

Routing Diagram for 20240629_Meadowbrook_HCAD
 Prepared by Rutgers Cooperative Extension Water Resources Program, Printed 6/29/2024
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20240629_Meadowbrook_HCAD

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Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 6600 NJ Atlantic-C

Rainfall events imported from "NRCS-Rain.txt" for 7614 PA Chester-C

Rainfall events imported from "NRCS-Rain.txt" for 6617 NJ Somerset-C

Rainfall events imported from "Site1HillsboroughMunicipComplex_20240628.hcp"

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year_Current	NOAA 24-hr	C	Default	24.00	1	3.34	2
2	2-Year_2100	NOAA 24-hr	C	Default	24.00	1	3.97	2
3	10-Year_Current	NOAA 24-hr	C	Default	24.00	1	5.16	2
4	10-Year_2100	NOAA 24-hr	C	Default	24.00	1	6.21	2
5	100-Year_Current	NOAA 24-hr	C	Default	24.00	1	8.95	2
6	100-Year_2100	NOAA 24-hr	C	Default	24.00	1	12.15	2

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
334,272	98	(1Sb, 2Sb, 3Sb, 4Sb)
5,124,032	74	>75% Grass cover, Good, HSG C (1S, 1Sa, 2S, 2Sa, 3S, 3Sa, 4S, 4Sa)
1,960,204	80	>75% Grass cover, Good, HSG D (1S, 1Sa, 2S, 2Sa, 3S, 3Sa, 4S, 4Sa)
11,678	65	Brush, Good, HSG C (2S, 2Sa, 3S, 3Sa)
565,751	98	Driveways (1S, 2S, 3S, 4S)
1,003,830	98	Impervious (1S, 1Sa, 2S, 2Sa, 3S, 3Sa, 4S, 4Sa)
565,751	98	Impervious Driveways (other) (1Sc, 2Sc, 3Sc, 4Sc)
334,272	98	Roofs (1S, 2S, 3S, 4S)
50,686	73	Woods, Fair, HSG C (1S, 1Sa)
1,452	79	Woods, Fair, HSG D (1S, 1Sa)
83,546	70	Woods, Good, HSG C (1S, 1Sa)
203,854	77	Woods, Good, HSG D (1S, 1Sa)
3,040	72	Woods/grass comb., Good, HSG C (2S, 2Sa)
10,242,368	82	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
5,272,982	HSG C	1S, 1Sa, 2S, 2Sa, 3S, 3Sa, 4S, 4Sa
2,165,510	HSG D	1S, 1Sa, 2S, 2Sa, 3S, 3Sa, 4S, 4Sa
2,803,876	Other	1S, 1Sa, 1Sb, 1Sc, 2S, 2Sa, 2Sb, 2Sc, 3S, 3Sa, 3Sb, 3Sc, 4S, 4Sa, 4Sb, 4Sc
10,242,368		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	0	0	334,272	334,272	
0	0	5,124,032	1,960,204	0	7,084,236	>75% Grass cover, Good
0	0	11,678	0	0	11,678	Brush, Good
0	0	0	0	565,751	565,751	Driveways
0	0	0	0	1,003,830	1,003,830	Impervious
0	0	0	0	565,751	565,751	Impervious Driveways (other)
0	0	0	0	334,272	334,272	Roofs
0	0	50,686	1,452	0	52,138	Woods, Fair
0	0	83,546	203,854	0	287,400	Woods, Good
0	0	3,040	0	0	3,040	Woods/grass comb., Good
0	0	5,272,982	2,165,510	2,803,876	10,242,368	TOTAL AREA

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1R	75.00	72.00	75.0	0.0400	0.013	0.0	54.0	0.0
2	2R	68.00	66.80	60.0	0.0200	0.013	0.0	48.0	0.0
3	1P	94.17	94.12	10.0	0.0050	0.020	0.0	6.0	0.0
4	1P	94.33	94.17	32.0	0.0050	0.020	0.0	6.0	0.0
5	5P	94.17	94.12	10.0	0.0050	0.020	0.0	6.0	0.0
6	5P	94.33	94.17	32.0	0.0050	0.020	0.0	6.0	0.0
7	8P	94.17	94.12	10.0	0.0050	0.020	0.0	6.0	0.0
8	8P	94.33	94.17	32.0	0.0050	0.020	0.0	6.0	0.0
9	11P	94.17	94.12	10.0	0.0050	0.020	0.0	6.0	0.0
10	11P	94.33	94.17	36.0	0.0044	0.020	0.0	6.0	0.0

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA 1: All	Runoff Area=2,045,127 sf 24.45% Impervious Runoff Depth=1.75" Tc=17.3 min CN=77/98 Runoff=69.61 cfs 298,507 cf
Subcatchment 1Sa: DA 1: CN w/ IC areas	Runoff Area=1,732,396 sf 10.81% Impervious Runoff Depth=1.51" Tc=17.3 min CN=77/98 Runoff=51.80 cfs 217,536 cf
Subcatchment 1Sb: DA1: Roofs	Runoff Area=132,361 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=10.41 cfs 34,270 cf
Subcatchment 1Sc: DA1: Driveways	Runoff Area=180,370 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=14.19 cfs 46,701 cf
Subcatchment 2S: DA 2: All	Runoff Area=1,436,627 sf 27.42% Impervious Runoff Depth=1.72" Tc=39.8 min CN=75/98 Runoff=31.23 cfs 205,365 cf
Subcatchment 2Sa: DA 2: CN w/ IC areas	Runoff Area=1,186,669 sf 12.13% Impervious Runoff Depth=1.42" Tc=39.8 min CN=75/98 Runoff=21.71 cfs 140,647 cf
Subcatchment 2Sb: DA2: Roofs combined	Runoff Area=85,031 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=6.69 cfs 22,016 cf
Subcatchment 2Sc: DA2: Driveways	Runoff Area=164,927 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=12.98 cfs 42,702 cf
Subcatchment 3S: DA 3: All	Runoff Area=1,310,873 sf 33.67% Impervious Runoff Depth=1.84" Tc=35.3 min CN=75/98 Runoff=32.38 cfs 200,493 cf
Subcatchment 3Sa: DA 3: CNs w/ IC	Runoff Area=1,033,197 sf 15.85% Impervious Runoff Depth=1.49" Tc=35.3 min CN=75/98 Runoff=21.09 cfs 128,598 cf
Subcatchment 3Sb: DA3: Roofs combined	Runoff Area=92,992 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=7.32 cfs 24,077 cf
Subcatchment 3Sc: DA3: Driveways	Runoff Area=184,684 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=14.53 cfs 47,818 cf
Subcatchment 4S: DA 4: All	Runoff Area=328,557 sf 20.27% Impervious Runoff Depth=1.58" Tc=16.9 min CN=75/98 Runoff=10.12 cfs 43,218 cf
Subcatchment 4Sa: DA 4: CN w/ IC areas	Runoff Area=268,899 sf 2.59% Impervious Runoff Depth=1.24" Tc=16.9 min CN=75/98 Runoff=6.70 cfs 27,772 cf
Subcatchment 4Sb: DA4: Roofs combined	Runoff Area=23,888 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=1.88 cfs 6,185 cf
Subcatchment 4Sc: DA4: Driveways	Runoff Area=35,770 sf 100.00% Impervious Runoff Depth=3.11" Tc=6.0 min CN=0/98 Runoff=2.81 cfs 9,261 cf

Reach 1R: INFLOW PIPE Avg. Flow Depth=0.88' Max Vel=15.06 fps Inflow=33.29 cfs 212,310 cf
54.0" Round Pipe n=0.013 L=75.0' S=0.0400 '/' Capacity=393.30 cfs Outflow=33.26 cfs 212,318 cf

Reach 2R: OUTFLOW PIPE Avg. Flow Depth=1.02' Max Vel=11.47 fps Inflow=29.07 cfs 203,835 cf
48.0" Round Pipe n=0.013 L=60.0' S=0.0200 '/' Capacity=203.14 cfs Outflow=29.07 cfs 203,835 cf

Pond 1P: ROAD RG 175SF W/ UDG Peak Elev=96.32' Storage=31,984 cf Inflow=51.80 cfs 217,536 cf
Primary=33.29 cfs 212,310 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=33.29 cfs 212,310 cf

Pond 2P: Basic Rain Garden (infiltration Peak Elev=99.72' Storage=18,340 cf Inflow=10.41 cfs 34,270 cf
Discarded=0.38 cfs 34,270 cf Primary=0.00 cfs 0 cf Outflow=0.38 cfs 34,270 cf

Pond 3P: Basic Porous Pavement Peak Elev=99.46' Storage=13,174 cf Inflow=14.19 cfs 46,701 cf
Discarded=2.09 cfs 46,701 cf Primary=0.00 cfs 0 cf Outflow=2.09 cfs 46,701 cf

Pond 4P: Basin 1 Municipal property 48k Peak Elev=73.20' Storage=42,326 cf Inflow=33.26 cfs 212,318 cf
Primary=29.07 cfs 203,835 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=29.07 cfs 203,835 cf

Pond 5P: ROAD RG 175SF W/ UDG Peak Elev=95.95' Storage=15,442 cf Inflow=21.71 cfs 140,647 cf
Primary=17.55 cfs 137,466 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=17.55 cfs 137,466 cf

Pond 6P: Basic Rain Garden (infiltration Peak Elev=99.75' Storage=11,900 cf Inflow=6.69 cfs 22,016 cf
Discarded=0.24 cfs 22,016 cf Primary=0.00 cfs 0 cf Outflow=0.24 cfs 22,016 cf

Pond 7P: Basic Porous Pavement Peak Elev=99.46' Storage=12,046 cf Inflow=12.98 cfs 42,702 cf
Discarded=1.91 cfs 42,702 cf Primary=0.00 cfs 0 cf Outflow=1.91 cfs 42,702 cf

Pond 8P: ROAD RG 175SF W/ UDG Peak Elev=95.92' Storage=14,611 cf Inflow=21.09 cfs 128,598 cf
Primary=16.73 cfs 125,564 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=16.73 cfs 125,564 cf

Pond 9P: Basic Rain Garden (infiltration Peak Elev=99.85' Storage=13,454 cf Inflow=7.32 cfs 24,077 cf
Discarded=0.24 cfs 24,077 cf Primary=0.00 cfs 0 cf Outflow=0.24 cfs 24,077 cf

Pond 10P: Basic Porous Pavement Peak Elev=99.46' Storage=13,490 cf Inflow=14.53 cfs 47,818 cf
Discarded=2.14 cfs 47,818 cf Primary=0.00 cfs 0 cf Outflow=2.14 cfs 47,818 cf

Pond 11P: ROAD RG 175SF W/ UDG Peak Elev=100.18' Storage=4,329 cf Inflow=6.70 cfs 27,772 cf
Primary=3.86 cfs 26,976 cf Secondary=1.50 cfs 421 cf Tertiary=0.00 cfs 0 cf Outflow=5.37 cfs 27,397 cf

Pond 12P: Basic Rain Garden (infiltration Peak Elev=99.70' Storage=3,292 cf Inflow=1.88 cfs 6,185 cf
Discarded=0.07 cfs 6,185 cf Primary=0.00 cfs 0 cf Outflow=0.07 cfs 6,185 cf

Pond 13P: Basic Porous Pavement Peak Elev=99.46' Storage=2,612 cf Inflow=2.81 cfs 9,261 cf
Discarded=0.41 cfs 9,263 cf Primary=0.00 cfs 0 cf Outflow=0.41 cfs 9,263 cf

Link 1L: Combined Flows Inflow=33.29 cfs 212,310 cf
Primary=33.29 cfs 212,310 cf

Link 2L: Combined Flows Inflow=17.55 cfs 137,466 cf
Primary=17.55 cfs 137,466 cf

Link 3L: Combined Flows Inflow=19.97 cfs 152,961 cf
Primary=19.97 cfs 152,961 cf

Link 4L: Combined Flows

Inflow=38.26 cfs 243,711 cf
Primary=38.26 cfs 243,711 cf

Total Runoff Area = 10,242,368 sf Runoff Volume = 1,495,167 cf Average Runoff Depth = 1.75"
72.62% Pervious = 7,438,492 sf 27.38% Impervious = 2,803,876 sf

Summary for Subcatchment 1S: DA 1: All

Runoff = 69.61 cfs @ 12.26 hrs, Volume= 298,507 cf, Depth= 1.75"
 Routed to nonexistent node 6L

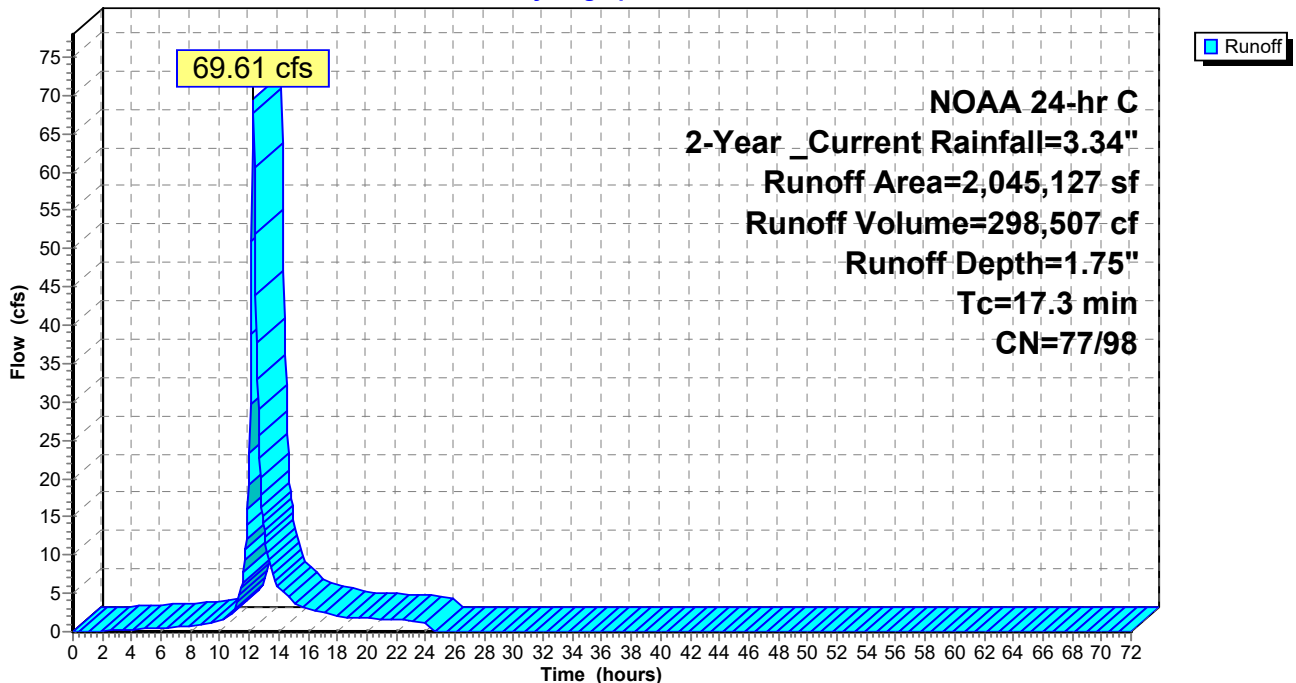
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

	Area (sf)	CN	Description
*	187,351	98	Impervious
	676,806	74	>75% Grass cover, Good, HSG C
	698,470	80	>75% Grass cover, Good, HSG D
	25,343	73	Woods, Fair, HSG C
	726	79	Woods, Fair, HSG D
	41,773	70	Woods, Good, HSG C
	101,927	77	Woods, Good, HSG D
*	132,361	98	Roofs
*	180,370	98	Driveways
	2,045,127	82	Weighted Average
	1,545,045	77	75.55% Pervious Area
	500,082	98	24.45% Impervious Area

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

Subcatchment 1S: DA 1: All

Hydrograph



Summary for Subcatchment 1Sa: DA 1: CN w/ IC areas

Runoff = 51.80 cfs @ 12.27 hrs, Volume= 217,536 cf, Depth= 1.51"

Routed to Pond 1P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

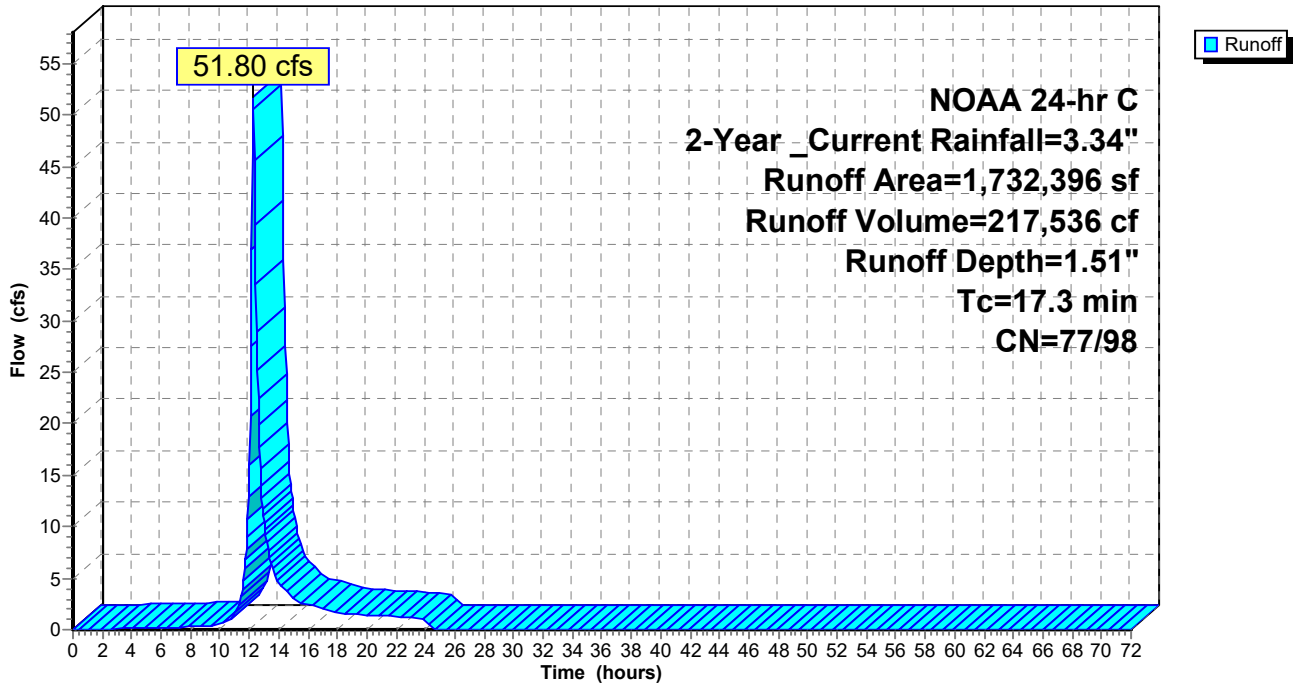
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

Area (sf)	CN	Description
* 187,351	98	Impervious
676,806	74	>75% Grass cover, Good, HSG C
698,470	80	>75% Grass cover, Good, HSG D
25,343	73	Woods, Fair, HSG C
726	79	Woods, Fair, HSG D
41,773	70	Woods, Good, HSG C
101,927	77	Woods, Good, HSG D
1,732,396	79	Weighted Average
1,545,045	77	89.19% Pervious Area
187,351	98	10.81% Impervious Area

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

Subcatchment 1Sa: DA 1: CN w/ IC areas

Hydrograph



Summary for Subcatchment 1Sb: DA1: Roofs combined

Runoff = 10.41 cfs @ 12.13 hrs, Volume= 34,270 cf, Depth= 3.11"

Routed to Pond 2P : Basic Rain Garden (infiltration only) 500 sf

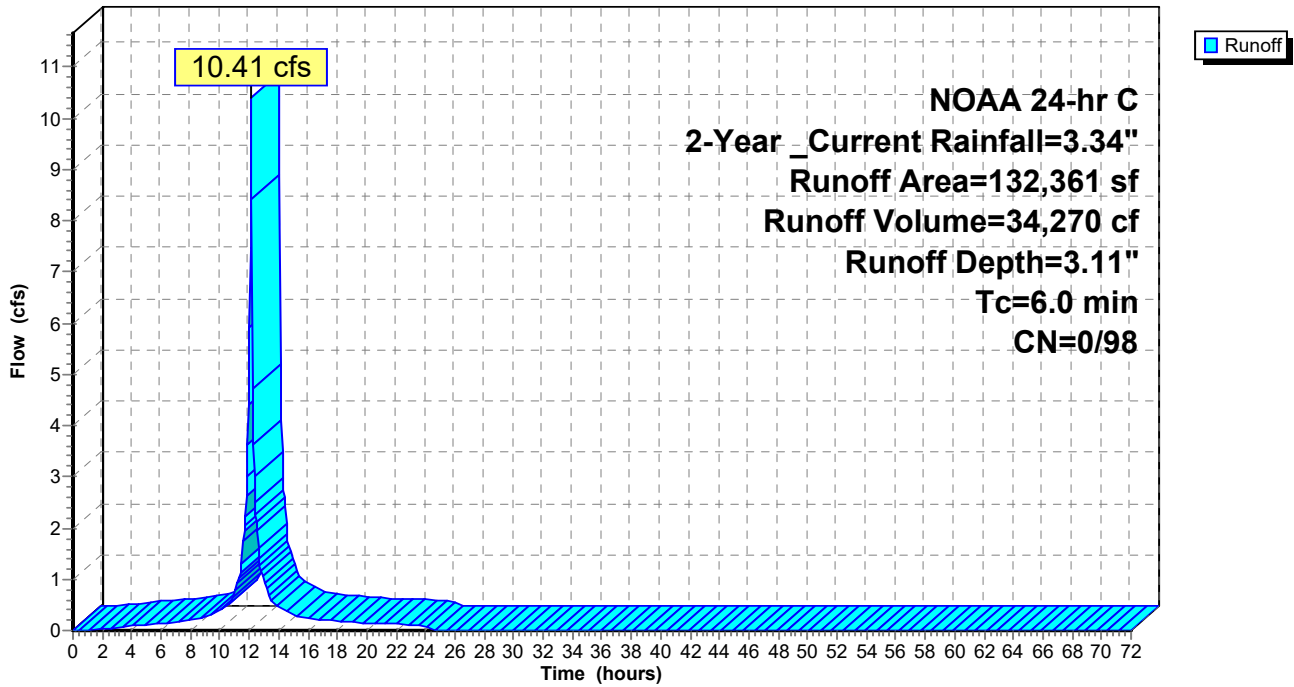
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 132,361	98	
132,361	98	100.00% Impervious Area

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

Subcatchment 1Sb: DA1: Roofs combined

Hydrograph



Summary for Subcatchment 1Sc: DA1: Driveways (other)

Runoff = 14.19 cfs @ 12.13 hrs, Volume= 46,701 cf, Depth= 3.11"

Routed to Pond 3P : Basic Porous Pavement (infiltration only)

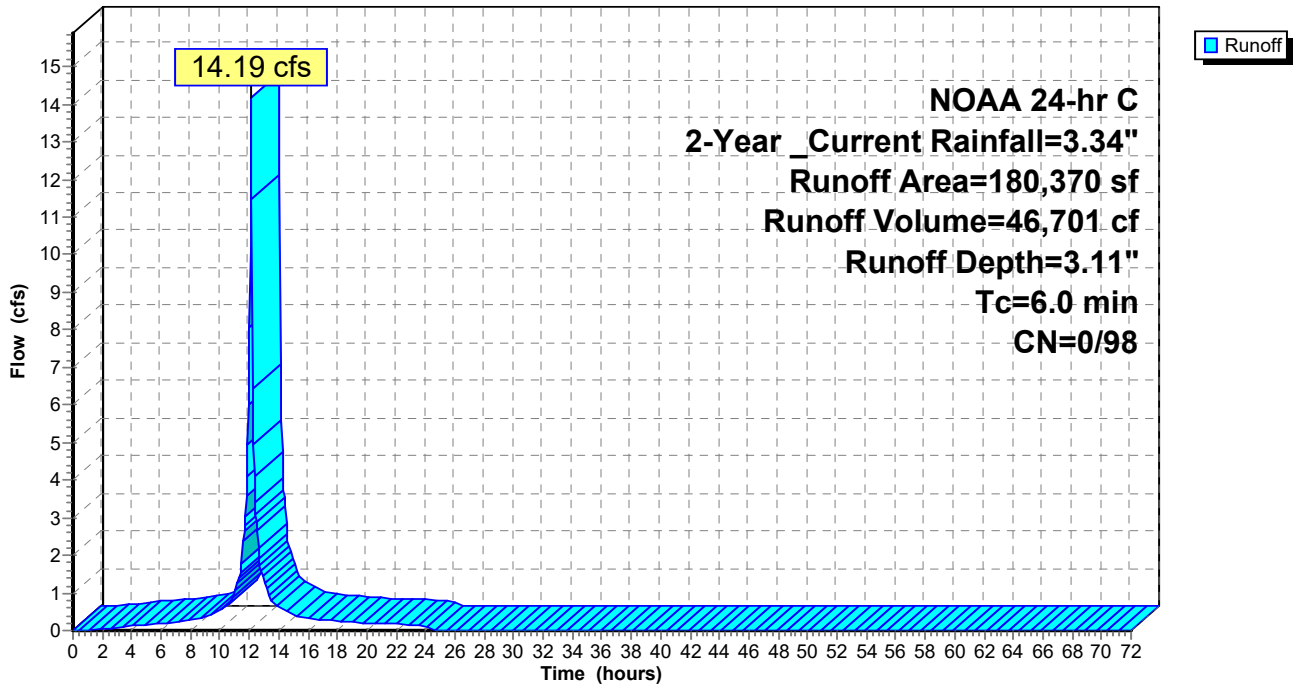
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 180,370	98	Impervious Driveways (other)
180,370	98	100.00% Impervious Area

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

Subcatchment 1Sc: DA1: Driveways (other)

Hydrograph



Summary for Subcatchment 2S: DA 2: All

Runoff = 31.23 cfs @ 12.56 hrs, Volume= 205,365 cf, Depth= 1.72"

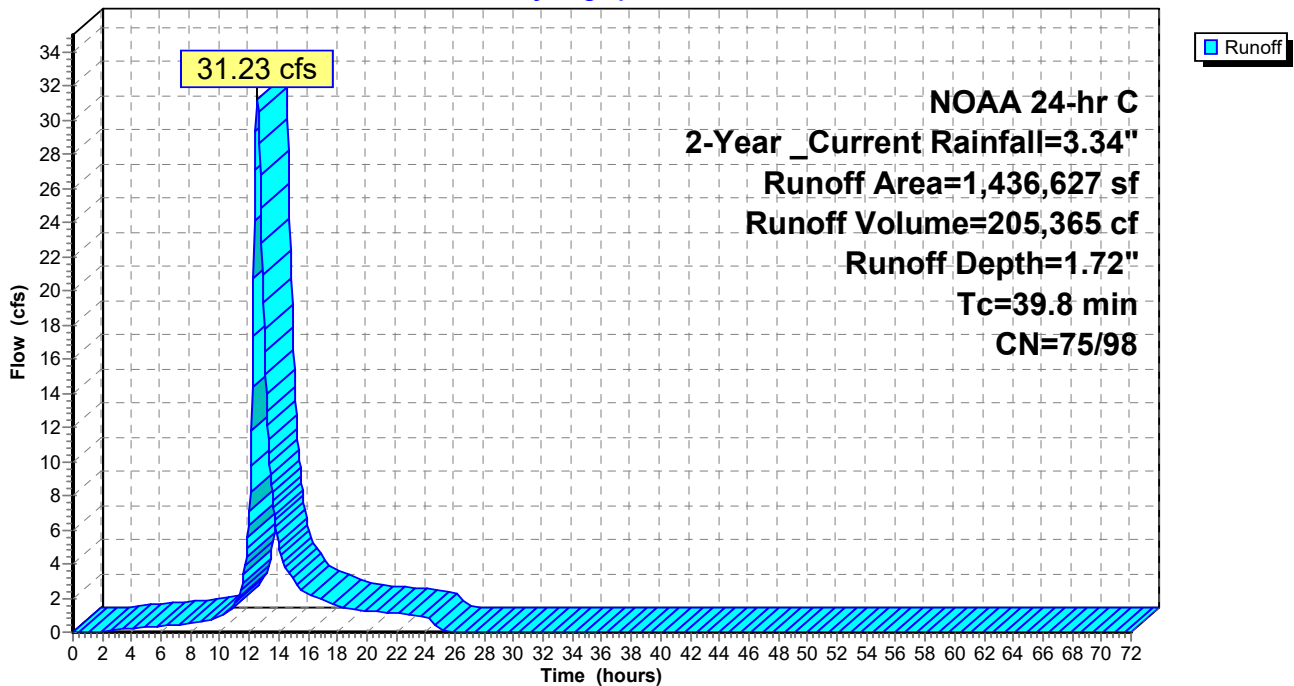
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

	Area (sf)	CN	Description
*	143,894	98	Impervious
	1,270	65	Brush, Good, HSG C
	946,207	74	>75% Grass cover, Good, HSG C
	93,778	80	>75% Grass cover, Good, HSG D
	1,520	72	Woods/grass comb., Good, HSG C
*	85,031	98	Roofs
*	164,927	98	Driveways
<hr/>			
	1,436,627	81	Weighted Average
	1,042,775	75	72.58% Pervious Area
	393,852	98	27.42% Impervious Area

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

Subcatchment 2S: DA 2: All

Hydrograph



Summary for Subcatchment 2Sa: DA 2: CN w/ IC areas

Runoff = 21.71 cfs @ 12.57 hrs, Volume= 140,647 cf, Depth= 1.42"

Routed to Pond 5P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

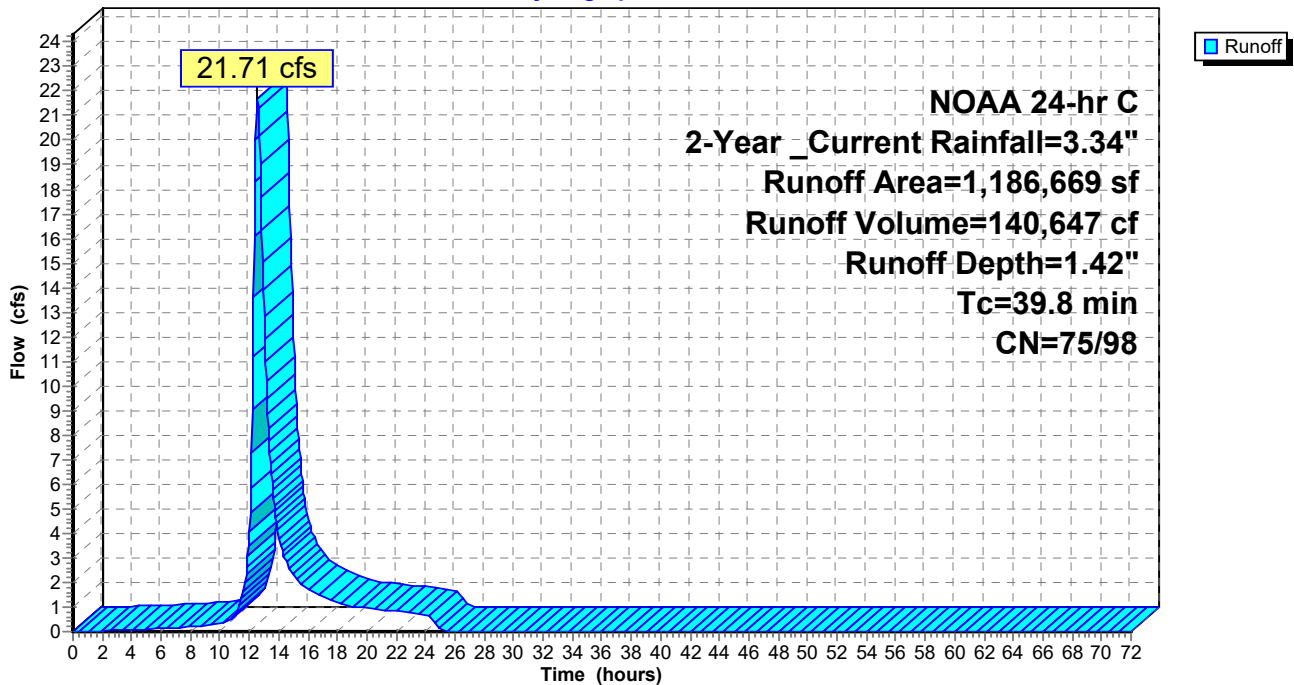
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

Area (sf)	CN	Description
* 143,894	98	Impervious
1,270	65	Brush, Good, HSG C
946,207	74	>75% Grass cover, Good, HSG C
93,778	80	>75% Grass cover, Good, HSG D
1,520	72	Woods/grass comb., Good, HSG C
1,186,669	77	Weighted Average
1,042,775	75	87.87% Pervious Area
143,894	98	12.13% Impervious Area

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

Subcatchment 2Sa: DA 2: CN w/ IC areas

Hydrograph



Summary for Subcatchment 2Sb: DA2: Roofs combined

Runoff = 6.69 cfs @ 12.13 hrs, Volume= 22,016 cf, Depth= 3.11"

Routed to Pond 6P : Basic Rain Garden (infiltration only) 500SF

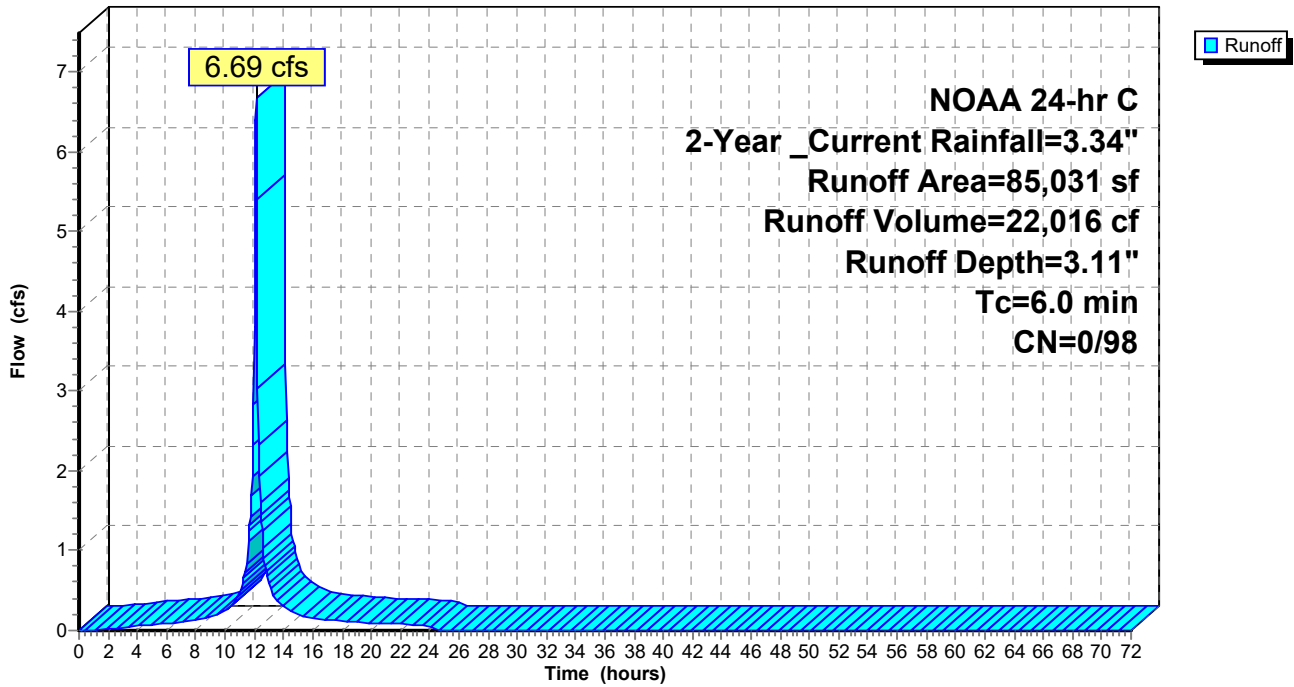
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 85,031	98	
85,031	98	100.00% Impervious Area

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

Subcatchment 2Sb: DA2: Roofs combined

Hydrograph



Summary for Subcatchment 2Sc: DA2: Driveways (other)

Runoff = 12.98 cfs @ 12.13 hrs, Volume= 42,702 cf, Depth= 3.11"

Routed to Pond 7P : Basic Porous Pavement (infiltration only)

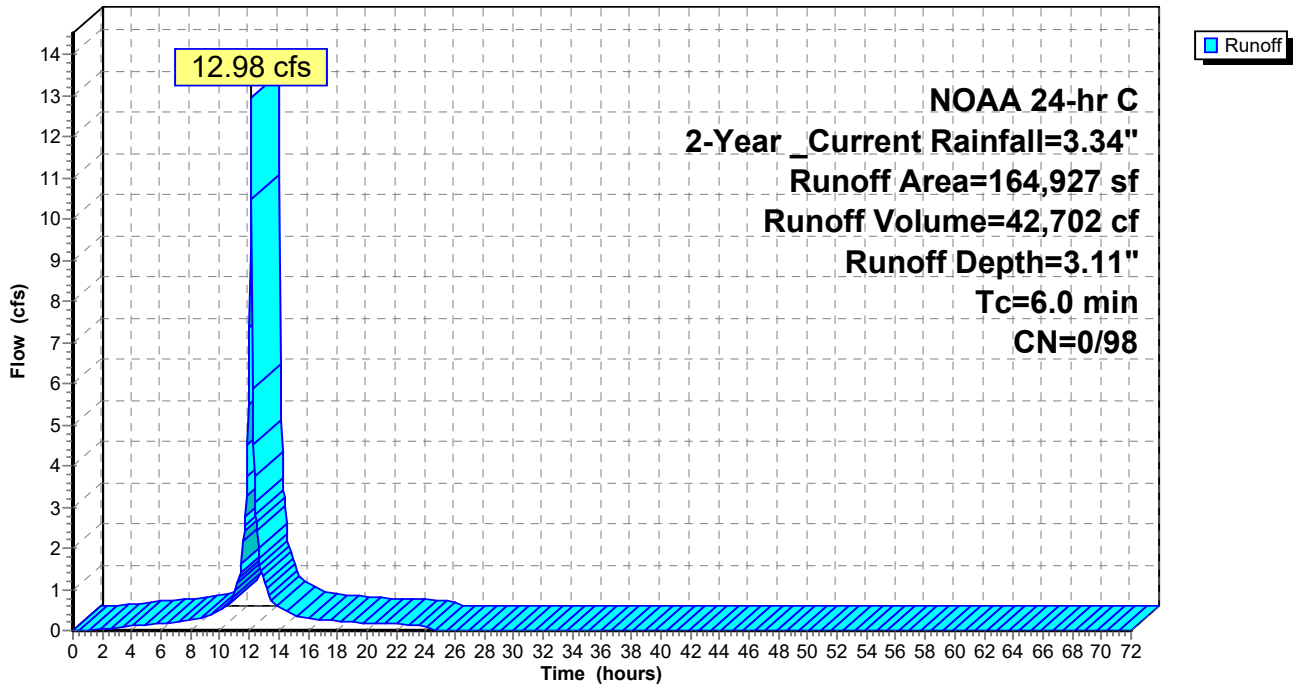
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 164,927	98	Impervious Driveways (other)
164,927	98	100.00% Impervious Area

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

Subcatchment 2Sc: DA2: Driveways (other)

Hydrograph



Summary for Subcatchment 3S: DA 3: All

Runoff = 32.38 cfs @ 12.50 hrs, Volume= 200,493 cf, Depth= 1.84"
 Routed to Link 4L : Combined Flows

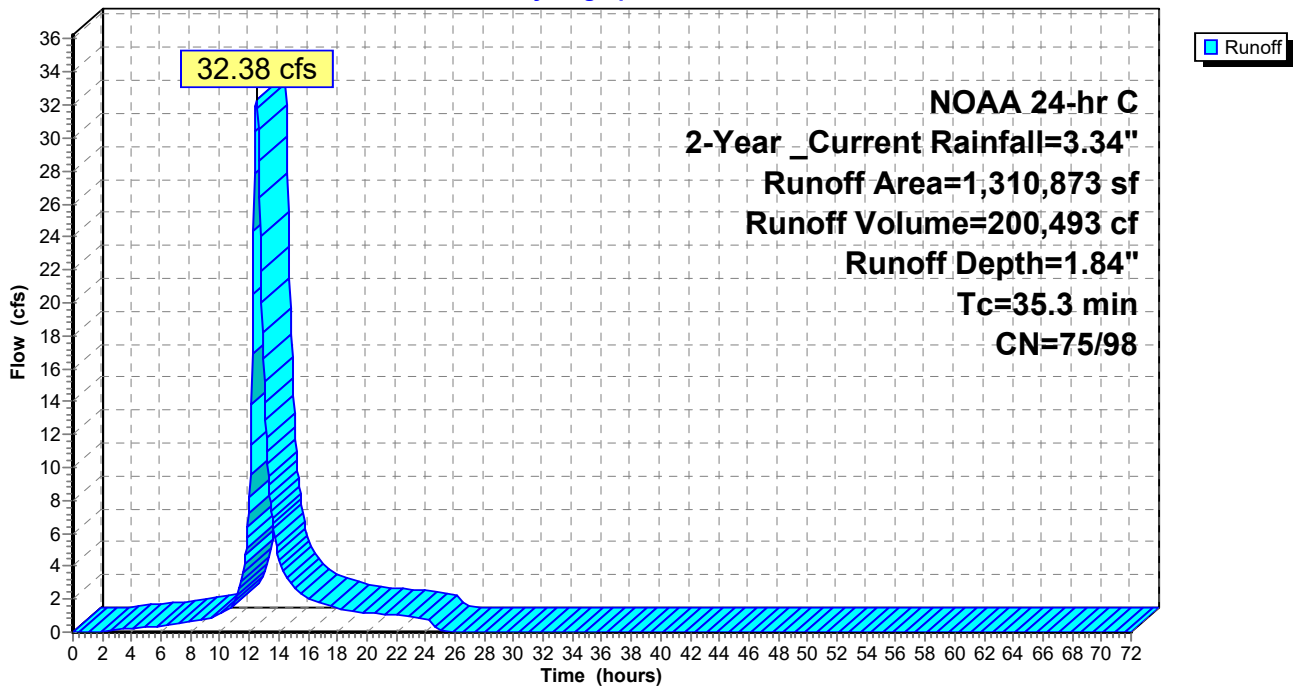
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
*	92,992	98	Roofs
*	184,684	98	Driveways
	1,310,873	83	Weighted Average
	869,479	75	66.33% Pervious Area
	441,394	98	33.67% Impervious Area

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

Subcatchment 3S: DA 3: All

Hydrograph



Summary for Subcatchment 3Sa: DA 3: CNs w/ IC areas

Runoff = 21.09 cfs @ 12.51 hrs, Volume= 128,598 cf, Depth= 1.49"

Routed to Pond 8P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

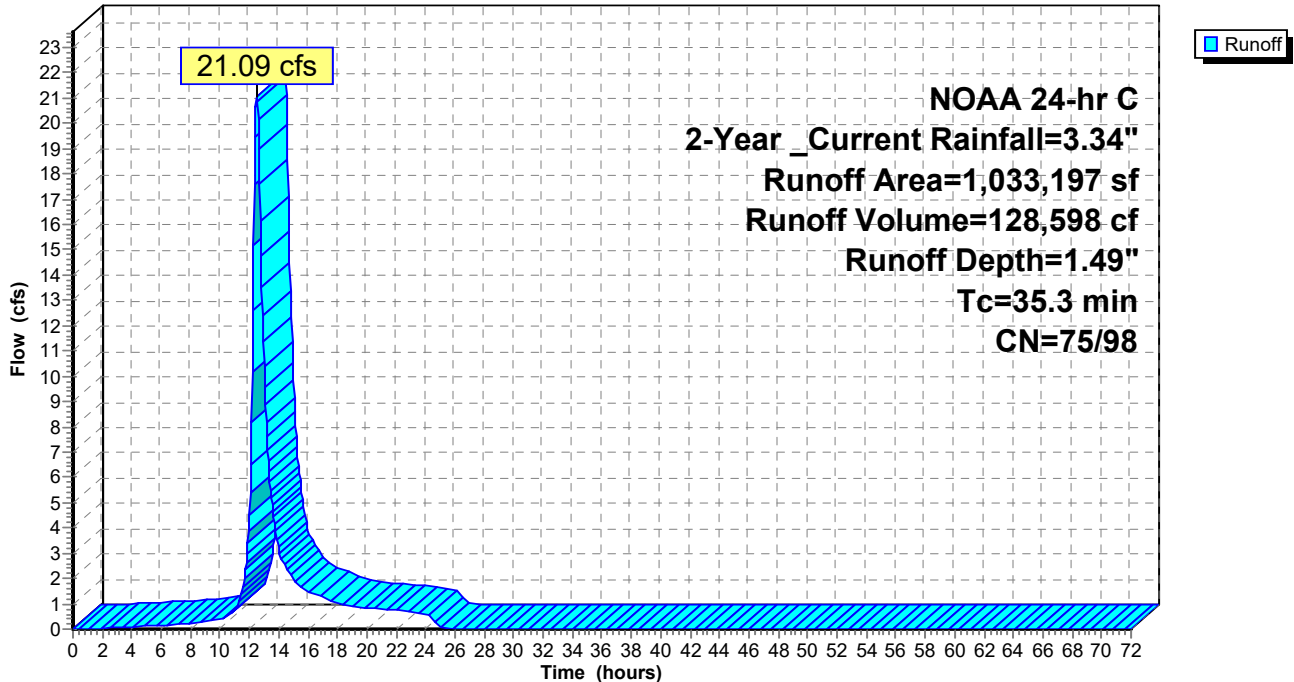
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
	1,033,197	79	Weighted Average
	869,479	75	84.15% Pervious Area
	163,718	98	15.85% Impervious Area

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

Subcatchment 3Sa: DA 3: CNs w/ IC areas

Hydrograph



Summary for Subcatchment 3Sb: DA3: Roofs combined

Runoff = 7.32 cfs @ 12.13 hrs, Volume= 24,077 cf, Depth= 3.11"

Routed to Pond 9P : Basic Rain Garden (infiltration only) 500 SF

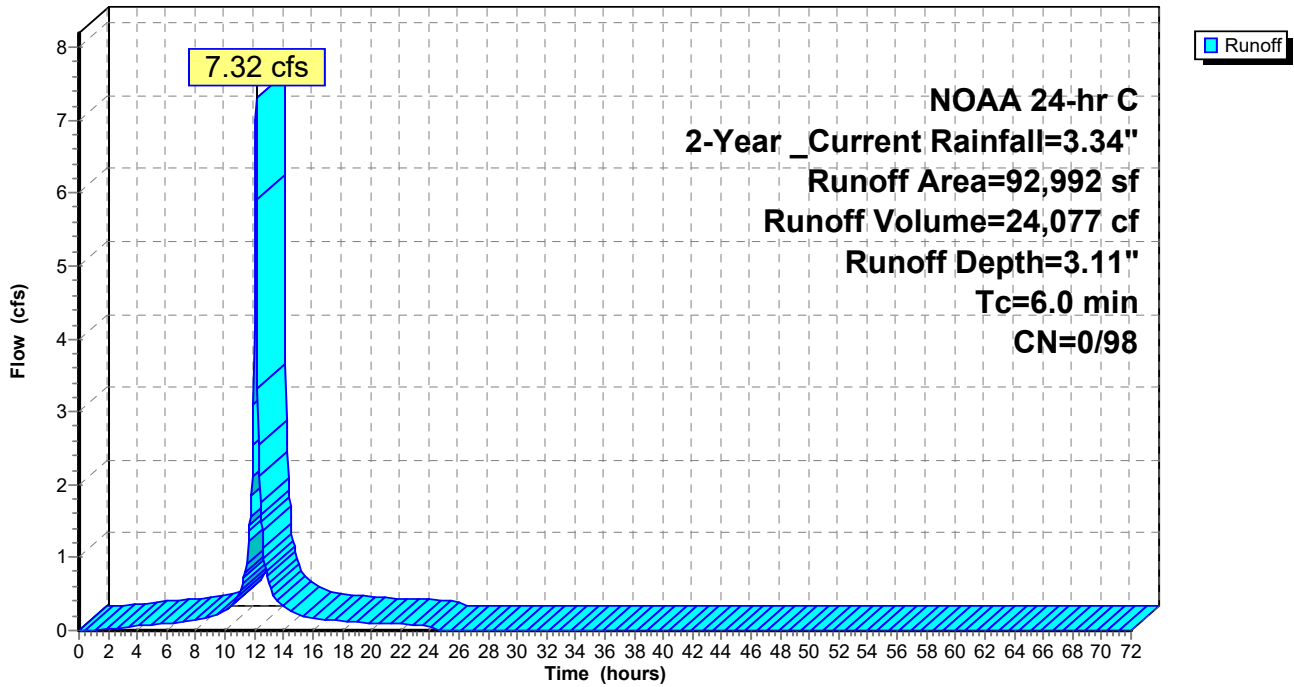
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 92,992	98	
92,992	98	100.00% Impervious Area

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

Subcatchment 3Sb: DA3: Roofs combined

Hydrograph



Summary for Subcatchment 3Sc: DA3: Driveways (other)

Runoff = 14.53 cfs @ 12.13 hrs, Volume= 47,818 cf, Depth= 3.11"

Routed to Pond 10P : Basic Porous Pavement (infiltration only)

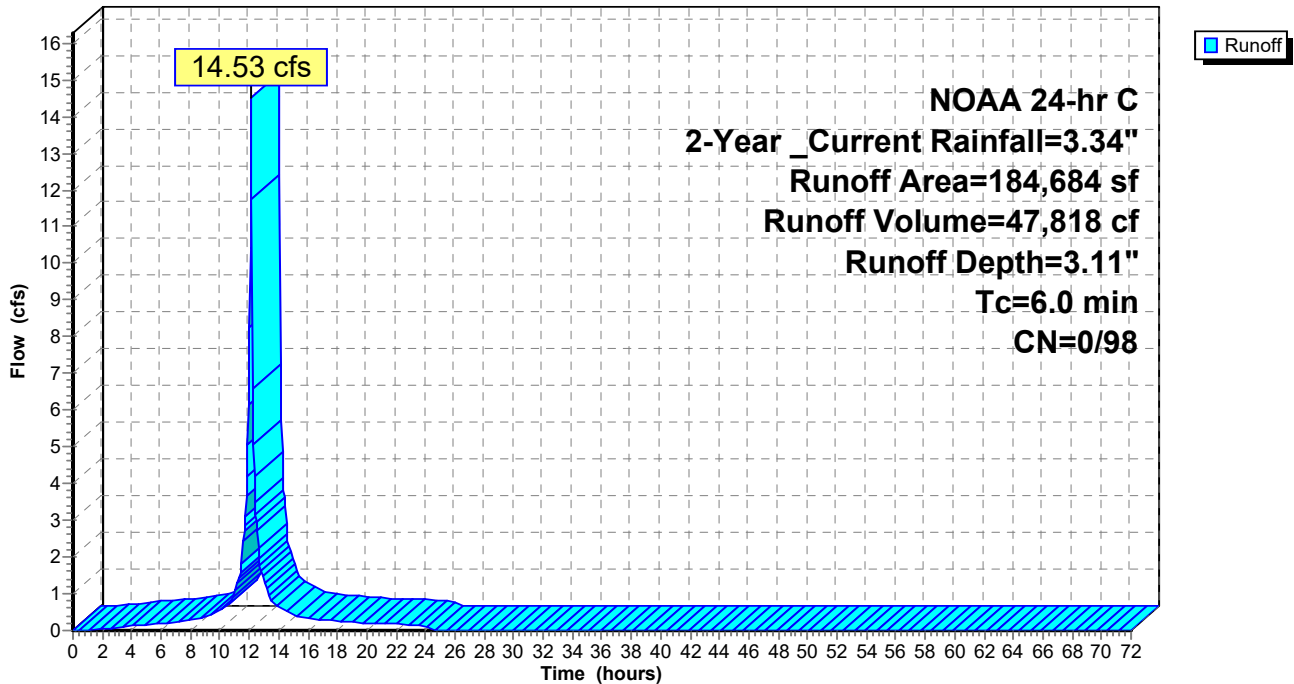
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

Area (sf)	CN	Description
* 184,684	98	Impervious Driveways (other)
184,684	98	100.00% Impervious Area

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

Subcatchment 3Sc: DA3: Driveways (other)

Hydrograph



Summary for Subcatchment 4S: DA 4: All

Runoff = 10.12 cfs @ 12.26 hrs, Volume= 43,218 cf, Depth= 1.58"
 Routed to Link 4L : Combined Flows

