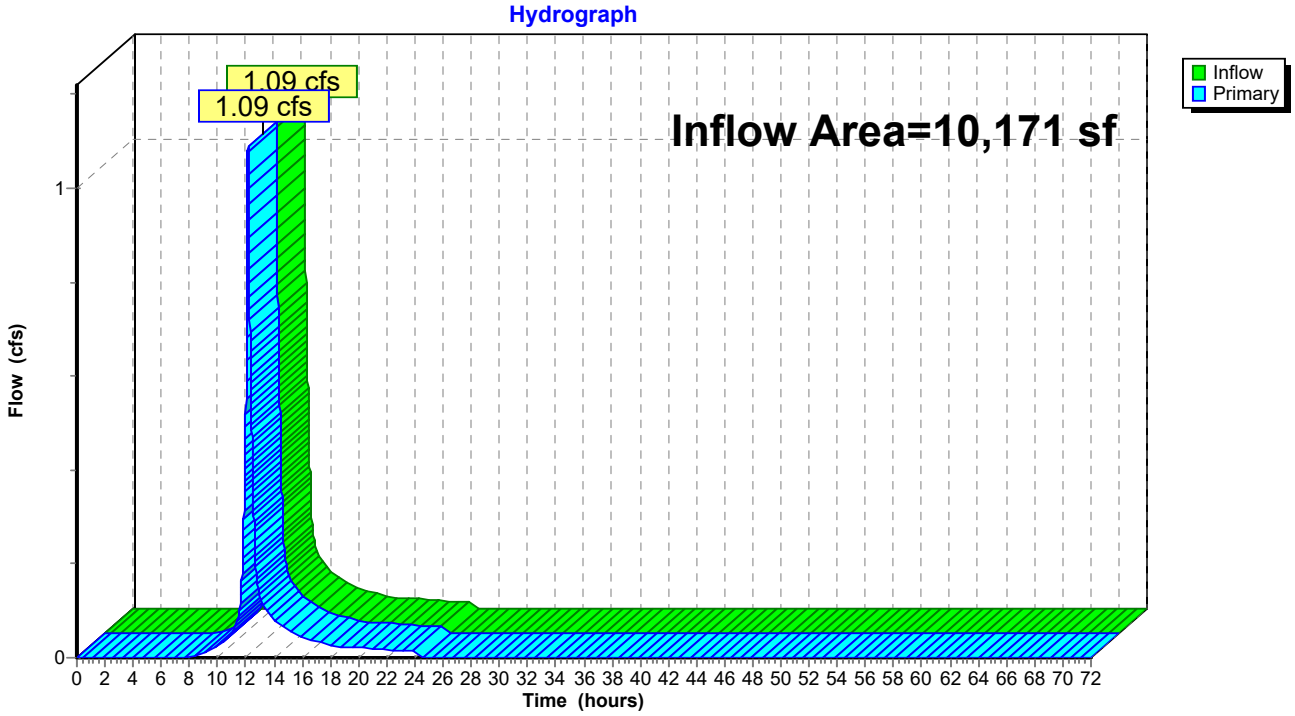


Summary for Link AL4: Analysis Line #4 (Northeastern PL)

Inflow Area = 10,171 sf, 0.00% Impervious, Inflow Depth = 4.60" for 100-Year event
Inflow = 1.09 cfs @ 12.14 hrs, Volume= 3,897 cf
Primary = 1.09 cfs @ 12.14 hrs, Volume= 3,897 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ALL : ALL

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

Link AL4: Analysis Line #4 (Northeastern PL)

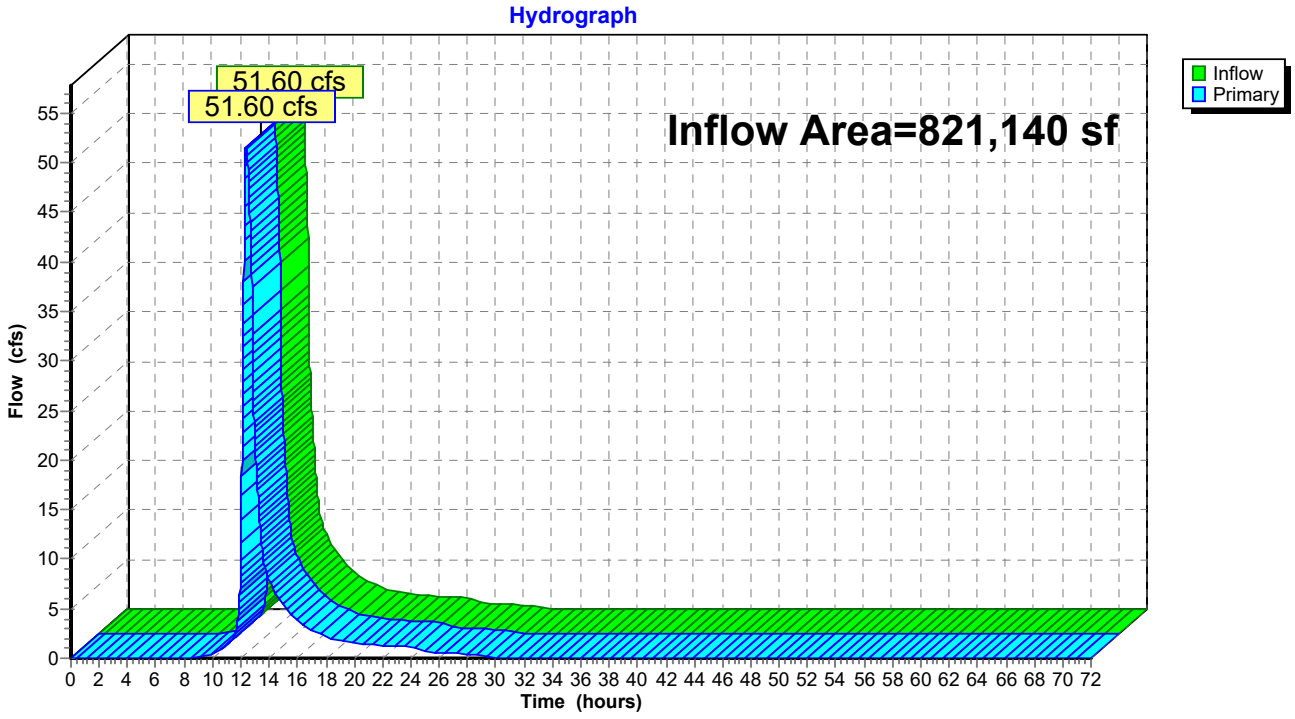


Summary for Link ALL: ALL

Inflow Area = 821,140 sf, 15.68% Impervious, Inflow Depth = 4.36" for 100-Year event
Inflow = 51.60 cfs @ 12.37 hrs, Volume= 298,101 cf
Primary = 51.60 cfs @ 12.37 hrs, Volume= 298,101 cf, Atten= 0%, Lag= 0.0 min

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

Link ALL: ALL



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