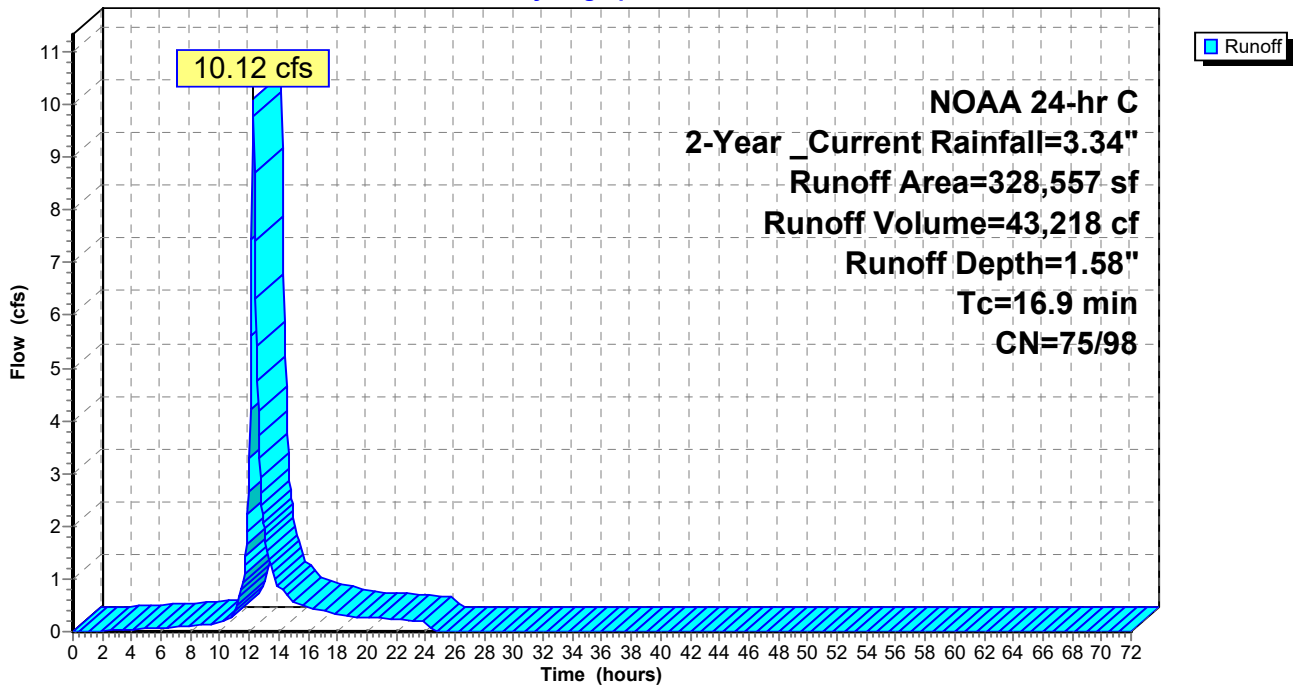
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
*	23,888	98	Roofs
*	35,770	98	Driveways
	328,557	80	Weighted Average
	261,947	75	79.73% Pervious Area
	66,610	98	20.27% Impervious Area

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

Subcatchment 4S: DA 4: All

Hydrograph



Summary for Subcatchment 4Sa: DA 4: CN w/ IC areas

Runoff = 6.70 cfs @ 12.27 hrs, Volume= 27,772 cf, Depth= 1.24"

Routed to Pond 11P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

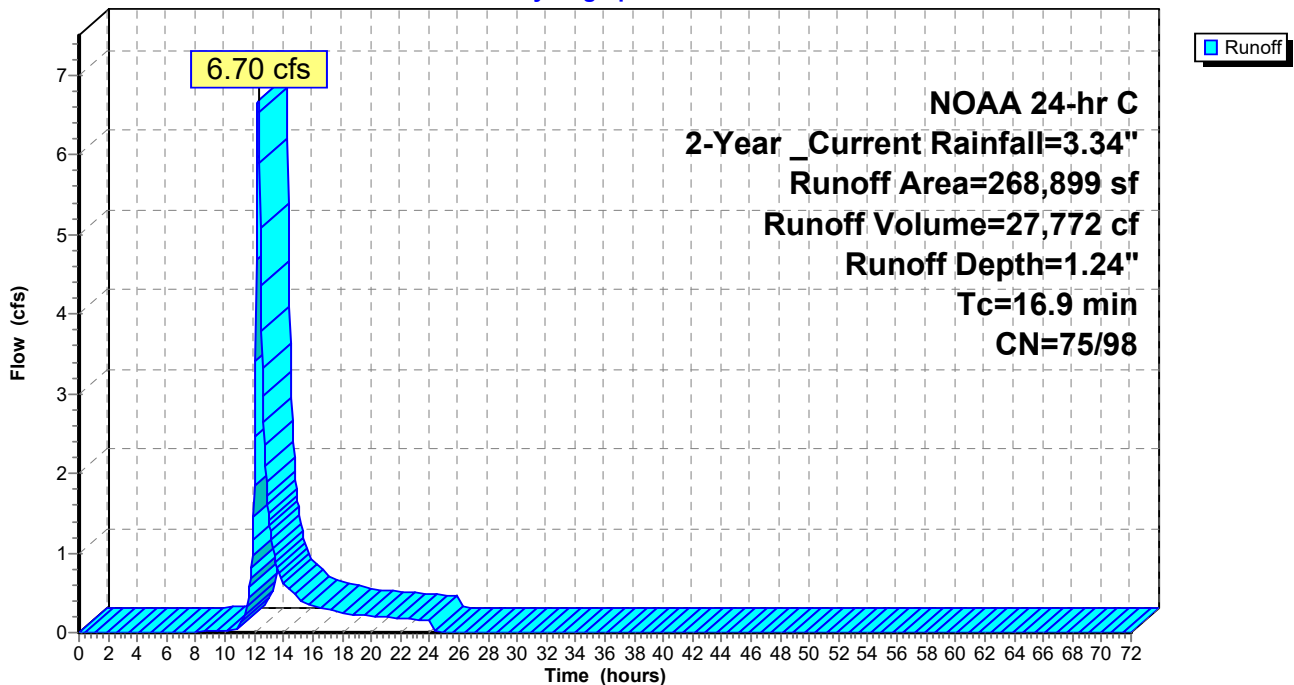
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _Current Rainfall=3.34"

Area (sf)	CN	Description
* 6,952	98	Impervious
208,611	74	>75% Grass cover, Good, HSG C
53,336	80	>75% Grass cover, Good, HSG D
268,899	76	Weighted Average
261,947	75	97.41% Pervious Area
6,952	98	2.59% Impervious Area

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

Subcatchment 4Sa: DA 4: CN w/ IC areas

Hydrograph



Summary for Subcatchment 4Sb: DA4: Roofs combined

Runoff = 1.88 cfs @ 12.13 hrs, Volume= 6,185 cf, Depth= 3.11"

Routed to Pond 12P : Basic Rain Garden (infiltration only) 500SF

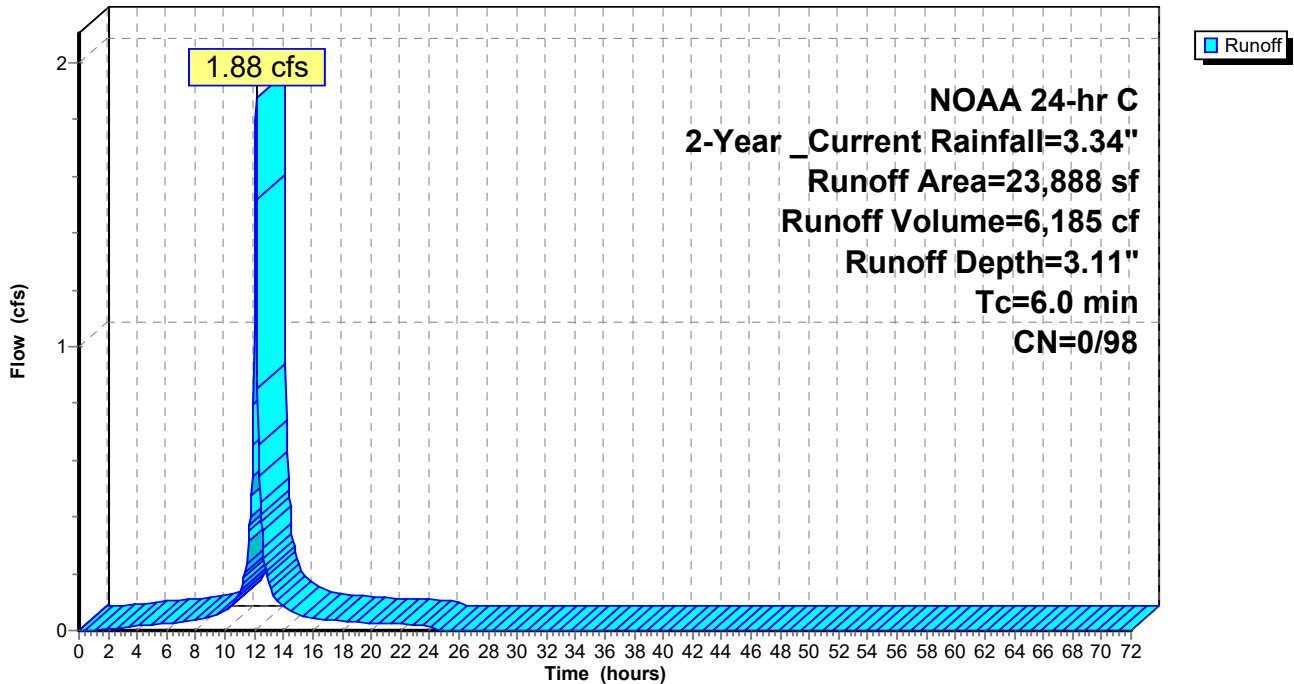
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 23,888	98	
23,888	98	100.00% Impervious Area

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

Subcatchment 4Sb: DA4: Roofs combined

Hydrograph



Summary for Subcatchment 4Sc: DA4: Driveways (other)

Runoff = 2.81 cfs @ 12.13 hrs, Volume= 9,261 cf, Depth= 3.11"
 Routed to Pond 13P : Basic Porous Pavement (infiltration only)

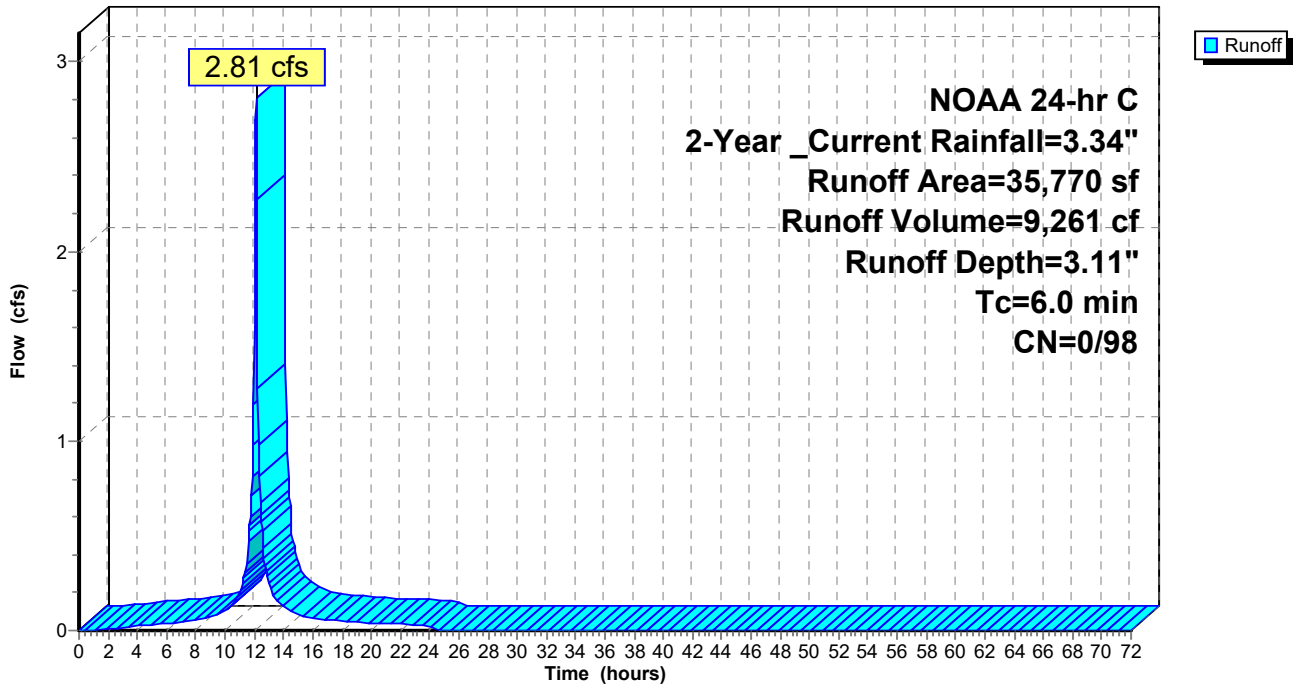
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year_Current Rainfall=3.34"

Area (sf)	CN	Description
* 35,770	98	Impervious Driveways (other)
35,770	98	100.00% Impervious Area

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

Subcatchment 4Sc: DA4: Driveways (other)

Hydrograph



Summary for Reach 1R: INFLOW PIPE

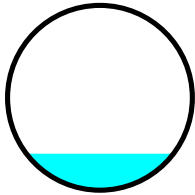
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.25" for 2-Year_Current event
 Inflow = 33.29 cfs @ 12.46 hrs, Volume= 212,310 cf
 Outflow = 33.26 cfs @ 12.46 hrs, Volume= 212,318 cf, Atten= 0%, Lag= 0.1 min
 Routed to Pond 4P : Basin 1 Municipal property 48k sf

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 15.06 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 5.67 fps, Avg. Travel Time= 0.2 min

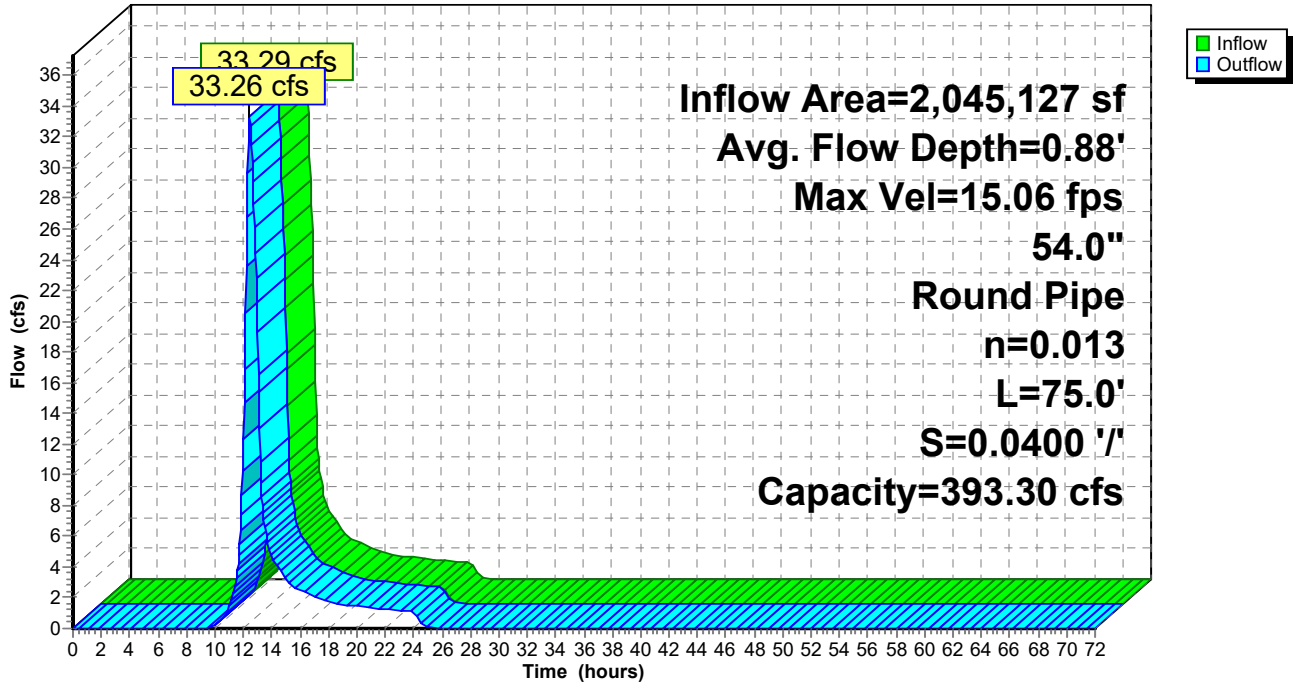
Peak Storage= 166 cf @ 12.46 hrs
 Average Depth at Peak Storage= 0.88' , Surface Width= 3.58'
 Bank-Full Depth= 4.50' Flow Area= 15.9 sf, Capacity= 393.30 cfs

54.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 75.0' Slope= 0.0400 '/'
 Inlet Invert= 75.00', Outlet Invert= 72.00'



Reach 1R: INFLOW PIPE

Hydrograph



Summary for Reach 2R: OUTFLOW PIPE

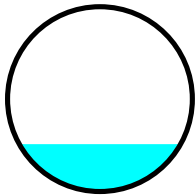
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.20" for 2-Year_Current event
 Inflow = 29.07 cfs @ 12.70 hrs, Volume= 203,835 cf
 Outflow = 29.07 cfs @ 12.70 hrs, Volume= 203,835 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Max. Velocity= 11.47 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 2.72 fps, Avg. Travel Time= 0.4 min

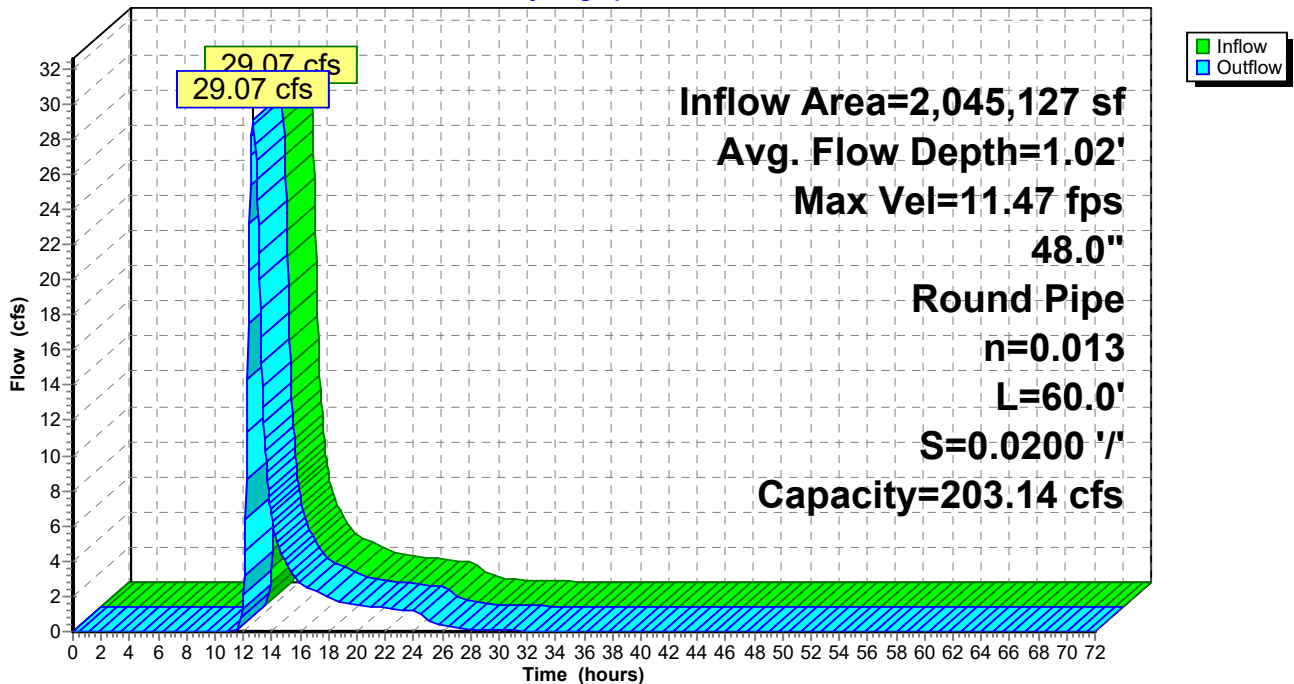
Peak Storage= 152 cf @ 12.70 hrs
 Average Depth at Peak Storage= 1.02' , Surface Width= 3.49'
 Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 203.14 cfs

48.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 60.0' Slope= 0.0200 '/'
 Inlet Invert= 68.00', Outlet Invert= 66.80'



Reach 2R: OUTFLOW PIPE

Hydrograph



Summary for Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,732,396 sf, 10.81% Impervious, Inflow Depth = 1.51" for 2-Year_Current event
 Inflow = 51.80 cfs @ 12.27 hrs, Volume= 217,536 cf
 Outflow = 33.29 cfs @ 12.46 hrs, Volume= 212,310 cf, Atten= 36%, Lag= 11.3 min
 Primary = 33.29 cfs @ 12.46 hrs, Volume= 212,310 cf
 Routed to Link 1L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 96.32' @ 12.46 hrs Surf.Area= 22,749 sf Storage= 31,984 cf

Plug-Flow detention time= 36.5 min calculated for 212,310 cf (98% of inflow)
 Center-of-Mass det. time= 22.2 min (864.5 - 842.3)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 45.00 = 78,177 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 45.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 45.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 45.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 45.00**
2 End Contraction(s)

Primary OutFlow Max=33.26 cfs @ 12.46 hrs HW=96.32' (Free Discharge)

↑1=Culvert (Passes 33.26 cfs of 50.32 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 33.26 cfs @ 3.76 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

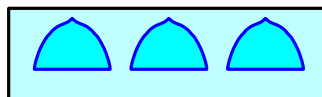
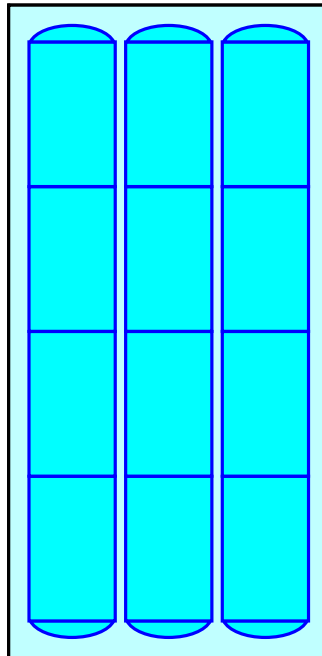
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

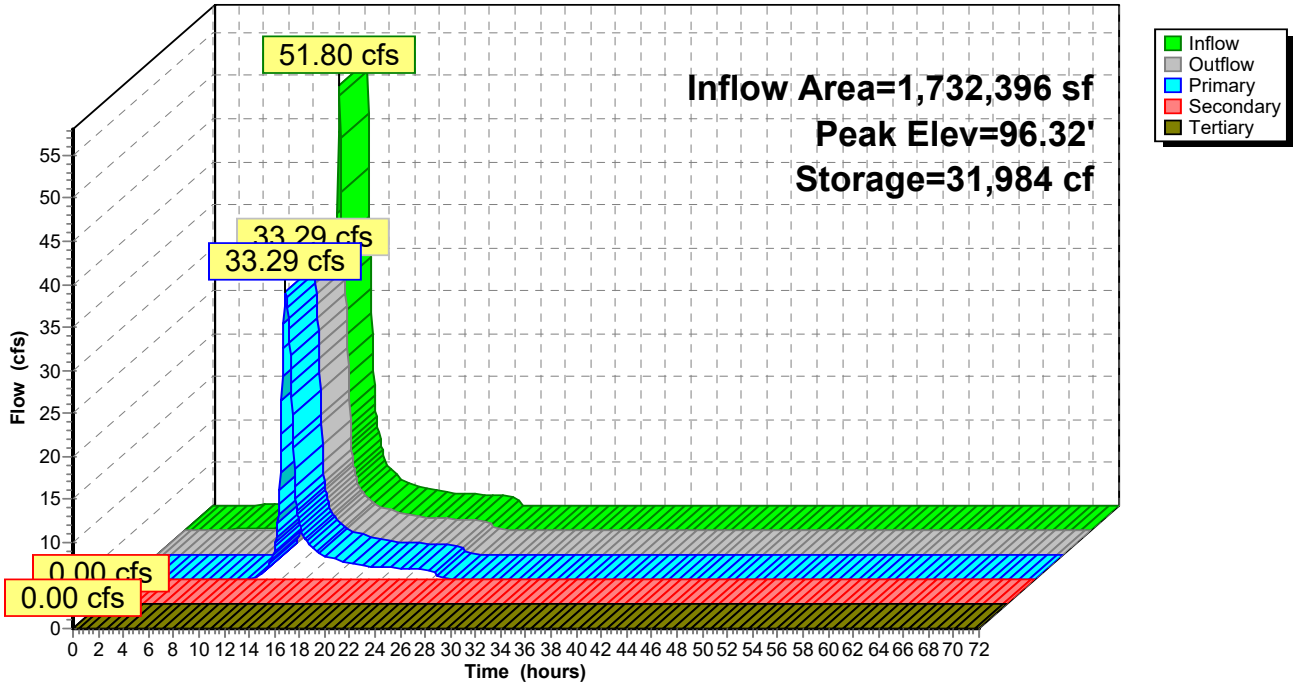
84.3 cy Field

63.8 cy Stone



Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Assumes infiltration through media is non-limiting.

Inflow Area = 132,361 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 10.41 cfs @ 12.13 hrs, Volume= 34,270 cf
 Outflow = 0.38 cfs @ 14.56 hrs, Volume= 34,270 cf, Atten= 96%, Lag= 145.8 min
 Discarded = 0.38 cfs @ 14.56 hrs, Volume= 34,270 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.72' @ 14.56 hrs Surf.Area= 32,421 sf Storage= 18,340 cf

Plug-Flow detention time= 450.9 min calculated for 34,247 cf (100% of inflow)
 Center-of-Mass det. time= 451.0 min (1,207.7 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 76.00 = 47,273 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

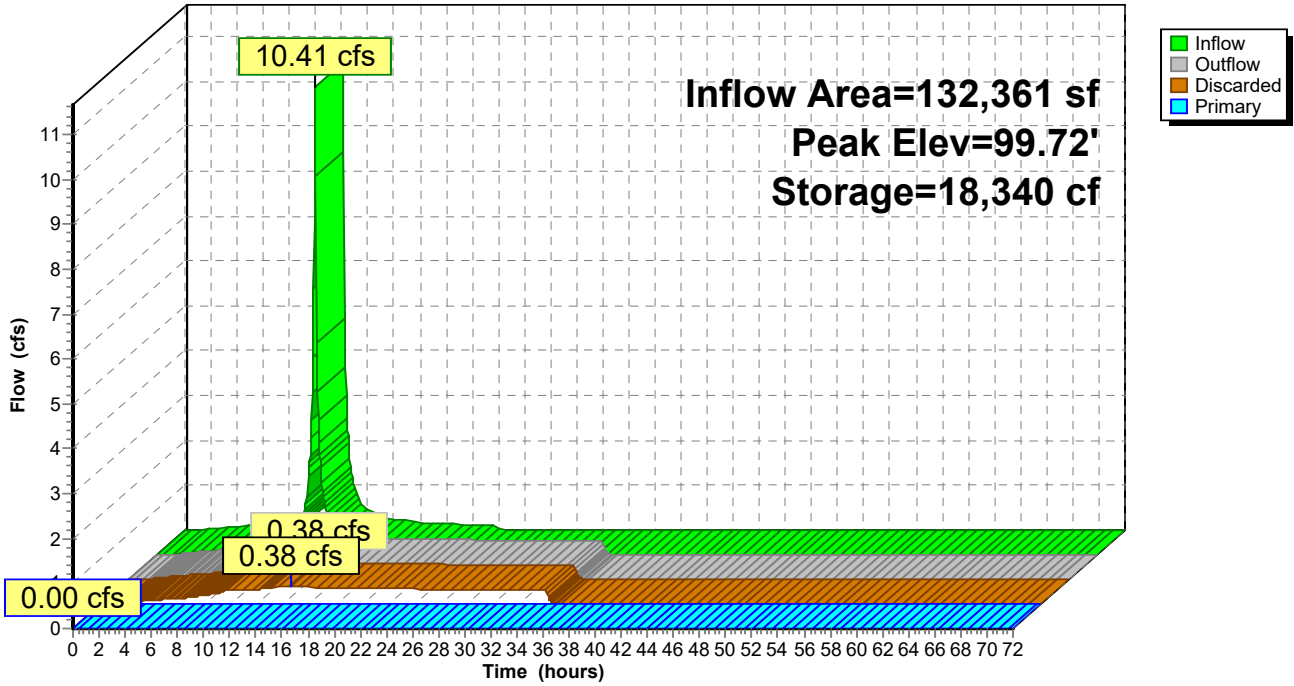
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 76.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.38 cfs @ 14.56 hrs HW=99.72' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.38 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Hydrograph



Summary for Pond 3P: Basic Porous Pavement (infiltration only)

Inflow Area = 180,370 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 14.19 cfs @ 12.13 hrs, Volume= 46,701 cf
 Outflow = 2.09 cfs @ 11.65 hrs, Volume= 46,701 cf, Atten= 85%, Lag= 0.0 min
 Discarded = 2.09 cfs @ 11.65 hrs, Volume= 46,701 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.46' @ 12.62 hrs Surf.Area= 180,370 sf Storage= 13,174 cf

Plug-Flow detention time= 38.4 min calculated for 46,668 cf (100% of inflow)
 Center-of-Mass det. time= 38.4 min (795.1 - 756.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	81,888 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	180,370	0.0	0	0
99.75	180,370	35.0	31,565	31,565
99.83	180,370	15.0	2,164	33,729
100.01	180,370	15.0	4,870	38,599
100.25	180,370	100.0	43,289	81,888

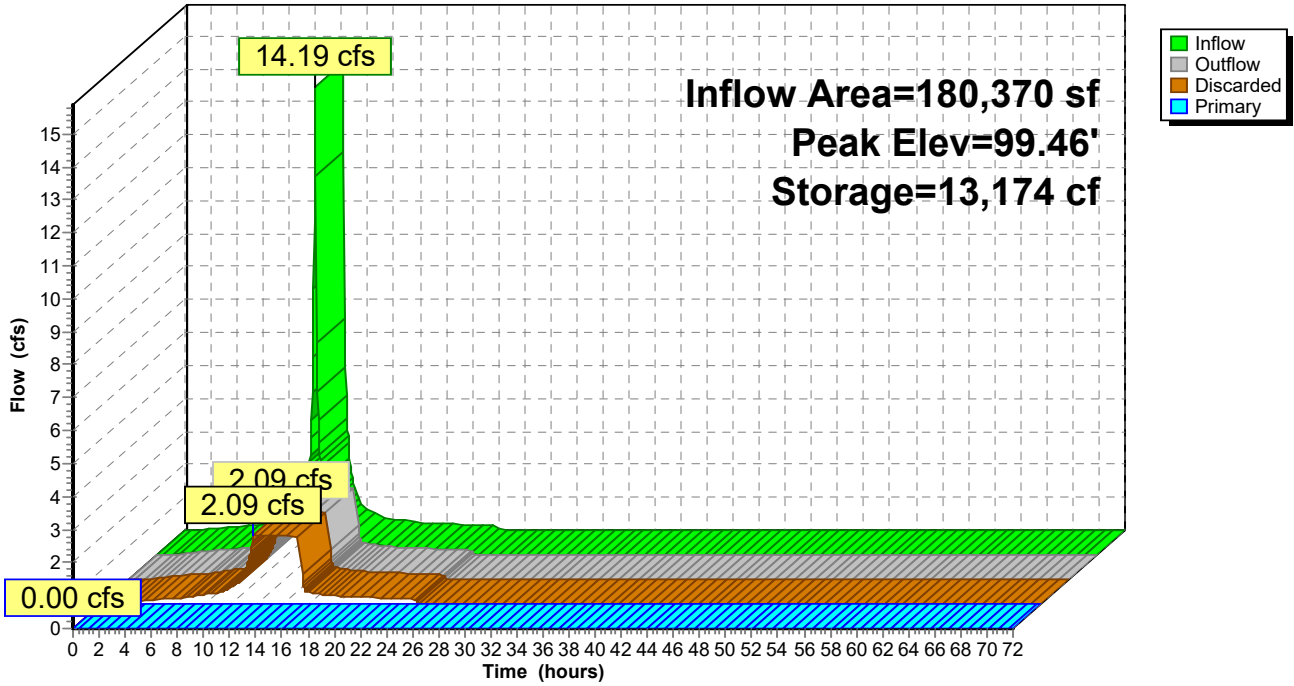
Device	Routing	Invert	Outlet Devices												
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area												
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00												
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00
			Coef. (English)	2.69	2.72	2.75	2.85	2.98	3.08	3.20	3.28	3.31	3.30	3.31	3.32

Discarded OutFlow Max=2.09 cfs @ 11.65 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 3P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 4P: Basin 1 Municipal property 48k sf

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.47' @ 13.20 hrs

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.25" for 2-Year_Current event
 Inflow = 33.26 cfs @ 12.46 hrs, Volume= 212,318 cf
 Outflow = 29.07 cfs @ 12.70 hrs, Volume= 203,835 cf, Atten= 13%, Lag= 14.6 min
 Primary = 29.07 cfs @ 12.70 hrs, Volume= 203,835 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 73.20' @ 12.70 hrs Surf.Area= 37,248 sf Storage= 42,326 cf

Plug-Flow detention time= 75.0 min calculated for 203,694 cf (96% of inflow)
 Center-of-Mass det. time= 53.0 min (917.7 - 864.7)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	206,538 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	33,525	0	0
77.00	49,090	206,538	206,538

Device	Routing	Invert	Outlet Devices
#1	Primary	72.25'	24.0" Vert. Low Flow Orifice X 6.00 C= 0.600 Limited to weir flow at low heads
#2	Secondary	74.50'	24.0" W x 18.0" H Vert. SECONDARY OUTLET X 4.00 C= 0.600 Limited to weir flow at low heads
#3	Tertiary	76.75'	60.0" x 60.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

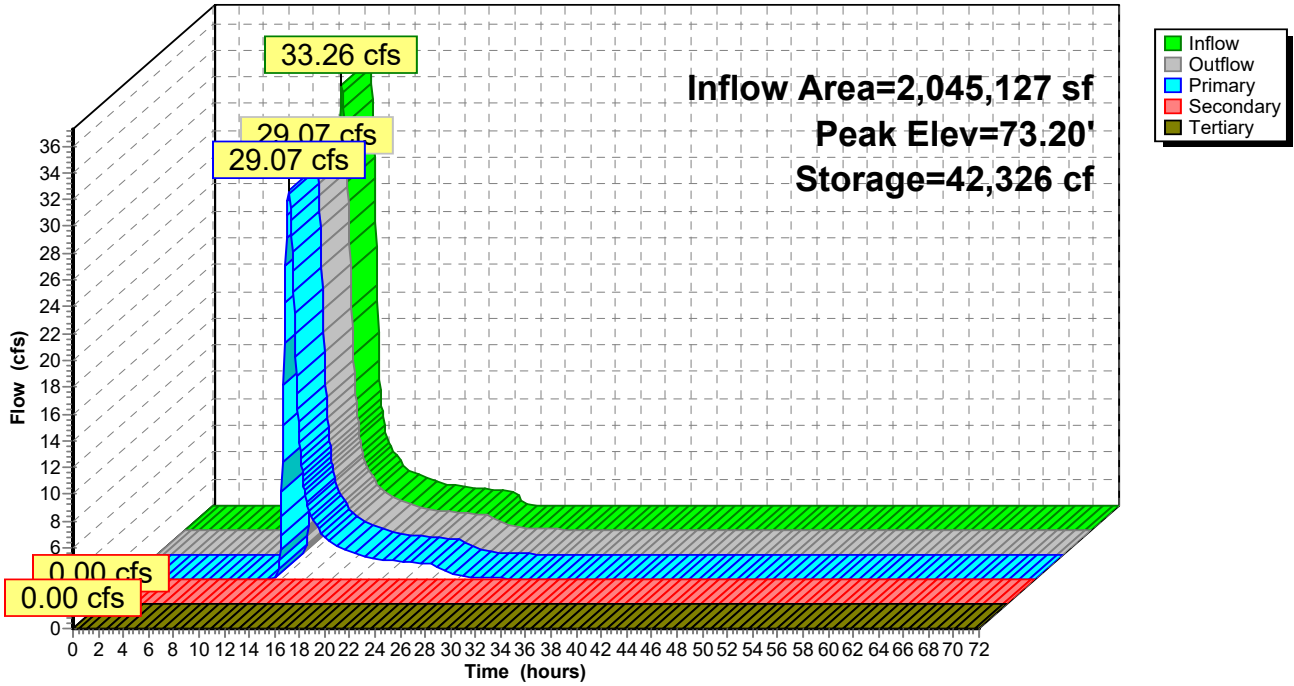
Primary OutFlow Max=29.07 cfs @ 12.70 hrs HW=73.20' (Free Discharge)
 ↑1=**Low Flow Orifice** (Orifice Controls 29.07 cfs @ 3.31 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑2=**SECONDARY OUTLET** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑3=**Orifice/Grate** (Controls 0.00 cfs)

Pond 4P: Basin 1 Municipal property 48k sf

Hydrograph



Summary for Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,186,669 sf, 12.13% Impervious, Inflow Depth = 1.42" for 2-Year_Current event
 Inflow = 21.71 cfs @ 12.57 hrs, Volume= 140,647 cf
 Outflow = 17.55 cfs @ 12.81 hrs, Volume= 137,466 cf, Atten= 19%, Lag= 14.0 min
 Primary = 17.55 cfs @ 12.81 hrs, Volume= 137,466 cf
 Routed to Link 2L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 95.95' @ 12.81 hrs Surf.Area= 13,649 sf Storage= 15,442 cf

Plug-Flow detention time= 34.9 min calculated for 137,370 cf (98% of inflow)
 Center-of-Mass det. time= 21.7 min (885.5 - 863.8)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 27.00 = 46,906 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 27.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 27.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 27.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 27.00**
2 End Contraction(s)

Primary OutFlow Max=17.55 cfs @ 12.81 hrs HW=95.94' (Free Discharge)

↑1=Culvert (Passes 17.55 cfs of 26.66 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 17.55 cfs @ 3.31 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

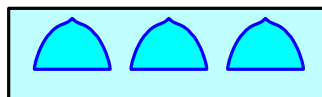
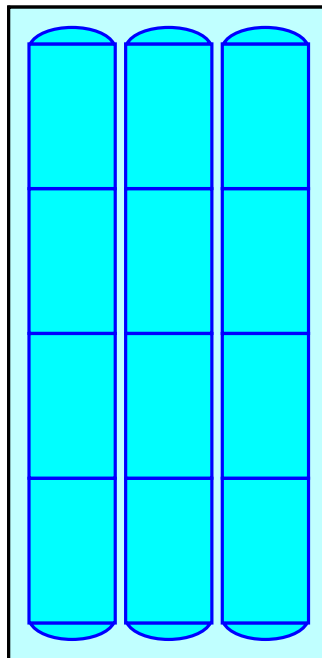
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

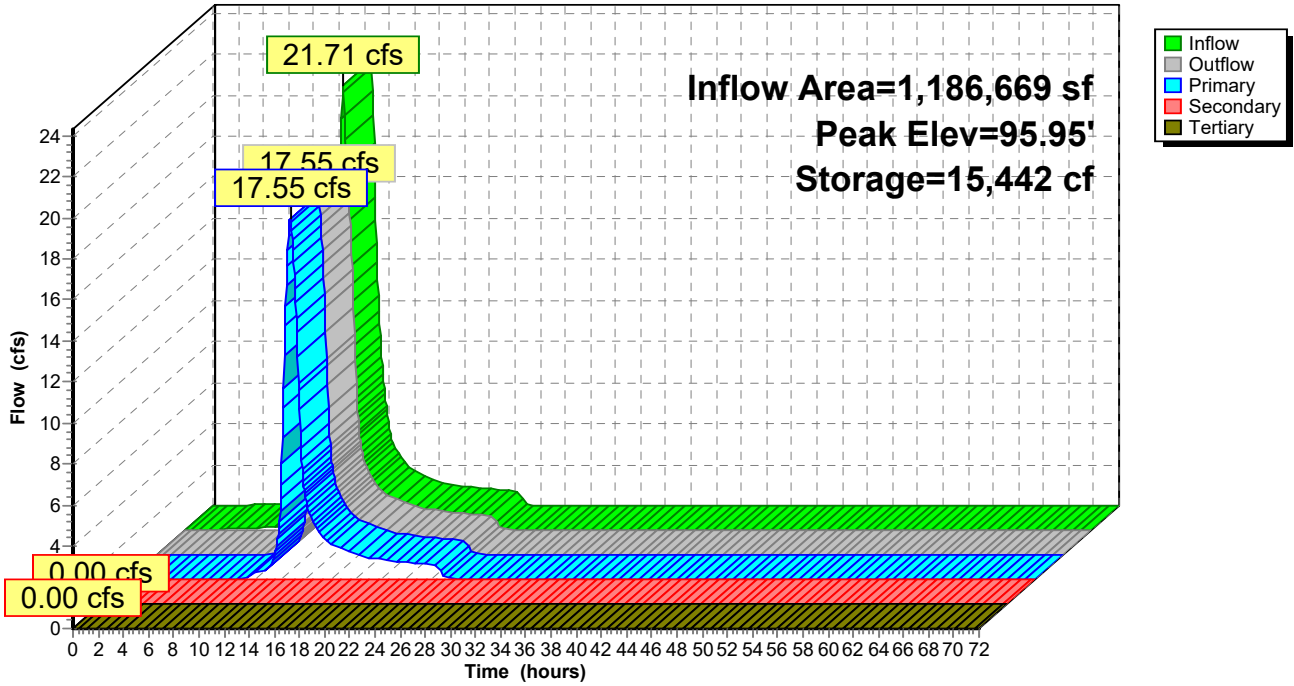
84.3 cy Field

63.8 cy Stone



Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 6P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 85,031 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 6.69 cfs @ 12.13 hrs, Volume= 22,016 cf
 Outflow = 0.24 cfs @ 14.61 hrs, Volume= 22,016 cf, Atten= 96%, Lag= 149.0 min
 Discarded = 0.24 cfs @ 14.61 hrs, Volume= 22,016 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.75' @ 14.61 hrs Surf.Area= 20,375 sf Storage= 11,900 cf

Plug-Flow detention time= 468.9 min calculated for 22,001 cf (100% of inflow)
 Center-of-Mass det. time= 469.1 min (1,225.7 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 47.00 = 29,235 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

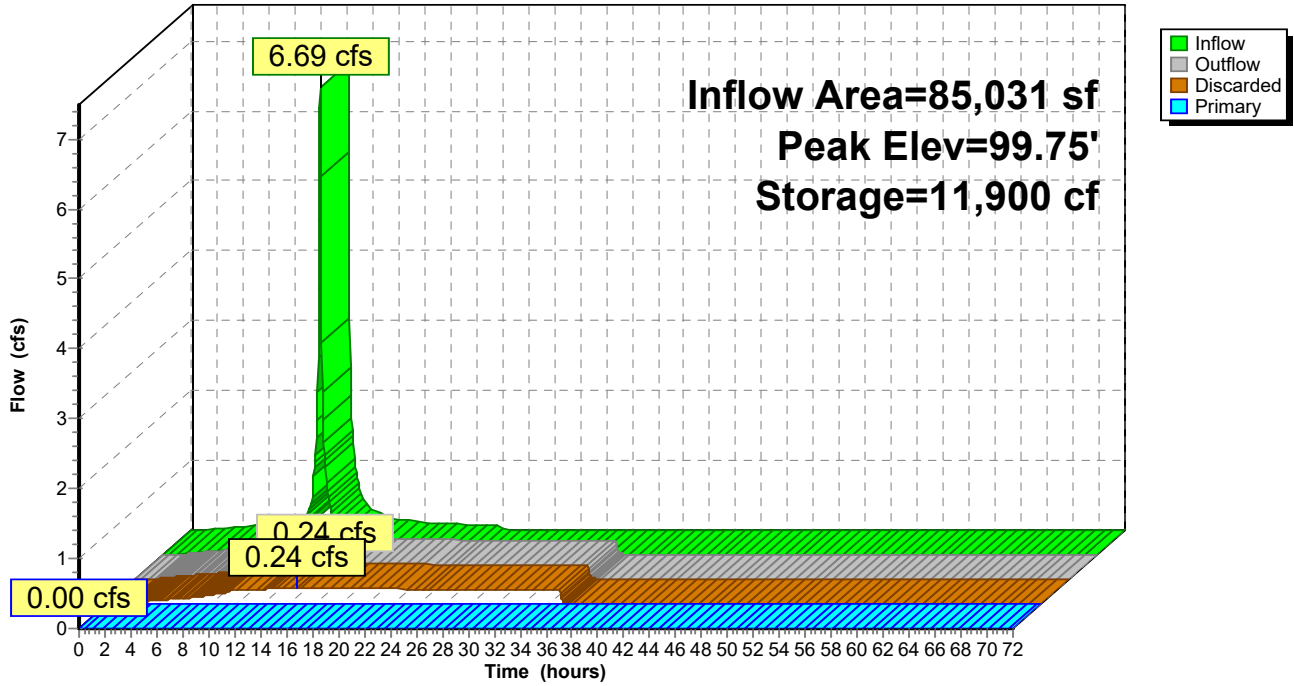
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 47.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.24 cfs @ 14.61 hrs HW=99.75' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 6P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 7P: Basic Porous Pavement (infiltration only)

Inflow Area = 164,927 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 12.98 cfs @ 12.13 hrs, Volume= 42,702 cf
 Outflow = 1.91 cfs @ 11.65 hrs, Volume= 42,702 cf, Atten= 85%, Lag= 0.0 min
 Discarded = 1.91 cfs @ 11.65 hrs, Volume= 42,702 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.46' @ 12.62 hrs Surf.Area= 164,927 sf Storage= 12,046 cf

Plug-Flow detention time= 38.4 min calculated for 42,673 cf (100% of inflow)
 Center-of-Mass det. time= 38.4 min (795.1 - 756.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	74,877 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	164,927	0.0	0	0
99.75	164,927	35.0	28,862	28,862
99.83	164,927	15.0	1,979	30,841
100.01	164,927	15.0	4,453	35,294
100.25	164,927	100.0	39,582	74,877

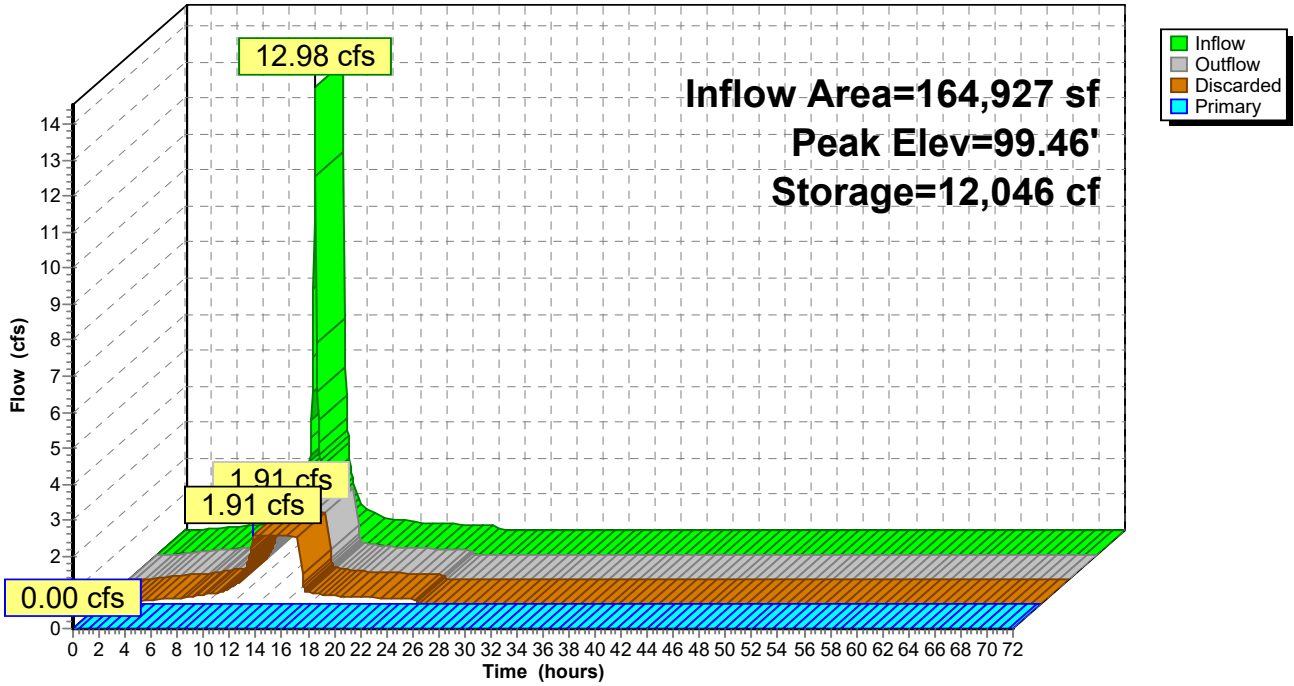
Device	Routing	Invert	Outlet Devices												
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area												
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00												
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00
			Coef. (English)	2.69	2.72	2.75	2.85	2.98	3.08	3.20	3.28	3.31	3.30	3.31	3.32

Discarded OutFlow Max=1.91 cfs @ 11.65 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.91 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 7P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,033,197 sf, 15.85% Impervious, Inflow Depth = 1.49" for 2-Year_Current event
 Inflow = 21.09 cfs @ 12.51 hrs, Volume= 128,598 cf
 Outflow = 16.73 cfs @ 12.73 hrs, Volume= 125,564 cf, Atten= 21%, Lag= 13.4 min
 Primary = 16.73 cfs @ 12.73 hrs, Volume= 125,564 cf
 Routed to Link 3L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 95.92' @ 12.73 hrs Surf.Area= 13,144 sf Storage= 14,611 cf

Plug-Flow detention time= 36.7 min calculated for 125,477 cf (98% of inflow)
 Center-of-Mass det. time= 22.9 min (875.9 - 853.0)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 26.00 = 45,169 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 26.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 26.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 26.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 26.00**
2 End Contraction(s)

Primary OutFlow Max=16.71 cfs @ 12.73 hrs HW=95.92' (Free Discharge)

↑1=Culvert (Passes 16.71 cfs of 25.40 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 16.71 cfs @ 3.27 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

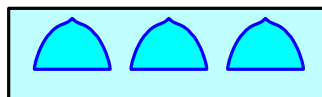
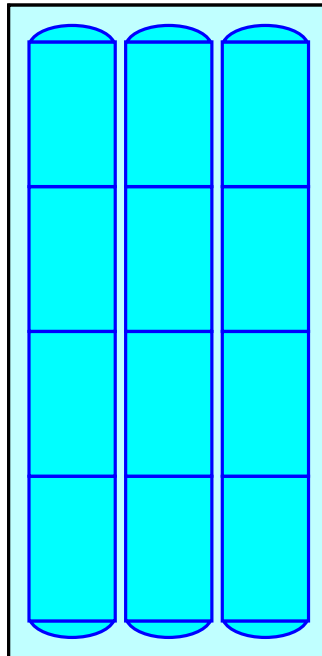
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

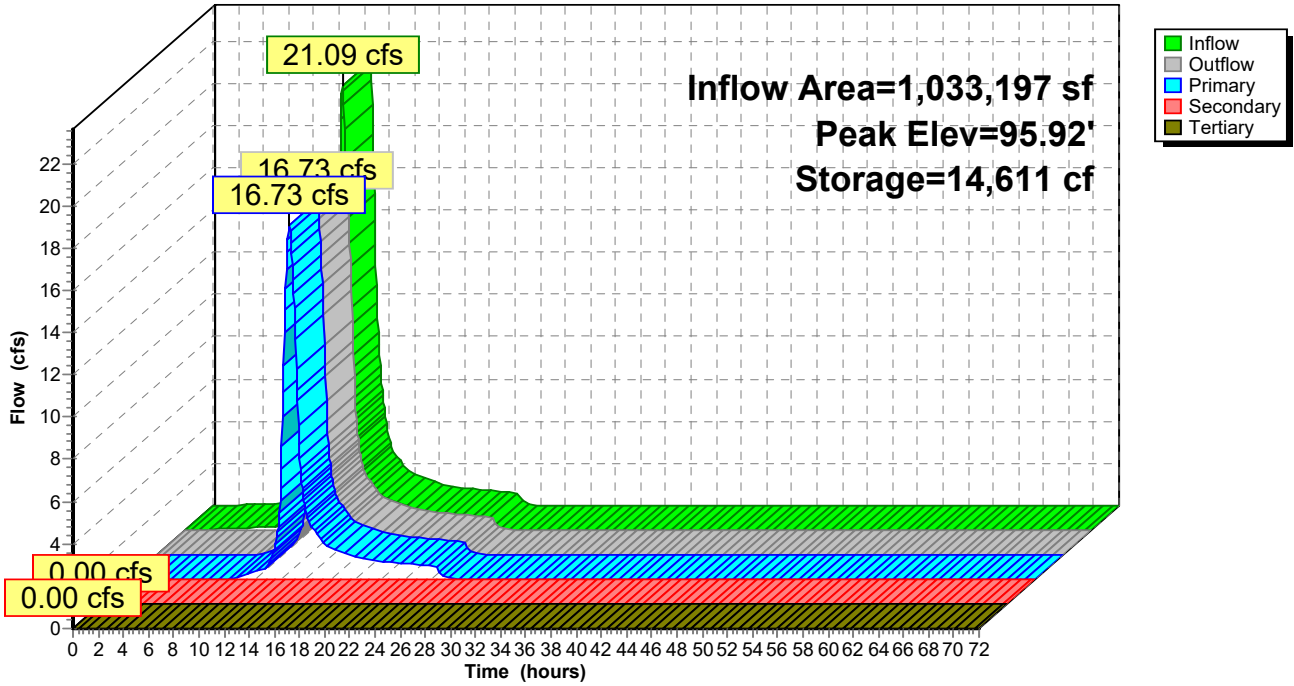
84.3 cy Field

63.8 cy Stone



Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Assumes infiltration through media is non-limiting.

Inflow Area = 92,992 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 7.32 cfs @ 12.13 hrs, Volume= 24,077 cf
 Outflow = 0.24 cfs @ 14.78 hrs, Volume= 24,077 cf, Atten= 97%, Lag= 159.3 min
 Discarded = 0.24 cfs @ 14.78 hrs, Volume= 24,077 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.85' @ 14.78 hrs Surf.Area= 20,686 sf Storage= 13,454 cf

Plug-Flow detention time= 534.7 min calculated for 24,060 cf (100% of inflow)
 Center-of-Mass det. time= 534.9 min (1,291.5 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 45.00 = 27,991 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

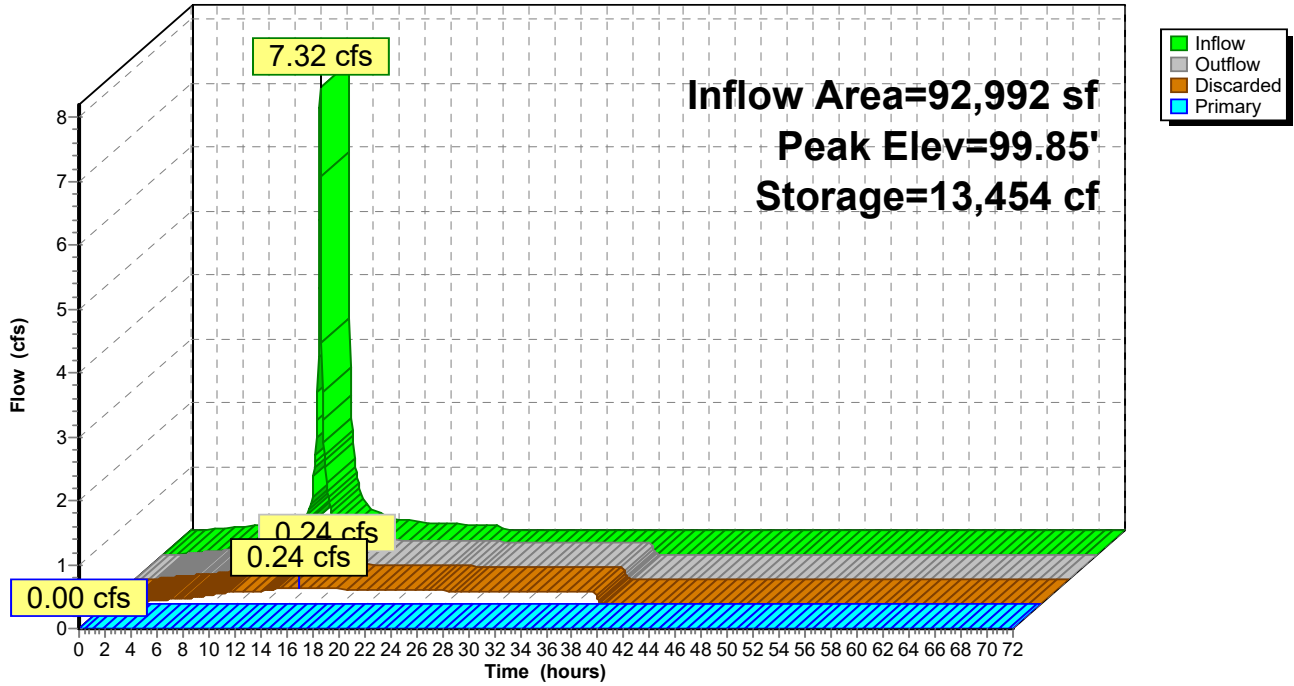
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 45.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.24 cfs @ 14.78 hrs HW=99.85' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Hydrograph



Summary for Pond 10P: Basic Porous Pavement (infiltration only)

Inflow Area = 184,684 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 14.53 cfs @ 12.13 hrs, Volume= 47,818 cf
 Outflow = 2.14 cfs @ 11.65 hrs, Volume= 47,818 cf, Atten= 85%, Lag= 0.0 min
 Discarded = 2.14 cfs @ 11.65 hrs, Volume= 47,818 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.46' @ 12.62 hrs Surf.Area= 184,684 sf Storage= 13,490 cf

Plug-Flow detention time= 38.4 min calculated for 47,784 cf (100% of inflow)
 Center-of-Mass det. time= 38.4 min (795.1 - 756.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	83,847 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	184,684	0.0	0	0
99.75	184,684	35.0	32,320	32,320
99.83	184,684	15.0	2,216	34,536
100.01	184,684	15.0	4,986	39,522
100.25	184,684	100.0	44,324	83,847

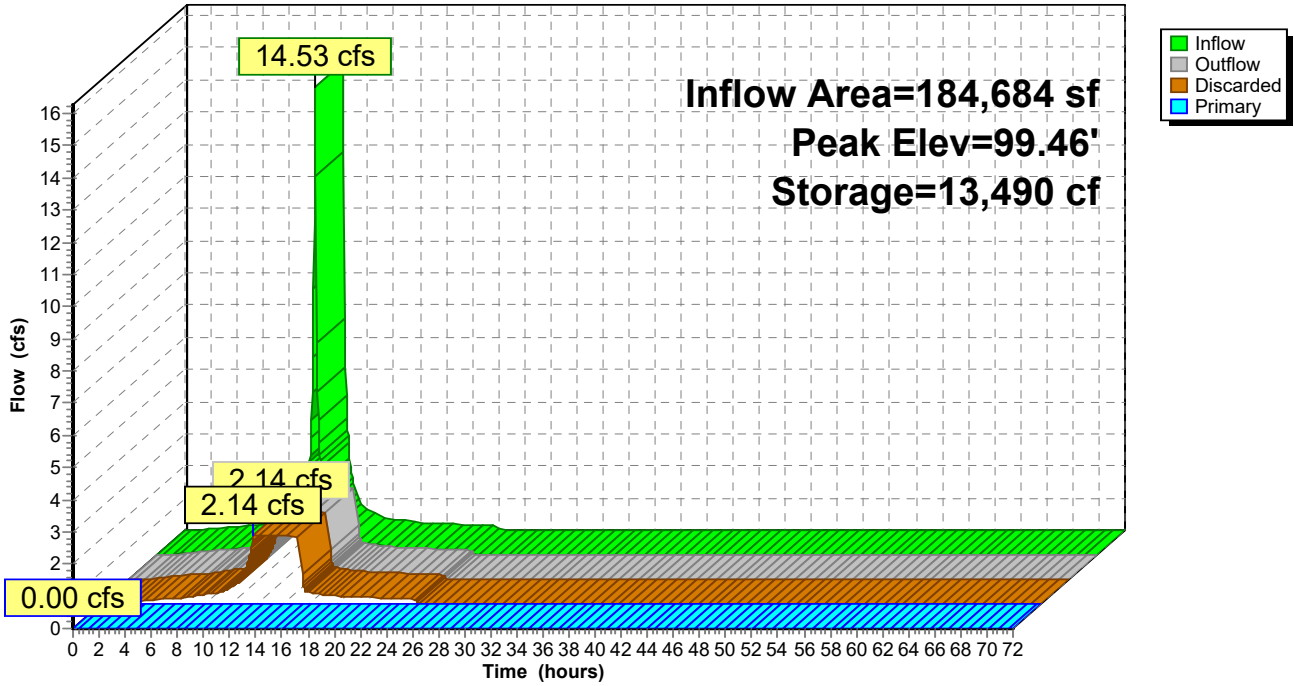
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.14 cfs @ 11.65 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 10P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 268,899 sf, 2.59% Impervious, Inflow Depth = 1.24" for 2-Year_Current event
 Inflow = 6.70 cfs @ 12.27 hrs, Volume= 27,772 cf
 Outflow = 5.37 cfs @ 12.41 hrs, Volume= 27,397 cf, Atten= 20%, Lag= 8.4 min
 Primary = 3.86 cfs @ 12.42 hrs, Volume= 26,976 cf
 Routed to Link 3L : Combined Flows
 Secondary = 1.50 cfs @ 12.41 hrs, Volume= 421 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.18' @ 12.42 hrs Surf.Area= 1,997 sf Storage= 4,329 cf

Plug-Flow detention time= 25.8 min calculated for 27,397 cf (99% of inflow)
 Center-of-Mass det. time= 17.2 min (880.4 - 863.2)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	374 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,615 cf x 3.00 = 4,844 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	160	0.0	0	0	160
98.25	160	35.0	28	28	182
99.25	160	35.0	56	84	227
99.50	160	25.0	10	94	238
100.00	160	100.0	80	174	261
100.51	160	100.0	82	256	284
101.00	160	100.0	78	334	306
101.25	160	100.0	40	374	317

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 3.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 ' / ' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 3.00 L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0044 ' / ' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 3.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

#4 Tertiary 100.50' 2.85 3.07 3.20 3.32
6.0' long Sharp-Crested Rectangular Weir X 3.00
2 End Contraction(s)

Primary OutFlow Max=3.85 cfs @ 12.42 hrs HW=100.14' (Free Discharge)

↑1=Culvert (Passes 3.85 cfs of 6.05 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 3.85 cfs @ 6.54 fps)

Secondary OutFlow Max=1.31 cfs @ 12.41 hrs HW=100.15' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 1.31 cfs @ 0.98 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

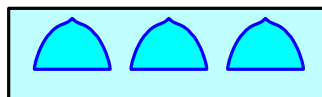
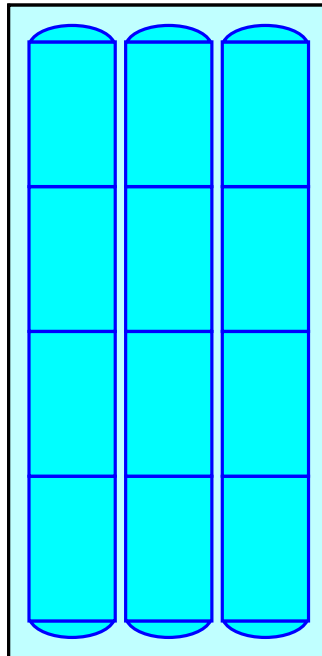
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

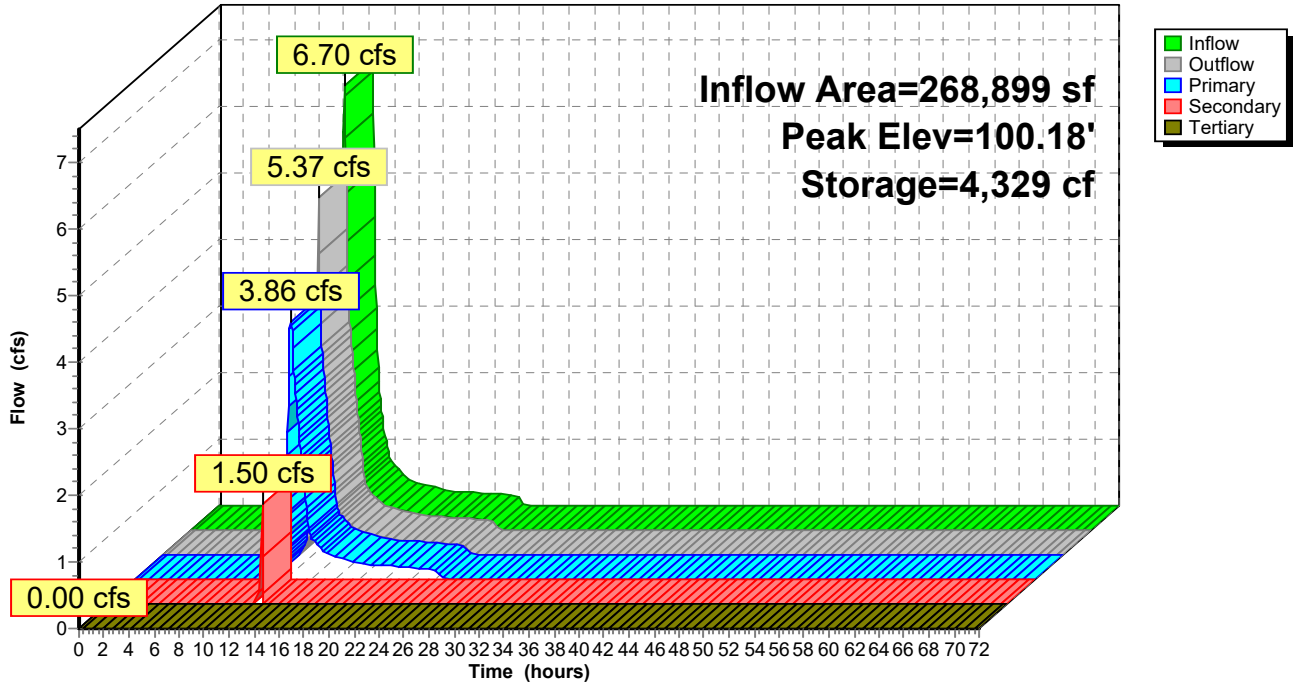
84.3 cy Field

63.8 cy Stone



Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 12P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 23,888 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 1.88 cfs @ 12.13 hrs, Volume= 6,185 cf
 Outflow = 0.07 cfs @ 14.53 hrs, Volume= 6,185 cf, Atten= 96%, Lag= 144.1 min
 Discarded = 0.07 cfs @ 14.53 hrs, Volume= 6,185 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.70' @ 14.53 hrs Surf.Area= 5,922 sf Storage= 3,292 cf

Plug-Flow detention time= 441.3 min calculated for 6,181 cf (100% of inflow)
 Center-of-Mass det. time= 441.5 min (1,198.1 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 14.00 = 8,708 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

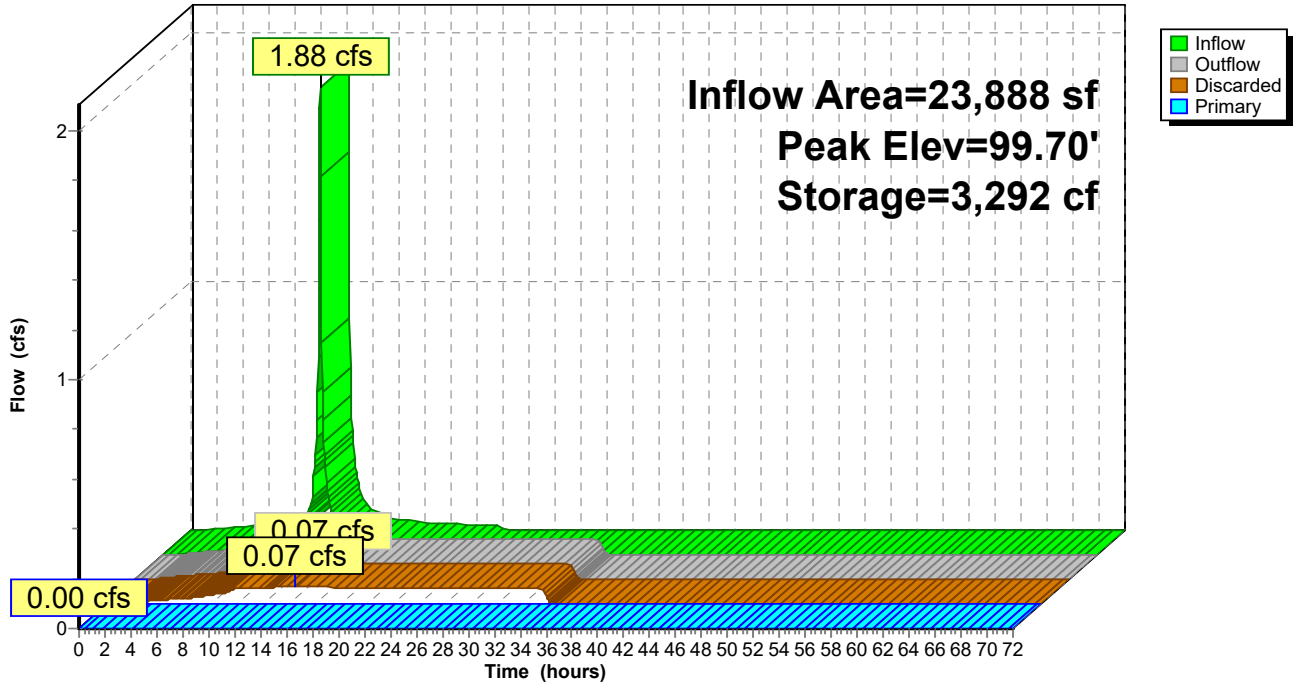
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 14.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.07 cfs @ 14.53 hrs HW=99.70' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 12P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 13P: Basic Porous Pavement (infiltration only)

Inflow Area = 35,770 sf, 100.00% Impervious, Inflow Depth = 3.11" for 2-Year_Current event
 Inflow = 2.81 cfs @ 12.13 hrs, Volume= 9,261 cf
 Outflow = 0.41 cfs @ 11.65 hrs, Volume= 9,263 cf, Atten= 85%, Lag= 0.0 min
 Discarded = 0.41 cfs @ 11.65 hrs, Volume= 9,263 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 99.46' @ 12.62 hrs Surf.Area= 35,770 sf Storage= 2,612 cf

Plug-Flow detention time= 38.3 min calculated for 9,257 cf (100% of inflow)
 Center-of-Mass det. time= 38.4 min (795.1 - 756.6)

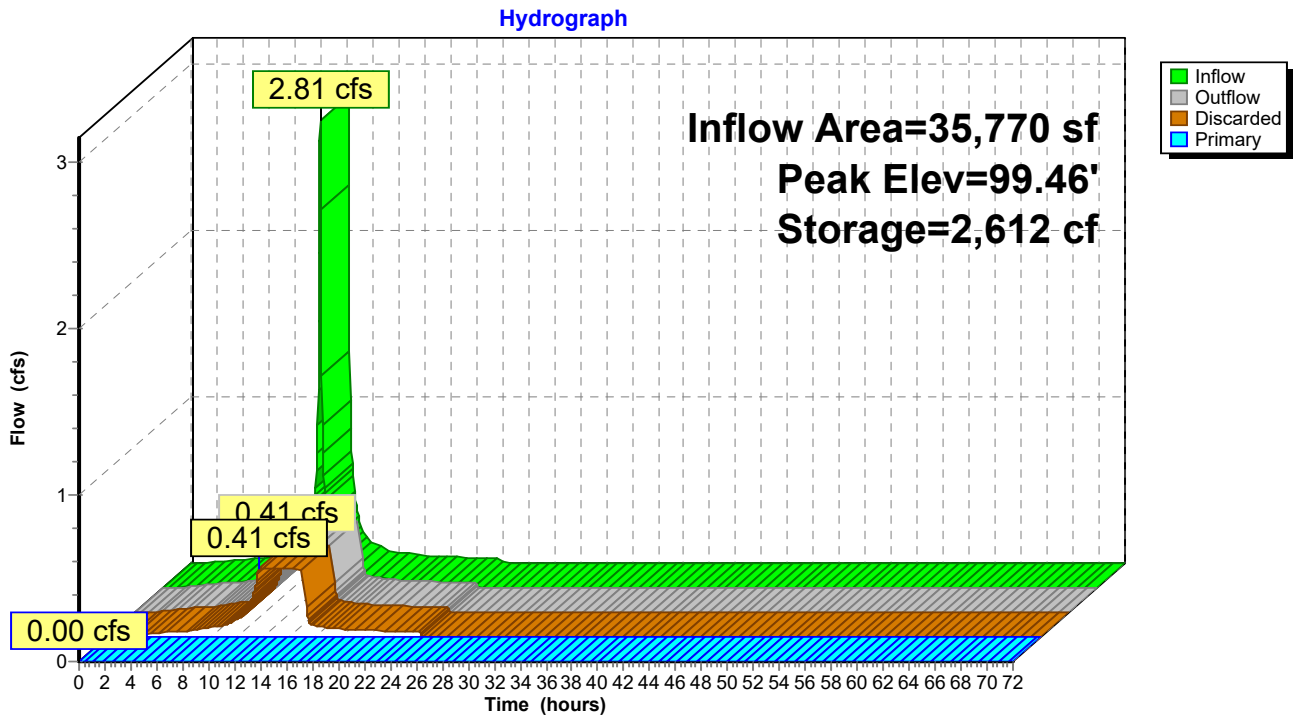
Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	16,240 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	35,770	0.0	0	0
99.75	35,770	35.0	6,260	6,260
99.83	35,770	15.0	429	6,689
100.01	35,770	15.0	966	7,655
100.25	35,770	100.0	8,585	16,240

Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			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										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=0.41 cfs @ 11.65 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 13P: Basic Porous Pavement (infiltration only)



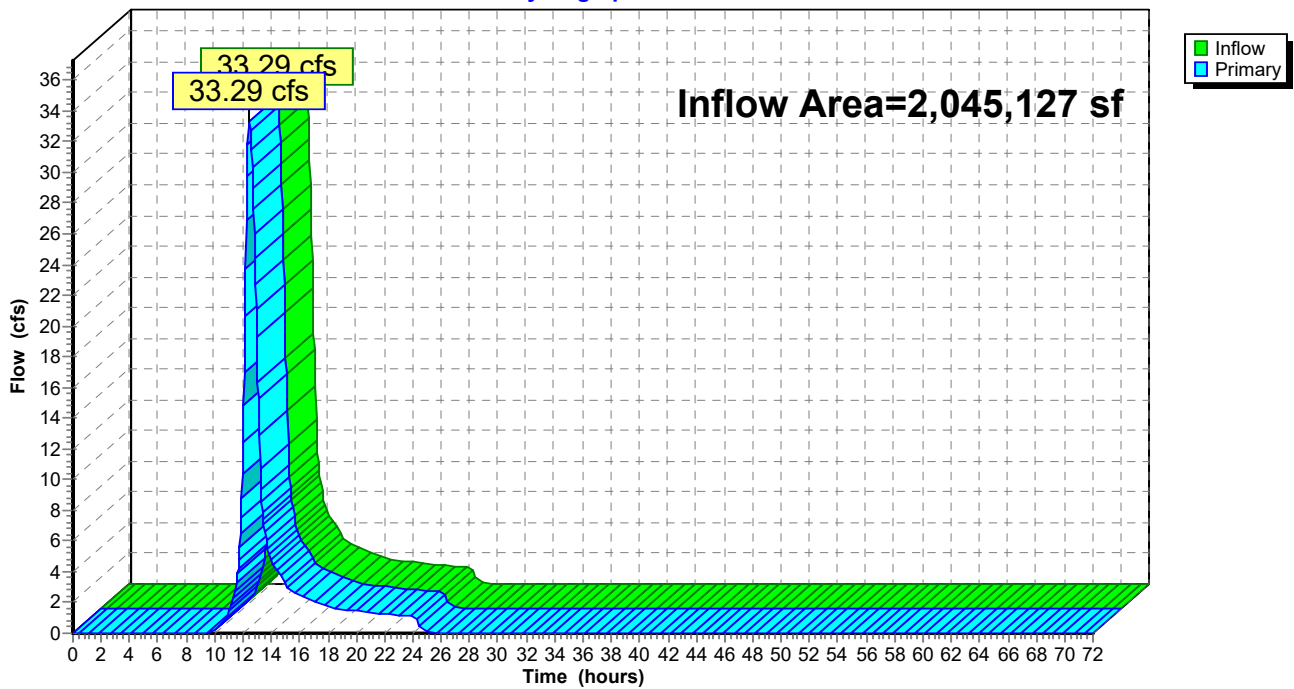
Summary for Link 1L: Combined Flows

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.25" for 2-Year_Current event
Inflow = 33.29 cfs @ 12.46 hrs, Volume= 212,310 cf
Primary = 33.29 cfs @ 12.46 hrs, Volume= 212,310 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : INFLOW PIPE

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1L: Combined Flows

Hydrograph



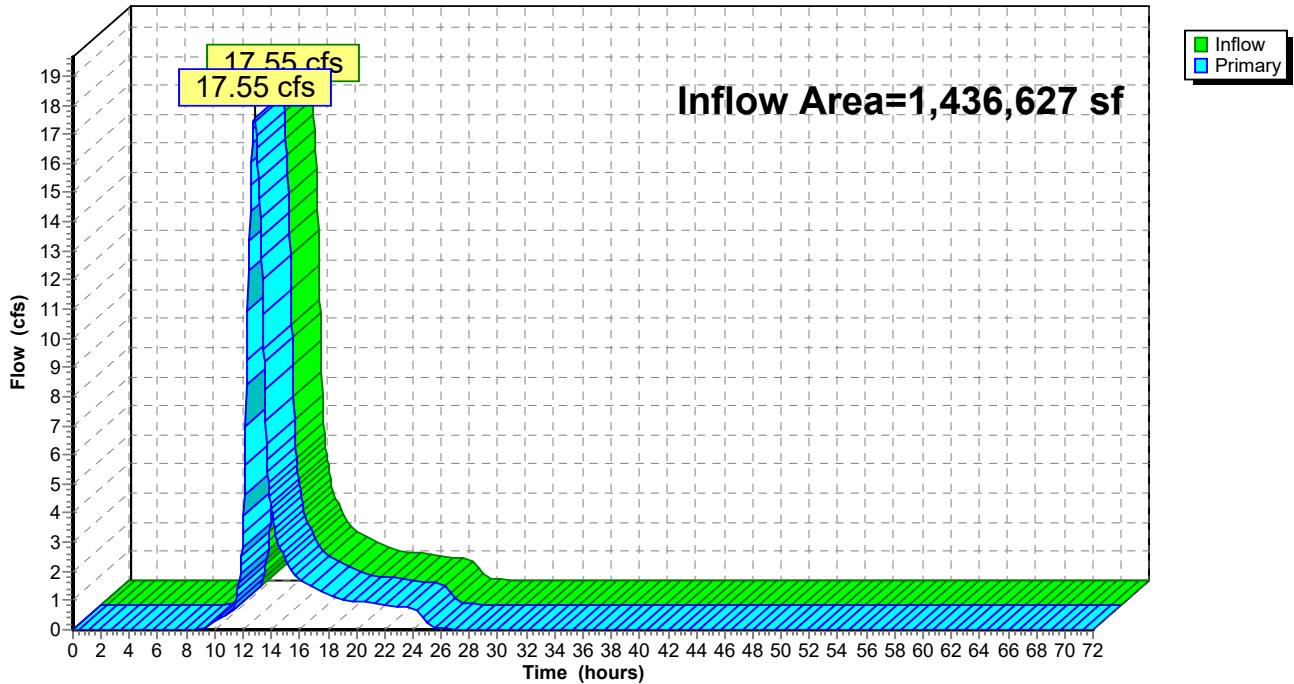
Summary for Link 2L: Combined Flows

Inflow Area = 1,436,627 sf, 27.42% Impervious, Inflow Depth = 1.15" for 2-Year_Current event
Inflow = 17.55 cfs @ 12.81 hrs, Volume= 137,466 cf
Primary = 17.55 cfs @ 12.81 hrs, Volume= 137,466 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 2L: Combined Flows

Hydrograph



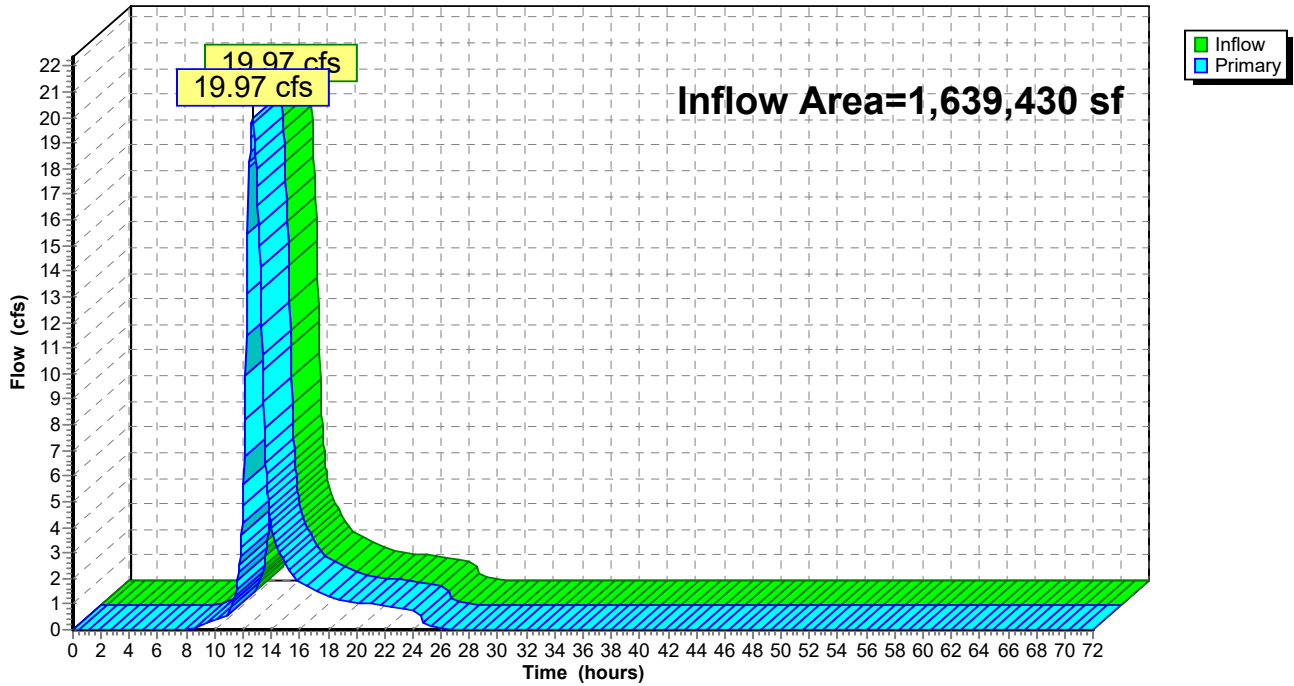
Summary for Link 3L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 1.12" for 2-Year_Current event
Inflow = 19.97 cfs @ 12.65 hrs, Volume= 152,961 cf
Primary = 19.97 cfs @ 12.65 hrs, Volume= 152,961 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 3L: Combined Flows

Hydrograph



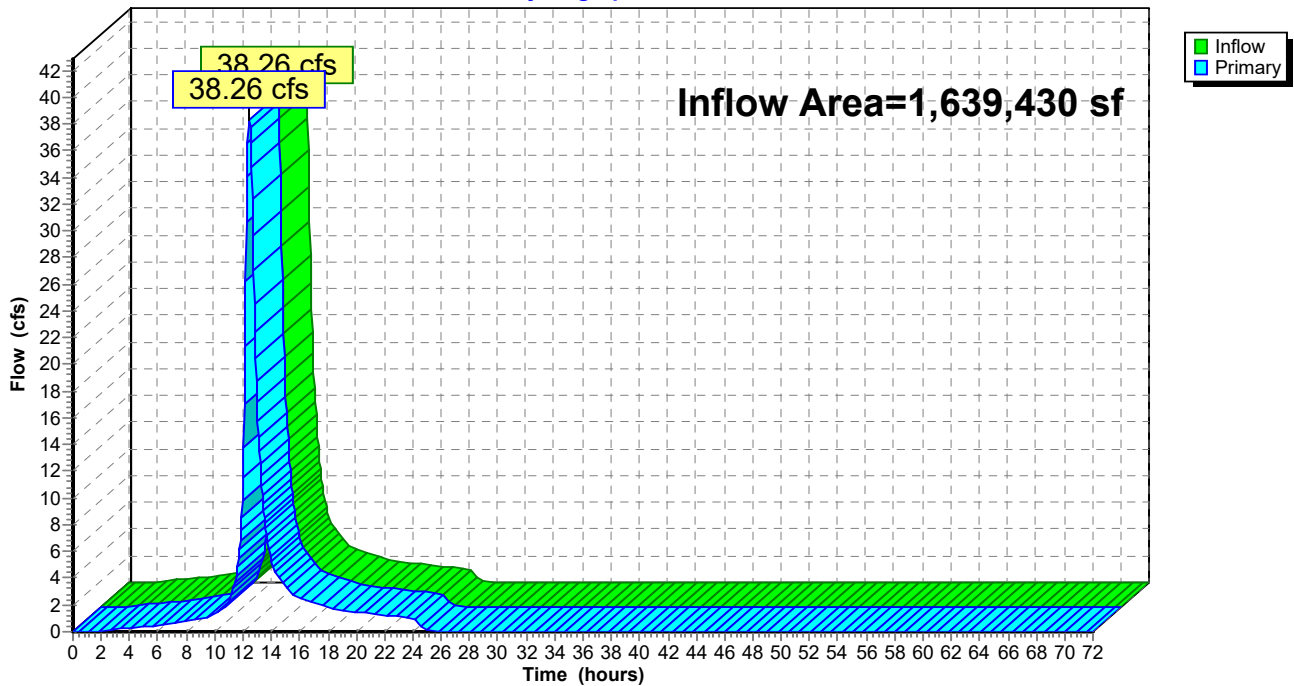
Summary for Link 4L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 1.78" for 2-Year_Current event
Inflow = 38.26 cfs @ 12.45 hrs, Volume= 243,711 cf
Primary = 38.26 cfs @ 12.45 hrs, Volume= 243,711 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Combined Flows

Hydrograph



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA 1: All	Runoff Area=2,045,127 sf 24.45% Impervious Runoff Depth=2.26" Tc=17.3 min CN=77/98 Runoff=90.75 cfs 385,939 cf
Subcatchment 1Sa: DA 1: CN w/ IC areas	Runoff Area=1,732,396 sf 10.81% Impervious Runoff Depth=2.00" Tc=17.3 min CN=77/98 Runoff=69.50 cfs 288,597 cf
Subcatchment 1Sb: DA1: Roofs	Runoff Area=132,361 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=12.42 cfs 41,199 cf
Subcatchment 1Sc: DA1: Driveways	Runoff Area=180,370 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=16.92 cfs 56,143 cf
Subcatchment 2S: DA 2: All	Runoff Area=1,436,627 sf 27.42% Impervious Runoff Depth=2.22" Tc=39.8 min CN=75/98 Runoff=40.87 cfs 265,470 cf
Subcatchment 2Sa: DA 2: CN w/ IC areas	Runoff Area=1,186,669 sf 12.13% Impervious Runoff Depth=1.90" Tc=39.8 min CN=75/98 Runoff=29.47 cfs 187,667 cf
Subcatchment 2Sb: DA2: Roofs combined	Runoff Area=85,031 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=7.98 cfs 26,467 cf
Subcatchment 2Sc: DA2: Driveways	Runoff Area=164,927 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=15.47 cfs 51,336 cf
Subcatchment 3S: DA 3: All	Runoff Area=1,310,873 sf 33.67% Impervious Runoff Depth=2.35" Tc=35.3 min CN=75/98 Runoff=41.83 cfs 256,524 cf
Subcatchment 3Sa: DA 3: CNs w/ IC	Runoff Area=1,033,197 sf 15.85% Impervious Runoff Depth=1.98" Tc=35.3 min CN=75/98 Runoff=28.35 cfs 170,093 cf
Subcatchment 3Sb: DA3: Roofs combined	Runoff Area=92,992 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=8.72 cfs 28,945 cf
Subcatchment 3Sc: DA3: Driveways	Runoff Area=184,684 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=17.32 cfs 57,486 cf
Subcatchment 4S: DA 4: All	Runoff Area=328,557 sf 20.27% Impervious Runoff Depth=2.07" Tc=16.9 min CN=75/98 Runoff=13.43 cfs 56,624 cf
Subcatchment 4Sa: DA 4: CN w/ IC areas	Runoff Area=268,899 sf 2.59% Impervious Runoff Depth=1.70" Tc=16.9 min CN=75/98 Runoff=9.35 cfs 38,055 cf
Subcatchment 4Sb: DA4: Roofs combined	Runoff Area=23,888 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=2.24 cfs 7,435 cf
Subcatchment 4Sc: DA4: Driveways	Runoff Area=35,770 sf 100.00% Impervious Runoff Depth=3.74" Tc=6.0 min CN=0/98 Runoff=3.36 cfs 11,134 cf

Reach 1R: INFLOW PIPE Avg. Flow Depth=0.99' Max Vel=16.09 fps Inflow=41.81 cfs 283,266 cf
 54.0" Round Pipe n=0.013 L=75.0' S=0.0400 '/' Capacity=393.30 cfs Outflow=41.76 cfs 283,271 cf

Reach 2R: OUTFLOW PIPE Avg. Flow Depth=1.17' Max Vel=12.35 fps Inflow=37.67 cfs 274,789 cf
 48.0" Round Pipe n=0.013 L=60.0' S=0.0200 '/' Capacity=203.14 cfs Outflow=37.67 cfs 274,789 cf

Pond 1P: ROAD RG 175SF W/ UDG Peak Elev=97.27' Storage=46,120 cf Inflow=69.50 cfs 288,597 cf
 Primary=41.81 cfs 283,266 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=41.81 cfs 283,266 cf

Pond 2P: Basic Rain Garden (infiltration Peak Elev=99.85' Storage=22,928 cf Inflow=12.42 cfs 41,199 cf
 Discarded=0.41 cfs 41,199 cf Primary=0.00 cfs 0 cf Outflow=0.41 cfs 41,199 cf

Pond 3P: Basic Porous Pavement Peak Elev=99.52' Storage=17,246 cf Inflow=16.92 cfs 56,143 cf
 Discarded=2.09 cfs 56,143 cf Primary=0.00 cfs 0 cf Outflow=2.09 cfs 56,143 cf

Pond 4P: Basin 1 Municipal property 48k Peak Elev=73.35' Storage=47,929 cf Inflow=41.76 cfs 283,271 cf
 Primary=37.67 cfs 274,789 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=37.67 cfs 274,789 cf

Pond 5P: ROAD RG 175SF W/ UDG Peak Elev=96.76' Storage=23,314 cf Inflow=29.47 cfs 187,667 cf
 Primary=22.47 cfs 184,511 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=22.47 cfs 184,511 cf

Pond 6P: Basic Rain Garden (infiltration Peak Elev=99.88' Storage=14,864 cf Inflow=7.98 cfs 26,467 cf
 Discarded=0.26 cfs 26,467 cf Primary=0.00 cfs 0 cf Outflow=0.26 cfs 26,467 cf

Pond 7P: Basic Porous Pavement Peak Elev=99.52' Storage=15,770 cf Inflow=15.47 cfs 51,336 cf
 Discarded=1.91 cfs 51,336 cf Primary=0.00 cfs 0 cf Outflow=1.91 cfs 51,336 cf

Pond 8P: ROAD RG 175SF W/ UDG Peak Elev=96.67' Storage=21,639 cf Inflow=28.35 cfs 170,093 cf
 Primary=21.15 cfs 167,049 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=21.15 cfs 167,049 cf

Pond 9P: Basic Rain Garden (infiltration Peak Elev=100.00' Storage=16,758 cf Inflow=8.72 cfs 28,945 cf
 Discarded=0.26 cfs 28,929 cf Primary=0.01 cfs 16 cf Outflow=0.27 cfs 28,945 cf

Pond 10P: Basic Porous Pavement Peak Elev=99.52' Storage=17,659 cf Inflow=17.32 cfs 57,486 cf
 Discarded=2.14 cfs 57,486 cf Primary=0.00 cfs 0 cf Outflow=2.14 cfs 57,486 cf

Pond 11P: ROAD RG 175SF W/ UDG Peak Elev=100.35' Storage=4,413 cf Inflow=9.35 cfs 38,055 cf
 Primary=3.93 cfs 34,012 cf Secondary=4.97 cfs 3,567 cf Tertiary=0.00 cfs 0 cf Outflow=8.90 cfs 37,578 cf

Pond 12P: Basic Rain Garden (infiltration Peak Elev=99.84' Storage=4,117 cf Inflow=2.24 cfs 7,435 cf
 Discarded=0.07 cfs 7,435 cf Primary=0.00 cfs 0 cf Outflow=0.07 cfs 7,435 cf

Pond 13P: Basic Porous Pavement Peak Elev=99.52' Storage=3,420 cf Inflow=3.36 cfs 11,134 cf
 Discarded=0.41 cfs 11,133 cf Primary=0.00 cfs 0 cf Outflow=0.41 cfs 11,133 cf

Link 1L: Combined Flows Inflow=41.81 cfs 283,266 cf
 Primary=41.81 cfs 283,266 cf

Link 2L: Combined Flows Inflow=22.47 cfs 184,511 cf
 Primary=22.47 cfs 184,511 cf

Link 3L: Combined Flows Inflow=24.83 cfs 204,644 cf
 Primary=24.83 cfs 204,644 cf

Link 4L: Combined Flows

Inflow=49.63 cfs 313,148 cf
Primary=49.63 cfs 313,148 cf

Total Runoff Area = 10,242,368 sf Runoff Volume = 1,929,114 cf Average Runoff Depth = 2.26"
72.62% Pervious = 7,438,492 sf 27.38% Impervious = 2,803,876 sf

Summary for Subcatchment 1S: DA 1: All

Runoff = 90.75 cfs @ 12.26 hrs, Volume= 385,939 cf, Depth= 2.26"
 Routed to nonexistent node 6L

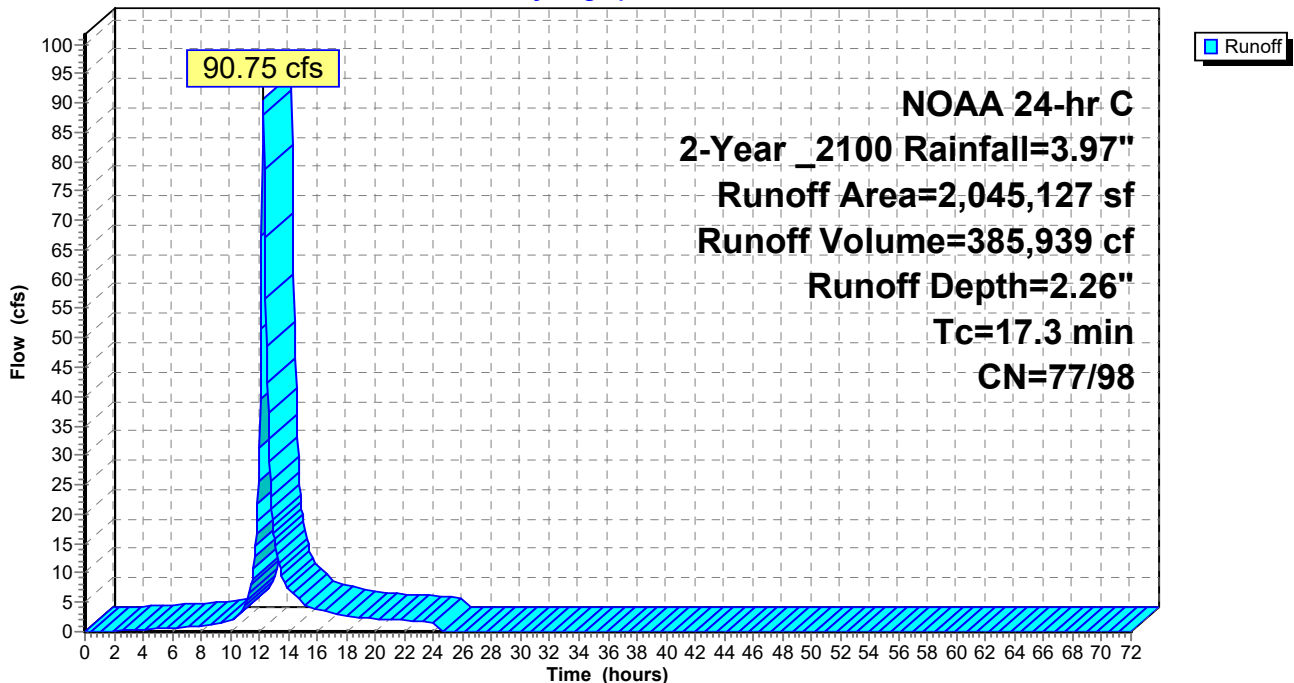
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

	Area (sf)	CN	Description
*	187,351	98	Impervious
	676,806	74	>75% Grass cover, Good, HSG C
	698,470	80	>75% Grass cover, Good, HSG D
	25,343	73	Woods, Fair, HSG C
	726	79	Woods, Fair, HSG D
	41,773	70	Woods, Good, HSG C
	101,927	77	Woods, Good, HSG D
*	132,361	98	Roofs
*	180,370	98	Driveways
	2,045,127	82	Weighted Average
	1,545,045	77	75.55% Pervious Area
	500,082	98	24.45% Impervious Area

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

Subcatchment 1S: DA 1: All

Hydrograph



Summary for Subcatchment 1Sa: DA 1: CN w/ IC areas

Runoff = 69.50 cfs @ 12.27 hrs, Volume= 288,597 cf, Depth= 2.00"

Routed to Pond 1P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

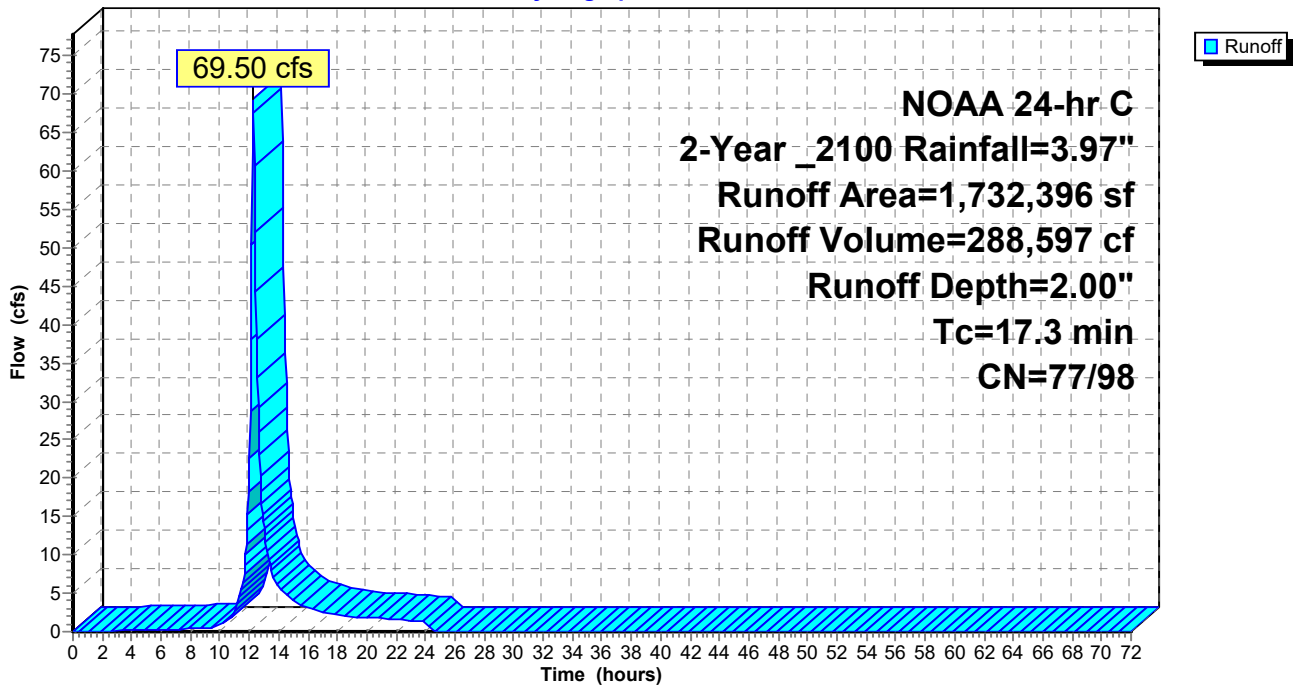
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 187,351	98	Impervious
676,806	74	>75% Grass cover, Good, HSG C
698,470	80	>75% Grass cover, Good, HSG D
25,343	73	Woods, Fair, HSG C
726	79	Woods, Fair, HSG D
41,773	70	Woods, Good, HSG C
101,927	77	Woods, Good, HSG D
1,732,396	79	Weighted Average
1,545,045	77	89.19% Pervious Area
187,351	98	10.81% Impervious Area

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

Subcatchment 1Sa: DA 1: CN w/ IC areas

Hydrograph



Summary for Subcatchment 1Sb: DA1: Roofs combined

Runoff = 12.42 cfs @ 12.13 hrs, Volume= 41,199 cf, Depth= 3.74"

Routed to Pond 2P : Basic Rain Garden (infiltration only) 500 sf

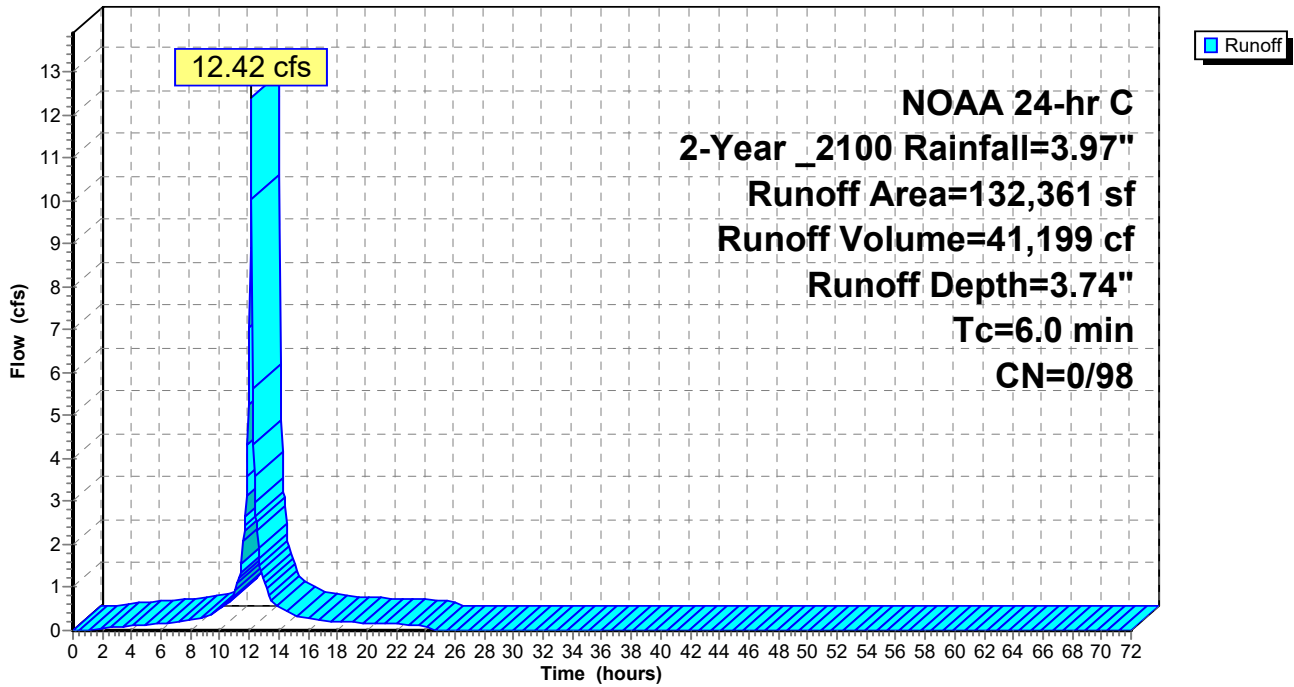
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 132,361	98	
132,361	98	100.00% Impervious Area

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

Subcatchment 1Sb: DA1: Roofs combined

Hydrograph



Summary for Subcatchment 1Sc: DA1: Driveways (other)

Runoff = 16.92 cfs @ 12.13 hrs, Volume= 56,143 cf, Depth= 3.74"

Routed to Pond 3P : Basic Porous Pavement (infiltration only)

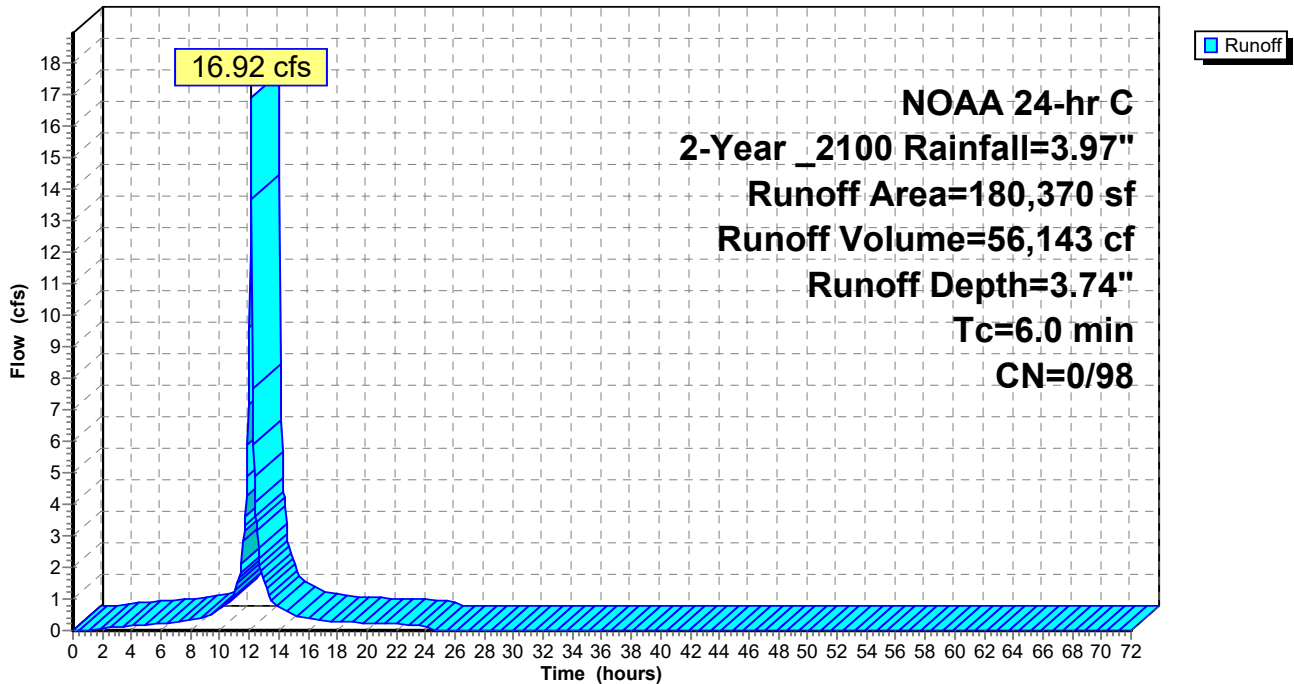
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 180,370	98	Impervious Driveways (other)
180,370	98	100.00% Impervious Area

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

Subcatchment 1Sc: DA1: Driveways (other)

Hydrograph



Summary for Subcatchment 2S: DA 2: All

Runoff = 40.87 cfs @ 12.55 hrs, Volume= 265,470 cf, Depth= 2.22"

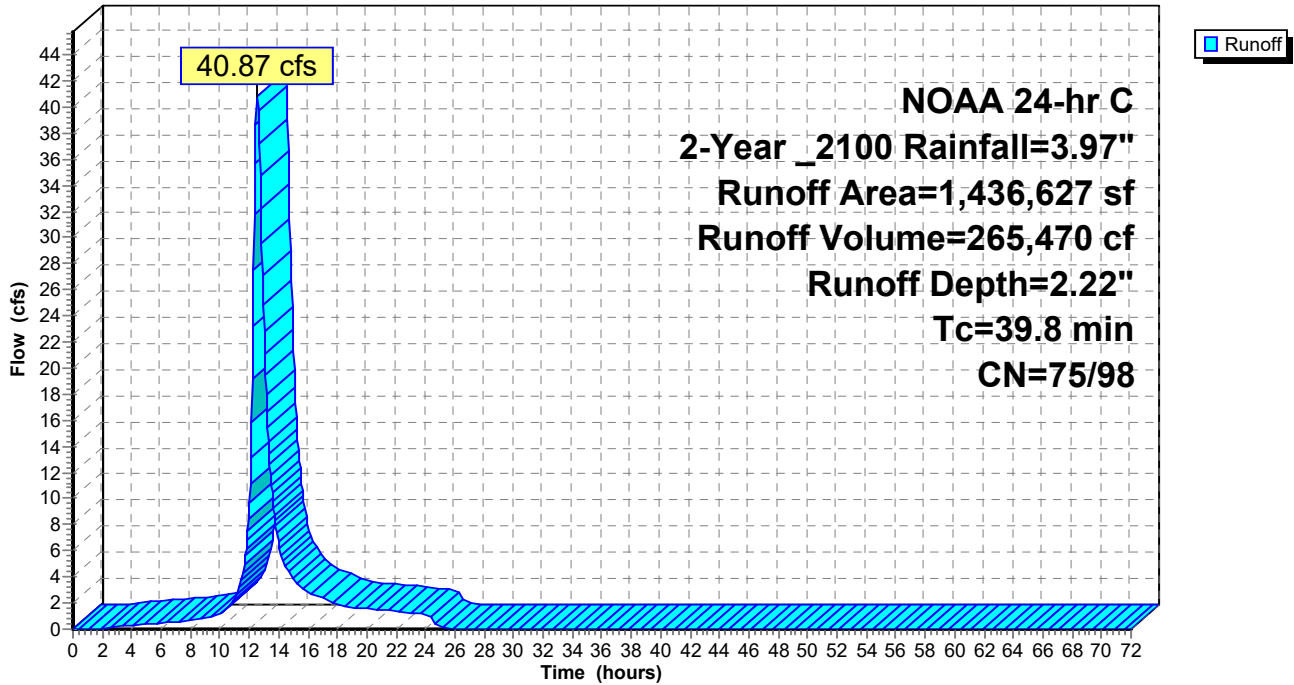
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

	Area (sf)	CN	Description
*	143,894	98	Impervious
	1,270	65	Brush, Good, HSG C
	946,207	74	>75% Grass cover, Good, HSG C
	93,778	80	>75% Grass cover, Good, HSG D
	1,520	72	Woods/grass comb., Good, HSG C
*	85,031	98	Roofs
*	164,927	98	Driveways
<hr/>			
	1,436,627	81	Weighted Average
	1,042,775	75	72.58% Pervious Area
	393,852	98	27.42% Impervious Area

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

Subcatchment 2S: DA 2: All

Hydrograph



Summary for Subcatchment 2Sa: DA 2: CN w/ IC areas

Runoff = 29.47 cfs @ 12.56 hrs, Volume= 187,667 cf, Depth= 1.90"

Routed to Pond 5P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

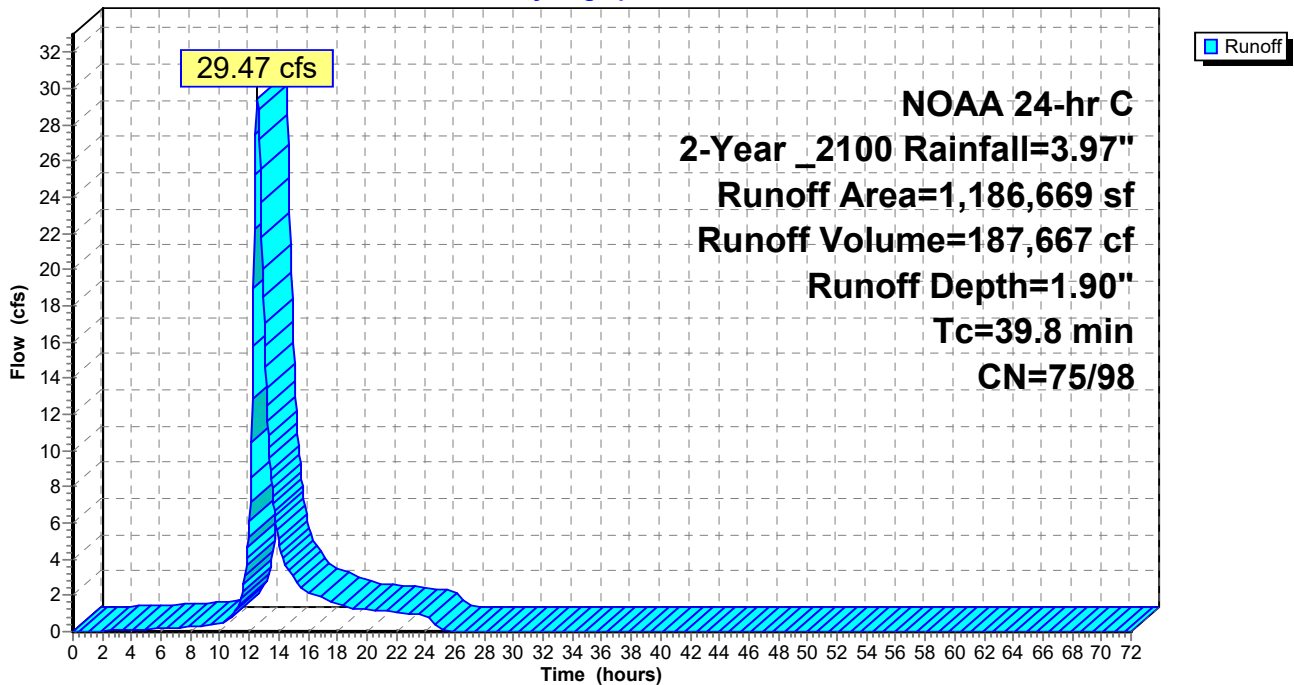
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 143,894	98	Impervious
1,270	65	Brush, Good, HSG C
946,207	74	>75% Grass cover, Good, HSG C
93,778	80	>75% Grass cover, Good, HSG D
1,520	72	Woods/grass comb., Good, HSG C
1,186,669	77	Weighted Average
1,042,775	75	87.87% Pervious Area
143,894	98	12.13% Impervious Area

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

Subcatchment 2Sa: DA 2: CN w/ IC areas

Hydrograph



Summary for Subcatchment 2Sb: DA2: Roofs combined

Runoff = 7.98 cfs @ 12.13 hrs, Volume= 26,467 cf, Depth= 3.74"

Routed to Pond 6P : Basic Rain Garden (infiltration only) 500SF

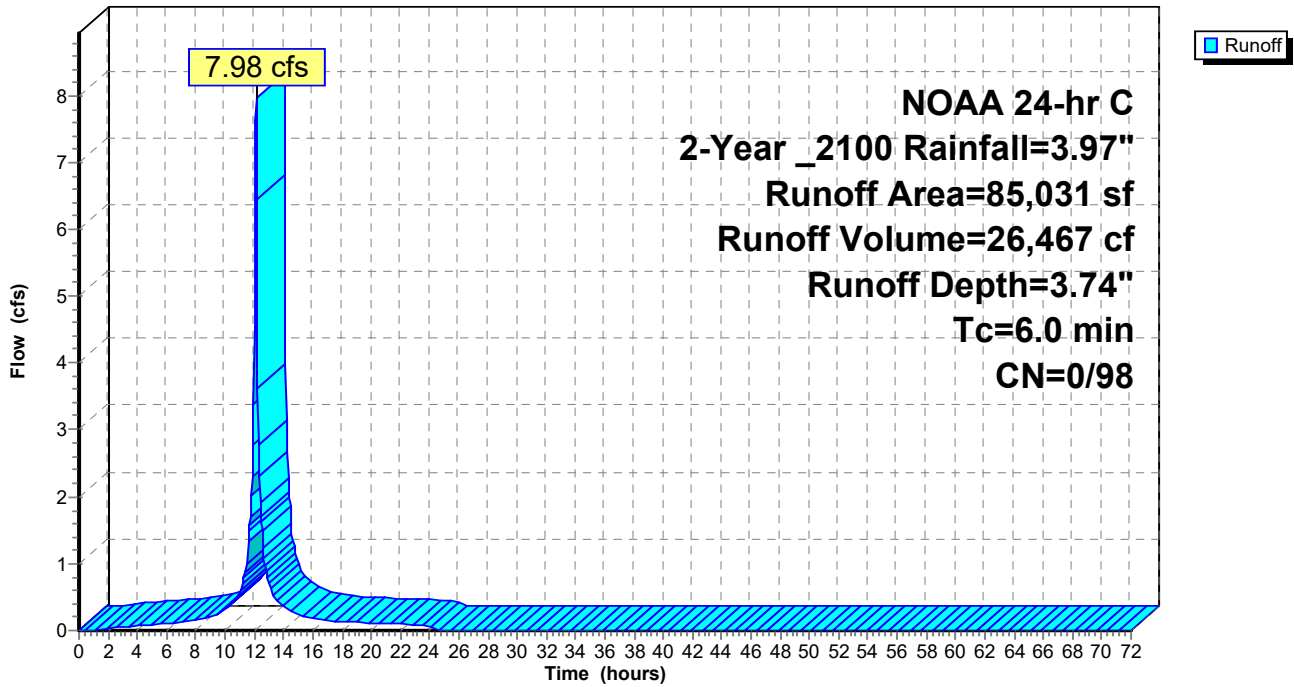
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 85,031	98	
85,031	98	100.00% Impervious Area

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

Subcatchment 2Sb: DA2: Roofs combined

Hydrograph



Summary for Subcatchment 2Sc: DA2: Driveways (other)

Runoff = 15.47 cfs @ 12.13 hrs, Volume= 51,336 cf, Depth= 3.74"

Routed to Pond 7P : Basic Porous Pavement (infiltration only)

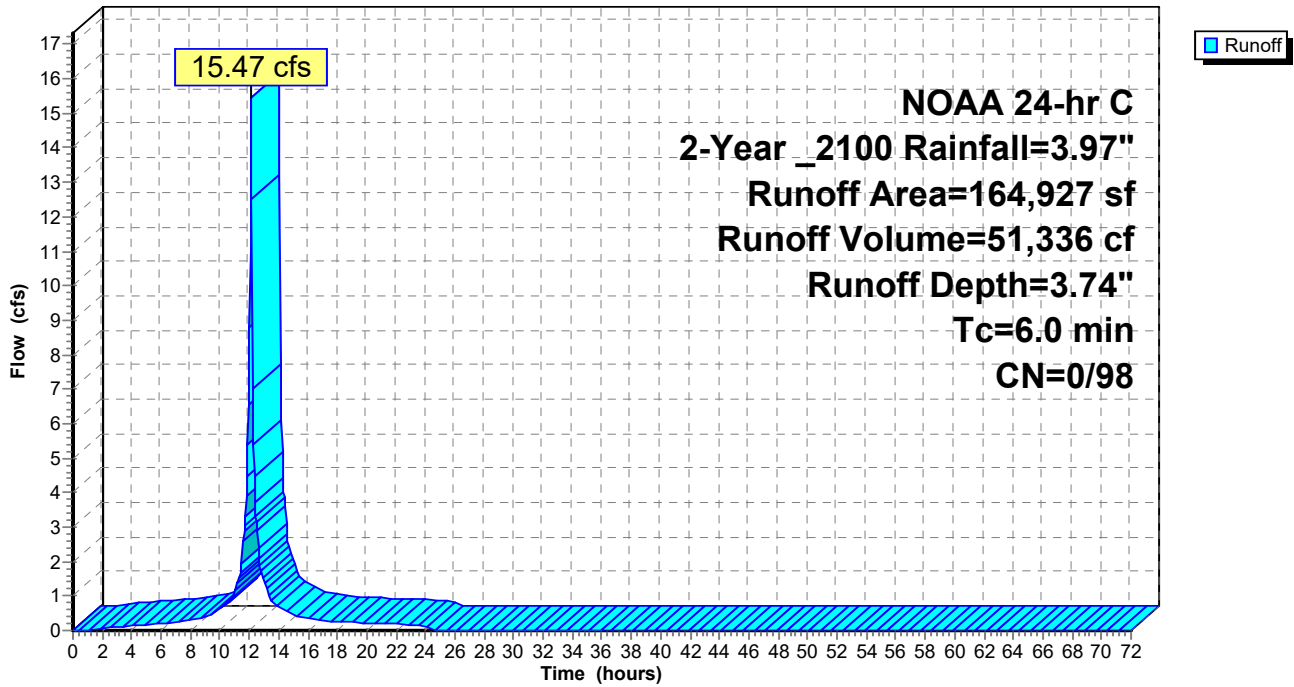
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 164,927	98	Impervious Driveways (other)
164,927	98	100.00% Impervious Area

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

Subcatchment 2Sc: DA2: Driveways (other)

Hydrograph



Summary for Subcatchment 3S: DA 3: All

Runoff = 41.83 cfs @ 12.49 hrs, Volume= 256,524 cf, Depth= 2.35"
 Routed to Link 4L : Combined Flows

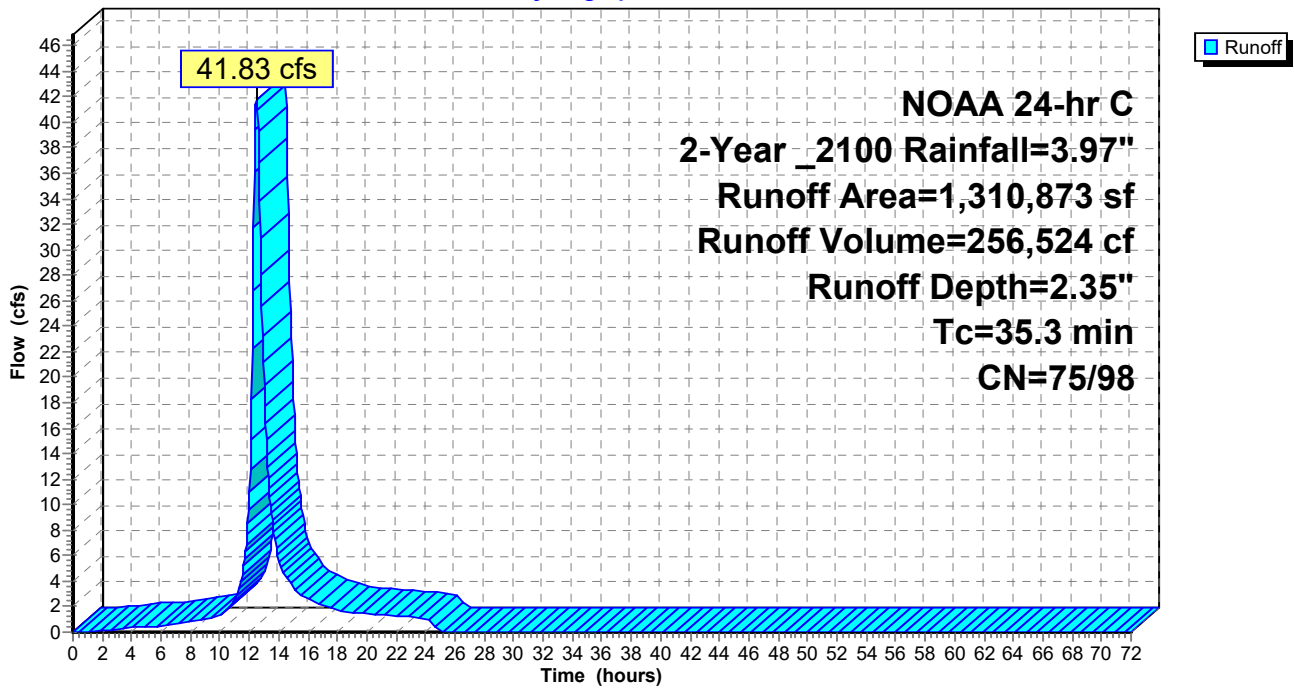
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
*	92,992	98	Roofs
*	184,684	98	Driveways
	1,310,873	83	Weighted Average
	869,479	75	66.33% Pervious Area
	441,394	98	33.67% Impervious Area

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

Subcatchment 3S: DA 3: All

Hydrograph



Summary for Subcatchment 3Sa: DA 3: CNs w/ IC areas

Runoff = 28.35 cfs @ 12.50 hrs, Volume= 170,093 cf, Depth= 1.98"

Routed to Pond 8P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

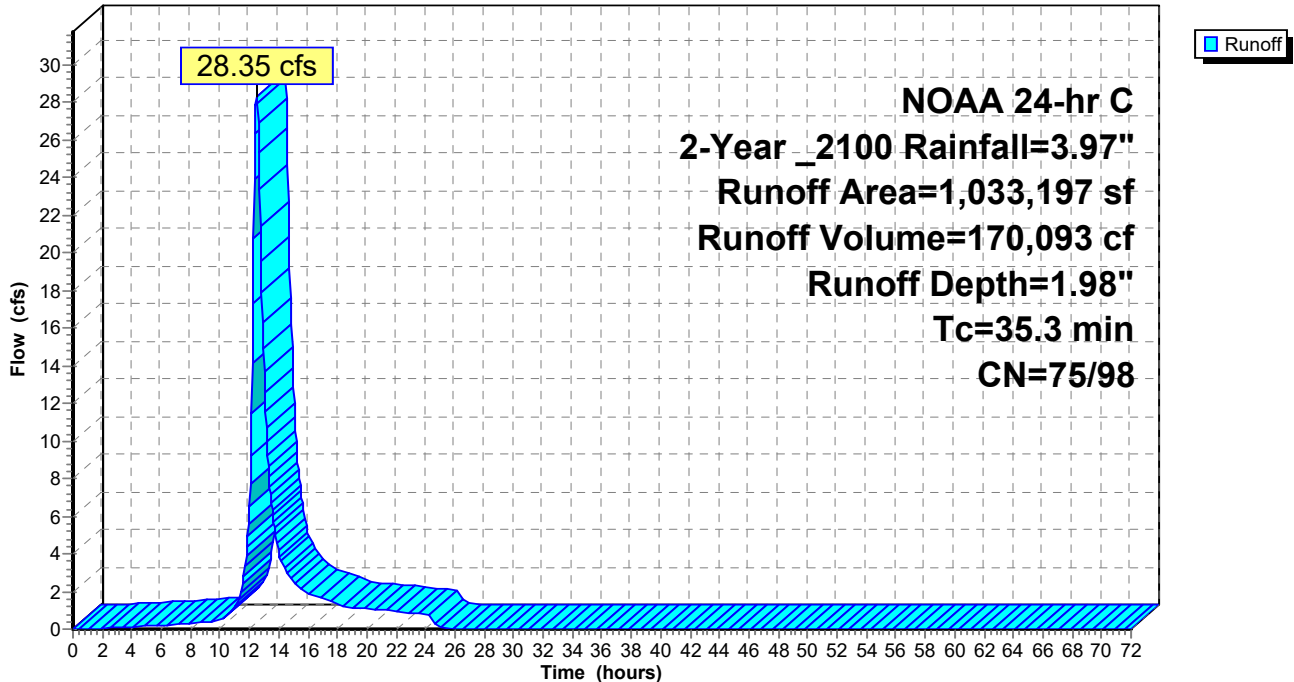
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 163,718	98	Impervious
4,569	65	Brush, Good, HSG C
730,392	74	>75% Grass cover, Good, HSG C
134,518	80	>75% Grass cover, Good, HSG D
1,033,197	79	Weighted Average
869,479	75	84.15% Pervious Area
163,718	98	15.85% Impervious Area

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

Subcatchment 3Sa: DA 3: CNs w/ IC areas

Hydrograph



Summary for Subcatchment 3Sb: DA3: Roofs combined

Runoff = 8.72 cfs @ 12.13 hrs, Volume= 28,945 cf, Depth= 3.74"

Routed to Pond 9P : Basic Rain Garden (infiltration only) 500 SF

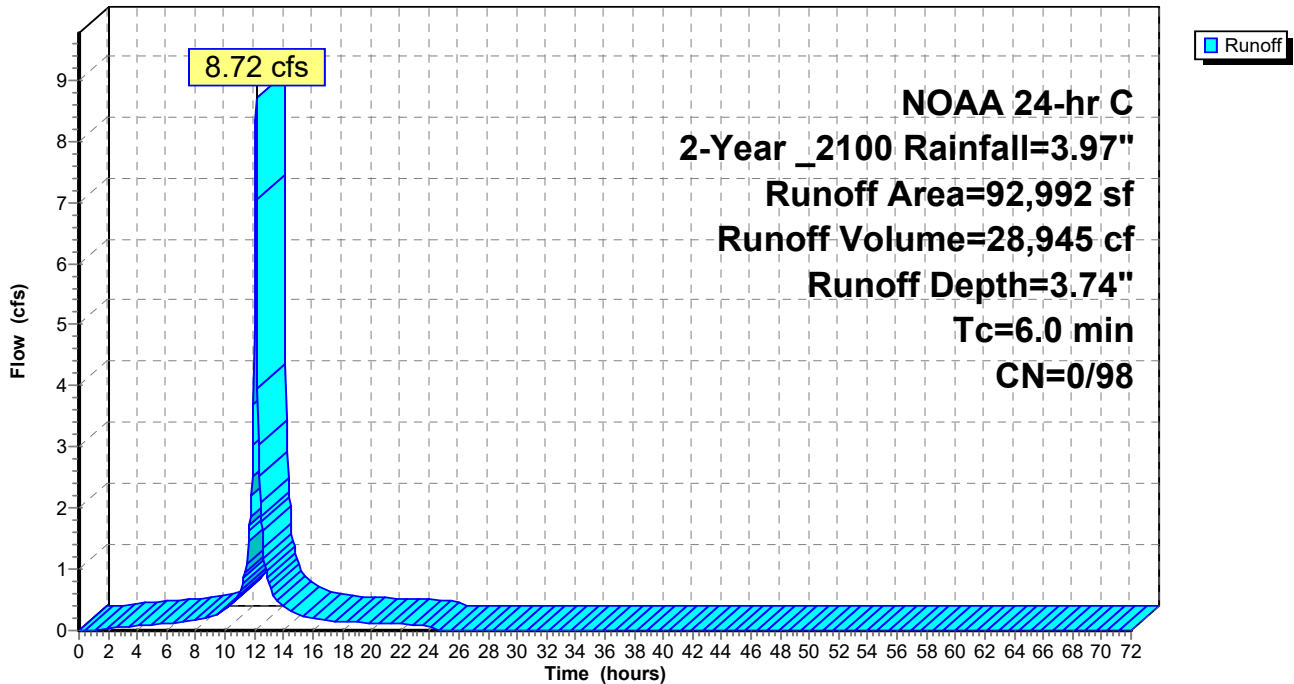
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 92,992	98	
92,992	98	100.00% Impervious Area

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

Subcatchment 3Sb: DA3: Roofs combined

Hydrograph



Summary for Subcatchment 3Sc: DA3: Driveways (other)

Runoff = 17.32 cfs @ 12.13 hrs, Volume= 57,486 cf, Depth= 3.74"
 Routed to Pond 10P : Basic Porous Pavement (infiltration only)

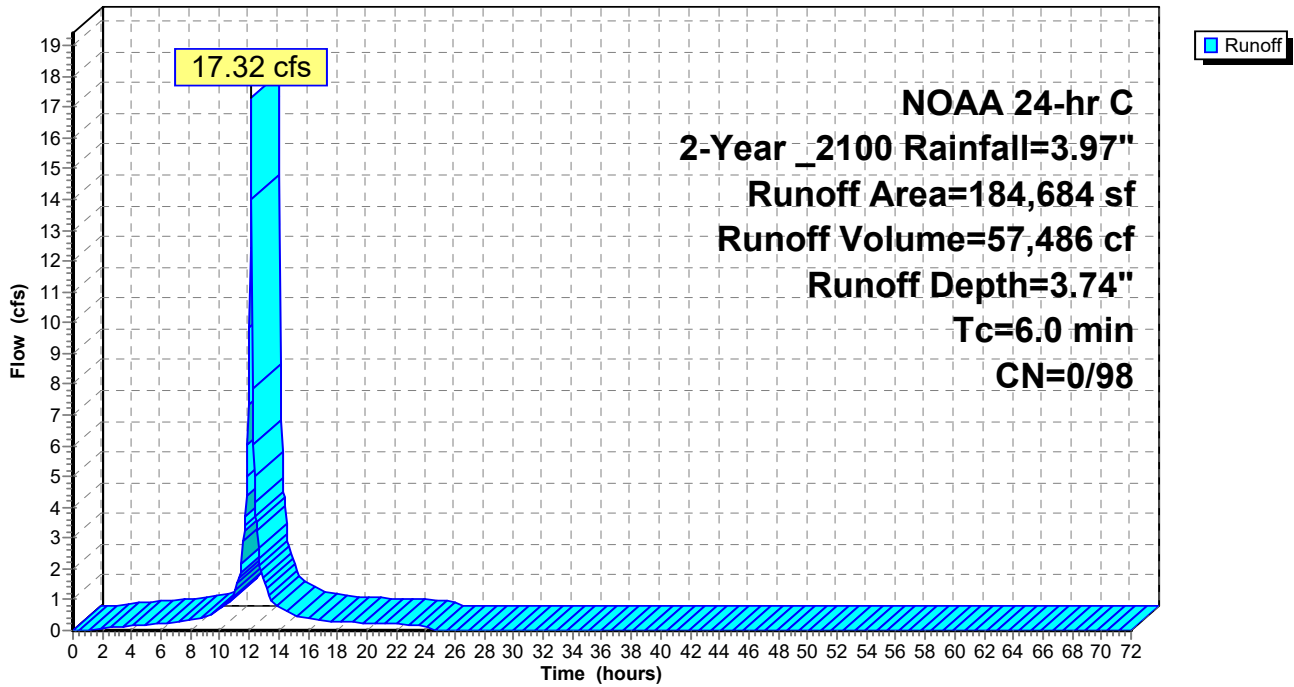
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 184,684	98	Impervious Driveways (other)
184,684	98	100.00% Impervious Area

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

Subcatchment 3Sc: DA3: Driveways (other)

Hydrograph



Summary for Subcatchment 4S: DA 4: All

Runoff = 13.43 cfs @ 12.26 hrs, Volume= 56,624 cf, Depth= 2.07"
 Routed to Link 4L : Combined Flows

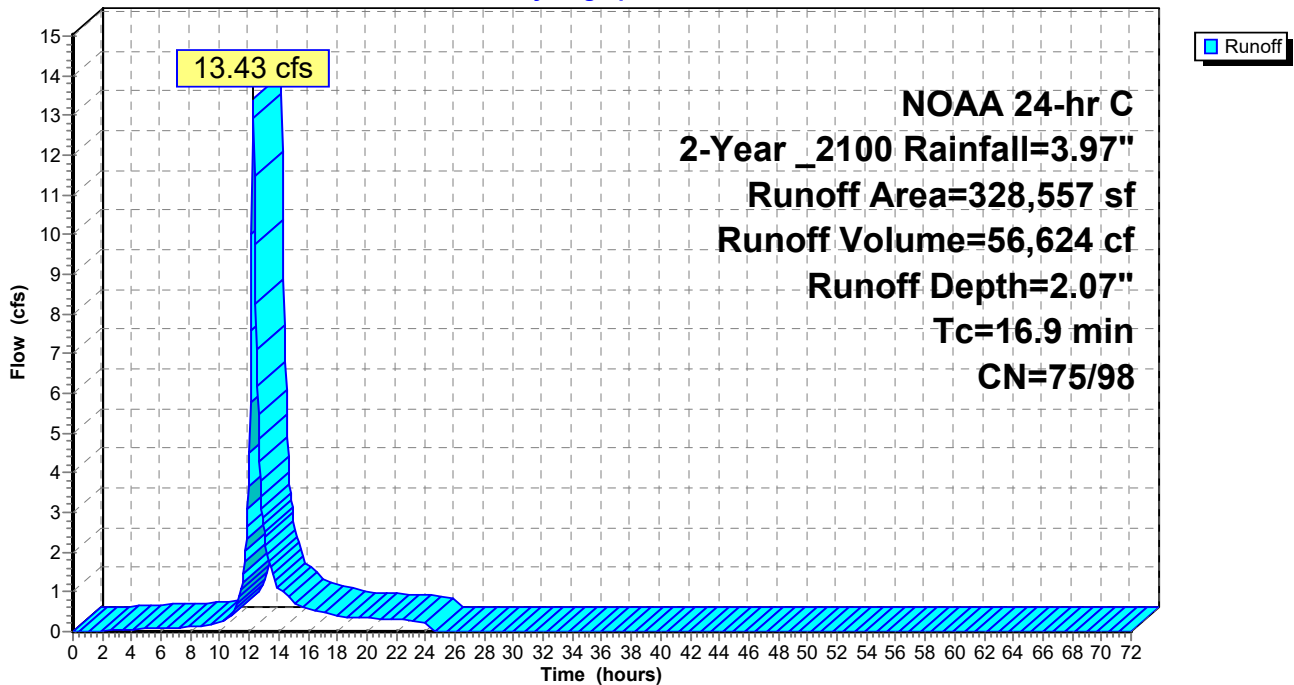
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
*	23,888	98	Roofs
*	35,770	98	Driveways
	328,557	80	Weighted Average
	261,947	75	79.73% Pervious Area
	66,610	98	20.27% Impervious Area

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

Subcatchment 4S: DA 4: All

Hydrograph



Summary for Subcatchment 4Sa: DA 4: CN w/ IC areas

Runoff = 9.35 cfs @ 12.26 hrs, Volume= 38,055 cf, Depth= 1.70"

Routed to Pond 11P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

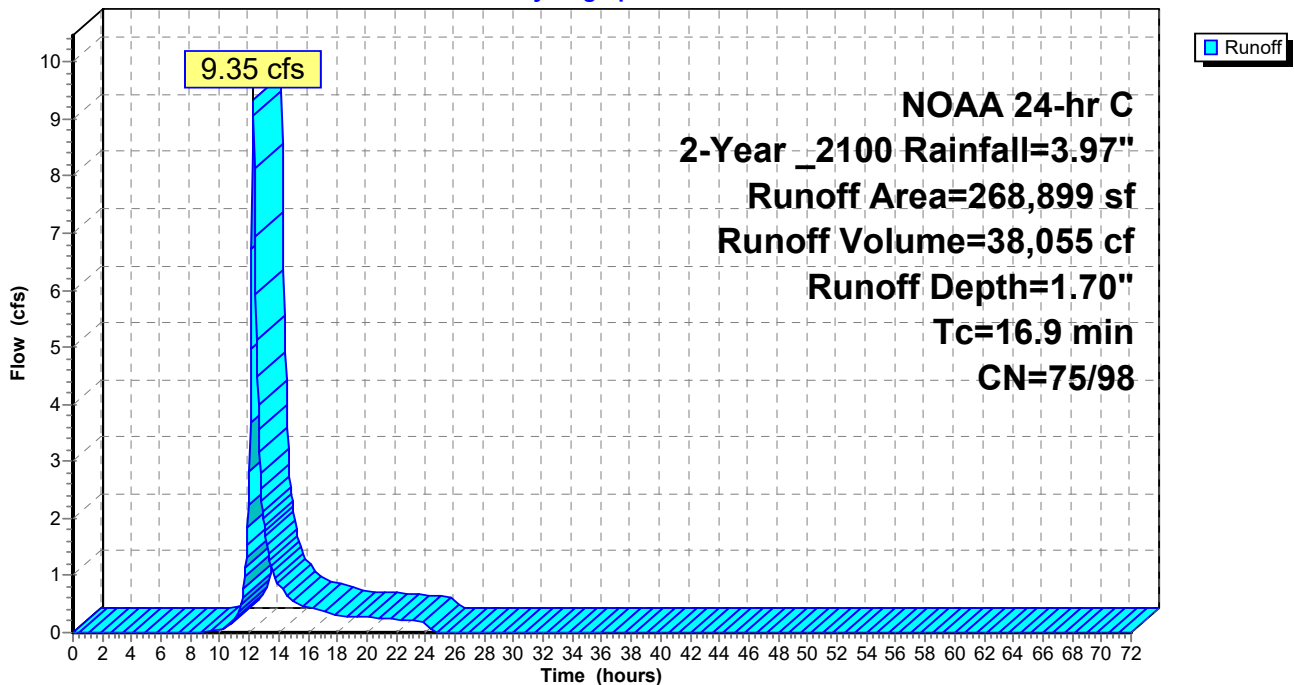
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
	268,899	76	Weighted Average
	261,947	75	97.41% Pervious Area
	6,952	98	2.59% Impervious Area

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

Subcatchment 4Sa: DA 4: CN w/ IC areas

Hydrograph



Summary for Subcatchment 4Sb: DA4: Roofs combined

Runoff = 2.24 cfs @ 12.13 hrs, Volume= 7,435 cf, Depth= 3.74"

Routed to Pond 12P : Basic Rain Garden (infiltration only) 500SF

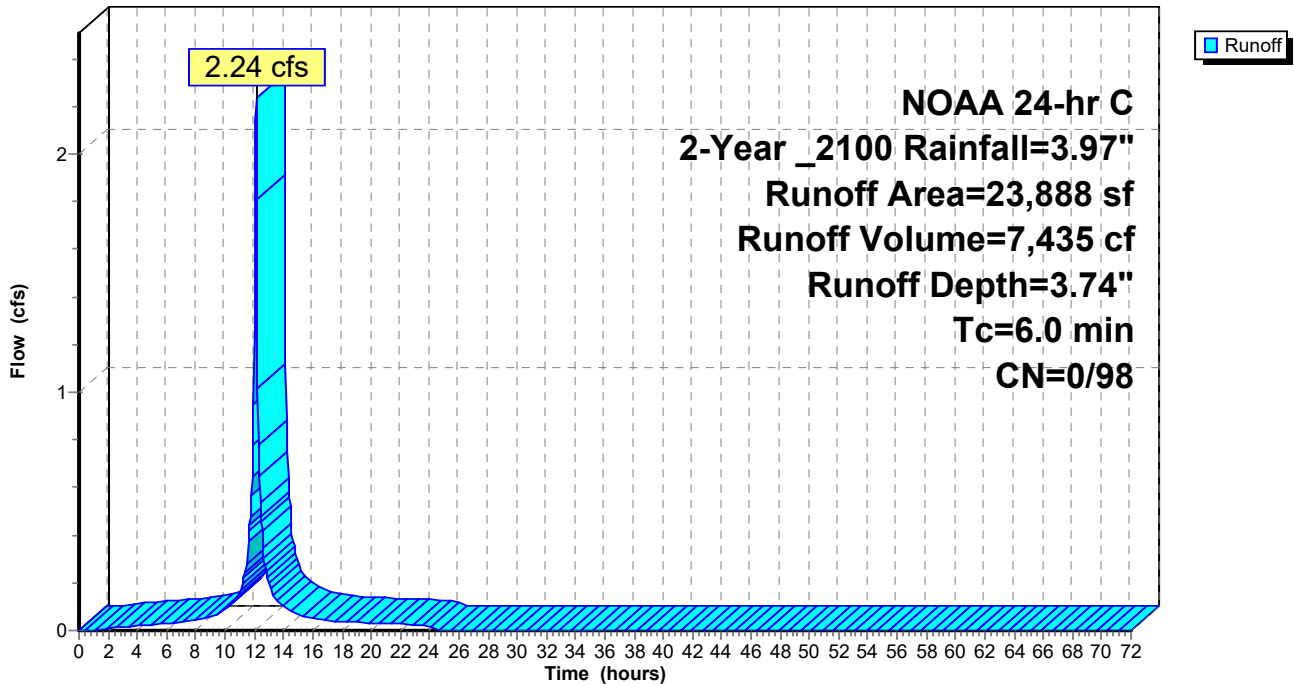
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 23,888	98	
23,888	98	100.00% Impervious Area

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

Subcatchment 4Sb: DA4: Roofs combined

Hydrograph



Summary for Subcatchment 4Sc: DA4: Driveways (other)

Runoff = 3.36 cfs @ 12.13 hrs, Volume= 11,134 cf, Depth= 3.74"

Routed to Pond 13P : Basic Porous Pavement (infiltration only)

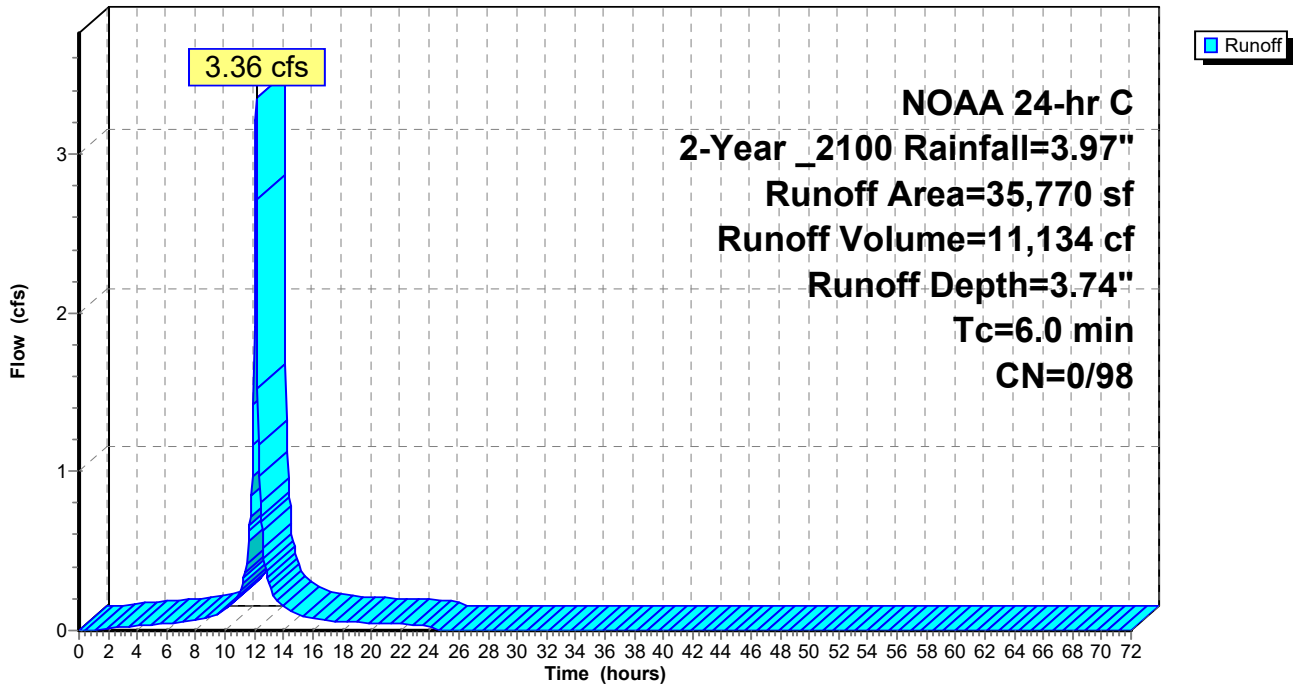
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 2-Year _2100 Rainfall=3.97"

Area (sf)	CN	Description
* 35,770	98	Impervious Driveways (other)
35,770	98	100.00% Impervious Area

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

Subcatchment 4Sc: DA4: Driveways (other)

Hydrograph



Summary for Reach 1R: INFLOW PIPE

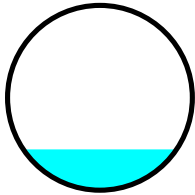
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.66" for 2-Year _2100 event
Inflow = 41.81 cfs @ 12.47 hrs, Volume= 283,266 cf
Outflow = 41.76 cfs @ 12.47 hrs, Volume= 283,271 cf, Atten= 0%, Lag= 0.1 min
Routed to Pond 4P : Basin 1 Municipal property 48k sf

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Max. Velocity= 16.09 fps, Min. Travel Time= 0.1 min
Avg. Velocity= 6.04 fps, Avg. Travel Time= 0.2 min

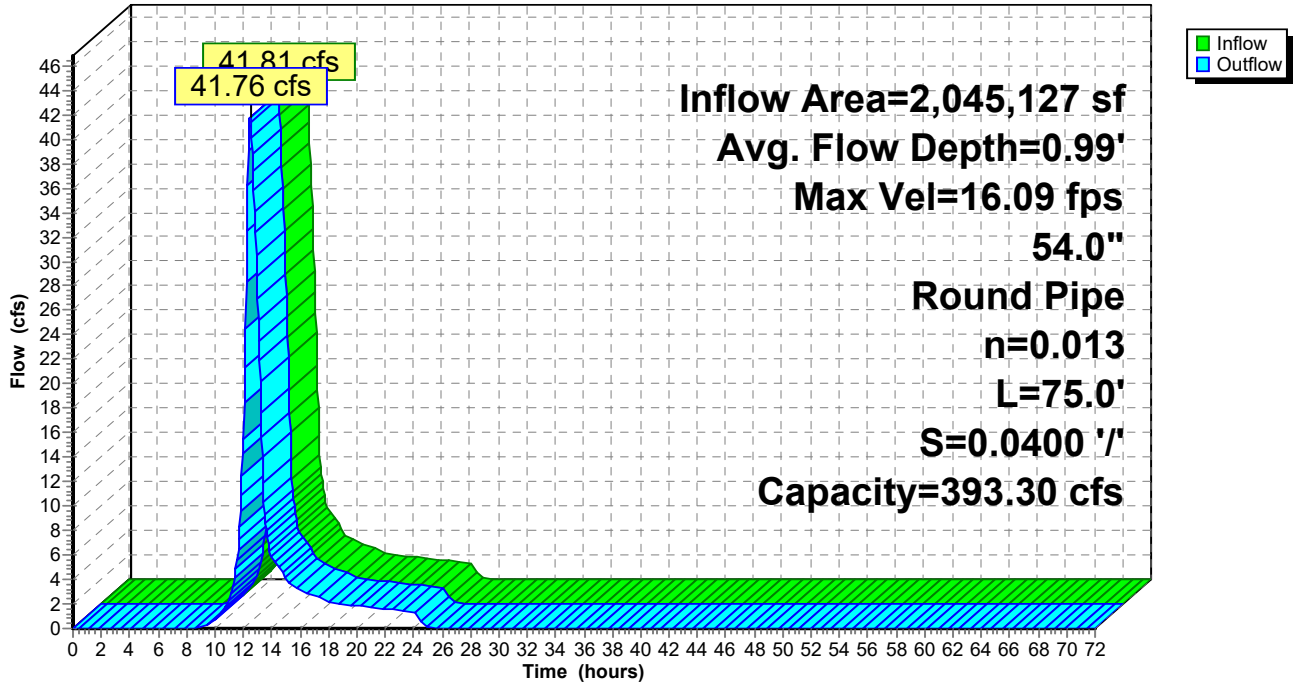
Peak Storage= 195 cf @ 12.47 hrs
Average Depth at Peak Storage= 0.99' , Surface Width= 3.73'
Bank-Full Depth= 4.50' Flow Area= 15.9 sf, Capacity= 393.30 cfs

54.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 75.0' Slope= 0.0400 '/'
Inlet Invert= 75.00', Outlet Invert= 72.00'



Reach 1R: INFLOW PIPE

Hydrograph



Summary for Reach 2R: OUTFLOW PIPE

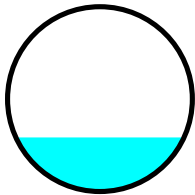
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.61" for 2-Year _2100 event
 Inflow = 37.67 cfs @ 12.69 hrs, Volume= 274,789 cf
 Outflow = 37.67 cfs @ 12.69 hrs, Volume= 274,789 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Max. Velocity= 12.35 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 2.86 fps, Avg. Travel Time= 0.3 min

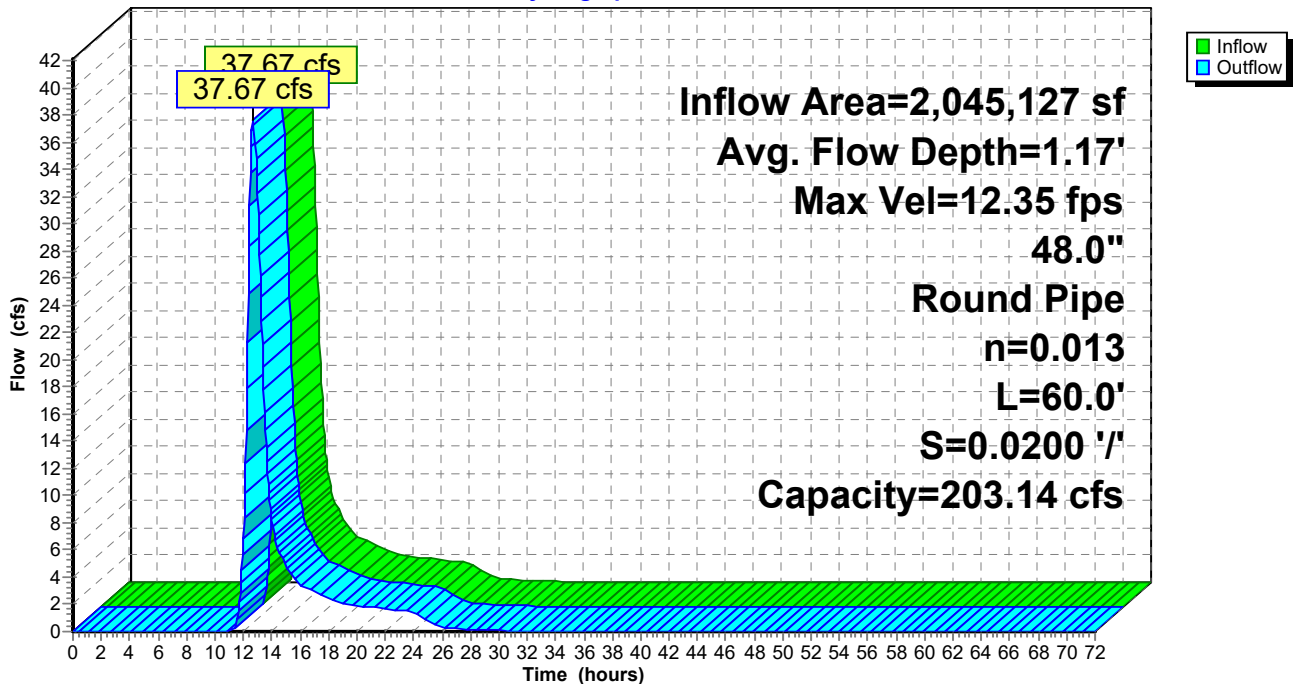
Peak Storage= 183 cf @ 12.69 hrs
 Average Depth at Peak Storage= 1.17' , Surface Width= 3.64'
 Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 203.14 cfs

48.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 60.0' Slope= 0.0200 '/'
 Inlet Invert= 68.00', Outlet Invert= 66.80'



Reach 2R: OUTFLOW PIPE

Hydrograph



Summary for Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,732,396 sf, 10.81% Impervious, Inflow Depth = 2.00" for 2-Year _2100 event
 Inflow = 69.50 cfs @ 12.27 hrs, Volume= 288,597 cf
 Outflow = 41.81 cfs @ 12.47 hrs, Volume= 283,266 cf, Atten= 40%, Lag= 12.3 min
 Primary = 41.81 cfs @ 12.47 hrs, Volume= 283,266 cf
 Routed to Link 1L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 97.27' @ 12.47 hrs Surf.Area= 22,749 sf Storage= 46,120 cf

Plug-Flow detention time= 31.7 min calculated for 283,069 cf (98% of inflow)
 Center-of-Mass det. time= 20.8 min (857.1 - 836.3)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 45.00 = 78,177 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 45.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 45.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 45.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 45.00**
2 End Contraction(s)

Primary OutFlow Max=41.71 cfs @ 12.47 hrs HW=97.26' (Free Discharge)

↑1=Culvert (Passes 41.71 cfs of 62.77 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 41.71 cfs @ 4.72 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

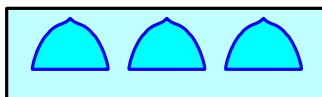
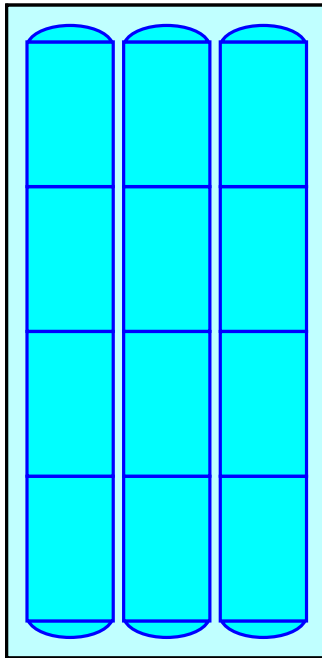
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

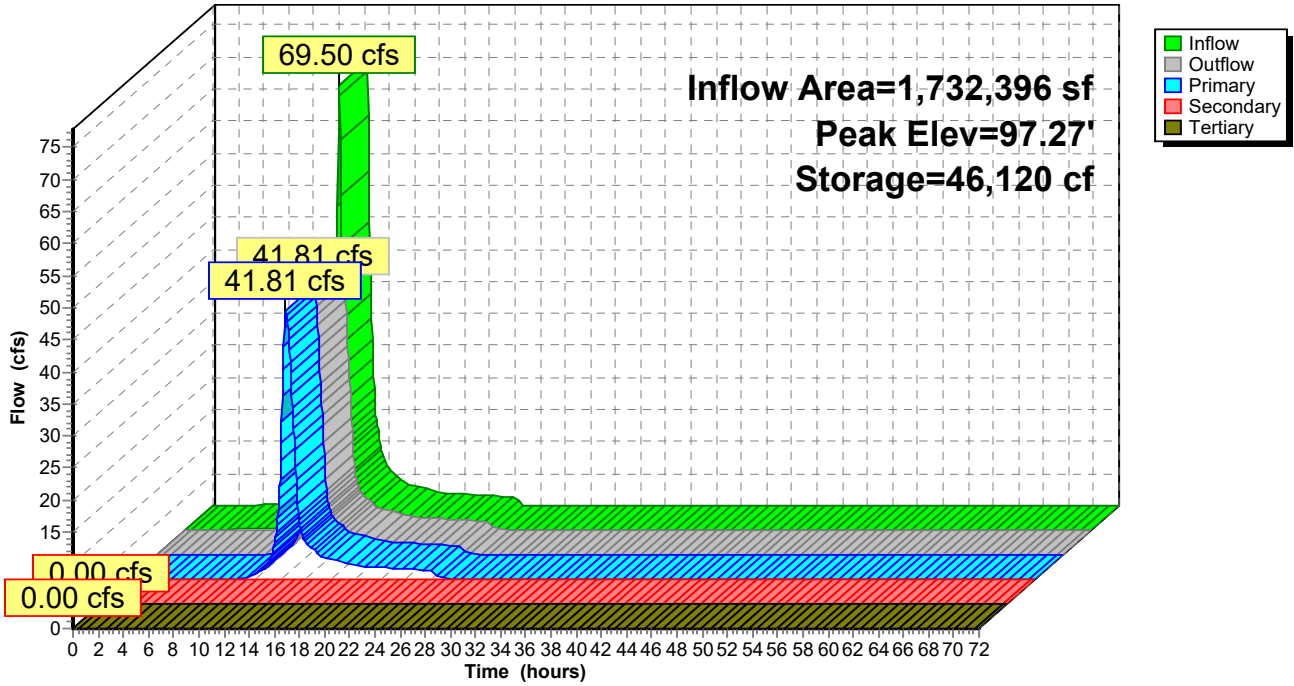
84.3 cy Field

63.8 cy Stone



Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Assumes infiltration through media is non-limiting.

Inflow Area = 132,361 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 12.42 cfs @ 12.13 hrs, Volume= 41,199 cf
 Outflow = 0.41 cfs @ 14.78 hrs, Volume= 41,199 cf, Atten= 97%, Lag= 159.3 min
 Discarded = 0.41 cfs @ 14.78 hrs, Volume= 41,199 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.85' @ 14.78 hrs Surf.Area= 35,053 sf Storage= 22,928 cf

Plug-Flow detention time= 534.9 min calculated for 41,171 cf (100% of inflow)
 Center-of-Mass det. time= 535.1 min (1,288.2 - 753.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 76.00 = 47,273 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

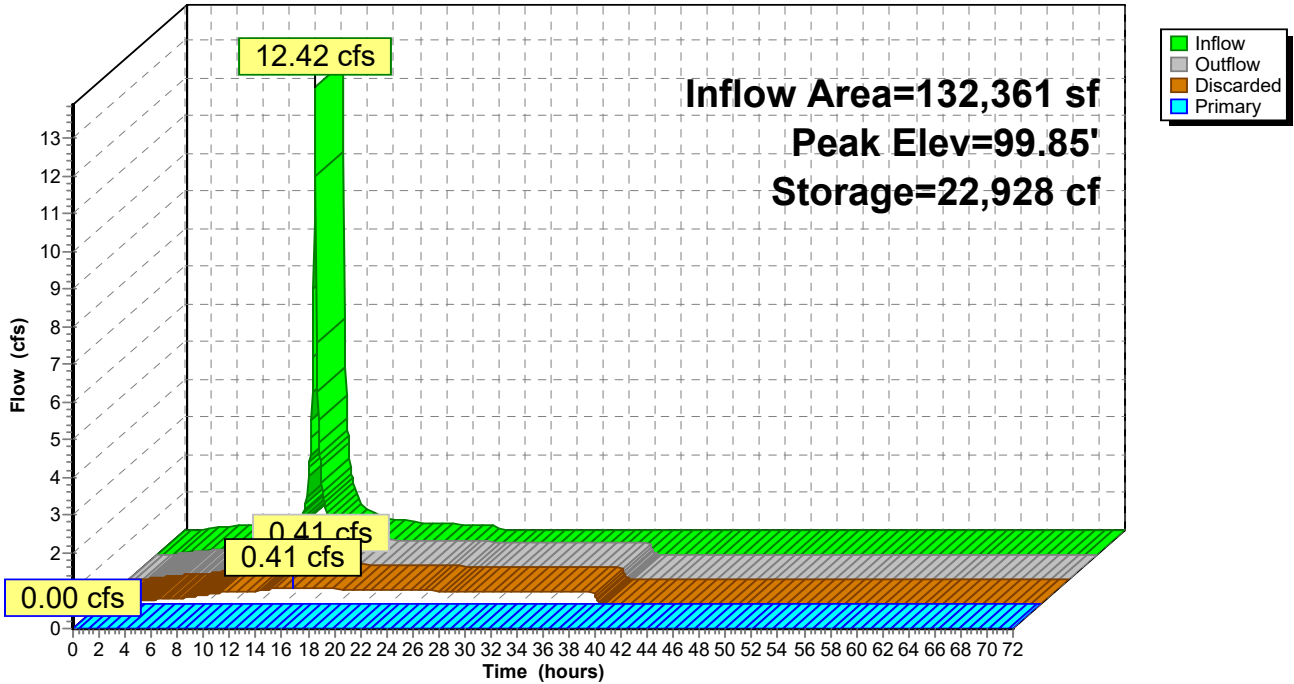
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 76.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.41 cfs @ 14.78 hrs HW=99.85' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Hydrograph



Summary for Pond 3P: Basic Porous Pavement (infiltration only)

Inflow Area = 180,370 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 16.92 cfs @ 12.13 hrs, Volume= 56,143 cf
 Outflow = 2.09 cfs @ 11.60 hrs, Volume= 56,143 cf, Atten= 88%, Lag= 0.0 min
 Discarded = 2.09 cfs @ 11.60 hrs, Volume= 56,143 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.52' @ 12.71 hrs Surf.Area= 180,370 sf Storage= 17,246 cf

Plug-Flow detention time= 52.0 min calculated for 56,104 cf (100% of inflow)
 Center-of-Mass det. time= 52.0 min (805.0 - 753.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	81,888 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	180,370	0.0	0	0
99.75	180,370	35.0	31,565	31,565
99.83	180,370	15.0	2,164	33,729
100.01	180,370	15.0	4,870	38,599
100.25	180,370	100.0	43,289	81,888

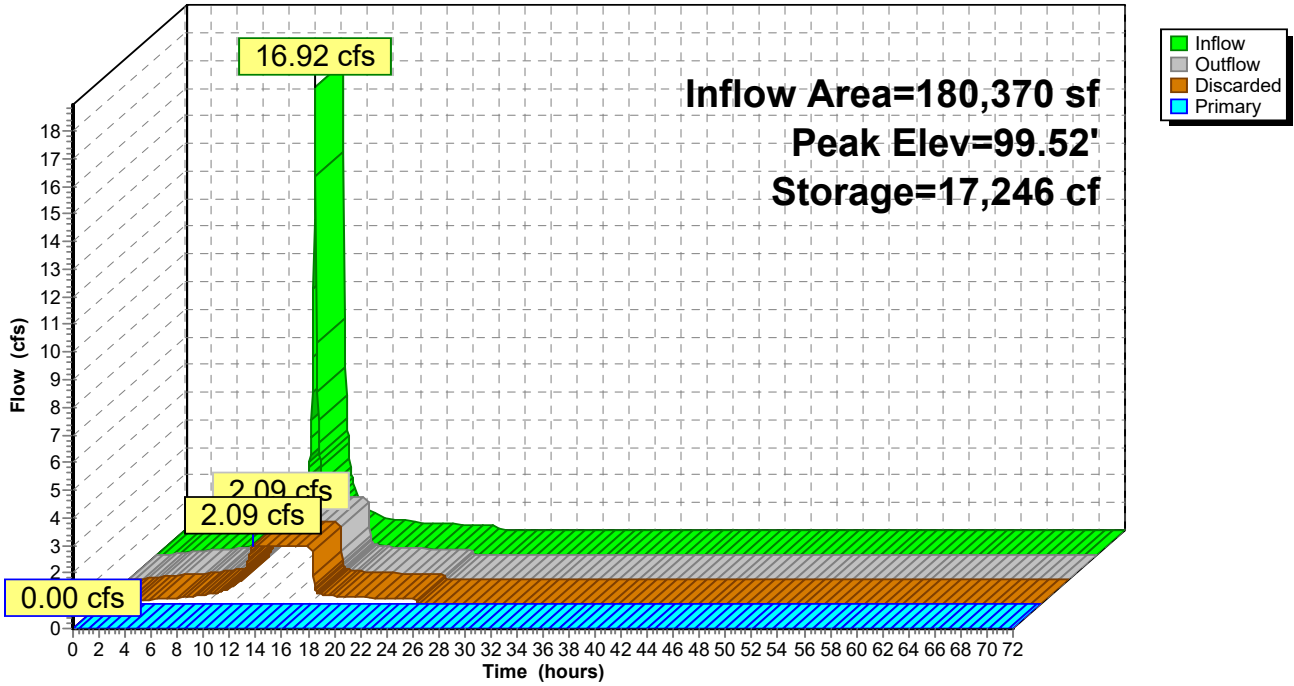
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.09 cfs @ 11.60 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 3P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 4P: Basin 1 Municipal property 48k sf

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.47' @ 13.40 hrs

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.66" for 2-Year _2100 event
 Inflow = 41.76 cfs @ 12.47 hrs, Volume= 283,271 cf
 Outflow = 37.67 cfs @ 12.69 hrs, Volume= 274,789 cf, Atten= 10%, Lag= 13.1 min
 Primary = 37.67 cfs @ 12.69 hrs, Volume= 274,789 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 73.35' @ 12.69 hrs Surf.Area= 37,714 sf Storage= 47,929 cf

Plug-Flow detention time= 63.8 min calculated for 274,789 cf (97% of inflow)
 Center-of-Mass det. time= 45.7 min (903.1 - 857.3)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	206,538 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	33,525	0	0
77.00	49,090	206,538	206,538

Device	Routing	Invert	Outlet Devices
#1	Primary	72.25'	24.0" Vert. Low Flow Orifice X 6.00 C= 0.600 Limited to weir flow at low heads
#2	Secondary	74.50'	24.0" W x 18.0" H Vert. SECONDARY OUTLET X 4.00 C= 0.600 Limited to weir flow at low heads
#3	Tertiary	76.75'	60.0" x 60.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

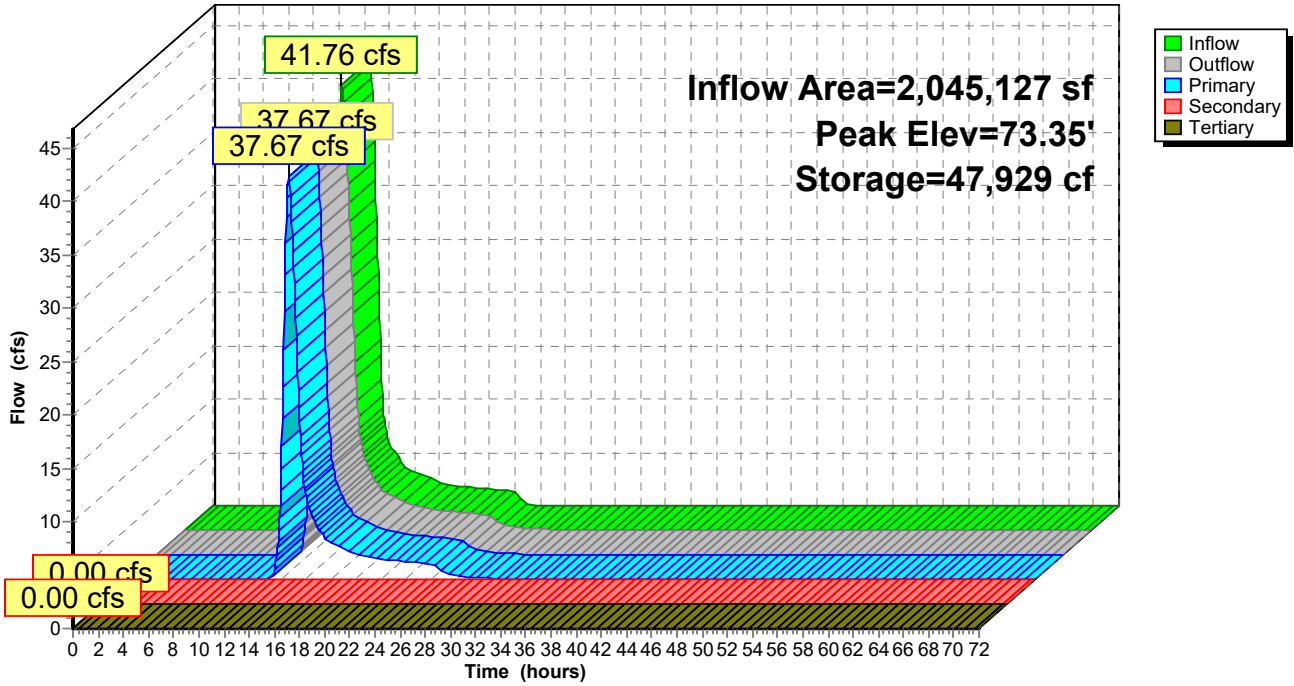
Primary OutFlow Max=37.64 cfs @ 12.69 hrs HW=73.35' (Free Discharge)
 ↑1=**Low Flow Orifice** (Orifice Controls 37.64 cfs @ 3.56 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑2=**SECONDARY OUTLET** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑3=**Orifice/Grate** (Controls 0.00 cfs)

Pond 4P: Basin 1 Municipal property 48k sf

Hydrograph



Summary for Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,186,669 sf, 12.13% Impervious, Inflow Depth = 1.90" for 2-Year _2100 event
 Inflow = 29.47 cfs @ 12.56 hrs, Volume= 187,667 cf
 Outflow = 22.47 cfs @ 12.83 hrs, Volume= 184,511 cf, Atten= 24%, Lag= 16.1 min
 Primary = 22.47 cfs @ 12.83 hrs, Volume= 184,511 cf
 Routed to Link 2L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 96.76' @ 12.83 hrs Surf.Area= 13,649 sf Storage= 23,314 cf

Plug-Flow detention time= 30.2 min calculated for 184,383 cf (98% of inflow)
 Center-of-Mass det. time= 20.3 min (878.5 - 858.2)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 27.00 = 46,906 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 27.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 27.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 27.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 27.00**
2 End Contraction(s)

Primary OutFlow Max=22.45 cfs @ 12.83 hrs HW=96.76' (Free Discharge)

↑1=Culvert (Passes 22.45 cfs of 33.86 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 22.45 cfs @ 4.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

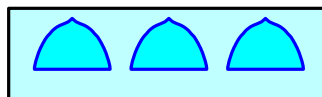
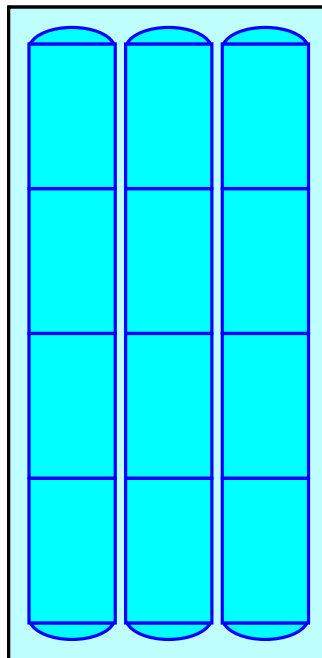
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

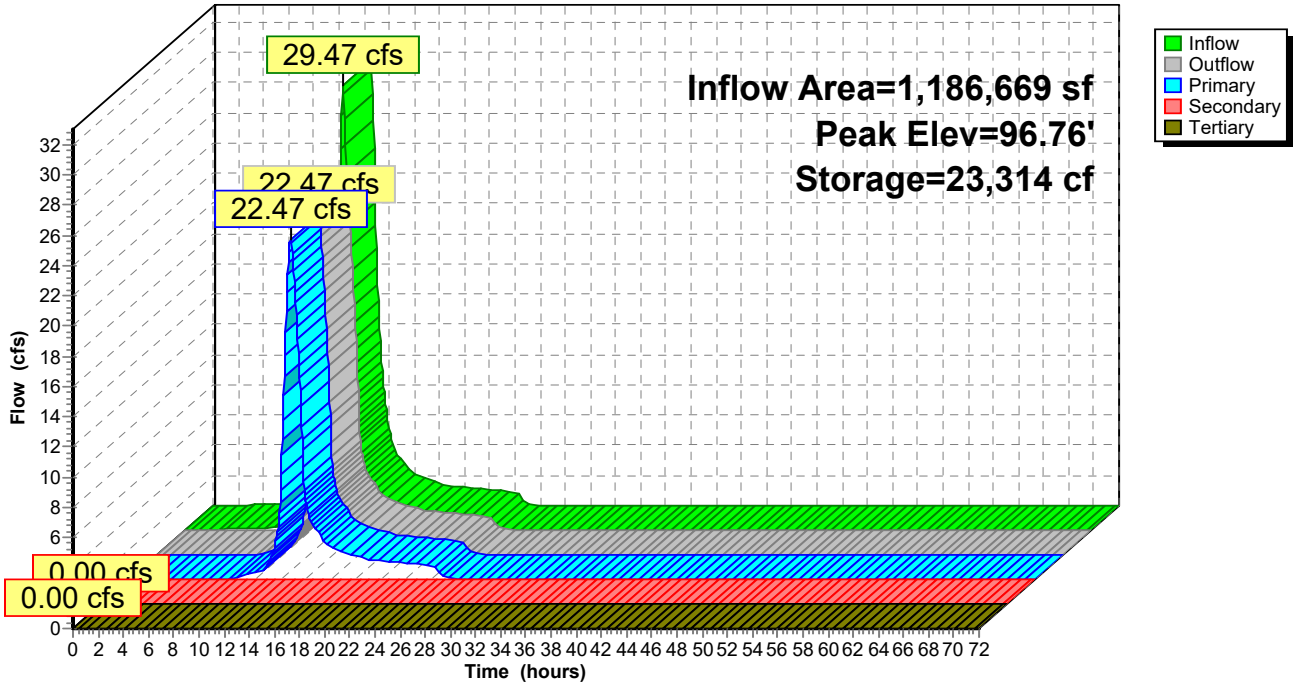
84.3 cy Field

63.8 cy Stone



Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 6P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 85,031 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 7.98 cfs @ 12.13 hrs, Volume= 26,467 cf
 Outflow = 0.26 cfs @ 14.83 hrs, Volume= 26,467 cf, Atten= 97%, Lag= 162.1 min
 Discarded = 0.26 cfs @ 14.83 hrs, Volume= 26,467 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.88' @ 14.83 hrs Surf.Area= 22,061 sf Storage= 14,864 cf

Plug-Flow detention time= 554.5 min calculated for 26,449 cf (100% of inflow)
 Center-of-Mass det. time= 554.8 min (1,307.9 - 753.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 47.00 = 29,235 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

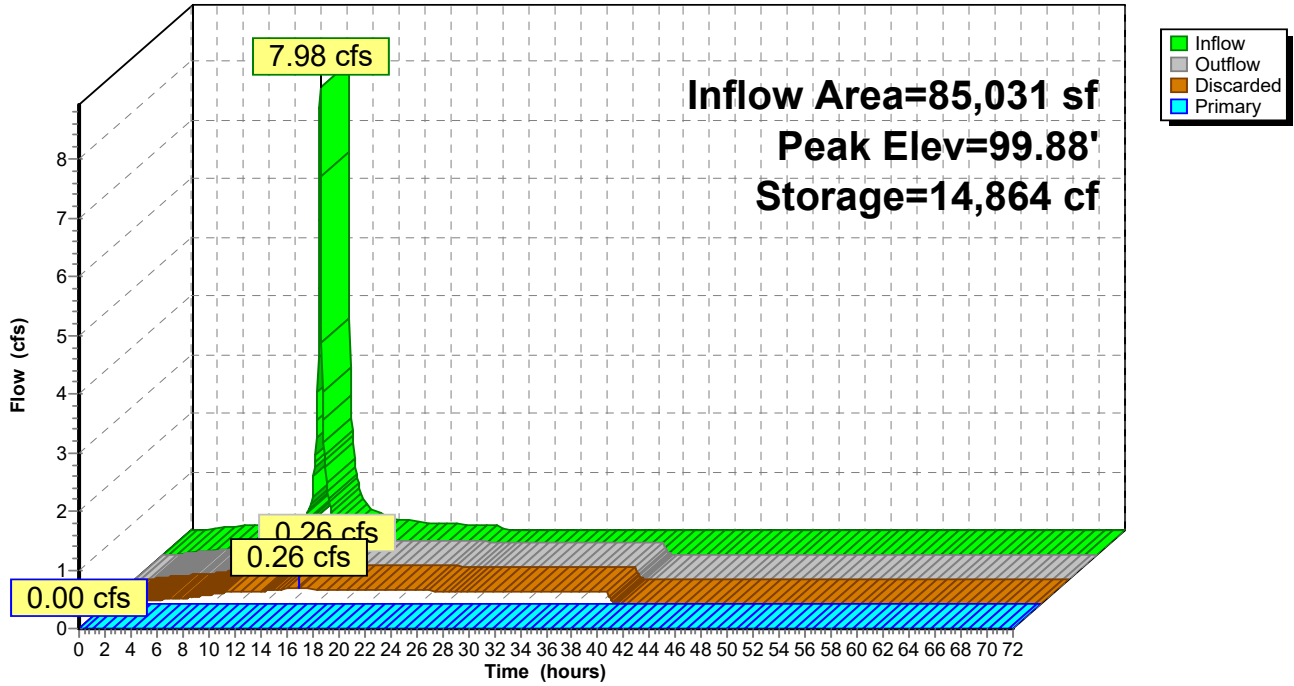
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 47.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.26 cfs @ 14.83 hrs HW=99.88' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 6P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 7P: Basic Porous Pavement (infiltration only)

Inflow Area = 164,927 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 15.47 cfs @ 12.13 hrs, Volume= 51,336 cf
 Outflow = 1.91 cfs @ 11.60 hrs, Volume= 51,336 cf, Atten= 88%, Lag= 0.0 min
 Discarded = 1.91 cfs @ 11.60 hrs, Volume= 51,336 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.52' @ 12.71 hrs Surf.Area= 164,927 sf Storage= 15,770 cf

Plug-Flow detention time= 52.0 min calculated for 51,300 cf (100% of inflow)
 Center-of-Mass det. time= 52.0 min (805.0 - 753.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	74,877 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	164,927	0.0	0	0
99.75	164,927	35.0	28,862	28,862
99.83	164,927	15.0	1,979	30,841
100.01	164,927	15.0	4,453	35,294
100.25	164,927	100.0	39,582	74,877

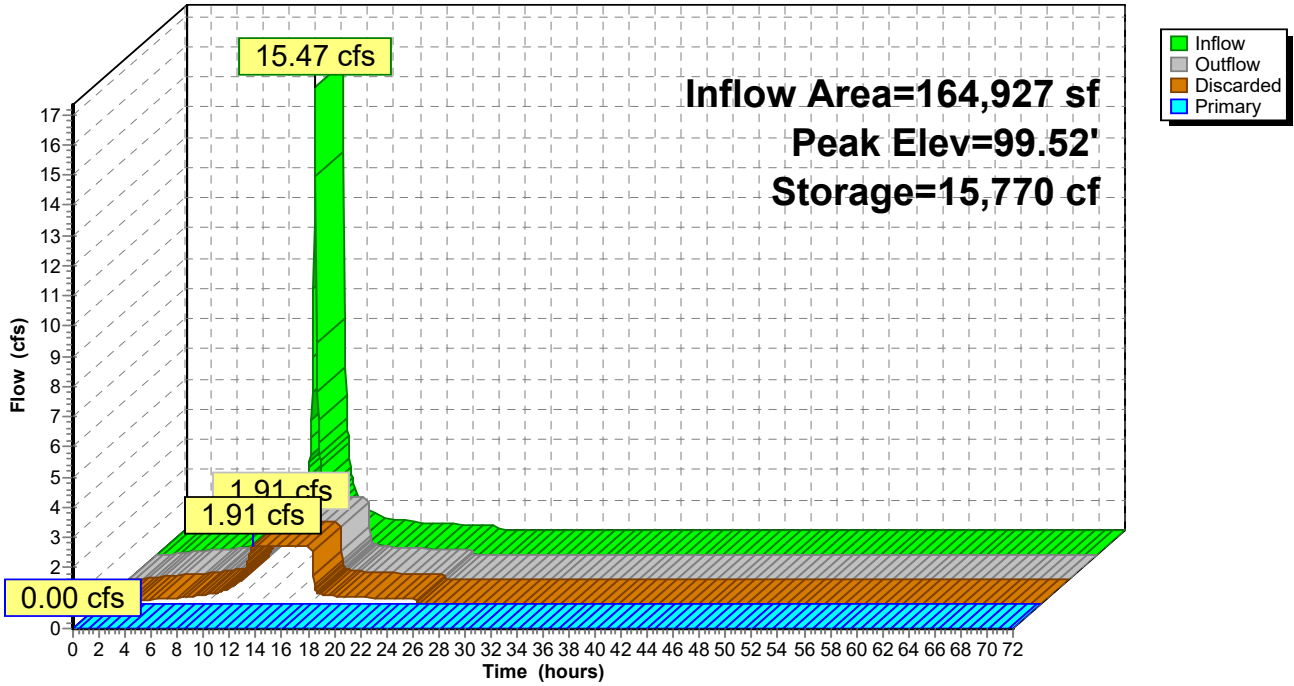
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=1.91 cfs @ 11.60 hrs HW=99.26' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 1.91 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑**2=Edge of Porous Asphalt** (Controls 0.00 cfs)

Pond 7P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,033,197 sf, 15.85% Impervious, Inflow Depth = 1.98" for 2-Year _2100 event
 Inflow = 28.35 cfs @ 12.50 hrs, Volume= 170,093 cf
 Outflow = 21.15 cfs @ 12.76 hrs, Volume= 167,049 cf, Atten= 25%, Lag= 15.4 min
 Primary = 21.15 cfs @ 12.76 hrs, Volume= 167,049 cf
 Routed to Link 3L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 96.67' @ 12.76 hrs Surf.Area= 13,144 sf Storage= 21,639 cf

Plug-Flow detention time= 31.8 min calculated for 166,933 cf (98% of inflow)
 Center-of-Mass det. time= 21.2 min (869.4 - 848.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 26.00 = 45,169 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 26.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 26.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 26.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 26.00**
2 End Contraction(s)

Primary OutFlow Max=21.14 cfs @ 12.76 hrs HW=96.66' (Free Discharge)

↑1=Culvert (Passes 21.14 cfs of 31.90 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 21.14 cfs @ 4.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

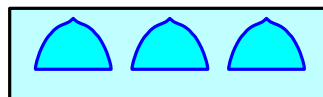
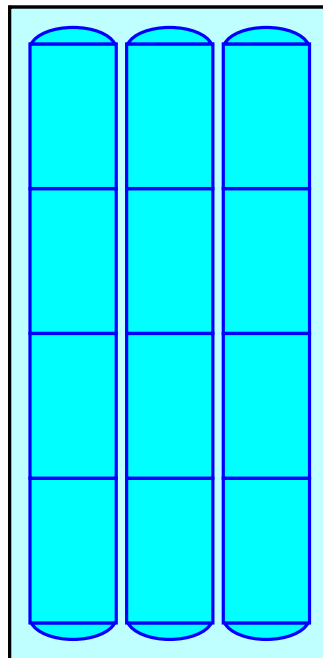
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

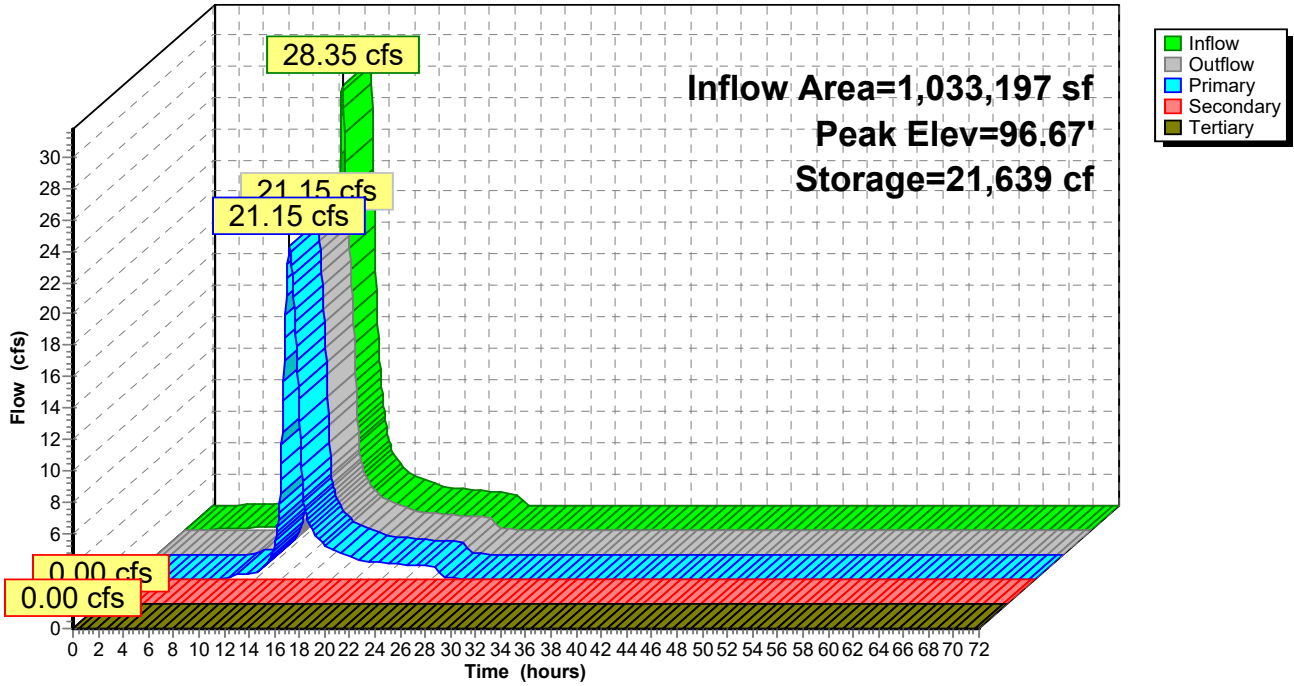
84.3 cy Field

63.8 cy Stone



Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Assumes infiltration through media is non-limiting.

Inflow Area = 92,992 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 8.72 cfs @ 12.13 hrs, Volume= 28,945 cf
 Outflow = 0.27 cfs @ 14.88 hrs, Volume= 28,945 cf, Atten= 97%, Lag= 165.2 min
 Discarded = 0.26 cfs @ 14.65 hrs, Volume= 28,929 cf
 Primary = 0.01 cfs @ 14.88 hrs, Volume= 16 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.00' @ 14.88 hrs Surf.Area= 22,500 sf Storage= 16,758 cf

Plug-Flow detention time= 626.0 min calculated for 28,925 cf (100% of inflow)
 Center-of-Mass det. time= 626.4 min (1,379.4 - 753.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 45.00 = 27,991 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

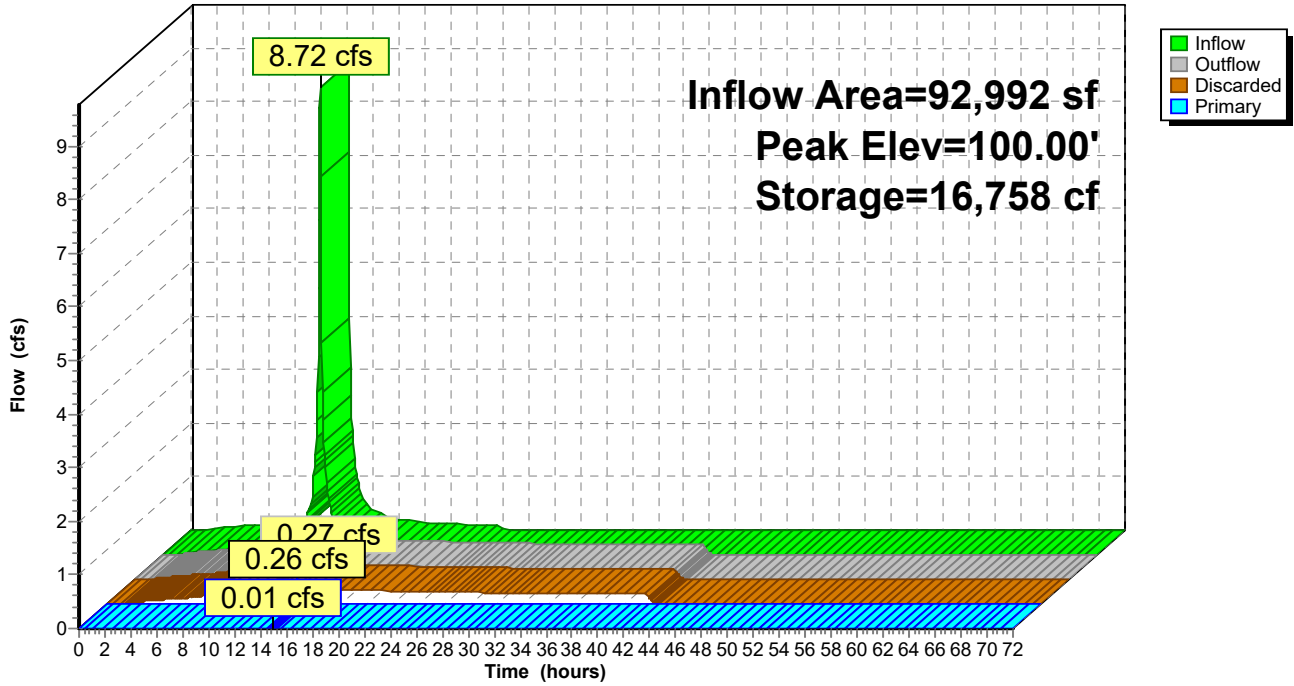
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 45.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.26 cfs @ 14.65 hrs HW=100.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.00 cfs @ 14.88 hrs HW=100.00' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 0.00 cfs @ 0.07 fps)

Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Hydrograph



Summary for Pond 10P: Basic Porous Pavement (infiltration only)

Inflow Area = 184,684 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 17.32 cfs @ 12.13 hrs, Volume= 57,486 cf
 Outflow = 2.14 cfs @ 11.60 hrs, Volume= 57,486 cf, Atten= 88%, Lag= 0.0 min
 Discarded = 2.14 cfs @ 11.60 hrs, Volume= 57,486 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.52' @ 12.71 hrs Surf.Area= 184,684 sf Storage= 17,659 cf

Plug-Flow detention time= 52.0 min calculated for 57,446 cf (100% of inflow)
 Center-of-Mass det. time= 52.0 min (805.0 - 753.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	83,847 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	184,684	0.0	0	0
99.75	184,684	35.0	32,320	32,320
99.83	184,684	15.0	2,216	34,536
100.01	184,684	15.0	4,986	39,522
100.25	184,684	100.0	44,324	83,847

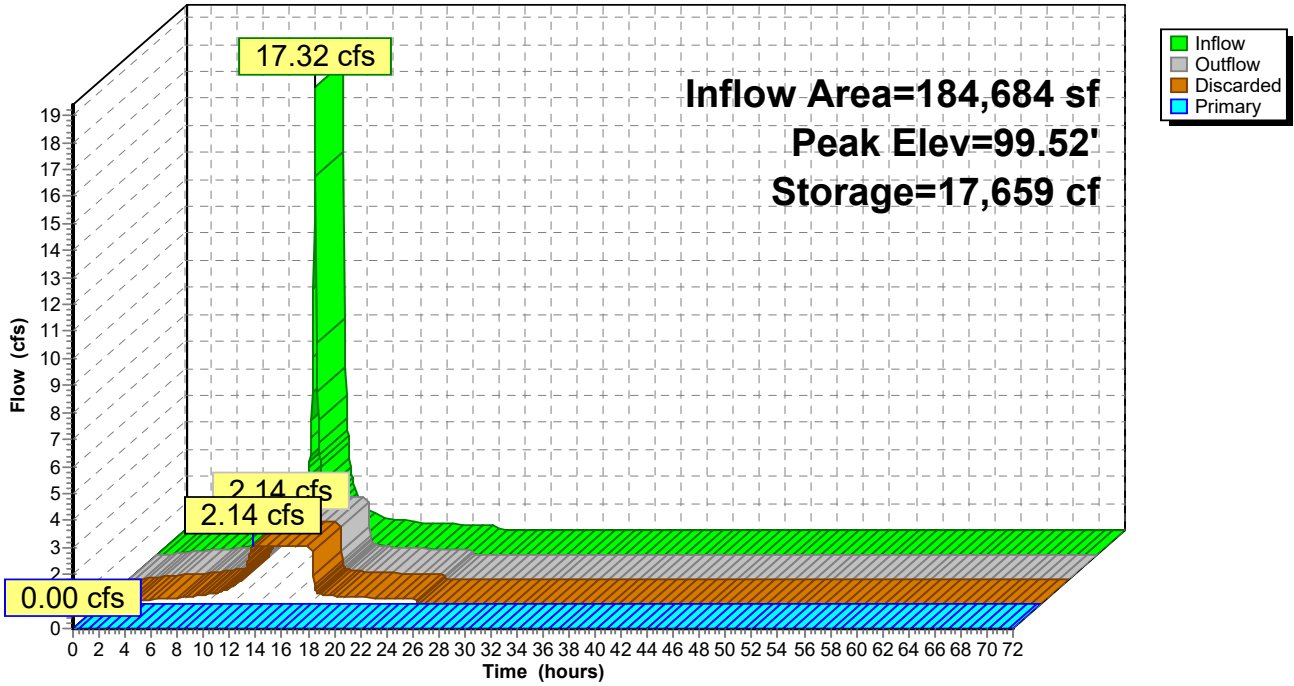
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.14 cfs @ 11.60 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 10P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 268,899 sf, 2.59% Impervious, Inflow Depth = 1.70" for 2-Year _2100 event
 Inflow = 9.35 cfs @ 12.26 hrs, Volume= 38,055 cf
 Outflow = 8.90 cfs @ 12.31 hrs, Volume= 37,578 cf, Atten= 5%, Lag= 3.0 min
 Primary = 3.93 cfs @ 12.30 hrs, Volume= 34,012 cf
 Routed to Link 3L : Combined Flows
 Secondary = 4.97 cfs @ 12.31 hrs, Volume= 3,567 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.35' @ 12.30 hrs Surf.Area= 1,997 sf Storage= 4,413 cf

Plug-Flow detention time= 23.6 min calculated for 37,578 cf (99% of inflow)
 Center-of-Mass det. time= 15.4 min (870.0 - 854.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	374 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,615 cf x 3.00 = 4,844 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	160	0.0	0	0	160
98.25	160	35.0	28	28	182
99.25	160	35.0	56	84	227
99.50	160	25.0	10	94	238
100.00	160	100.0	80	174	261
100.51	160	100.0	82	256	284
101.00	160	100.0	78	334	306
101.25	160	100.0	40	374	317

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 3.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 3.00 L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0044 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 3.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

#4 Tertiary 100.50' 2.85 3.07 3.20 3.32
6.0' long Sharp-Crested Rectangular Weir X 3.00
2 End Contraction(s)

Primary OutFlow Max=3.93 cfs @ 12.30 hrs HW=100.35' (Free Discharge)

↑1=Culvert (Passes 3.93 cfs of 6.16 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 3.93 cfs @ 6.66 fps)

Secondary OutFlow Max=4.68 cfs @ 12.31 hrs HW=100.34' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 4.68 cfs @ 1.52 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

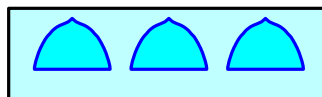
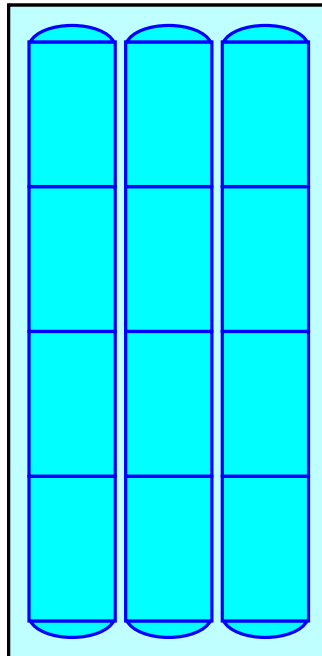
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

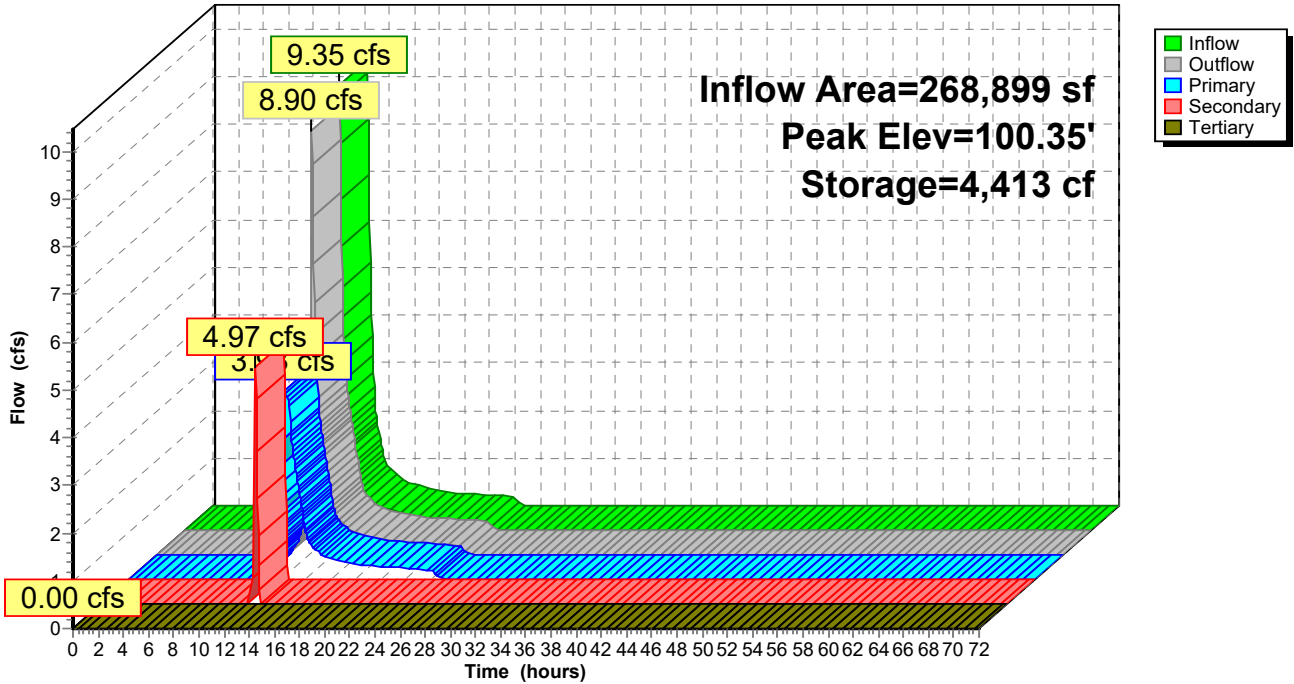
84.3 cy Field

63.8 cy Stone



Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 12P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 23,888 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 2.24 cfs @ 12.13 hrs, Volume= 7,435 cf
 Outflow = 0.07 cfs @ 14.75 hrs, Volume= 7,435 cf, Atten= 97%, Lag= 157.7 min
 Discarded = 0.07 cfs @ 14.75 hrs, Volume= 7,435 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.84' @ 14.75 hrs Surf.Area= 6,397 sf Storage= 4,117 cf

Plug-Flow detention time= 524.5 min calculated for 7,430 cf (100% of inflow)
 Center-of-Mass det. time= 524.7 min (1,277.8 - 753.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 14.00 = 8,708 cf Total Available Storage

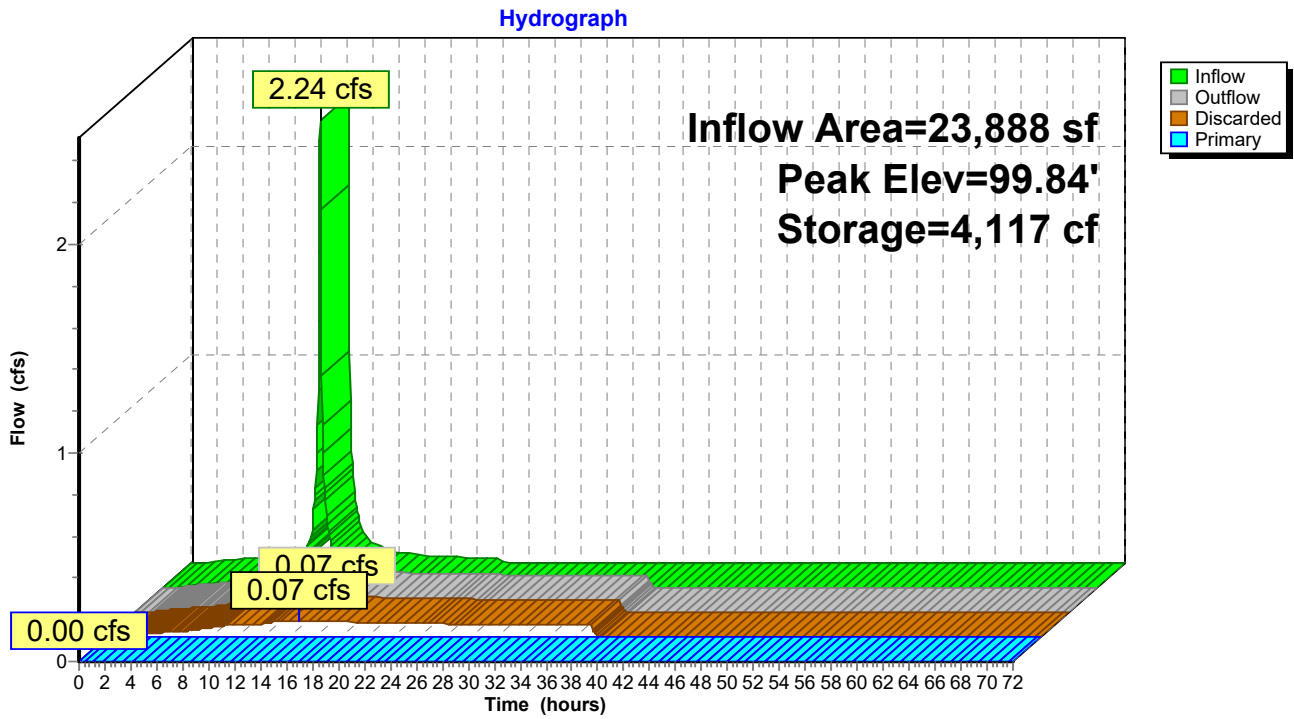
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 14.00
			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
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.07 cfs @ 14.75 hrs HW=99.84' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=98.25' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 12P: Basic Rain Garden (infiltration only) 500SF



Summary for Pond 13P: Basic Porous Pavement (infiltration only)

Inflow Area = 35,770 sf, 100.00% Impervious, Inflow Depth = 3.74" for 2-Year _2100 event
 Inflow = 3.36 cfs @ 12.13 hrs, Volume= 11,134 cf
 Outflow = 0.41 cfs @ 11.60 hrs, Volume= 11,133 cf, Atten= 88%, Lag= 0.0 min
 Discarded = 0.41 cfs @ 11.60 hrs, Volume= 11,133 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 99.52' @ 12.71 hrs Surf.Area= 35,770 sf Storage= 3,420 cf

Plug-Flow detention time= 52.0 min calculated for 11,126 cf (100% of inflow)
 Center-of-Mass det. time= 51.9 min (805.0 - 753.1)

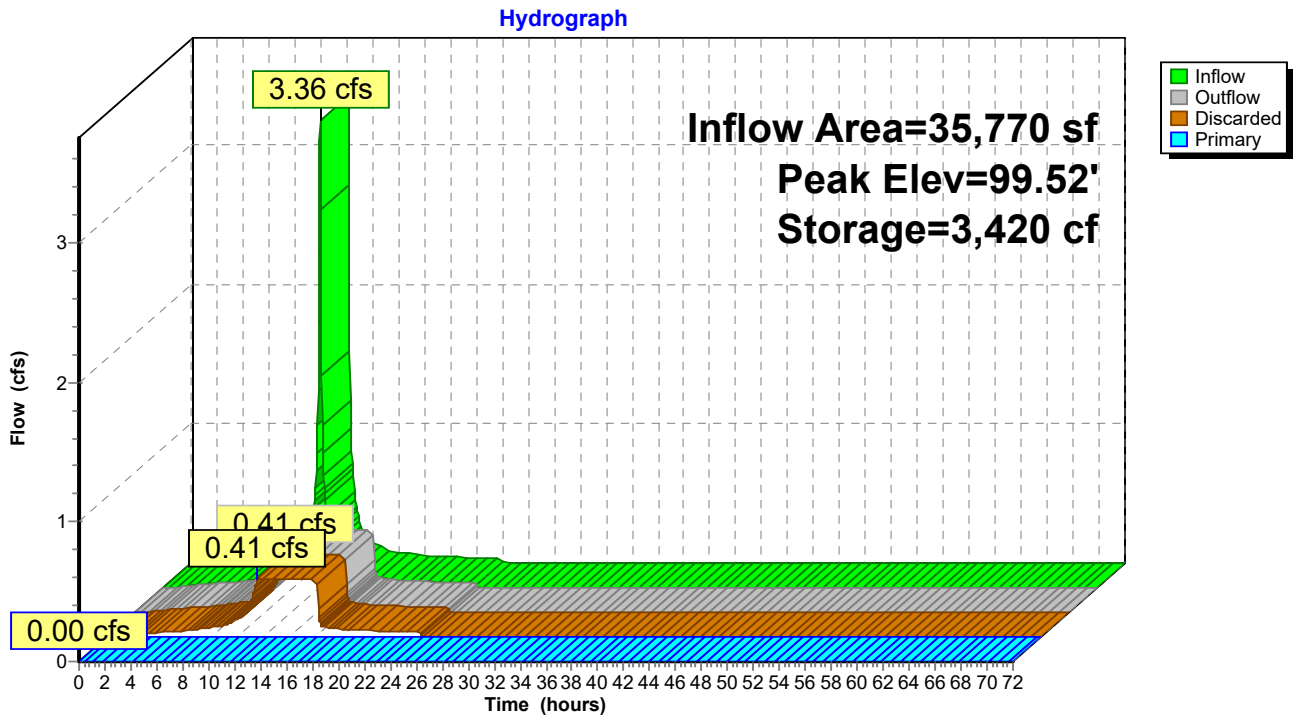
Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	16,240 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	35,770	0.0	0	0
99.75	35,770	35.0	6,260	6,260
99.83	35,770	15.0	429	6,689
100.01	35,770	15.0	966	7,655
100.25	35,770	100.0	8,585	16,240

Device	Routing	Invert	Outlet Devices												
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area												
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00												
			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
			Coef. (English)	2.69	2.72	2.75	2.85	2.98	3.08	3.20	3.28	3.31	3.30	3.31	3.32

Discarded OutFlow Max=0.41 cfs @ 11.60 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 13P: Basic Porous Pavement (infiltration only)



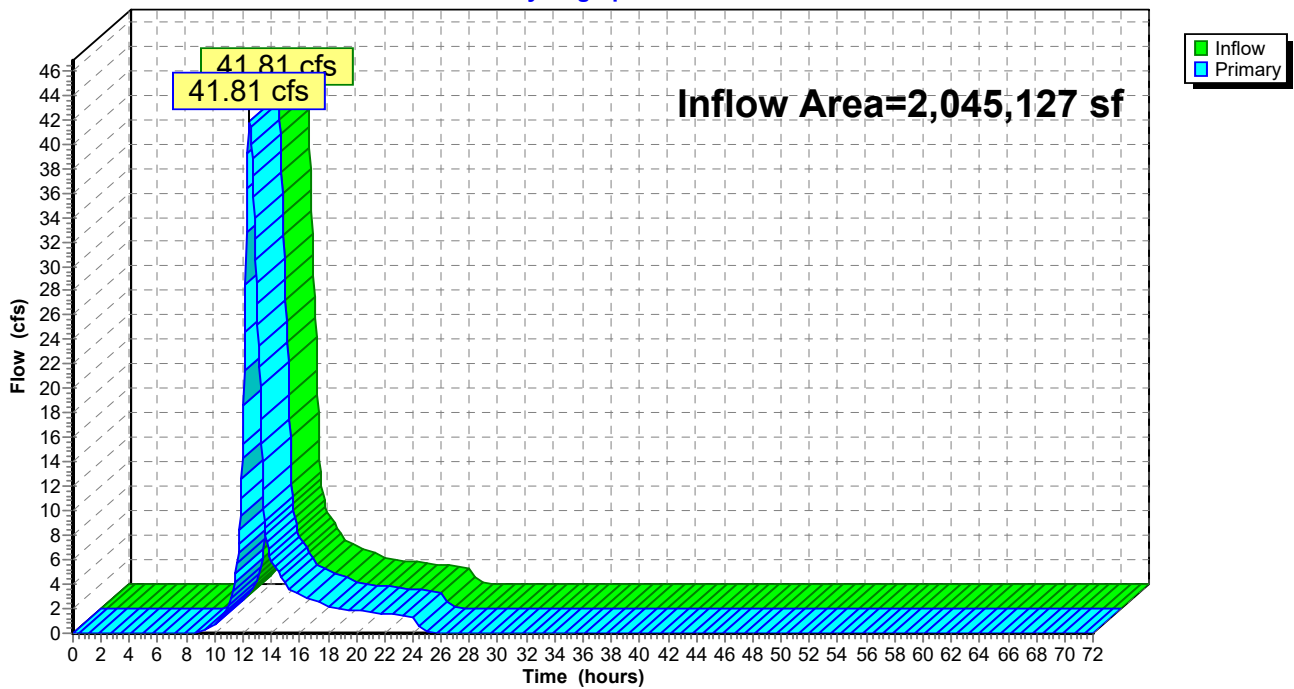
Summary for Link 1L: Combined Flows

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 1.66" for 2-Year _2100 event
Inflow = 41.81 cfs @ 12.47 hrs, Volume= 283,266 cf
Primary = 41.81 cfs @ 12.47 hrs, Volume= 283,266 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : INFLOW PIPE

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1L: Combined Flows

Hydrograph



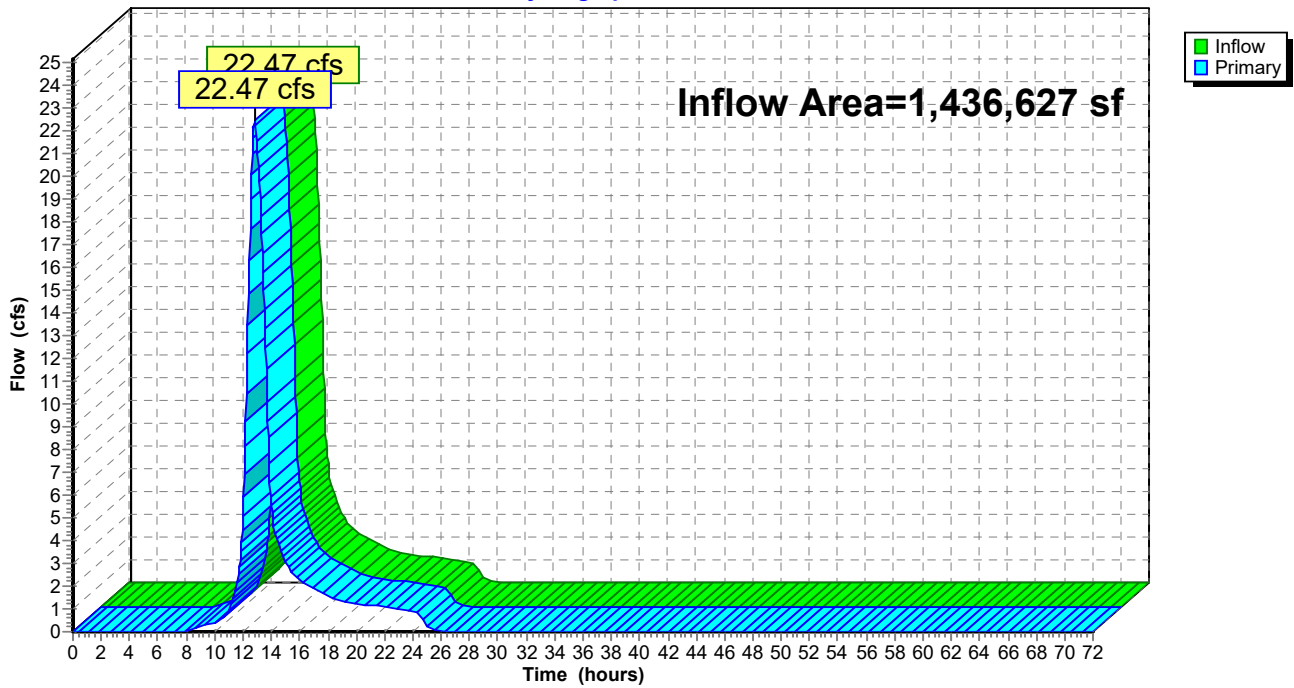
Summary for Link 2L: Combined Flows

Inflow Area = 1,436,627 sf, 27.42% Impervious, Inflow Depth = 1.54" for 2-Year _2100 event
Inflow = 22.47 cfs @ 12.83 hrs, Volume= 184,511 cf
Primary = 22.47 cfs @ 12.83 hrs, Volume= 184,511 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 2L: Combined Flows

Hydrograph



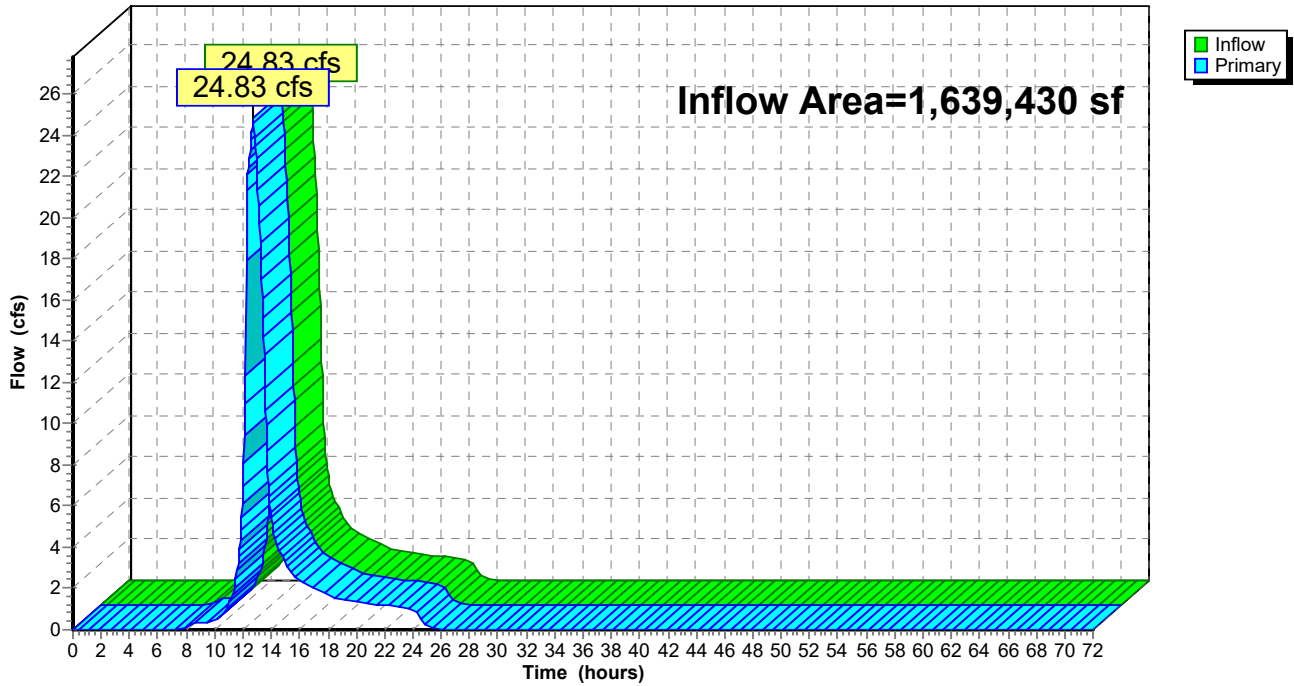
Summary for Link 3L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 1.50" for 2-Year _2100 event
Inflow = 24.83 cfs @ 12.73 hrs, Volume= 204,644 cf
Primary = 24.83 cfs @ 12.73 hrs, Volume= 204,644 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 3L: Combined Flows

Hydrograph



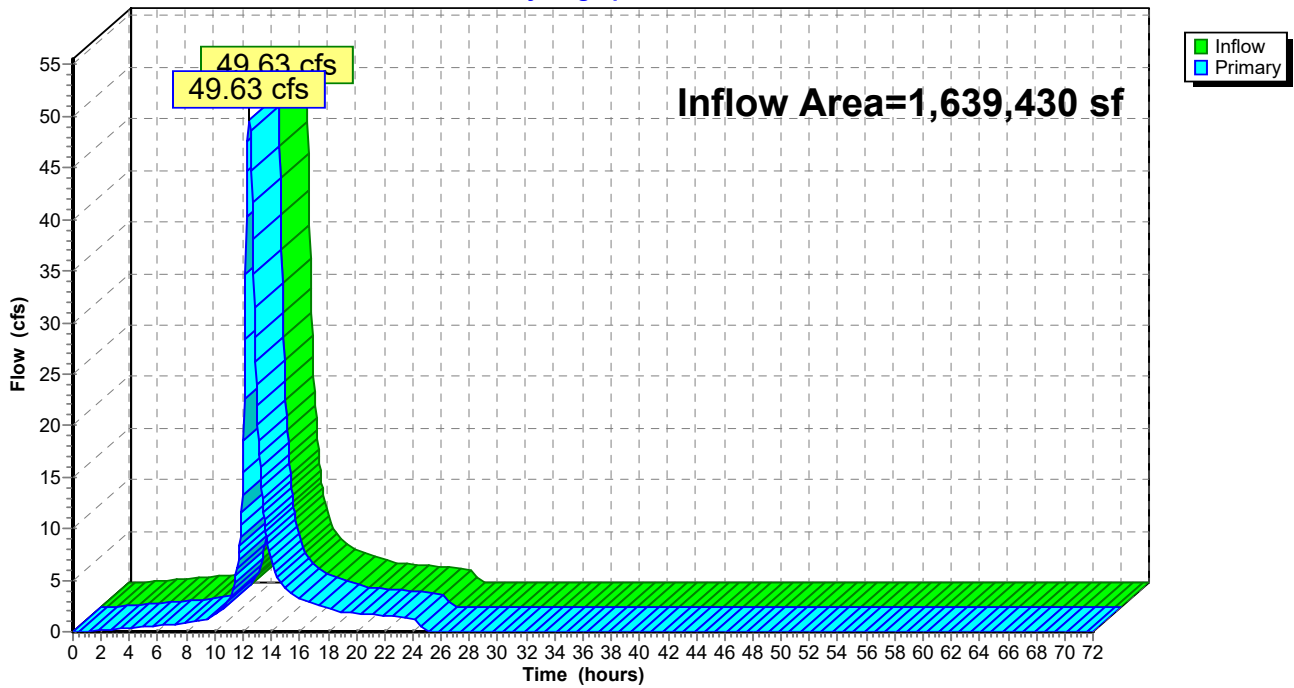
Summary for Link 4L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 2.29" for 2-Year _2100 event
Inflow = 49.63 cfs @ 12.44 hrs, Volume= 313,148 cf
Primary = 49.63 cfs @ 12.44 hrs, Volume= 313,148 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Combined Flows

Hydrograph



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA 1: All Runoff Area=2,045,127 sf 24.45% Impervious Runoff Depth=3.29"
Tc=17.3 min CN=77/98 Runoff=132.47 cfs 560,181 cf

Subcatchment 1Sa: DA 1: CN w/ IC areas Runoff Area=1,732,396 sf 10.81% Impervious Runoff Depth=2.99"
Tc=17.3 min CN=77/98 Runoff=104.72 cfs 431,885 cf

Subcatchment 1Sb: DA1: Roofs Runoff Area=132,361 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=16.19 cfs 54,300 cf

Subcatchment 1Sc: DA1: Driveways Runoff Area=180,370 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=22.06 cfs 73,996 cf

Subcatchment 2S: DA 2: All Runoff Area=1,436,627 sf 27.42% Impervious Runoff Depth=3.22"
Tc=39.8 min CN=75/98 Runoff=60.03 cfs 385,741 cf

Subcatchment 2Sa: DA 2: CN w/ IC areas Runoff Area=1,186,669 sf 12.13% Impervious Runoff Depth=2.86"
Tc=39.8 min CN=75/98 Runoff=45.14 cfs 283,198 cf

Subcatchment 2Sb: DA2: Roofs combined Runoff Area=85,031 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=10.40 cfs 34,883 cf

Subcatchment 2Sc: DA2: Driveways Runoff Area=164,927 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=20.17 cfs 67,660 cf

Subcatchment 3S: DA 3: All Runoff Area=1,310,873 sf 33.67% Impervious Runoff Depth=3.37"
Tc=35.3 min CN=75/98 Runoff=60.54 cfs 367,992 cf

Subcatchment 3Sa: DA 3: CNs w/ IC Runoff Area=1,033,197 sf 15.85% Impervious Runoff Depth=2.95"
Tc=35.3 min CN=75/98 Runoff=42.92 cfs 254,077 cf

Subcatchment 3Sb: DA3: Roofs combined Runoff Area=92,992 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=11.38 cfs 38,149 cf

Subcatchment 3Sc: DA3: Driveways Runoff Area=184,684 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=22.59 cfs 75,765 cf

Subcatchment 4S: DA 4: All Runoff Area=328,557 sf 20.27% Impervious Runoff Depth=3.05"
Tc=16.9 min CN=75/98 Runoff=20.05 cfs 83,637 cf

Subcatchment 4Sa: DA 4: CN w/ IC areas Runoff Area=268,899 sf 2.59% Impervious Runoff Depth=2.64"
Tc=16.9 min CN=75/98 Runoff=14.71 cfs 59,163 cf

Subcatchment 4Sb: DA4: Roofs combined Runoff Area=23,888 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=2.92 cfs 9,800 cf

Subcatchment 4Sc: DA4: Driveways Runoff Area=35,770 sf 100.00% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=0/98 Runoff=4.38 cfs 14,674 cf

Reach 1R: INFLOW PIPE Avg. Flow Depth=1.47' Max Vel=19.95 fps Inflow=90.10 cfs 431,808 cf
 54.0" Round Pipe n=0.013 L=75.0' S=0.0400 '/' Capacity=393.30 cfs Outflow=89.43 cfs 431,870 cf

Reach 2R: OUTFLOW PIPE Avg. Flow Depth=1.50' Max Vel=14.09 fps Inflow=60.42 cfs 423,391 cf
 48.0" Round Pipe n=0.013 L=60.0' S=0.0200 '/' Capacity=203.14 cfs Outflow=60.42 cfs 423,391 cf

Pond 1P: ROAD RG 175SF W/ UDG Peak Elev=100.18' Storage=65,845 cf Inflow=104.72 cfs 431,885 cf
 Primary=60.83 cfs 418,093 cf Secondary=28.90 cfs 9,927 cf Tertiary=0.00 cfs 0 cf Outflow=90.10 cfs 428,020 cf

Pond 2P: Basic Rain Garden (infiltration Peak Elev=100.02' Storage=28,940 cf Inflow=16.19 cfs 54,300 cf
 Discarded=0.44 cfs 50,512 cf Primary=1.00 cfs 3,788 cf Outflow=1.44 cfs 54,300 cf

Pond 3P: Basic Porous Pavement Peak Elev=99.66' Storage=25,705 cf Inflow=22.06 cfs 73,996 cf
 Discarded=2.09 cfs 73,996 cf Primary=0.00 cfs 0 cf Outflow=2.09 cfs 73,996 cf

Pond 4P: Basin 1 Municipal property 48k Peak Elev=73.71' Storage=61,740 cf Inflow=89.43 cfs 431,870 cf
 Primary=60.42 cfs 423,391 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=60.42 cfs 423,391 cf

Pond 5P: ROAD RG 175SF W/ UDG Peak Elev=99.91' Storage=38,231 cf Inflow=45.14 cfs 283,198 cf
 Primary=35.60 cfs 280,088 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=35.60 cfs 280,088 cf

Pond 6P: Basic Rain Garden (infiltration Peak Elev=100.02' Storage=18,030 cf Inflow=10.40 cfs 34,883 cf
 Discarded=0.27 cfs 31,531 cf Primary=0.86 cfs 3,352 cf Outflow=1.13 cfs 34,883 cf

Pond 7P: Basic Porous Pavement Peak Elev=99.66' Storage=23,505 cf Inflow=20.17 cfs 67,660 cf
 Discarded=1.91 cfs 67,660 cf Primary=0.00 cfs 0 cf Outflow=1.91 cfs 67,660 cf

Pond 8P: ROAD RG 175SF W/ UDG Peak Elev=99.61' Storage=35,418 cf Inflow=42.92 cfs 254,077 cf
 Primary=33.26 cfs 250,979 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=33.26 cfs 250,979 cf

Pond 9P: Basic Rain Garden (infiltration Peak Elev=100.05' Storage=17,816 cf Inflow=11.38 cfs 38,149 cf
 Discarded=0.26 cfs 31,148 cf Primary=2.31 cfs 7,002 cf Outflow=2.57 cfs 38,149 cf

Pond 10P: Basic Porous Pavement Peak Elev=99.66' Storage=26,320 cf Inflow=22.59 cfs 75,765 cf
 Discarded=2.14 cfs 75,765 cf Primary=0.00 cfs 0 cf Outflow=2.14 cfs 75,765 cf

Pond 11P: ROAD RG 175SF W/ UDG Peak Elev=100.56' Storage=4,511 cf Inflow=14.71 cfs 59,163 cf
 Primary=4.00 cfs 46,397 cf Secondary=9.77 cfs 12,386 cf Tertiary=0.88 cfs 363 cf Outflow=14.64 cfs 59,147 cf

Pond 12P: Basic Rain Garden (infiltration Peak Elev=100.01' Storage=5,309 cf Inflow=2.92 cfs 9,800 cf
 Discarded=0.08 cfs 9,257 cf Primary=0.14 cfs 543 cf Outflow=0.22 cfs 9,800 cf

Pond 13P: Basic Porous Pavement Peak Elev=99.66' Storage=5,098 cf Inflow=4.38 cfs 14,674 cf
 Discarded=0.41 cfs 14,673 cf Primary=0.00 cfs 0 cf Outflow=0.41 cfs 14,673 cf

Link 1L: Combined Flows Inflow=90.10 cfs 431,808 cf
 Primary=90.10 cfs 431,808 cf

Link 2L: Combined Flows Inflow=36.45 cfs 283,440 cf
 Primary=36.45 cfs 283,440 cf

Link 3L: Combined Flows Inflow=39.55 cfs 317,671 cf
 Primary=39.55 cfs 317,671 cf

Link 4L: Combined Flows

Inflow=72.17 cfs 451,629 cf
Primary=72.17 cfs 451,629 cf

Total Runoff Area = 10,242,368 sf Runoff Volume = 2,795,103 cf Average Runoff Depth = 3.27"
72.62% Pervious = 7,438,492 sf 27.38% Impervious = 2,803,876 sf

Summary for Subcatchment 1S: DA 1: All

Runoff = 132.47 cfs @ 12.26 hrs, Volume= 560,181 cf, Depth= 3.29"
 Routed to nonexistent node 6L

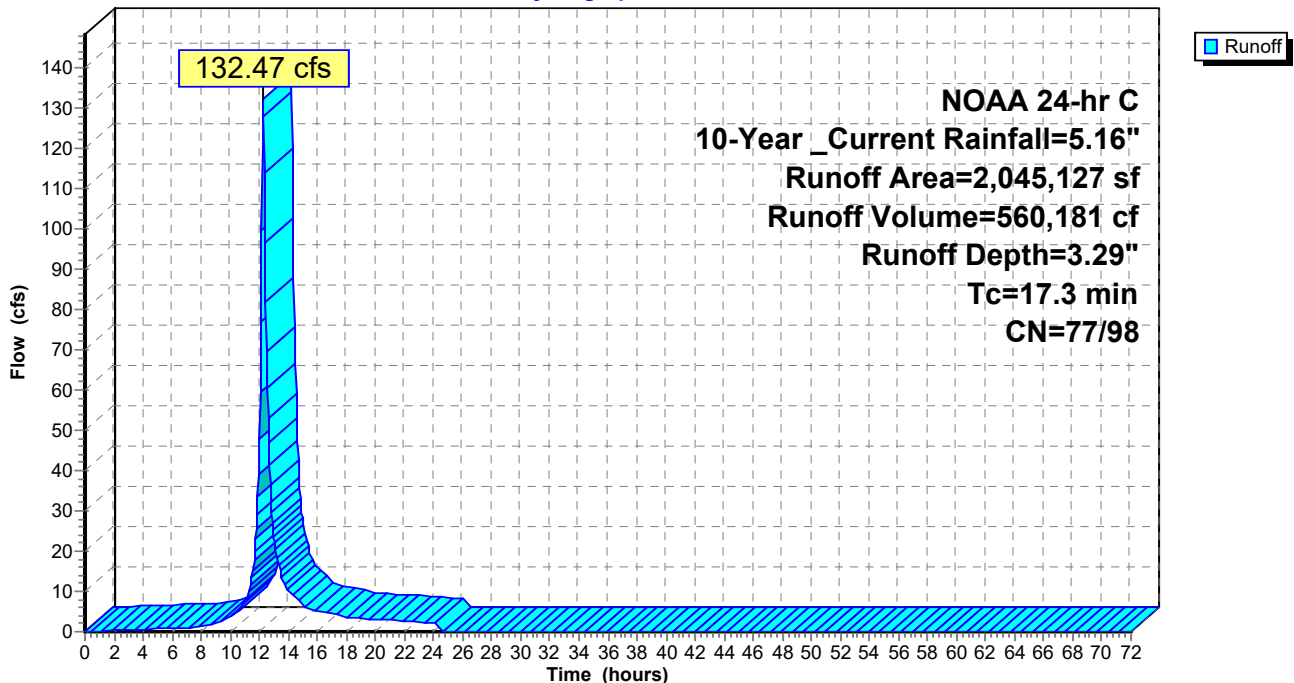
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

	Area (sf)	CN	Description
*	187,351	98	Impervious
	676,806	74	>75% Grass cover, Good, HSG C
	698,470	80	>75% Grass cover, Good, HSG D
	25,343	73	Woods, Fair, HSG C
	726	79	Woods, Fair, HSG D
	41,773	70	Woods, Good, HSG C
	101,927	77	Woods, Good, HSG D
*	132,361	98	Roofs
*	180,370	98	Driveways
	2,045,127	82	Weighted Average
	1,545,045	77	75.55% Pervious Area
	500,082	98	24.45% Impervious Area

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

Subcatchment 1S: DA 1: All

Hydrograph



Summary for Subcatchment 1Sa: DA 1: CN w/ IC areas

Runoff = 104.72 cfs @ 12.26 hrs, Volume= 431,885 cf, Depth= 2.99"

Routed to Pond 1P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

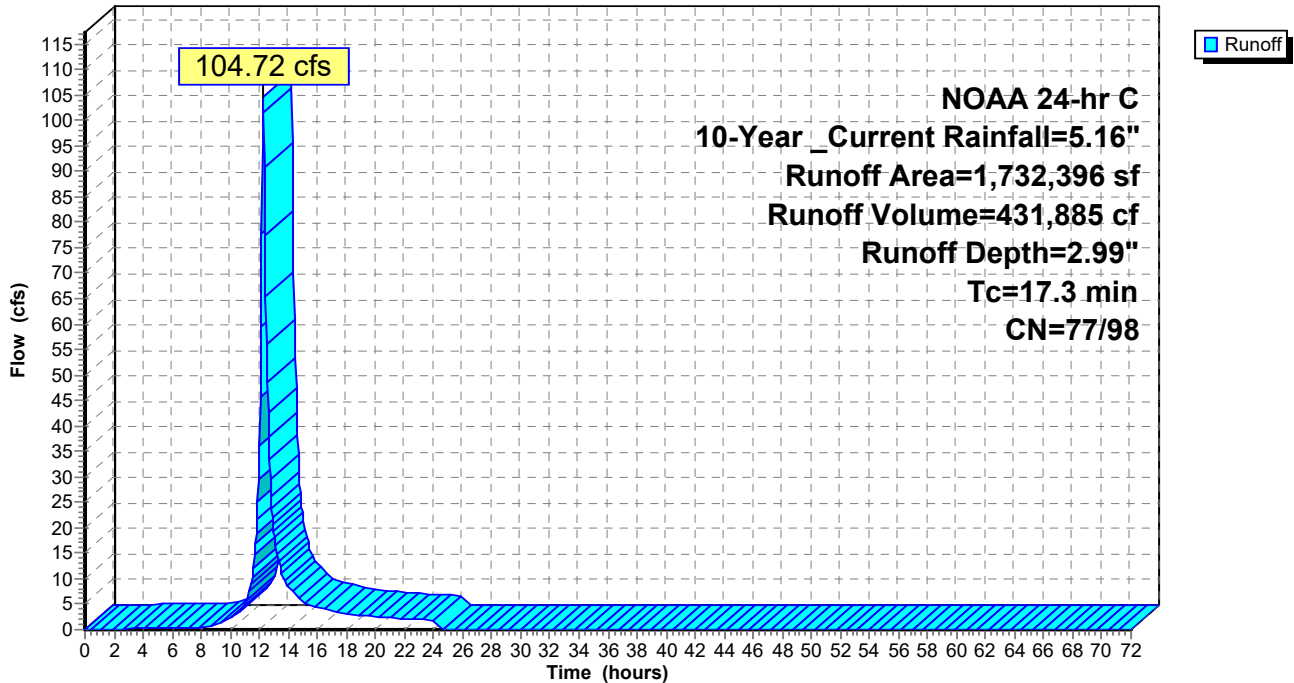
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

Area (sf)	CN	Description
* 187,351	98	Impervious
676,806	74	>75% Grass cover, Good, HSG C
698,470	80	>75% Grass cover, Good, HSG D
25,343	73	Woods, Fair, HSG C
726	79	Woods, Fair, HSG D
41,773	70	Woods, Good, HSG C
101,927	77	Woods, Good, HSG D
1,732,396	79	Weighted Average
1,545,045	77	89.19% Pervious Area
187,351	98	10.81% Impervious Area

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

Subcatchment 1Sa: DA 1: CN w/ IC areas

Hydrograph



Summary for Subcatchment 1Sb: DA1: Roofs combined

Runoff = 16.19 cfs @ 12.13 hrs, Volume= 54,300 cf, Depth= 4.92"

Routed to Pond 2P : Basic Rain Garden (infiltration only) 500 sf

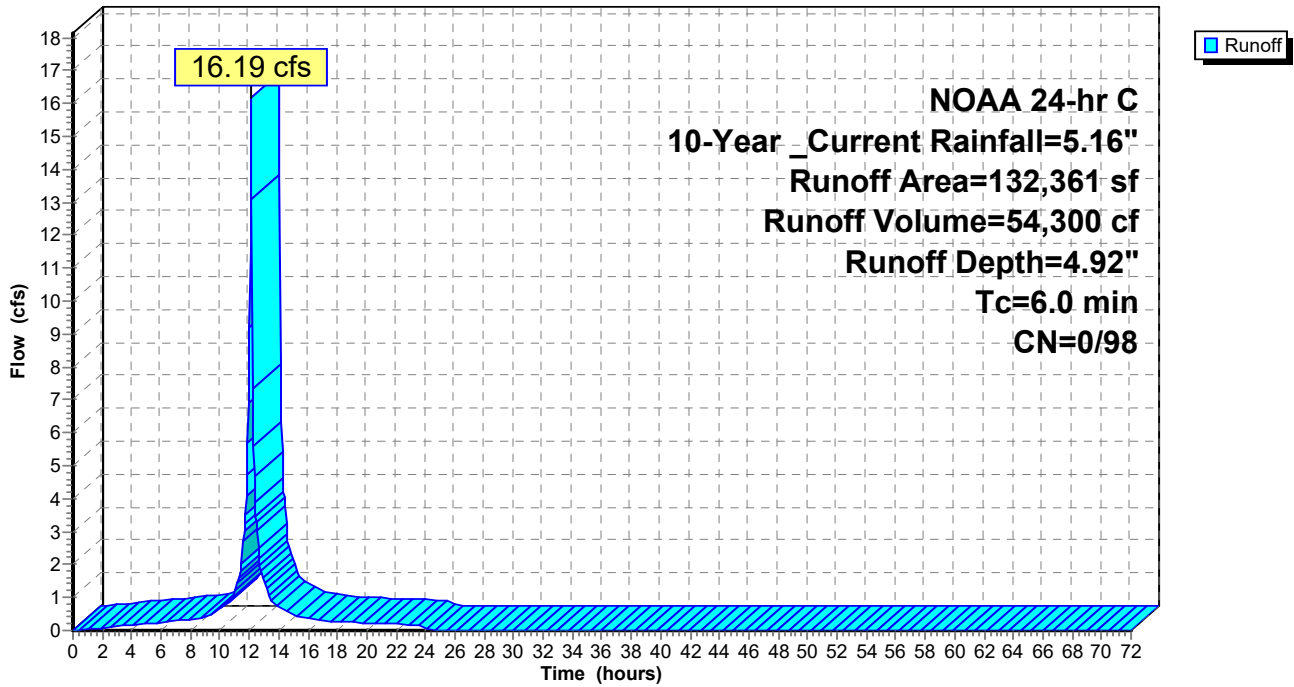
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year_Current Rainfall=5.16"

Area (sf)	CN	Description
* 132,361	98	
132,361	98	100.00% Impervious Area

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

Subcatchment 1Sb: DA1: Roofs combined

Hydrograph



Summary for Subcatchment 1Sc: DA1: Driveways (other)

Runoff = 22.06 cfs @ 12.13 hrs, Volume= 73,996 cf, Depth= 4.92"
 Routed to Pond 3P : Basic Porous Pavement (infiltration only)

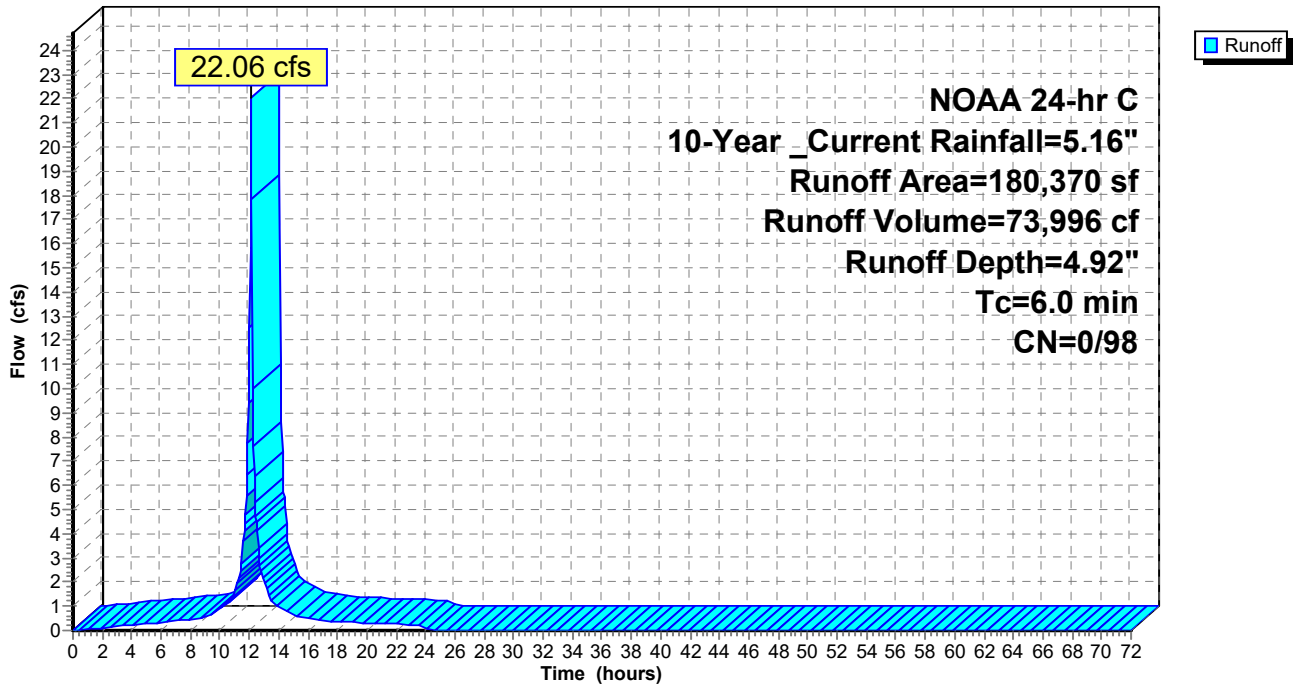
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

Area (sf)	CN	Description
* 180,370	98	Impervious Driveways (other)
180,370	98	100.00% Impervious Area

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

Subcatchment 1Sc: DA1: Driveways (other)

Hydrograph



Summary for Subcatchment 2S: DA 2: All

Runoff = 60.03 cfs @ 12.55 hrs, Volume= 385,741 cf, Depth= 3.22"

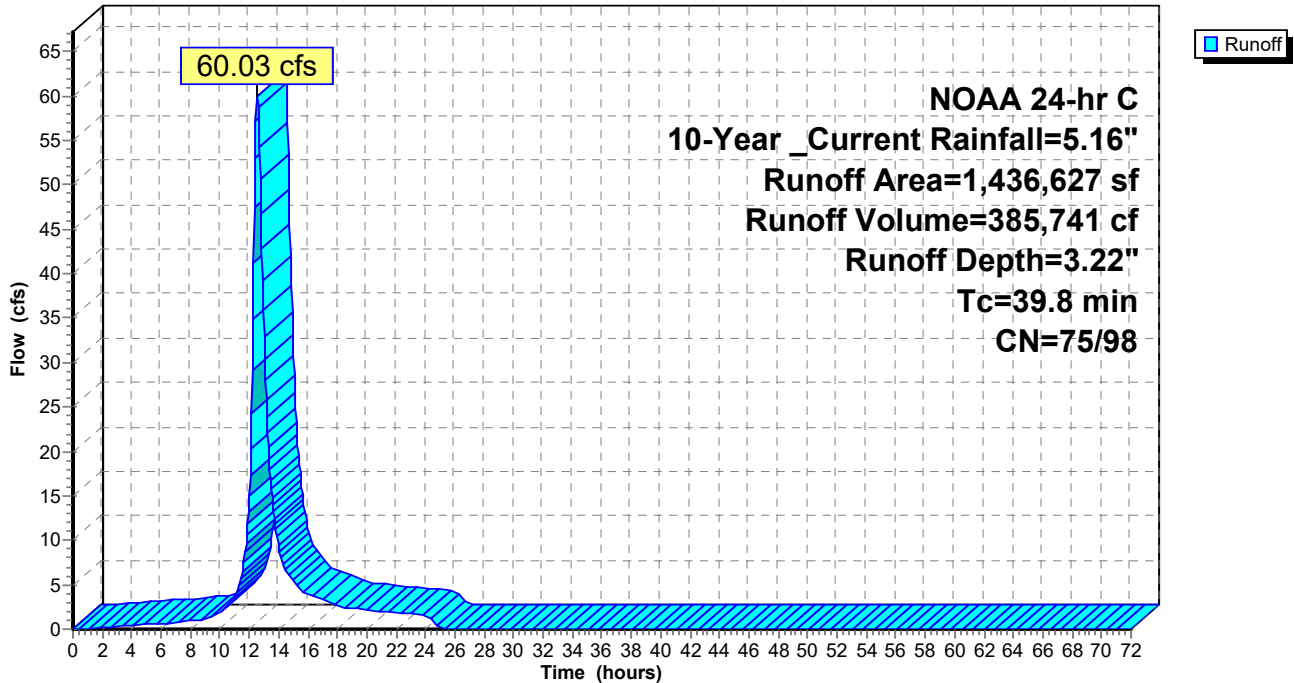
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year_Current Rainfall=5.16"

	Area (sf)	CN	Description
*	143,894	98	Impervious
	1,270	65	Brush, Good, HSG C
	946,207	74	>75% Grass cover, Good, HSG C
	93,778	80	>75% Grass cover, Good, HSG D
	1,520	72	Woods/grass comb., Good, HSG C
*	85,031	98	Roofs
*	164,927	98	Driveways
<hr/>			
	1,436,627	81	Weighted Average
	1,042,775	75	72.58% Pervious Area
	393,852	98	27.42% Impervious Area

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

Subcatchment 2S: DA 2: All

Hydrograph



Summary for Subcatchment 2Sa: DA 2: CN w/ IC areas

Runoff = 45.14 cfs @ 12.55 hrs, Volume= 283,198 cf, Depth= 2.86"

Routed to Pond 5P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

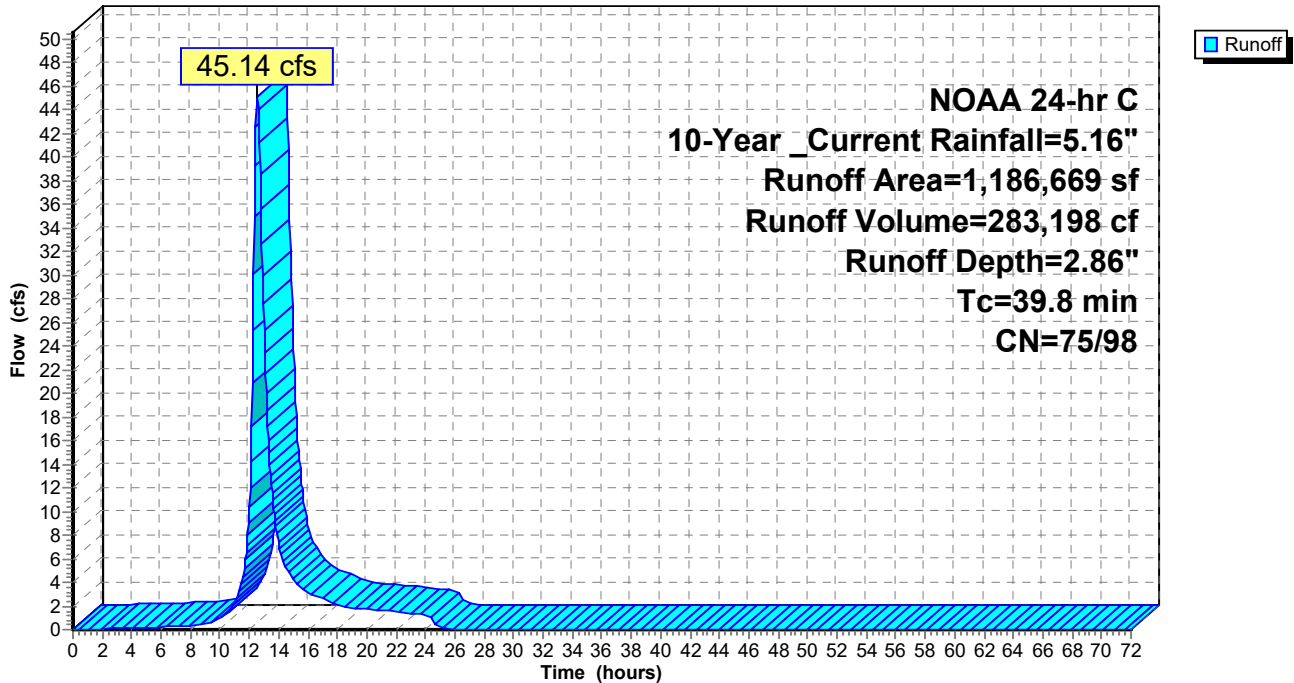
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

Area (sf)	CN	Description
* 143,894	98	Impervious
1,270	65	Brush, Good, HSG C
946,207	74	>75% Grass cover, Good, HSG C
93,778	80	>75% Grass cover, Good, HSG D
1,520	72	Woods/grass comb., Good, HSG C
1,186,669	77	Weighted Average
1,042,775	75	87.87% Pervious Area
143,894	98	12.13% Impervious Area

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

Subcatchment 2Sa: DA 2: CN w/ IC areas

Hydrograph



Summary for Subcatchment 2Sb: DA2: Roofs combined

Runoff = 10.40 cfs @ 12.13 hrs, Volume= 34,883 cf, Depth= 4.92"

Routed to Pond 6P : Basic Rain Garden (infiltration only) 500SF

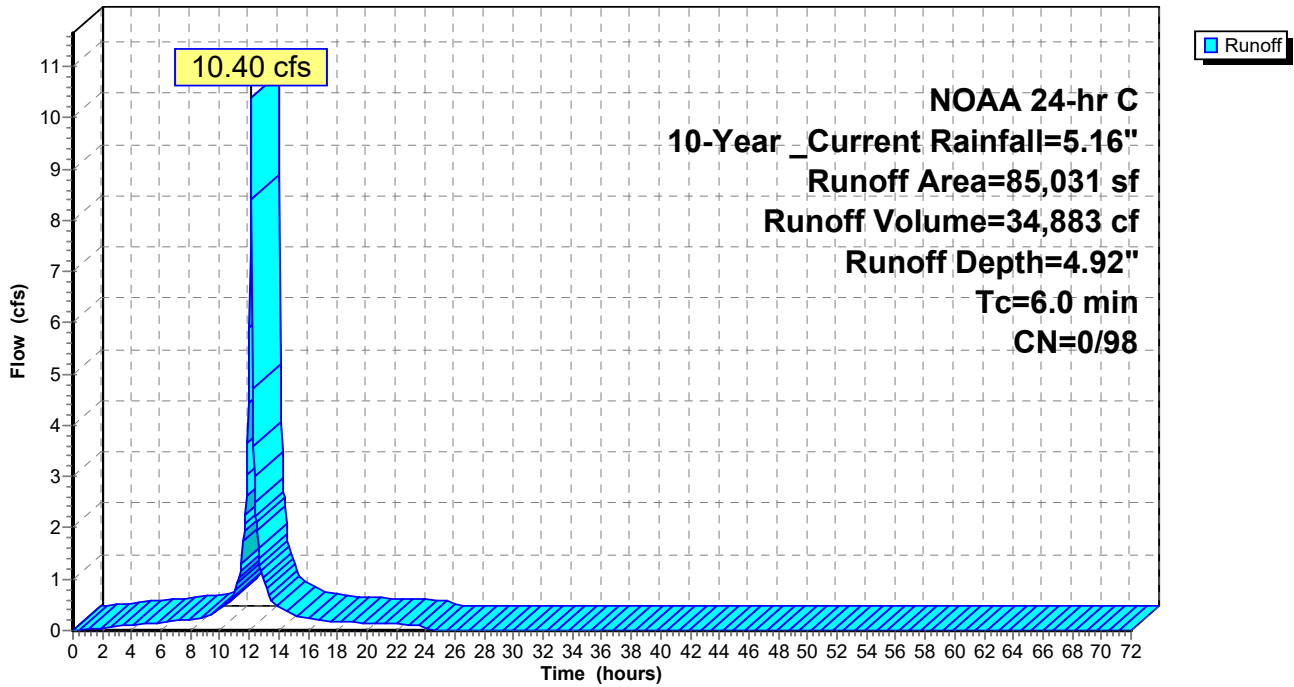
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

Area (sf)	CN	Description
* 85,031	98	
85,031	98	100.00% Impervious Area

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

Subcatchment 2Sb: DA2: Roofs combined

Hydrograph



Summary for Subcatchment 2Sc: DA2: Driveways (other)

Runoff = 20.17 cfs @ 12.13 hrs, Volume= 67,660 cf, Depth= 4.92"

Routed to Pond 7P : Basic Porous Pavement (infiltration only)

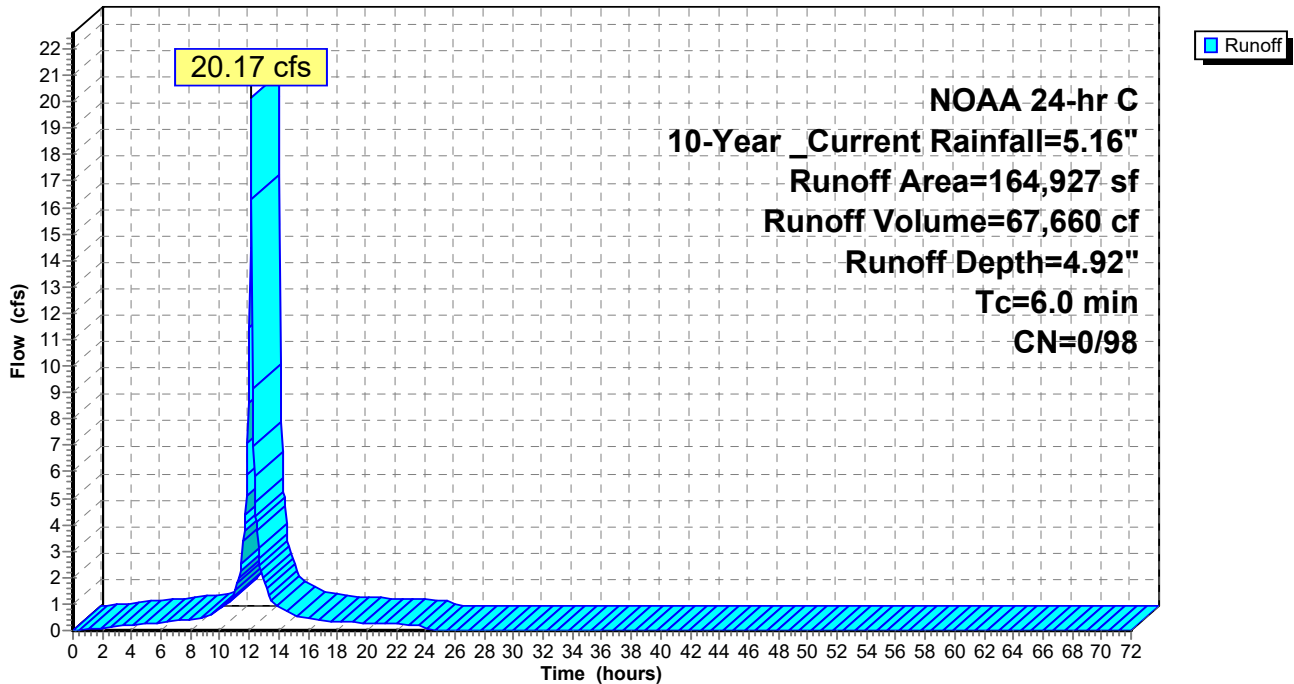
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year_Current Rainfall=5.16"

Area (sf)	CN	Description
* 164,927	98	Impervious Driveways (other)
164,927	98	100.00% Impervious Area

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

Subcatchment 2Sc: DA2: Driveways (other)

Hydrograph



Summary for Subcatchment 3S: DA 3: All

Runoff = 60.54 cfs @ 12.49 hrs, Volume= 367,992 cf, Depth= 3.37"
 Routed to Link 4L : Combined Flows

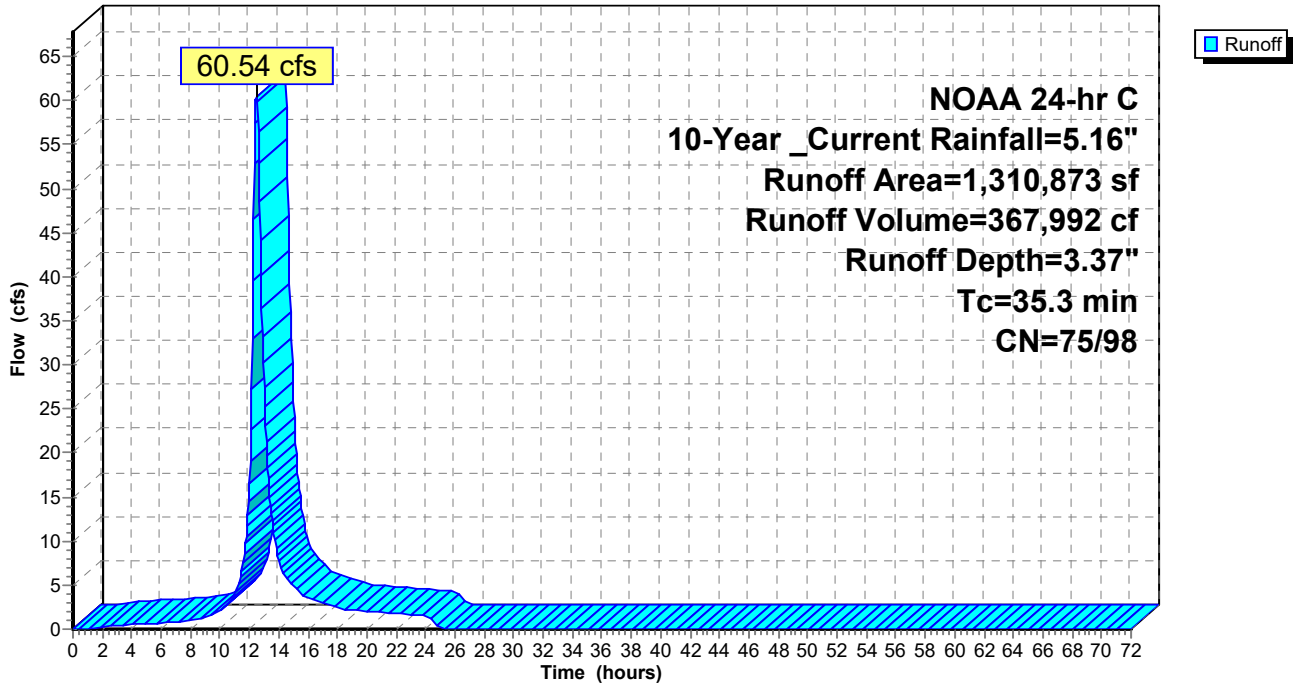
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
*	92,992	98	Roofs
*	184,684	98	Driveways
	1,310,873	83	Weighted Average
	869,479	75	66.33% Pervious Area
	441,394	98	33.67% Impervious Area

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

Subcatchment 3S: DA 3: All

Hydrograph



Summary for Subcatchment 3Sa: DA 3: CNs w/ IC areas

Runoff = 42.92 cfs @ 12.50 hrs, Volume= 254,077 cf, Depth= 2.95"

Routed to Pond 8P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

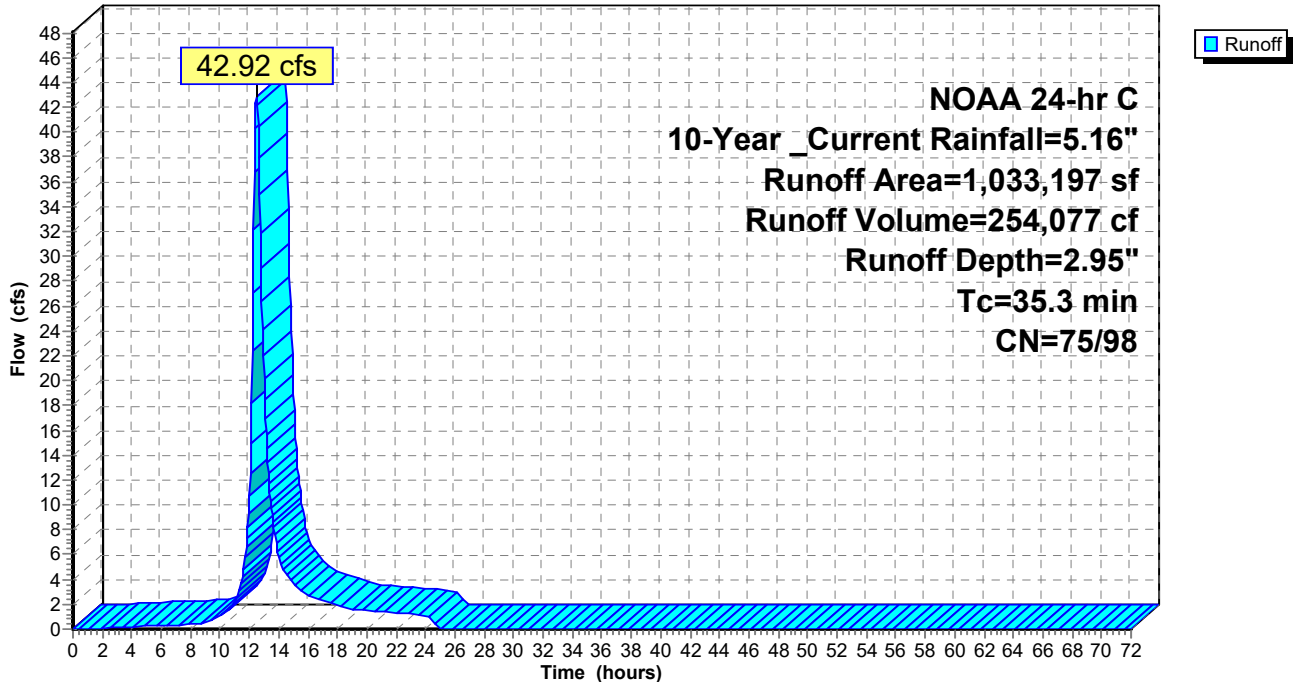
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
	1,033,197	79	Weighted Average
	869,479	75	84.15% Pervious Area
	163,718	98	15.85% Impervious Area

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

Subcatchment 3Sa: DA 3: CNs w/ IC areas

Hydrograph



Summary for Subcatchment 3Sb: DA3: Roofs combined

Runoff = 11.38 cfs @ 12.13 hrs, Volume= 38,149 cf, Depth= 4.92"

Routed to Pond 9P : Basic Rain Garden (infiltration only) 500 SF

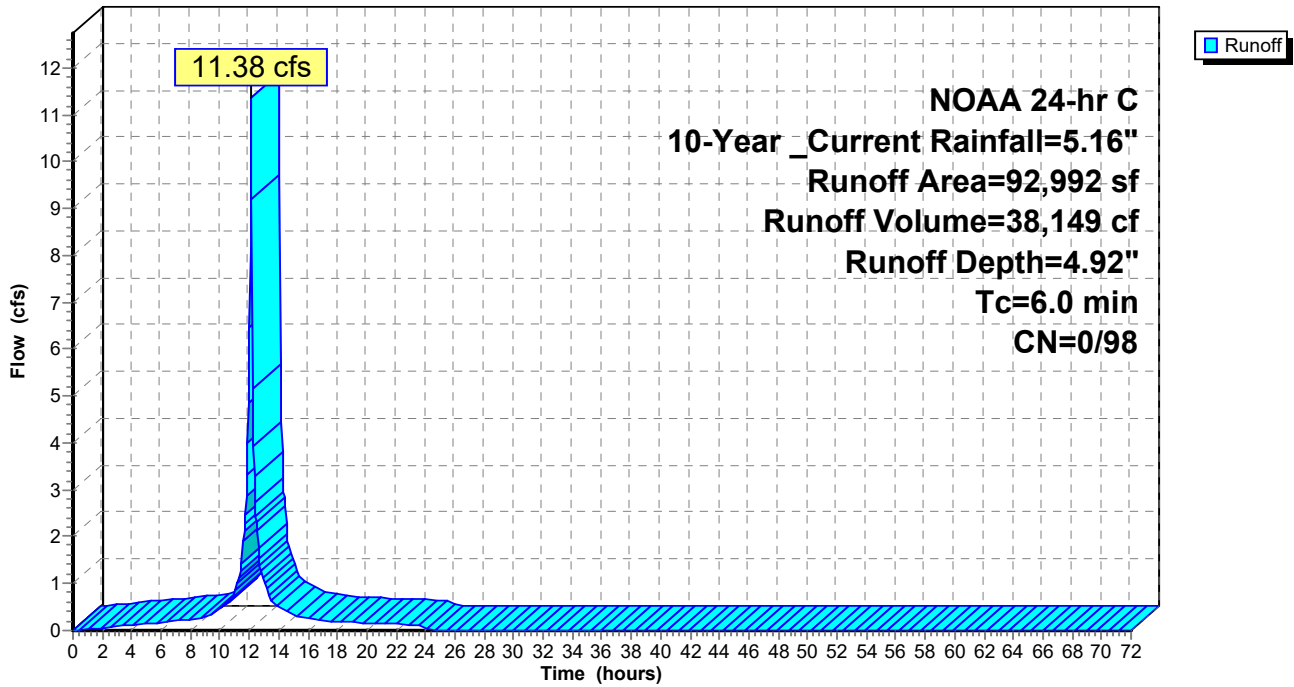
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

Area (sf)	CN	Description
* 92,992	98	
92,992	98	100.00% Impervious Area

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

Subcatchment 3Sb: DA3: Roofs combined

Hydrograph



Summary for Subcatchment 3Sc: DA3: Driveways (other)

Runoff = 22.59 cfs @ 12.13 hrs, Volume= 75,765 cf, Depth= 4.92"

Routed to Pond 10P : Basic Porous Pavement (infiltration only)

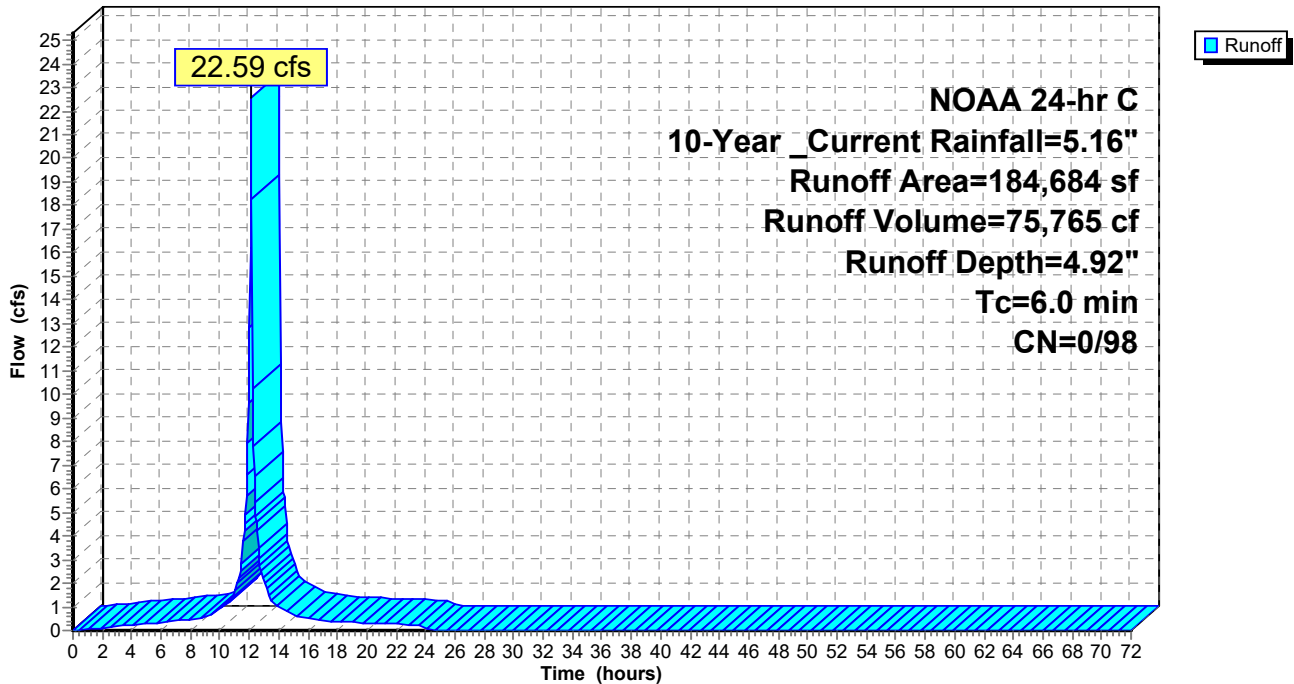
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year_Current Rainfall=5.16"

Area (sf)	CN	Description
* 184,684	98	Impervious Driveways (other)
184,684	98	100.00% Impervious Area

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

Subcatchment 3Sc: DA3: Driveways (other)

Hydrograph



Summary for Subcatchment 4S: DA 4: All

Runoff = 20.05 cfs @ 12.26 hrs, Volume= 83,637 cf, Depth= 3.05"
 Routed to Link 4L : Combined Flows

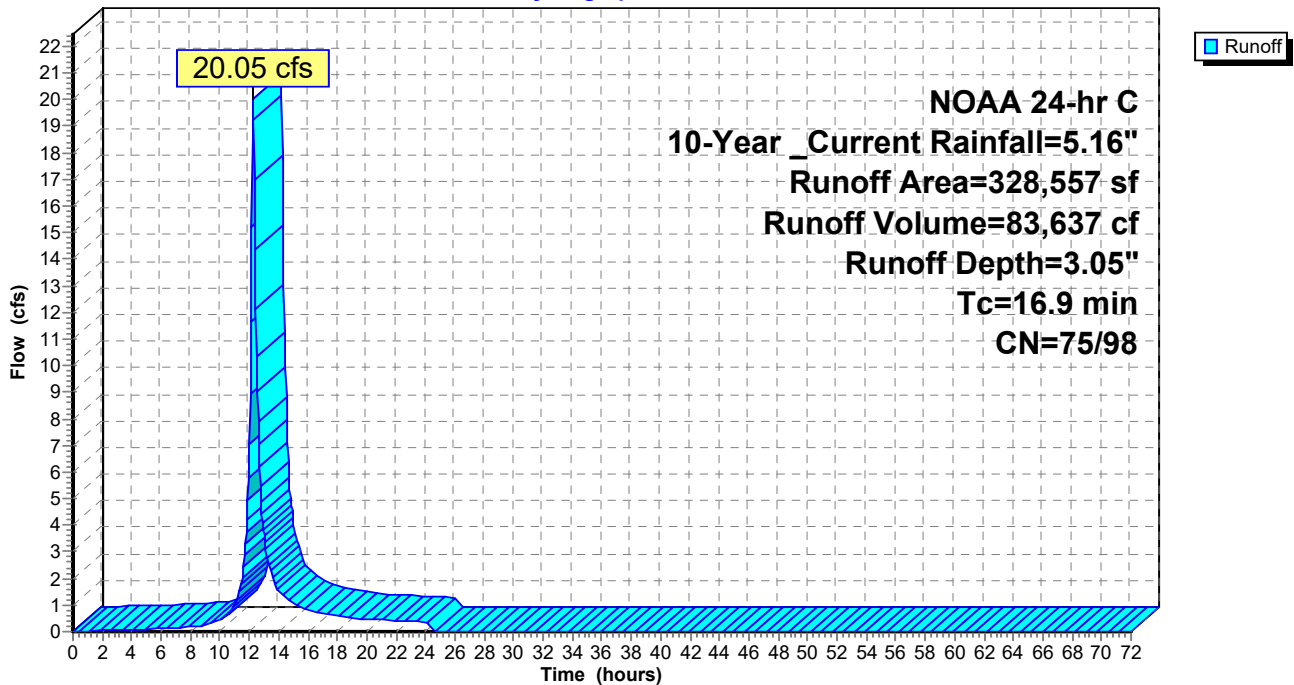
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
*	23,888	98	Roofs
*	35,770	98	Driveways
	328,557	80	Weighted Average
	261,947	75	79.73% Pervious Area
	66,610	98	20.27% Impervious Area

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

Subcatchment 4S: DA 4: All

Hydrograph



Summary for Subcatchment 4Sa: DA 4: CN w/ IC areas

Runoff = 14.71 cfs @ 12.26 hrs, Volume= 59,163 cf, Depth= 2.64"

Routed to Pond 11P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

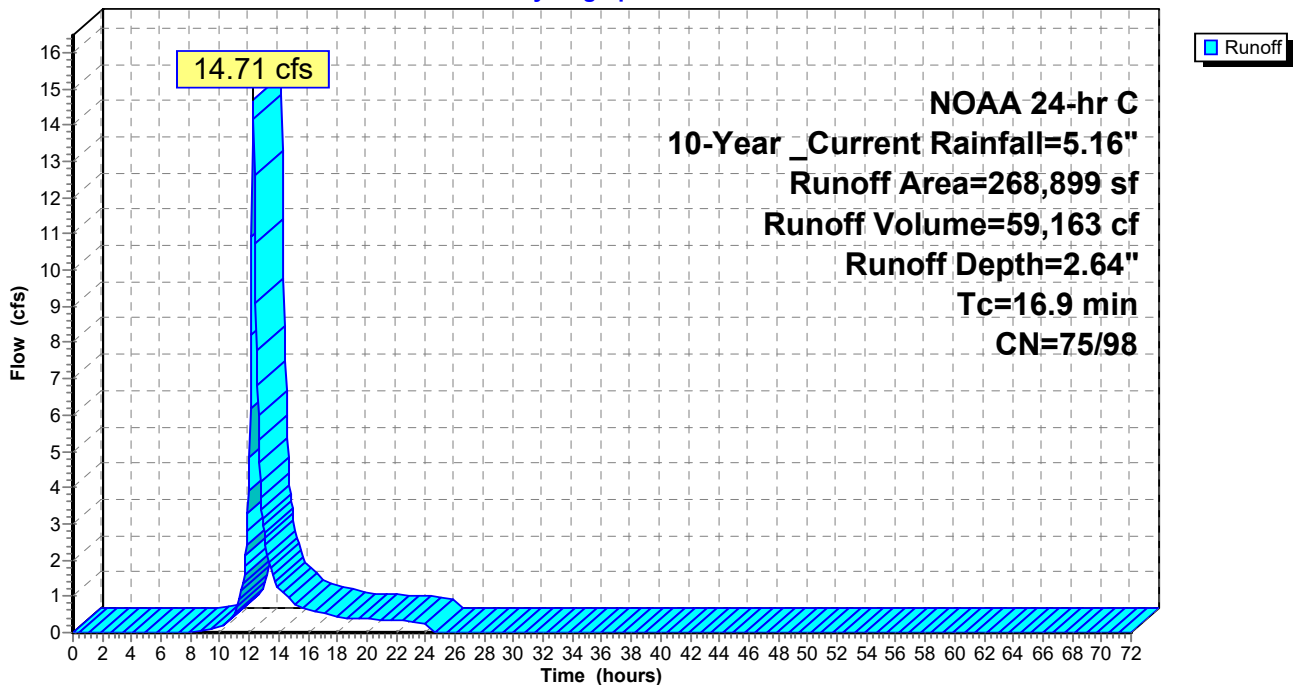
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
	268,899	76	Weighted Average
	261,947	75	97.41% Pervious Area
	6,952	98	2.59% Impervious Area

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

Subcatchment 4Sa: DA 4: CN w/ IC areas

Hydrograph



Summary for Subcatchment 4Sb: DA4: Roofs combined

Runoff = 2.92 cfs @ 12.13 hrs, Volume= 9,800 cf, Depth= 4.92"

Routed to Pond 12P : Basic Rain Garden (infiltration only) 500SF

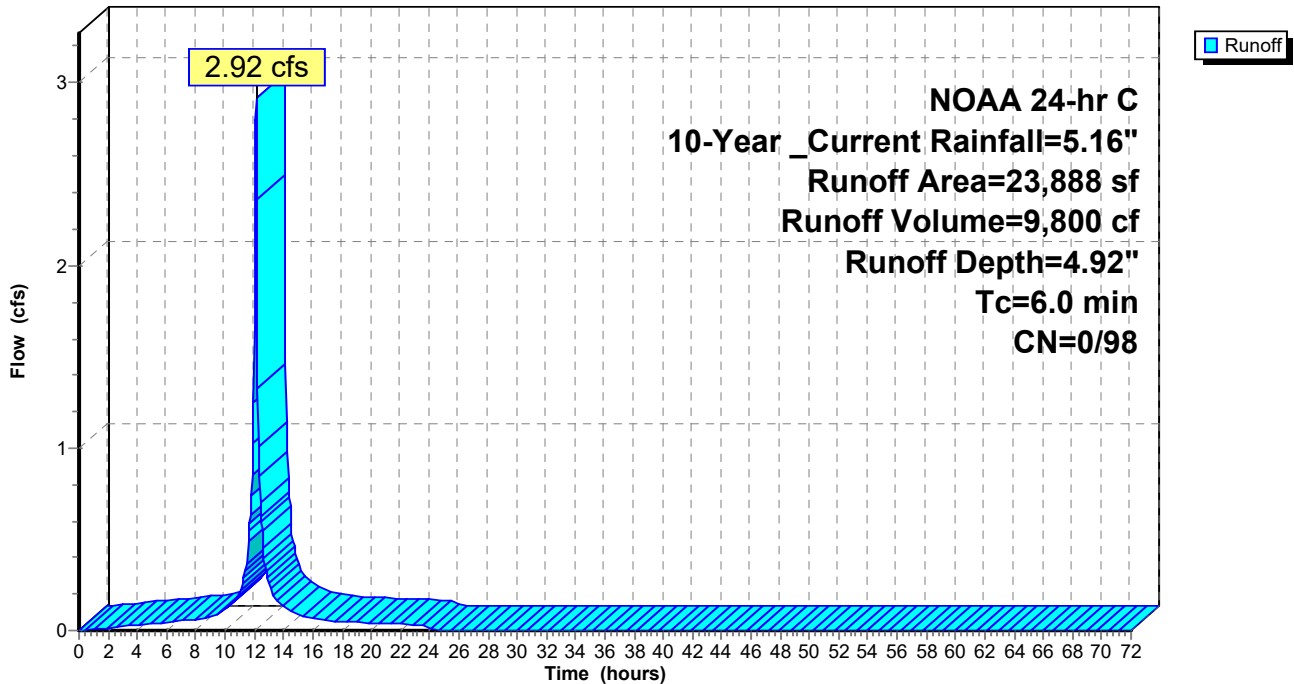
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _Current Rainfall=5.16"

Area (sf)	CN	Description
* 23,888	98	
23,888	98	100.00% Impervious Area

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

Subcatchment 4Sb: DA4: Roofs combined

Hydrograph



Summary for Subcatchment 4Sc: DA4: Driveways (other)

Runoff = 4.38 cfs @ 12.13 hrs, Volume= 14,674 cf, Depth= 4.92"

Routed to Pond 13P : Basic Porous Pavement (infiltration only)

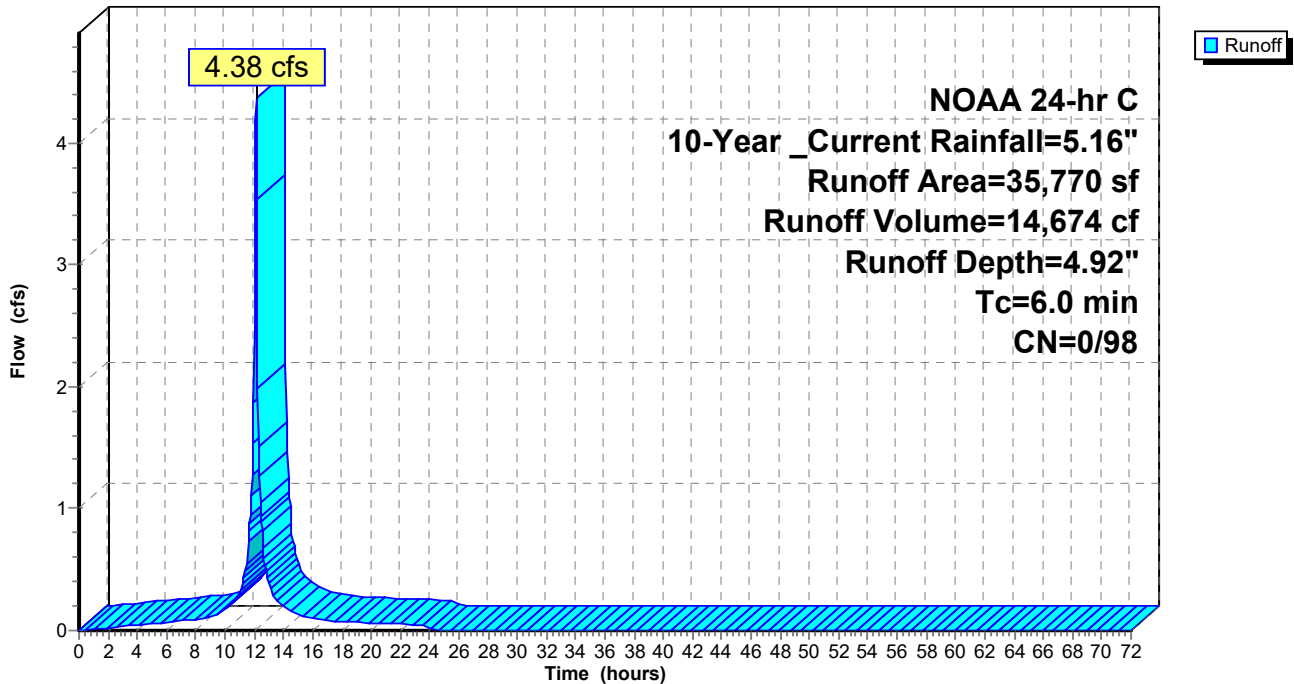
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year_Current Rainfall=5.16"

Area (sf)	CN	Description
* 35,770	98	Impervious Driveways (other)
35,770	98	100.00% Impervious Area

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

Subcatchment 4Sc: DA4: Driveways (other)

Hydrograph



Summary for Reach 1R: INFLOW PIPE

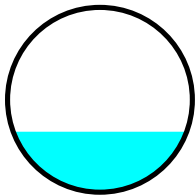
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 2.53" for 10-Year_Current event
 Inflow = 90.10 cfs @ 12.36 hrs, Volume= 431,808 cf
 Outflow = 89.43 cfs @ 12.37 hrs, Volume= 431,870 cf, Atten= 1%, Lag= 0.0 min
 Routed to Pond 4P : Basin 1 Municipal property 48k sf

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 19.95 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 6.63 fps, Avg. Travel Time= 0.2 min

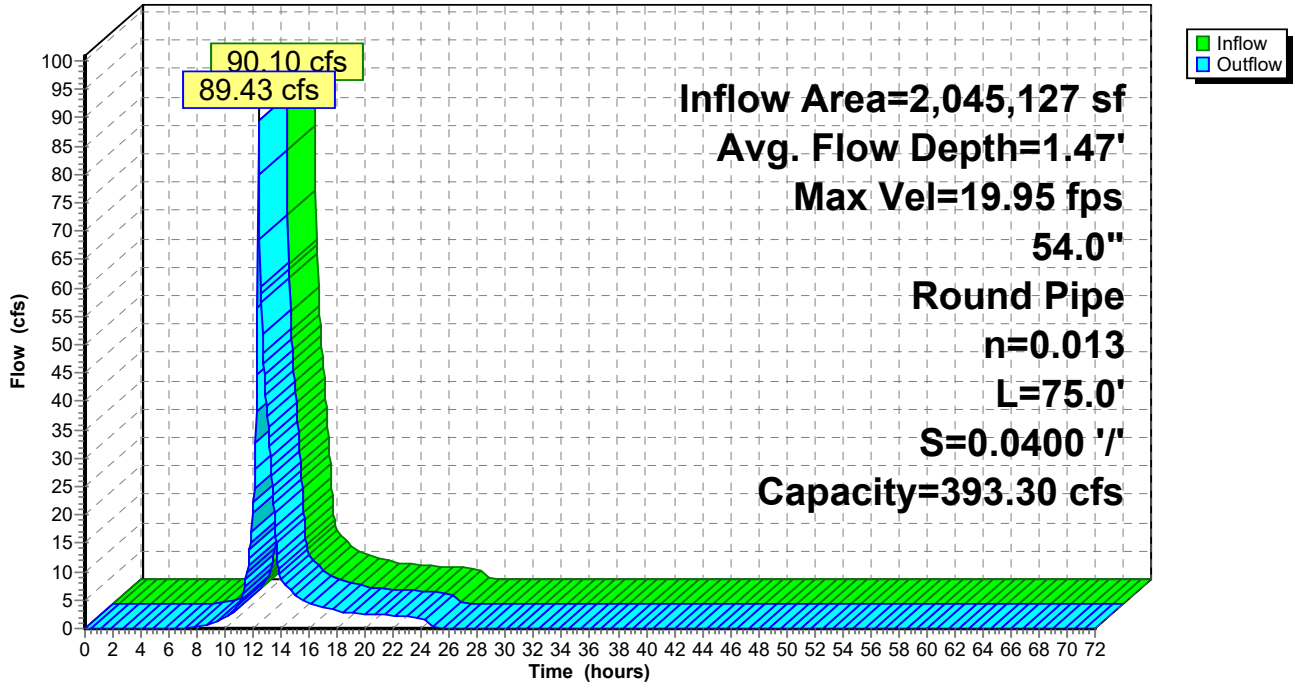
Peak Storage= 337 cf @ 12.36 hrs
 Average Depth at Peak Storage= 1.47' , Surface Width= 4.22'
 Bank-Full Depth= 4.50' Flow Area= 15.9 sf, Capacity= 393.30 cfs

54.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 75.0' Slope= 0.0400 '/'
 Inlet Invert= 75.00', Outlet Invert= 72.00'



Reach 1R: INFLOW PIPE

Hydrograph



Summary for Reach 2R: OUTFLOW PIPE

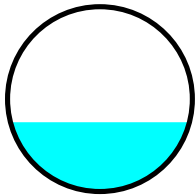
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 2.48" for 10-Year_Current event
 Inflow = 60.42 cfs @ 12.52 hrs, Volume= 423,391 cf
 Outflow = 60.42 cfs @ 12.52 hrs, Volume= 423,391 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Max. Velocity= 14.09 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 3.11 fps, Avg. Travel Time= 0.3 min

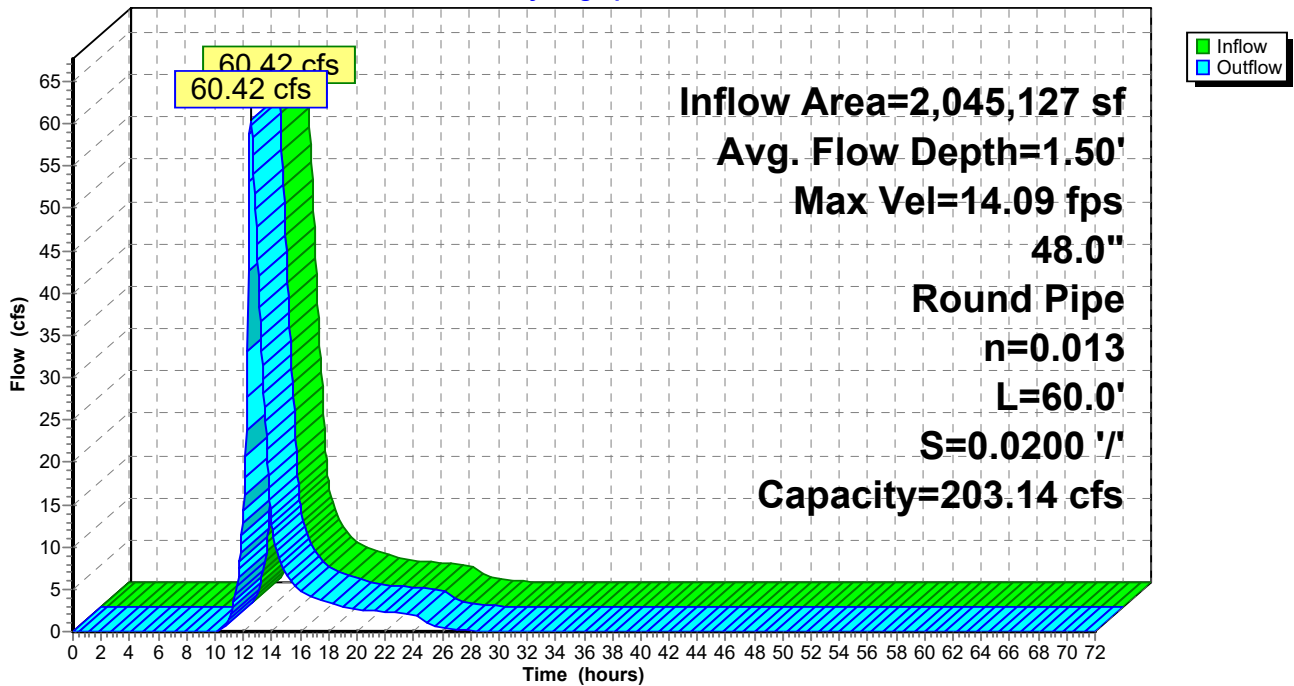
Peak Storage= 257 cf @ 12.52 hrs
 Average Depth at Peak Storage= 1.50' , Surface Width= 3.87'
 Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 203.14 cfs

48.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 60.0' Slope= 0.0200 '/'
 Inlet Invert= 68.00', Outlet Invert= 66.80'



Reach 2R: OUTFLOW PIPE

Hydrograph



Summary for Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,732,396 sf, 10.81% Impervious, Inflow Depth = 2.99" for 10-Year_Current event
 Inflow = 104.72 cfs @ 12.26 hrs, Volume= 431,885 cf
 Outflow = 90.10 cfs @ 12.36 hrs, Volume= 428,020 cf, Atten= 14%, Lag= 6.1 min
 Primary = 60.83 cfs @ 12.35 hrs, Volume= 418,093 cf
 Routed to Link 1L : Combined Flows
 Secondary = 28.90 cfs @ 12.36 hrs, Volume= 9,927 cf
 Routed to Link 1L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.18' @ 12.35 hrs Surf.Area= 30,624 sf Storage= 65,845 cf

Plug-Flow detention time= 24.1 min calculated for 428,020 cf (99% of inflow)
 Center-of-Mass det. time= 18.3 min (845.5 - 827.2)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 45.00 = 78,177 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 45.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 45.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 45.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 45.00**
2 End Contraction(s)

Primary OutFlow Max=60.84 cfs @ 12.35 hrs HW=100.18' (Free Discharge)

↑1=Culvert (Passes 60.84 cfs of 91.08 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 60.84 cfs @ 6.89 fps)

Secondary OutFlow Max=24.87 cfs @ 12.36 hrs HW=100.17' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 24.87 cfs @ 1.06 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

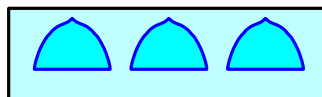
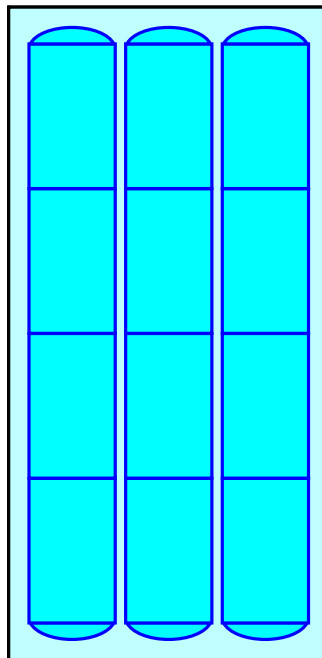
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

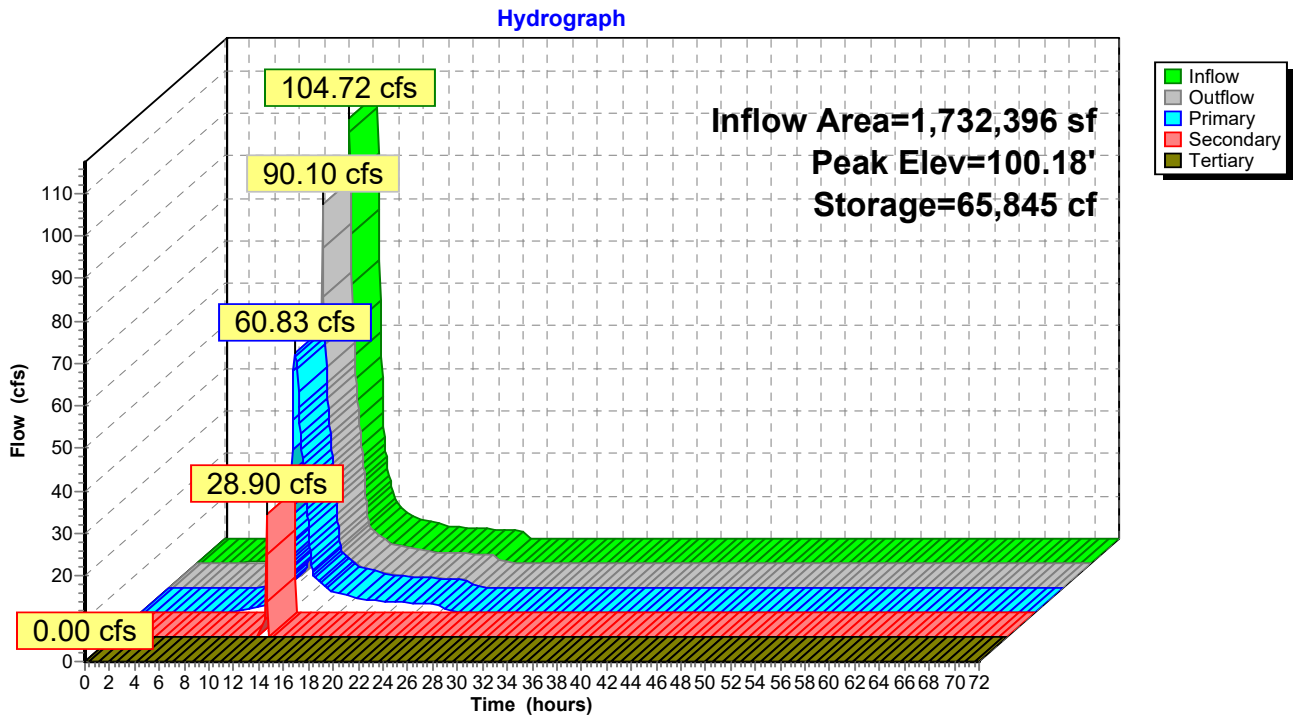
12 Chambers

84.3 cy Field

63.8 cy Stone



Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES



Summary for Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Assumes infiltration through media is non-limiting.

Inflow Area = 132,361 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 16.19 cfs @ 12.13 hrs, Volume= 54,300 cf
 Outflow = 1.44 cfs @ 13.03 hrs, Volume= 54,300 cf, Atten= 91%, Lag= 54.4 min
 Discarded = 0.44 cfs @ 12.75 hrs, Volume= 50,512 cf
 Primary = 1.00 cfs @ 13.03 hrs, Volume= 3,788 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.02' @ 13.03 hrs Surf.Area= 38,000 sf Storage= 28,940 cf

Plug-Flow detention time= 586.7 min calculated for 54,300 cf (100% of inflow)
 Center-of-Mass det. time= 586.6 min (1,334.9 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 76.00 = 47,273 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

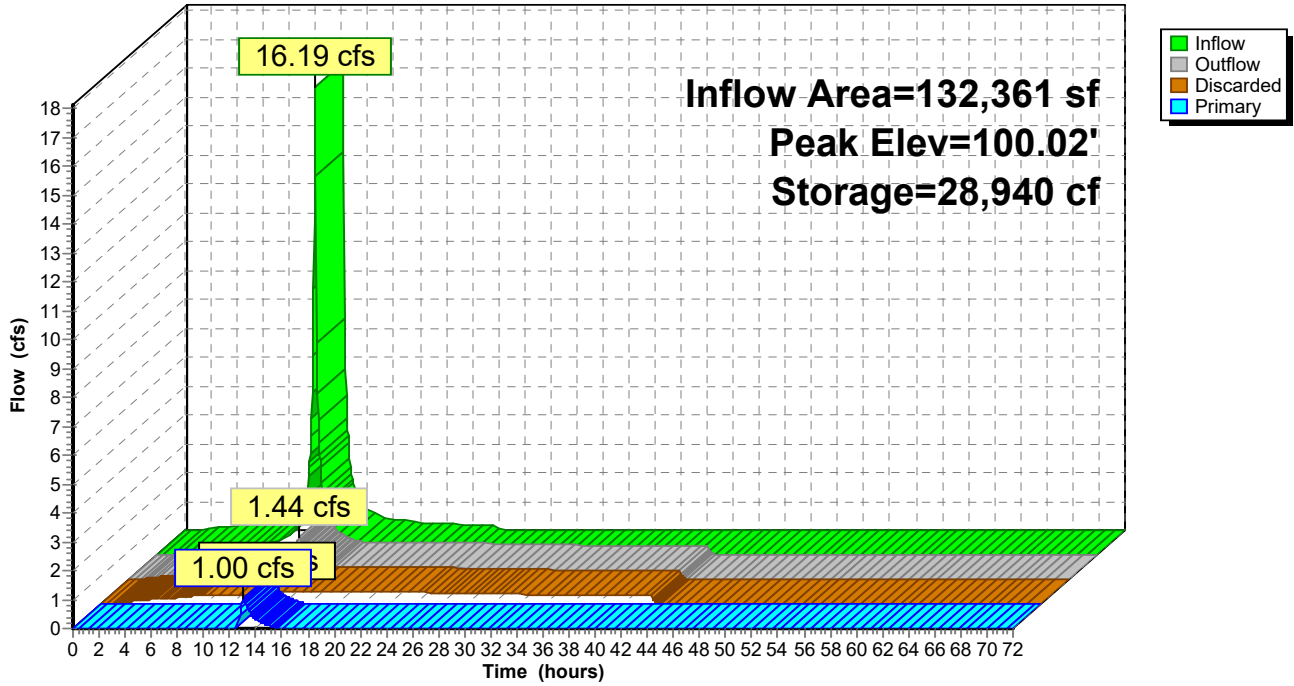
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 76.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.44 cfs @ 12.75 hrs HW=100.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.44 cfs)

Primary OutFlow Max=0.86 cfs @ 13.03 hrs HW=100.02' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 0.86 cfs @ 0.32 fps)

Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Hydrograph



Summary for Pond 3P: Basic Porous Pavement (infiltration only)

Inflow Area = 180,370 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 22.06 cfs @ 12.13 hrs, Volume= 73,996 cf
 Outflow = 2.09 cfs @ 11.35 hrs, Volume= 73,996 cf, Atten= 91%, Lag= 0.0 min
 Discarded = 2.09 cfs @ 11.35 hrs, Volume= 73,996 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.66' @ 12.98 hrs Surf.Area= 180,370 sf Storage= 25,705 cf

Plug-Flow detention time= 81.9 min calculated for 73,996 cf (100% of inflow)
 Center-of-Mass det. time= 81.9 min (830.2 - 748.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	81,888 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	180,370	0.0	0	0
99.75	180,370	35.0	31,565	31,565
99.83	180,370	15.0	2,164	33,729
100.01	180,370	15.0	4,870	38,599
100.25	180,370	100.0	43,289	81,888

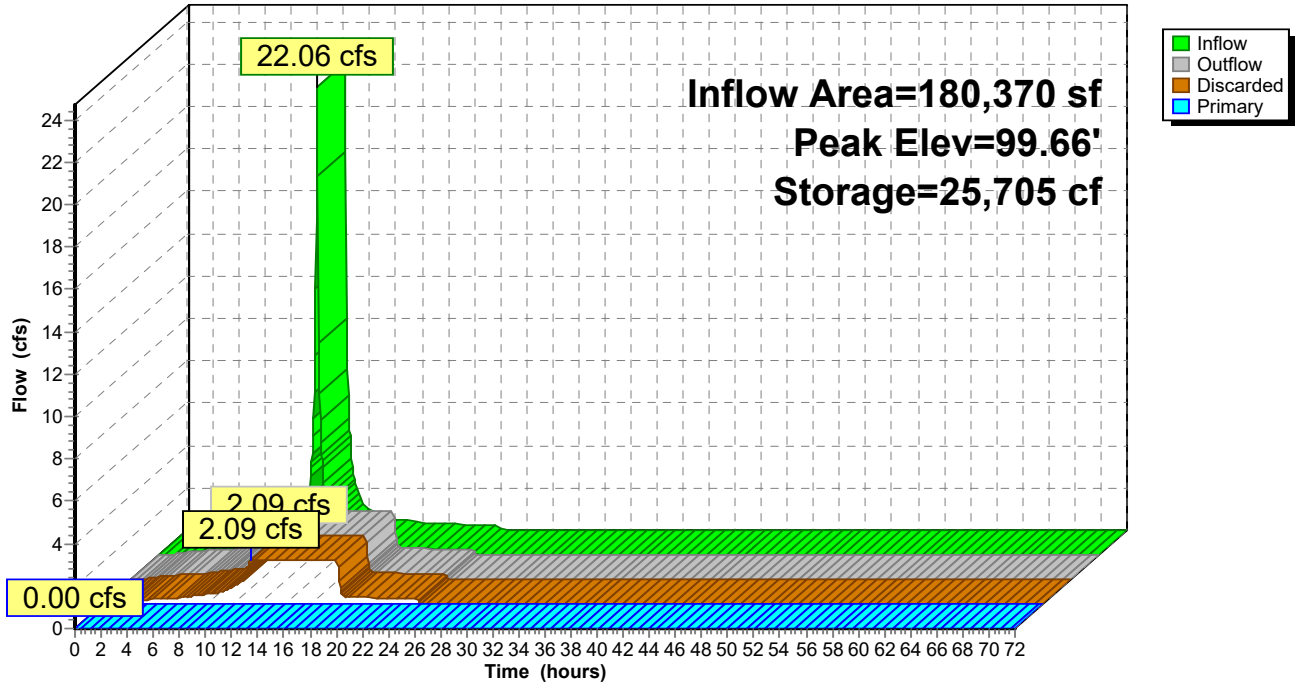
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.09 cfs @ 11.35 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 3P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 4P: Basin 1 Municipal property 48k sf

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.58' @ 12.70 hrs

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 2.53" for 10-Year_Current event
 Inflow = 89.43 cfs @ 12.37 hrs, Volume= 431,870 cf
 Outflow = 60.42 cfs @ 12.52 hrs, Volume= 423,391 cf, Atten= 32%, Lag= 9.2 min
 Primary = 60.42 cfs @ 12.52 hrs, Volume= 423,391 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 73.71' @ 12.52 hrs Surf.Area= 38,837 sf Storage= 61,740 cf

Plug-Flow detention time= 50.0 min calculated for 423,391 cf (98% of inflow)
 Center-of-Mass det. time= 37.6 min (883.0 - 845.4)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	206,538 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	33,525	0	0
77.00	49,090	206,538	206,538

Device	Routing	Invert	Outlet Devices
#1	Primary	72.25'	24.0" Vert. Low Flow Orifice X 6.00 C= 0.600 Limited to weir flow at low heads
#2	Secondary	74.50'	24.0" W x 18.0" H Vert. SECONDARY OUTLET X 4.00 C= 0.600 Limited to weir flow at low heads
#3	Tertiary	76.75'	60.0" x 60.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

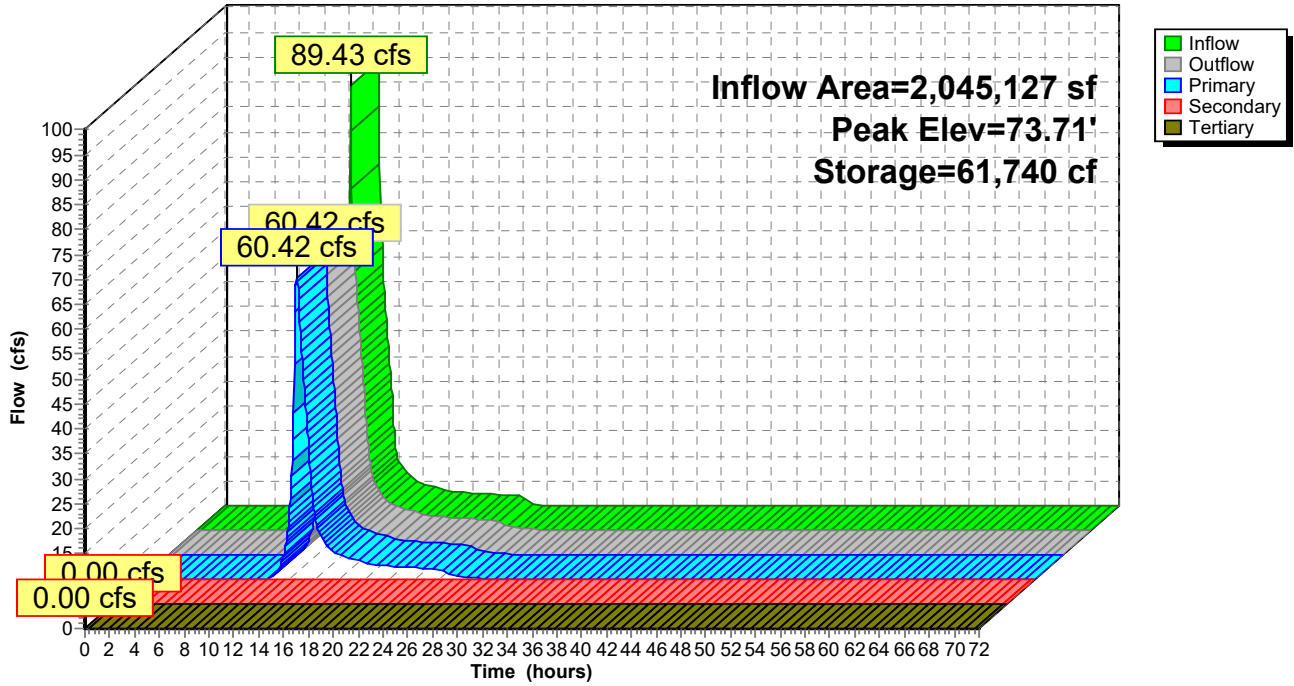
Primary OutFlow Max=60.24 cfs @ 12.52 hrs HW=73.70' (Free Discharge)
 ↑1=**Low Flow Orifice** (Orifice Controls 60.24 cfs @ 4.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑2=**SECONDARY OUTLET** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑3=**Orifice/Grate** (Controls 0.00 cfs)

Pond 4P: Basin 1 Municipal property 48k sf

Hydrograph



Summary for Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,186,669 sf, 12.13% Impervious, Inflow Depth = 2.86" for 10-Year_Current event
 Inflow = 45.14 cfs @ 12.55 hrs, Volume= 283,198 cf
 Outflow = 35.60 cfs @ 12.80 hrs, Volume= 280,088 cf, Atten= 21%, Lag= 14.8 min
 Primary = 35.60 cfs @ 12.80 hrs, Volume= 280,088 cf
 Routed to Link 2L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 99.91' @ 12.80 hrs Surf.Area= 18,374 sf Storage= 38,231 cf

Plug-Flow detention time= 25.5 min calculated for 279,894 cf (99% of inflow)
 Center-of-Mass det. time= 18.9 min (868.5 - 849.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 27.00 = 46,906 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 27.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 27.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 27.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 27.00**
2 End Contraction(s)

Primary OutFlow Max=35.59 cfs @ 12.80 hrs HW=99.91' (Free Discharge)

↑1=Culvert (Passes 35.59 cfs of 53.30 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 35.59 cfs @ 6.71 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

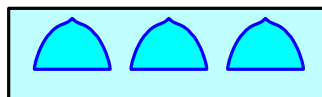
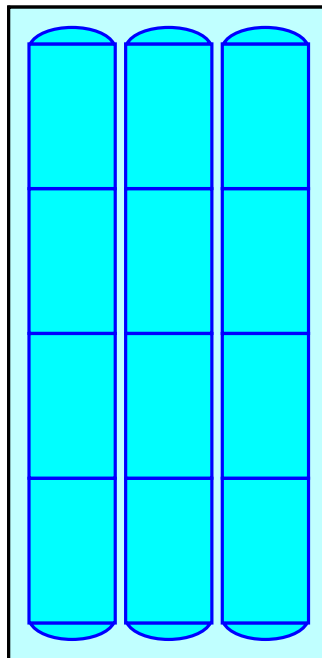
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

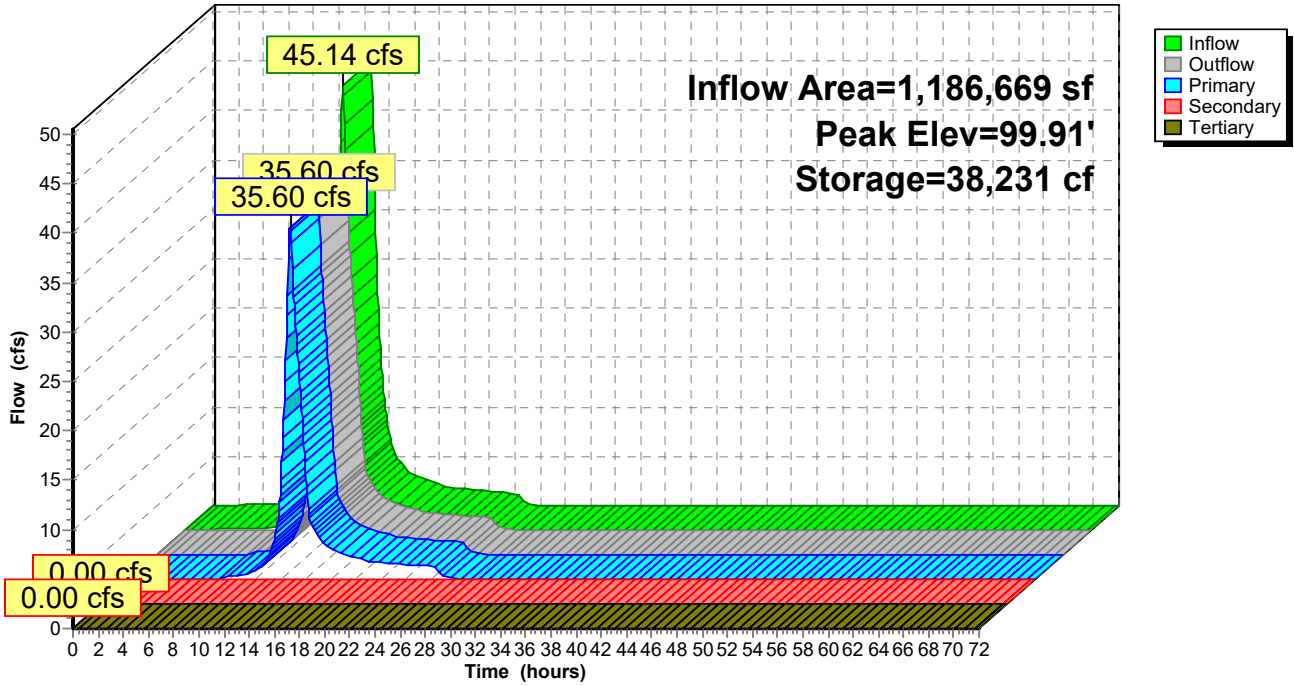
84.3 cy Field

63.8 cy Stone



Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 6P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 85,031 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 10.40 cfs @ 12.13 hrs, Volume= 34,883 cf
 Outflow = 1.13 cfs @ 12.84 hrs, Volume= 34,883 cf, Atten= 89%, Lag= 43.0 min
 Discarded = 0.27 cfs @ 12.55 hrs, Volume= 31,531 cf
 Primary = 0.86 cfs @ 12.84 hrs, Volume= 3,352 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.02' @ 12.84 hrs Surf.Area= 23,500 sf Storage= 18,030 cf

Plug-Flow detention time= 572.1 min calculated for 34,859 cf (100% of inflow)
 Center-of-Mass det. time= 572.5 min (1,320.8 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 47.00 = 29,235 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

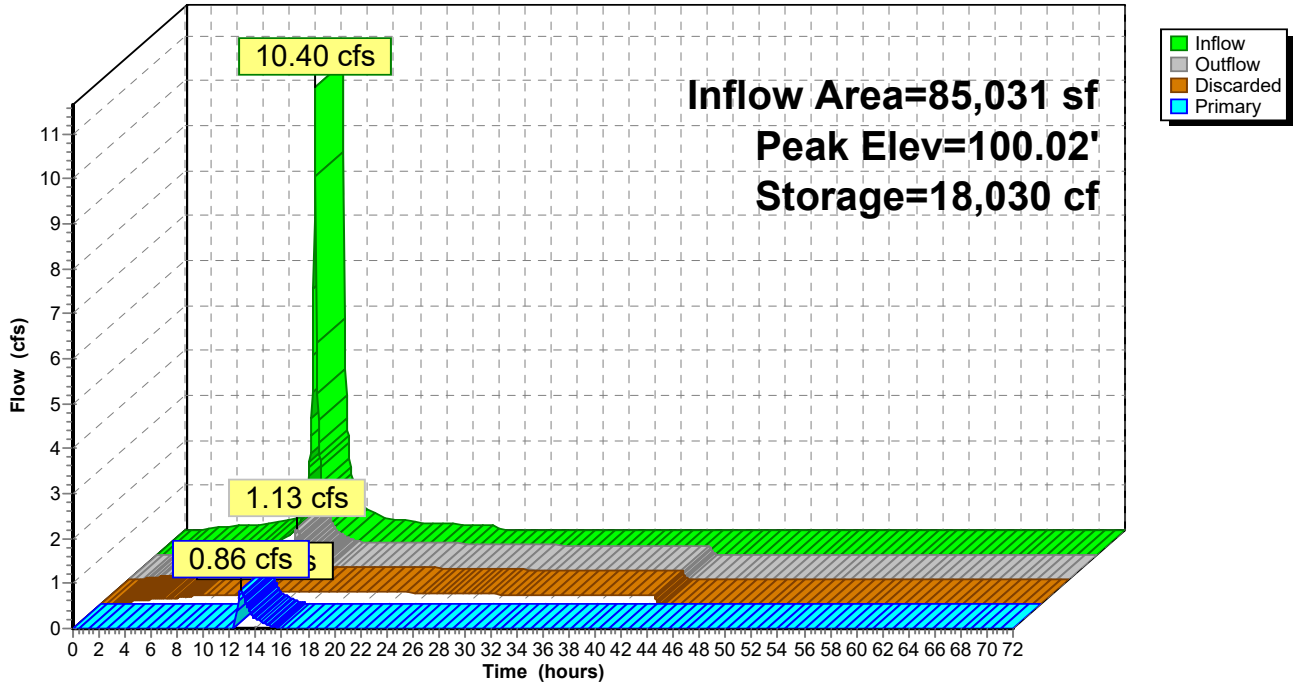
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 47.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.27 cfs @ 12.55 hrs HW=100.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=0.81 cfs @ 12.84 hrs HW=100.02' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 0.81 cfs @ 0.37 fps)

Pond 6P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 7P: Basic Porous Pavement (infiltration only)

Inflow Area = 164,927 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 20.17 cfs @ 12.13 hrs, Volume= 67,660 cf
 Outflow = 1.91 cfs @ 11.35 hrs, Volume= 67,660 cf, Atten= 91%, Lag= 0.0 min
 Discarded = 1.91 cfs @ 11.35 hrs, Volume= 67,660 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.66' @ 12.98 hrs Surf.Area= 164,927 sf Storage= 23,505 cf

Plug-Flow detention time= 81.9 min calculated for 67,660 cf (100% of inflow)
 Center-of-Mass det. time= 81.9 min (830.2 - 748.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	74,877 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	164,927	0.0	0	0
99.75	164,927	35.0	28,862	28,862
99.83	164,927	15.0	1,979	30,841
100.01	164,927	15.0	4,453	35,294
100.25	164,927	100.0	39,582	74,877

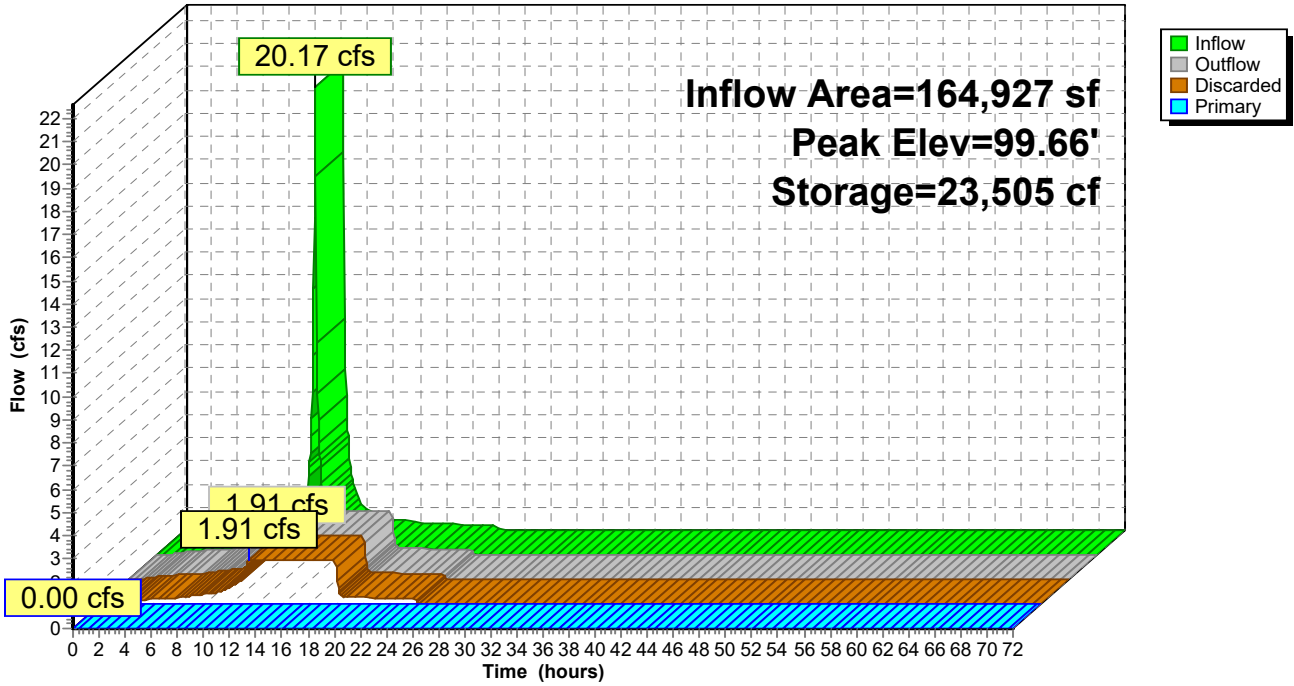
Device	Routing	Invert	Outlet Devices												
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area												
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00												
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00
			Coef. (English)	2.69	2.72	2.75	2.85	2.98	3.08	3.20	3.28	3.31	3.30	3.31	3.32

Discarded OutFlow Max=1.91 cfs @ 11.35 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.91 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 7P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,033,197 sf, 15.85% Impervious, Inflow Depth = 2.95" for 10-Year_Current event
 Inflow = 42.92 cfs @ 12.50 hrs, Volume= 254,077 cf
 Outflow = 33.26 cfs @ 12.73 hrs, Volume= 250,979 cf, Atten= 23%, Lag= 13.9 min
 Primary = 33.26 cfs @ 12.73 hrs, Volume= 250,979 cf
 Routed to Link 3L : Combined Flows
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 99.61' @ 12.73 hrs Surf.Area= 17,694 sf Storage= 35,418 cf

Plug-Flow detention time= 27.4 min calculated for 250,979 cf (99% of inflow)
 Center-of-Mass det. time= 19.6 min (860.2 - 840.5)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 26.00 = 45,169 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 26.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 26.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 26.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 26.00**
2 End Contraction(s)

Primary OutFlow Max=33.20 cfs @ 12.73 hrs HW=99.59' (Free Discharge)

↑1=Culvert (Passes 33.20 cfs of 49.73 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 33.20 cfs @ 6.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

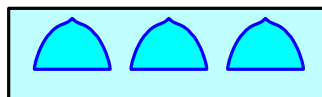
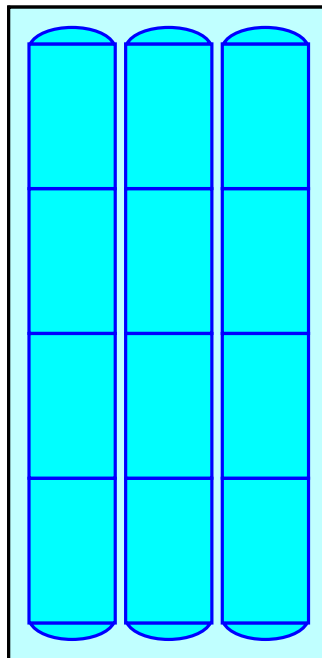
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

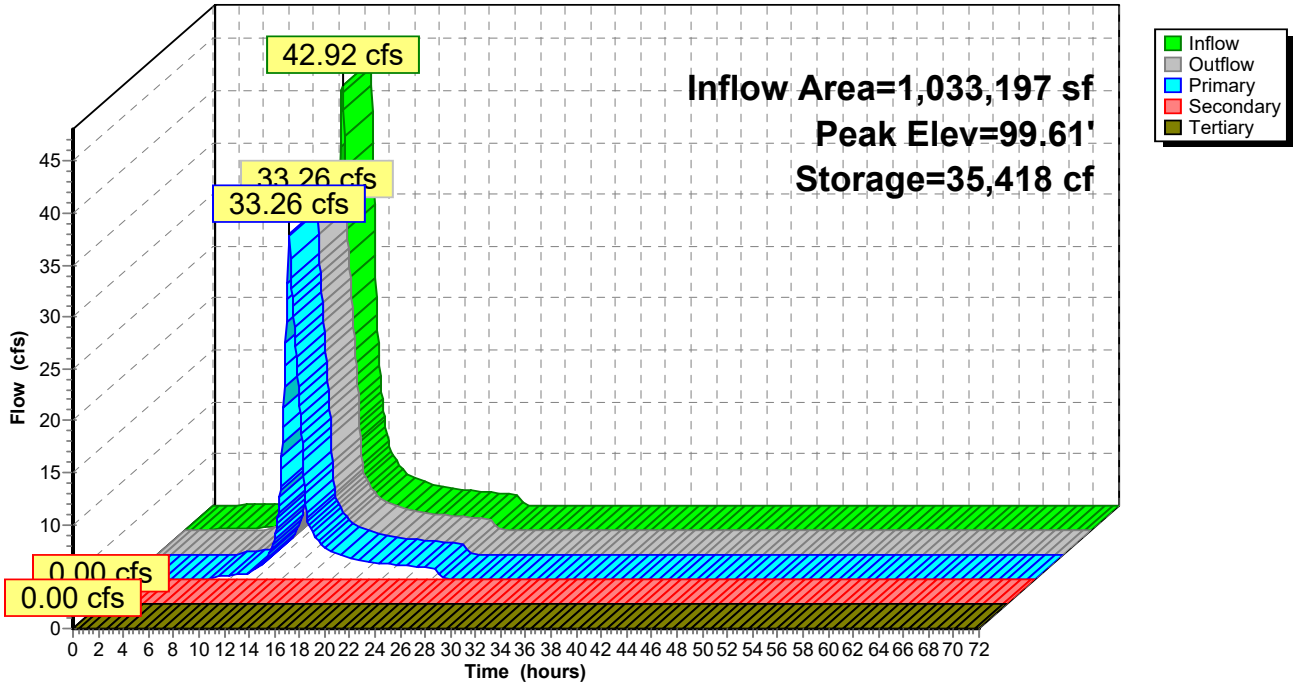
84.3 cy Field

63.8 cy Stone



Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Assumes infiltration through media is non-limiting.

Inflow Area = 92,992 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 11.38 cfs @ 12.13 hrs, Volume= 38,149 cf
 Outflow = 2.57 cfs @ 12.43 hrs, Volume= 38,149 cf, Atten= 77%, Lag= 18.4 min
 Discarded = 0.26 cfs @ 12.30 hrs, Volume= 31,148 cf
 Primary = 2.31 cfs @ 12.43 hrs, Volume= 7,002 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.05' @ 12.43 hrs Surf.Area= 22,500 sf Storage= 17,816 cf

Plug-Flow detention time= 524.7 min calculated for 38,149 cf (100% of inflow)
 Center-of-Mass det. time= 524.6 min (1,272.9 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 45.00 = 27,991 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

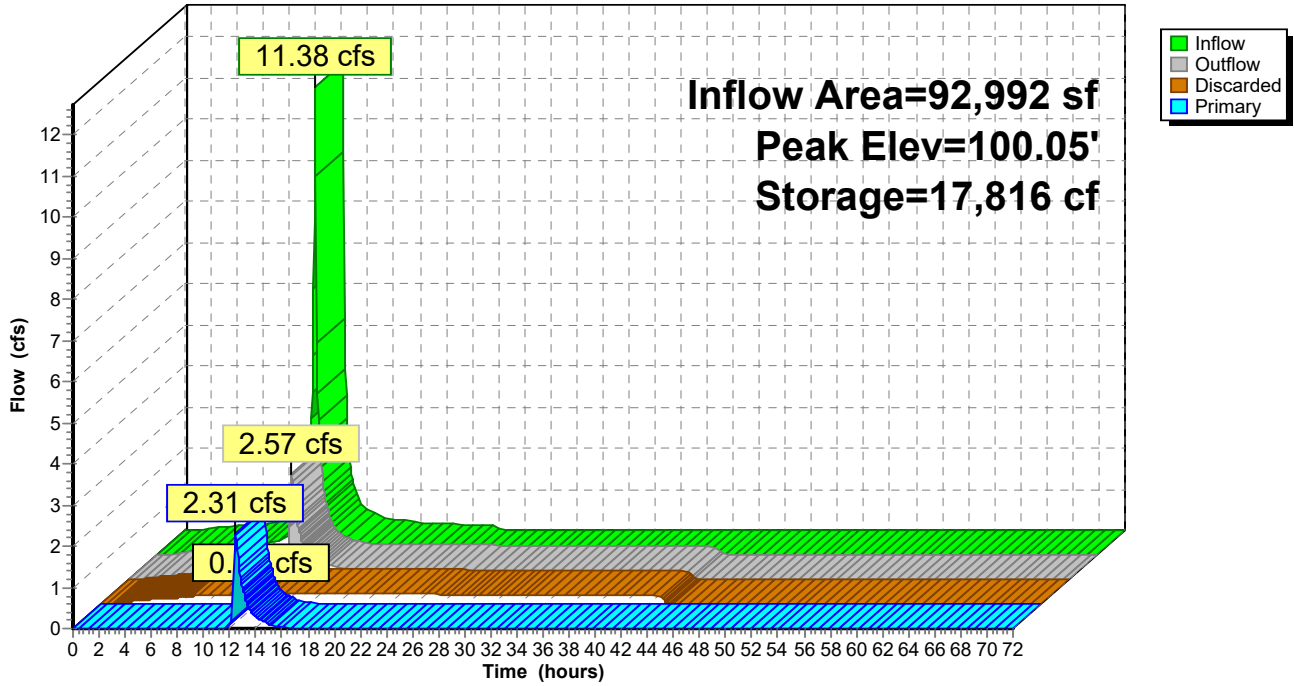
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 45.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.26 cfs @ 12.30 hrs HW=100.03' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=2.28 cfs @ 12.43 hrs HW=100.05' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 2.28 cfs @ 0.53 fps)

Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Hydrograph



Summary for Pond 10P: Basic Porous Pavement (infiltration only)

Inflow Area = 184,684 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 22.59 cfs @ 12.13 hrs, Volume= 75,765 cf
 Outflow = 2.14 cfs @ 11.35 hrs, Volume= 75,765 cf, Atten= 91%, Lag= 0.0 min
 Discarded = 2.14 cfs @ 11.35 hrs, Volume= 75,765 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.66' @ 12.98 hrs Surf.Area= 184,684 sf Storage= 26,320 cf

Plug-Flow detention time= 81.9 min calculated for 75,765 cf (100% of inflow)
 Center-of-Mass det. time= 81.9 min (830.2 - 748.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	83,847 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	184,684	0.0	0	0
99.75	184,684	35.0	32,320	32,320
99.83	184,684	15.0	2,216	34,536
100.01	184,684	15.0	4,986	39,522
100.25	184,684	100.0	44,324	83,847

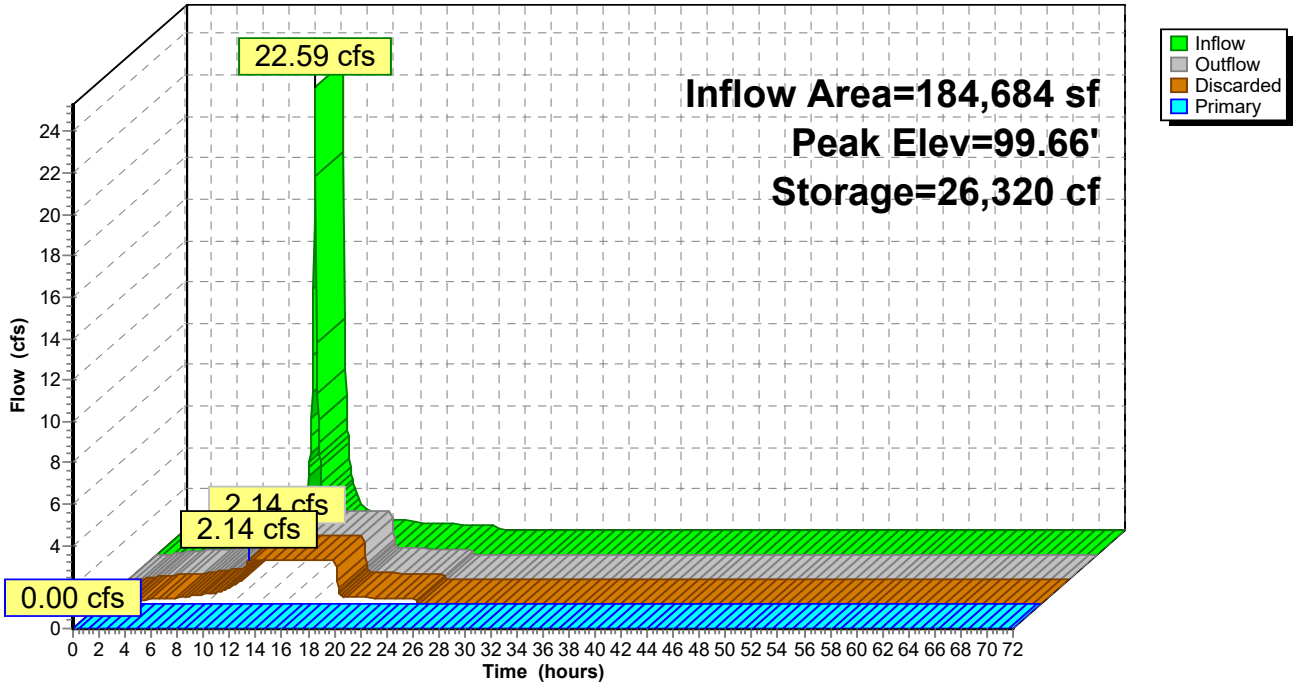
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.14 cfs @ 11.35 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 10P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 268,899 sf, 2.59% Impervious, Inflow Depth = 2.64" for 10-Year_Current event
 Inflow = 14.71 cfs @ 12.26 hrs, Volume= 59,163 cf
 Outflow = 14.64 cfs @ 12.26 hrs, Volume= 59,147 cf, Atten= 0%, Lag= 0.1 min
 Primary = 4.00 cfs @ 12.26 hrs, Volume= 46,397 cf
 Routed to Link 3L : Combined Flows
 Secondary = 9.77 cfs @ 12.26 hrs, Volume= 12,386 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.88 cfs @ 12.26 hrs, Volume= 363 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.56' @ 12.26 hrs Surf.Area= 1,997 sf Storage= 4,511 cf

Plug-Flow detention time= 12.7 min calculated for 59,147 cf (100% of inflow)
 Center-of-Mass det. time= 11.7 min (854.3 - 842.5)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	374 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,615 cf x 3.00 = 4,844 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	160	0.0	0	0	160
98.25	160	35.0	28	28	182
99.25	160	35.0	56	84	227
99.50	160	25.0	10	94	238
100.00	160	100.0	80	174	261
100.51	160	100.0	82	256	284
101.00	160	100.0	78	334	306
101.25	160	100.0	40	374	317

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 3.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 3.00 L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0044 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 3.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

#4 Tertiary 100.50' 2.85 3.07 3.20 3.32
6.0' long Sharp-Crested Rectangular Weir X 3.00
2 End Contraction(s)

Primary OutFlow Max=3.99 cfs @ 12.26 hrs HW=100.55' (Free Discharge)

↑1=Culvert (Passes 3.99 cfs of 6.27 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 3.99 cfs @ 6.78 fps)

Secondary OutFlow Max=9.67 cfs @ 12.26 hrs HW=100.55' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 9.67 cfs @ 1.94 fps)

Tertiary OutFlow Max=0.72 cfs @ 12.26 hrs HW=100.55' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 0.72 cfs @ 0.76 fps)

Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

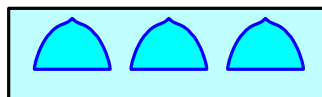
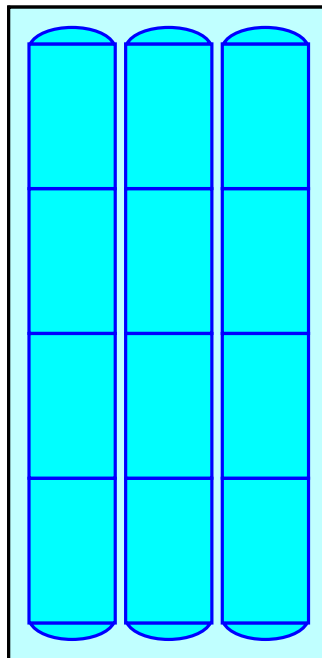
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

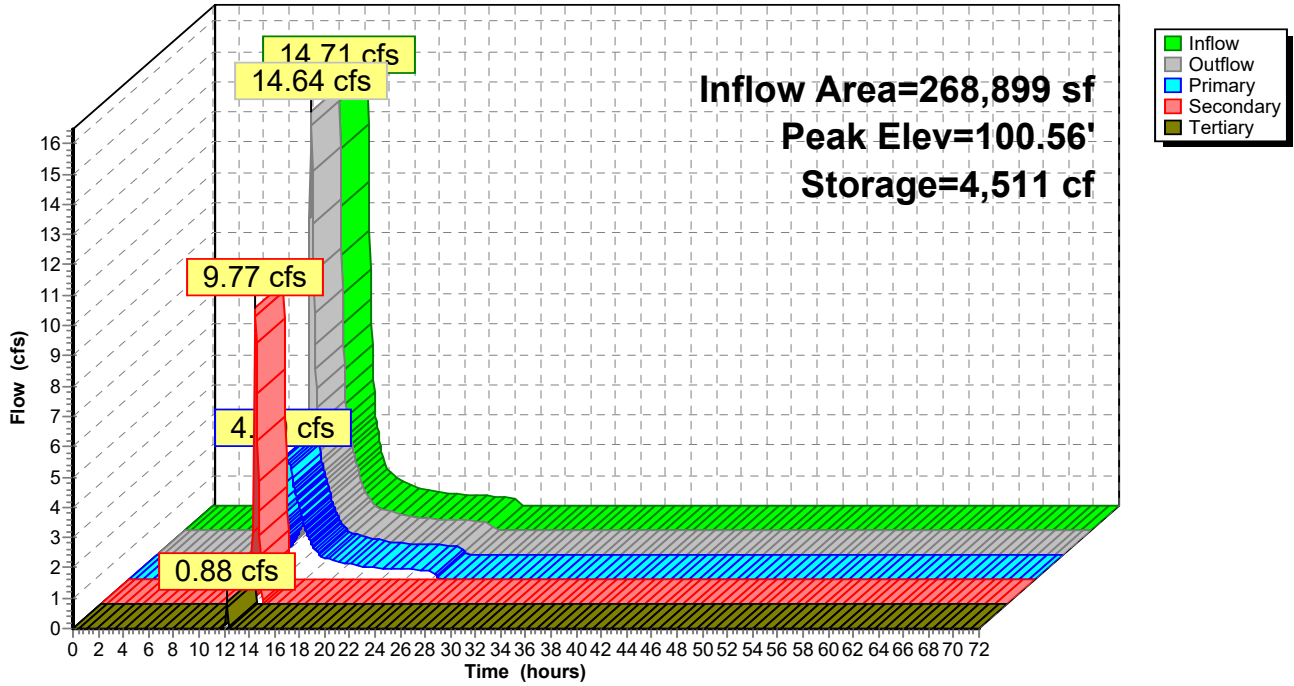
84.3 cy Field

63.8 cy Stone



Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 12P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 23,888 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 2.92 cfs @ 12.13 hrs, Volume= 9,800 cf
 Outflow = 0.22 cfs @ 13.16 hrs, Volume= 9,800 cf, Atten= 92%, Lag= 62.3 min
 Discarded = 0.08 cfs @ 12.90 hrs, Volume= 9,257 cf
 Primary = 0.14 cfs @ 13.16 hrs, Volume= 543 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.01' @ 13.16 hrs Surf.Area= 7,000 sf Storage= 5,309 cf

Plug-Flow detention time= 594.3 min calculated for 9,800 cf (100% of inflow)
 Center-of-Mass det. time= 594.3 min (1,342.6 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 14.00 = 8,708 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

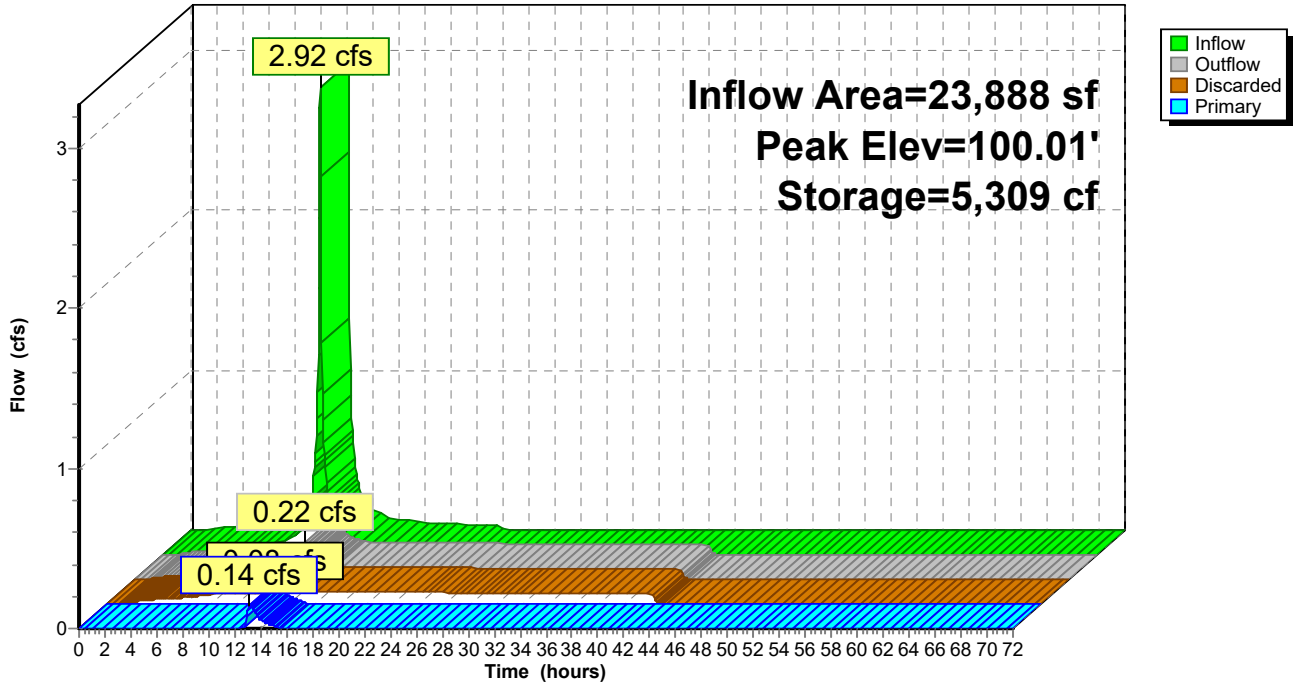
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 14.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.08 cfs @ 12.90 hrs HW=100.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.12 cfs @ 13.16 hrs HW=100.01' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 0.12 cfs @ 0.29 fps)

Pond 12P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 13P: Basic Porous Pavement (infiltration only)

Inflow Area = 35,770 sf, 100.00% Impervious, Inflow Depth = 4.92" for 10-Year_Current event
 Inflow = 4.38 cfs @ 12.13 hrs, Volume= 14,674 cf
 Outflow = 0.41 cfs @ 11.35 hrs, Volume= 14,673 cf, Atten= 91%, Lag= 0.0 min
 Discarded = 0.41 cfs @ 11.35 hrs, Volume= 14,673 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 99.66' @ 12.98 hrs Surf.Area= 35,770 sf Storage= 5,098 cf

Plug-Flow detention time= 82.0 min calculated for 14,662 cf (100% of inflow)
 Center-of-Mass det. time= 81.8 min (830.1 - 748.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	16,240 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	35,770	0.0	0	0
99.75	35,770	35.0	6,260	6,260
99.83	35,770	15.0	429	6,689
100.01	35,770	15.0	966	7,655
100.25	35,770	100.0	8,585	16,240

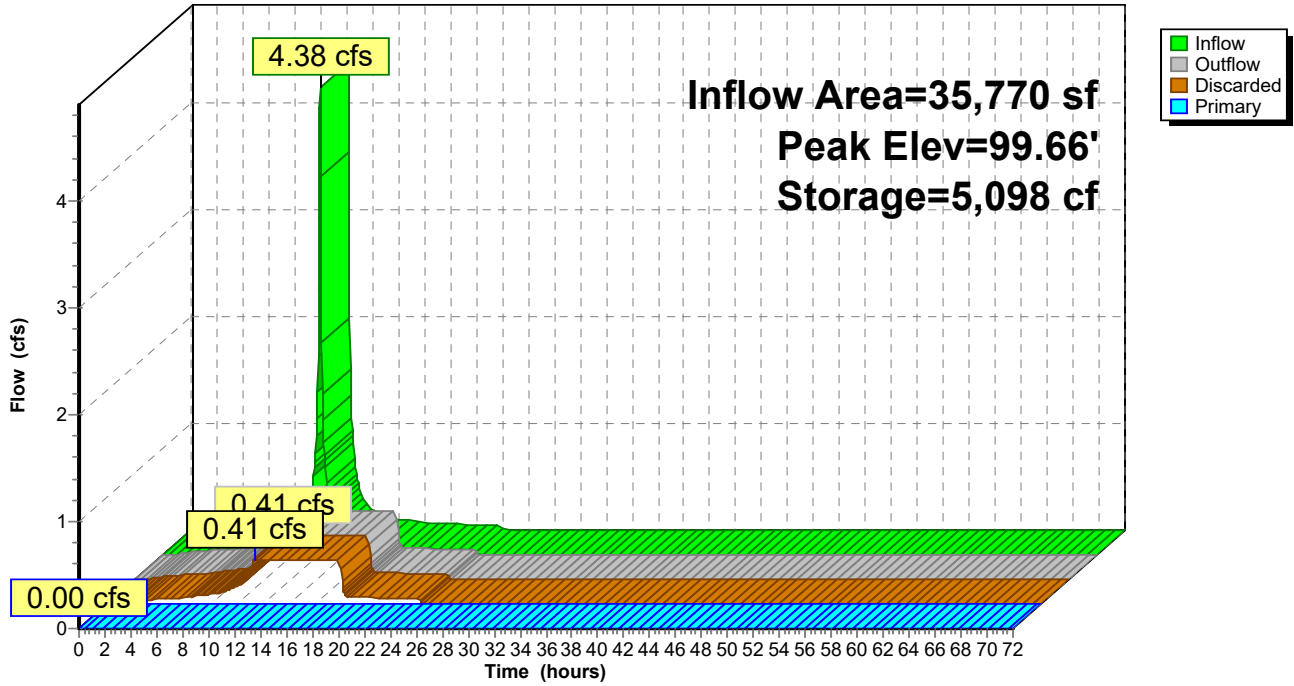
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=0.41 cfs @ 11.35 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 13P: Basic Porous Pavement (infiltration only)

Hydrograph



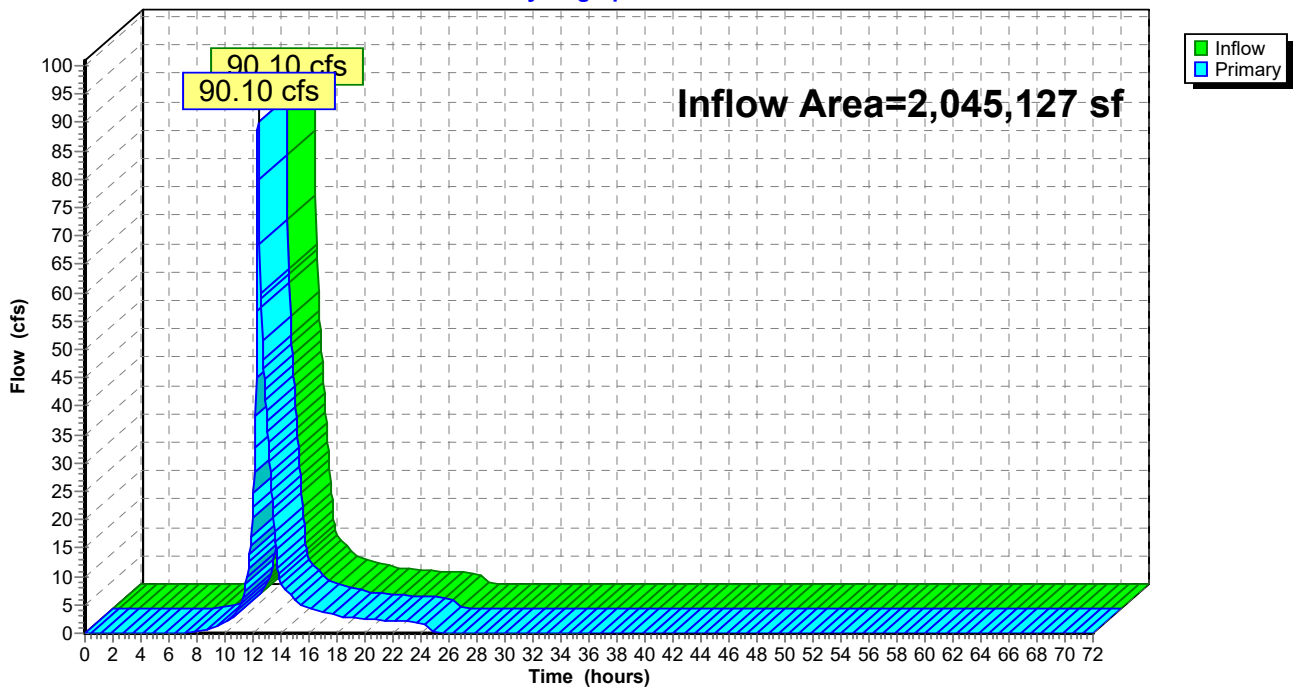
Summary for Link 1L: Combined Flows

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 2.53" for 10-Year_Current event
Inflow = 90.10 cfs @ 12.36 hrs, Volume= 431,808 cf
Primary = 90.10 cfs @ 12.36 hrs, Volume= 431,808 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : INFLOW PIPE

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1L: Combined Flows

Hydrograph



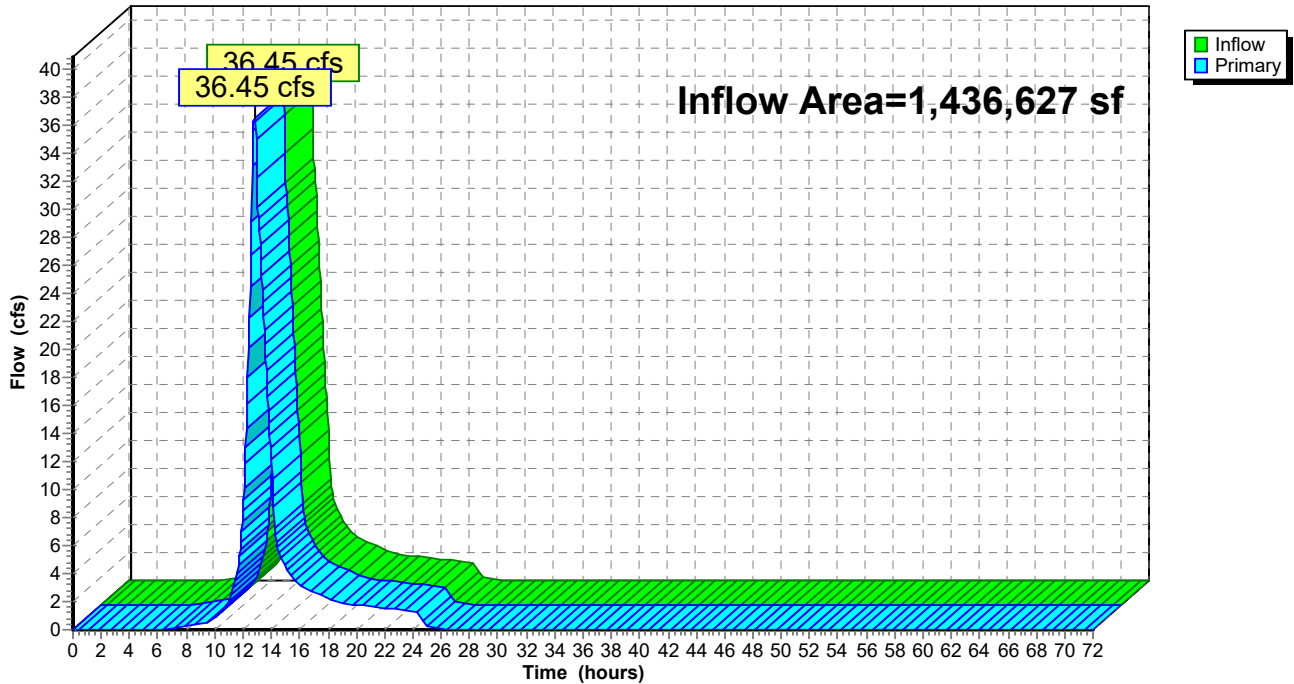
Summary for Link 2L: Combined Flows

Inflow Area = 1,436,627 sf, 27.42% Impervious, Inflow Depth = 2.37" for 10-Year_Current event
Inflow = 36.45 cfs @ 12.80 hrs, Volume= 283,440 cf
Primary = 36.45 cfs @ 12.80 hrs, Volume= 283,440 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 2L: Combined Flows

Hydrograph



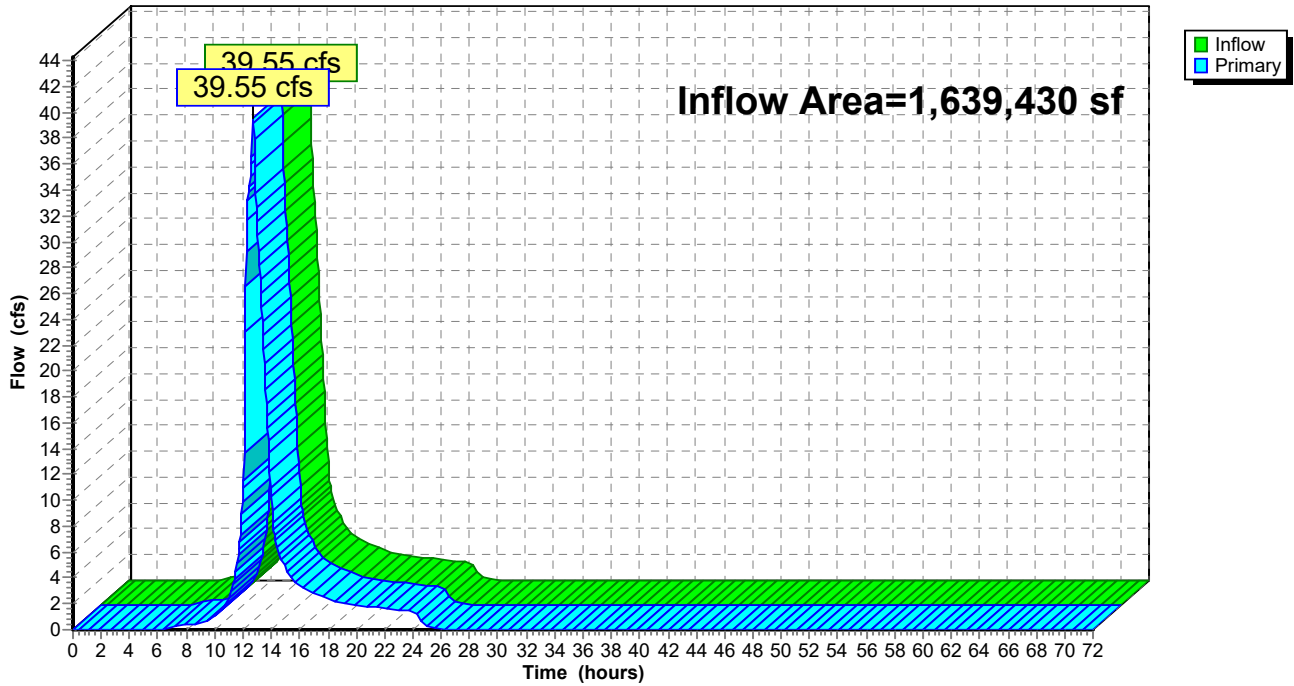
Summary for Link 3L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 2.33" for 10-Year_Current event
Inflow = 39.55 cfs @ 12.69 hrs, Volume= 317,671 cf
Primary = 39.55 cfs @ 12.69 hrs, Volume= 317,671 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 3L: Combined Flows

Hydrograph



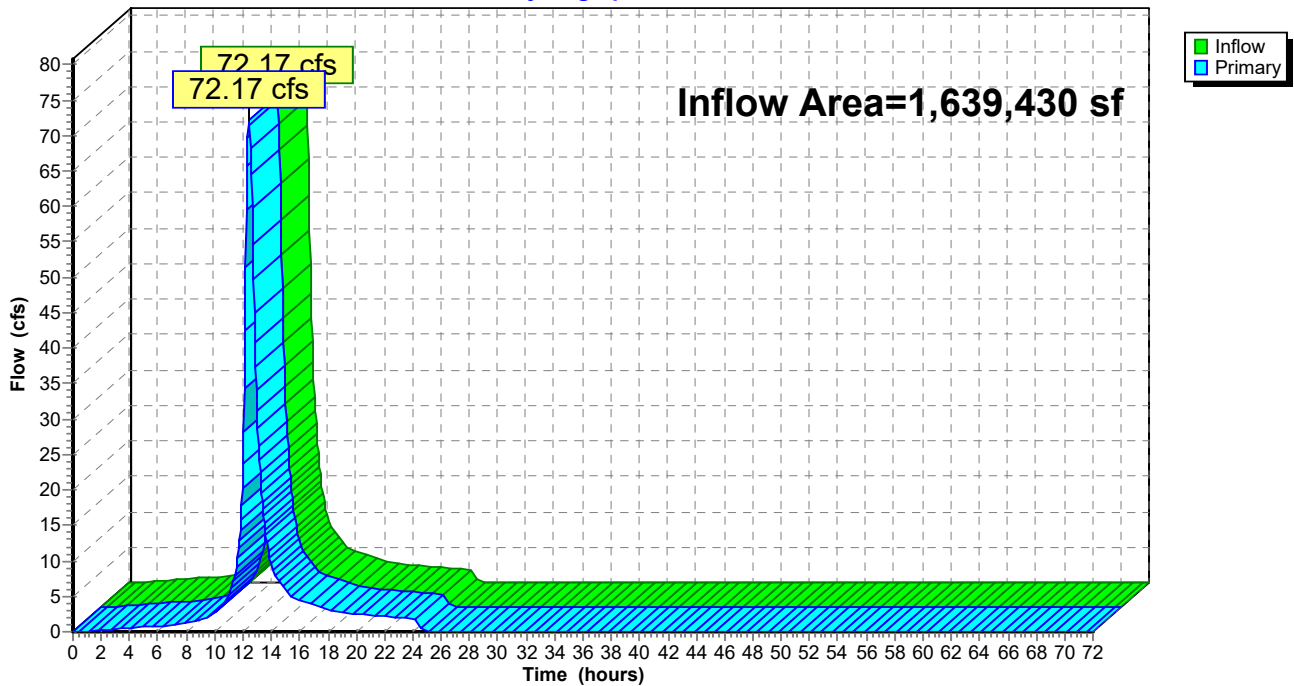
Summary for Link 4L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 3.31" for 10-Year_Current event
Inflow = 72.17 cfs @ 12.44 hrs, Volume= 451,629 cf
Primary = 72.17 cfs @ 12.44 hrs, Volume= 451,629 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Combined Flows

Hydrograph



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA 1: All Runoff Area=2,045,127 sf 24.45% Impervious Runoff Depth=4.23"
Tc=17.3 min CN=77/98 Runoff=170.37 cfs 720,497 cf

Subcatchment 1Sa: DA 1: CN w/ IC areas Runoff Area=1,732,396 sf 10.81% Impervious Runoff Depth=3.91"
Tc=17.3 min CN=77/98 Runoff=136.89 cfs 564,871 cf

Subcatchment 1Sb: DA1: Roofs Runoff Area=132,361 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=19.52 cfs 65,868 cf

Subcatchment 1Sc: DA1: Driveways Runoff Area=180,370 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=26.59 cfs 89,759 cf

Subcatchment 2S: DA 2: All Runoff Area=1,436,627 sf 27.42% Impervious Runoff Depth=4.15"
Tc=39.8 min CN=75/98 Runoff=77.59 cfs 496,811 cf

Subcatchment 2Sa: DA 2: CN w/ IC areas Runoff Area=1,186,669 sf 12.13% Impervious Runoff Depth=3.77"
Tc=39.8 min CN=75/98 Runoff=59.61 cfs 372,423 cf

Subcatchment 2Sb: DA2: Roofs combined Runoff Area=85,031 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=12.54 cfs 42,315 cf

Subcatchment 2Sc: DA2: Driveways Runoff Area=164,927 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=24.32 cfs 82,074 cf

Subcatchment 3S: DA 3: All Runoff Area=1,310,873 sf 33.67% Impervious Runoff Depth=4.31"
Tc=35.3 min CN=75/98 Runoff=77.61 cfs 470,478 cf

Subcatchment 3Sa: DA 3: CNs w/ IC Runoff Area=1,033,197 sf 15.85% Impervious Runoff Depth=3.86"
Tc=35.3 min CN=75/98 Runoff=56.36 cfs 332,297 cf

Subcatchment 3Sb: DA3: Roofs combined Runoff Area=92,992 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=13.71 cfs 46,276 cf

Subcatchment 3Sc: DA3: Driveways Runoff Area=184,684 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=27.23 cfs 91,905 cf

Subcatchment 4S: DA 4: All Runoff Area=328,557 sf 20.27% Impervious Runoff Depth=3.97"
Tc=16.9 min CN=75/98 Runoff=26.11 cfs 108,713 cf

Subcatchment 4Sa: DA 4: CN w/ IC areas Runoff Area=268,899 sf 2.59% Impervious Runoff Depth=3.53"
Tc=16.9 min CN=75/98 Runoff=19.67 cfs 79,025 cf

Subcatchment 4Sb: DA4: Roofs combined Runoff Area=23,888 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=3.52 cfs 11,888 cf

Subcatchment 4Sc: DA4: Driveways Runoff Area=35,770 sf 100.00% Impervious Runoff Depth=5.97"
Tc=6.0 min CN=0/98 Runoff=5.27 cfs 17,800 cf

Reach 1R: INFLOW PIPE Avg. Flow Depth=1.83' Max Vel=22.45 fps Inflow=136.43 cfs 575,661 cf
54.0" Round Pipe n=0.013 L=75.0' S=0.0400 '/' Capacity=393.30 cfs Outflow=136.05 cfs 575,903 cf

Reach 2R: OUTFLOW PIPE Avg. Flow Depth=1.87' Max Vel=15.71 fps Inflow=90.81 cfs 567,420 cf
48.0" Round Pipe n=0.013 L=60.0' S=0.0200 '/' Capacity=203.14 cfs Outflow=90.79 cfs 567,420 cf

Pond 1P: ROAD RG 175SF W/ UDG Peak Elev=100.34' Storage=67,108 cf Inflow=136.89 cfs 564,871 cf
Primary=61.71 cfs 511,057 cf Secondary=72.38 cfs 51,823 cf Tertiary=0.00 cfs 0 cf Outflow=134.12 cfs 562,880 cf

Pond 2P: Basic Rain Garden (infiltration Peak Elev=100.05' Storage=30,251 cf Inflow=19.52 cfs 65,868 cf
Discarded=0.44 cfs 53,087 cf Primary=4.43 cfs 12,781 cf Outflow=4.87 cfs 65,868 cf

Pond 3P: Basic Porous Pavement Peak Elev=99.83' Storage=33,836 cf Inflow=26.59 cfs 89,759 cf
Discarded=2.09 cfs 89,759 cf Primary=0.00 cfs 0 cf Outflow=2.09 cfs 89,759 cf

Pond 4P: Basin 1 Municipal property Peak Elev=74.25' Storage=83,362 cf Inflow=136.05 cfs 575,903 cf
Primary=90.81 cfs 567,420 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=90.81 cfs 567,420 cf

Pond 5P: ROAD RG 175SF W/ UDG Peak Elev=100.23' Storage=39,716 cf Inflow=59.61 cfs 372,423 cf
Primary=36.65 cfs 347,494 cf Secondary=25.32 cfs 21,928 cf Tertiary=0.00 cfs 0 cf Outflow=62.17 cfs 369,422 cf

Pond 6P: Basic Rain Garden (infiltration Peak Elev=100.06' Storage=18,920 cf Inflow=12.54 cfs 42,315 cf
Discarded=0.27 cfs 33,114 cf Primary=3.50 cfs 9,200 cf Outflow=3.78 cfs 42,315 cf

Pond 7P: Basic Porous Pavement Peak Elev=99.83' Storage=30,939 cf Inflow=24.32 cfs 82,074 cf
Discarded=1.91 cfs 82,074 cf Primary=0.00 cfs 0 cf Outflow=1.91 cfs 82,074 cf

Pond 8P: ROAD RG 175SF W/ UDG Peak Elev=100.22' Storage=38,190 cf Inflow=56.36 cfs 332,297 cf
Primary=35.25 cfs 313,710 cf Secondary=20.76 cfs 15,638 cf Tertiary=0.00 cfs 0 cf Outflow=56.03 cfs 329,348 cf

Pond 9P: Basic Rain Garden (infiltration Peak Elev=100.10' Storage=18,969 cf Inflow=13.71 cfs 46,276 cf
Discarded=0.26 cfs 32,645 cf Primary=6.86 cfs 13,631 cf Outflow=7.12 cfs 46,276 cf

Pond 10P: Basic Porous Pavement Peak Elev=99.83' Storage=34,646 cf Inflow=27.23 cfs 91,905 cf
Discarded=2.14 cfs 91,905 cf Primary=0.00 cfs 0 cf Outflow=2.14 cfs 91,905 cf

Pond 11P: ROAD RG 175SF W/ UDG Peak Elev=100.65' Storage=4,555 cf Inflow=19.67 cfs 79,025 cf
Primary=4.03 cfs 56,925 cf Secondary=12.23 cfs 19,374 cf Tertiary=3.33 cfs 2,210 cf Outflow=19.58 cfs 78,509 cf

Pond 12P: Basic Rain Garden (infiltration Peak Elev=100.05' Storage=5,540 cf Inflow=3.52 cfs 11,888 cf
Discarded=0.08 cfs 9,733 cf Primary=0.71 cfs 2,154 cf Outflow=0.79 cfs 11,888 cf

Pond 13P: Basic Porous Pavement Peak Elev=99.83' Storage=6,710 cf Inflow=5.27 cfs 17,800 cf
Discarded=0.41 cfs 17,800 cf Primary=0.00 cfs 0 cf Outflow=0.41 cfs 17,800 cf

Link 1L: Combined Flows Inflow=136.43 cfs 575,661 cf
Primary=136.43 cfs 575,661 cf

Link 2L: Combined Flows Inflow=64.50 cfs 378,622 cf
Primary=64.50 cfs 378,622 cf

Link 3L: Combined Flows Inflow=68.07 cfs 423,641 cf
Primary=68.07 cfs 423,641 cf

Link 4L: Combined Flows

Inflow=92.76 cfs 579,191 cf
Primary=92.76 cfs 579,191 cf

Total Runoff Area = 10,242,368 sf Runoff Volume = 3,593,000 cf Average Runoff Depth = 4.21"
72.62% Pervious = 7,438,492 sf 27.38% Impervious = 2,803,876 sf

Summary for Subcatchment 1S: DA 1: All

Runoff = 170.37 cfs @ 12.26 hrs, Volume= 720,497 cf, Depth= 4.23"
 Routed to nonexistent node 6L

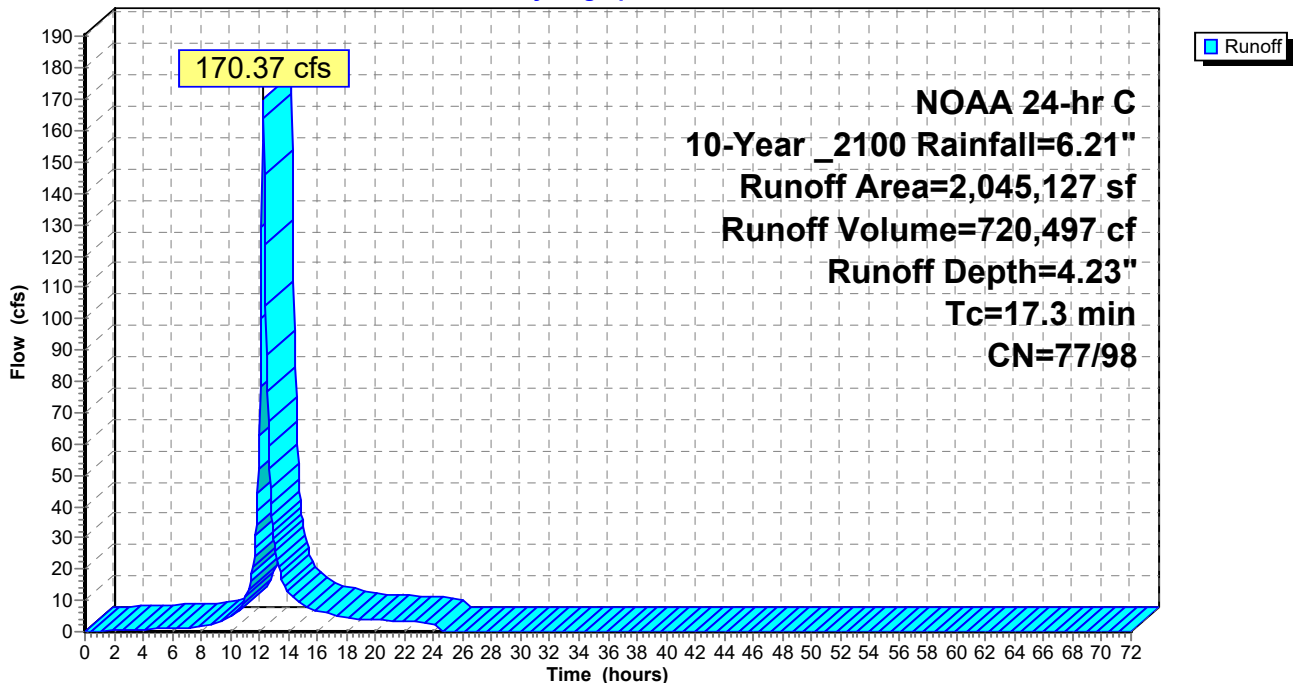
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

	Area (sf)	CN	Description
*	187,351	98	Impervious
	676,806	74	>75% Grass cover, Good, HSG C
	698,470	80	>75% Grass cover, Good, HSG D
	25,343	73	Woods, Fair, HSG C
	726	79	Woods, Fair, HSG D
	41,773	70	Woods, Good, HSG C
	101,927	77	Woods, Good, HSG D
*	132,361	98	Roofs
*	180,370	98	Driveways
	2,045,127	82	Weighted Average
	1,545,045	77	75.55% Pervious Area
	500,082	98	24.45% Impervious Area

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

Subcatchment 1S: DA 1: All

Hydrograph



Summary for Subcatchment 1Sa: DA 1: CN w/ IC areas

Runoff = 136.89 cfs @ 12.26 hrs, Volume= 564,871 cf, Depth= 3.91"

Routed to Pond 1P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

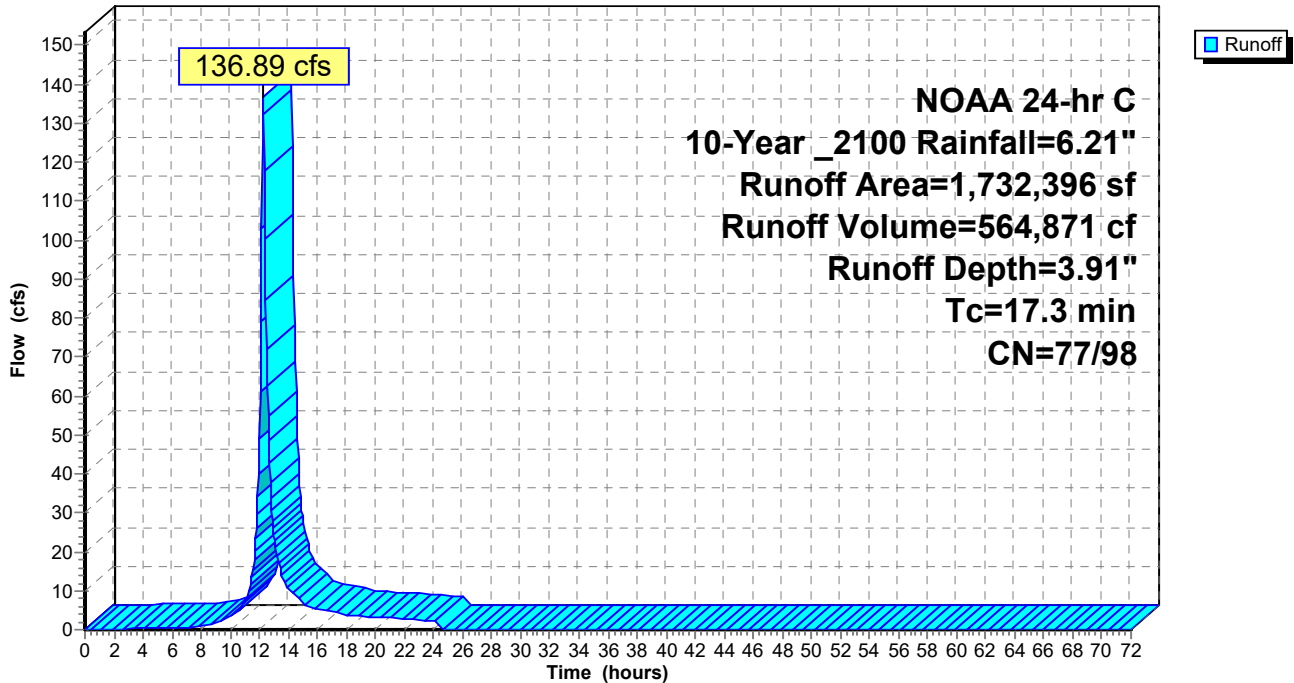
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 187,351	98	Impervious
676,806	74	>75% Grass cover, Good, HSG C
698,470	80	>75% Grass cover, Good, HSG D
25,343	73	Woods, Fair, HSG C
726	79	Woods, Fair, HSG D
41,773	70	Woods, Good, HSG C
101,927	77	Woods, Good, HSG D
1,732,396	79	Weighted Average
1,545,045	77	89.19% Pervious Area
187,351	98	10.81% Impervious Area

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

Subcatchment 1Sa: DA 1: CN w/ IC areas

Hydrograph



Summary for Subcatchment 1Sb: DA1: Roofs combined

Runoff = 19.52 cfs @ 12.13 hrs, Volume= 65,868 cf, Depth= 5.97"

Routed to Pond 2P : Basic Rain Garden (infiltration only) 500 sf

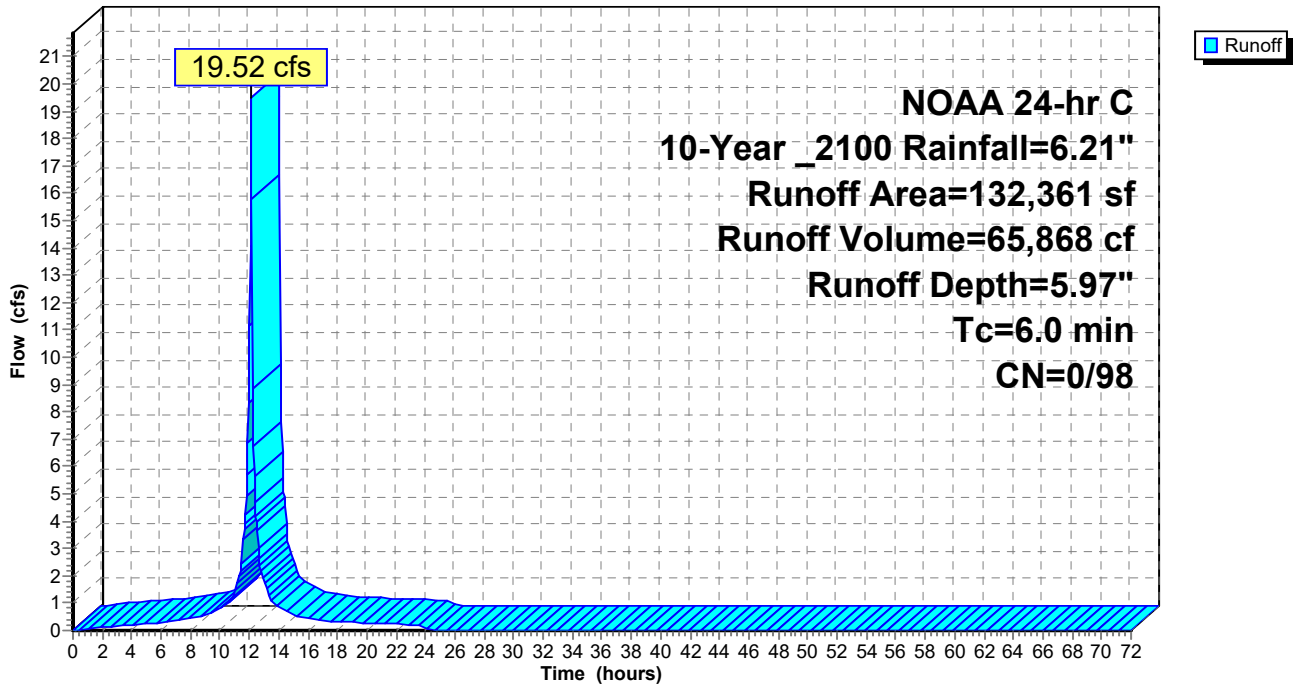
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 132,361	98	
132,361	98	100.00% Impervious Area

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

Subcatchment 1Sb: DA1: Roofs combined

Hydrograph



Summary for Subcatchment 1Sc: DA1: Driveways (other)

Runoff = 26.59 cfs @ 12.13 hrs, Volume= 89,759 cf, Depth= 5.97"

Routed to Pond 3P : Basic Porous Pavement (infiltration only)

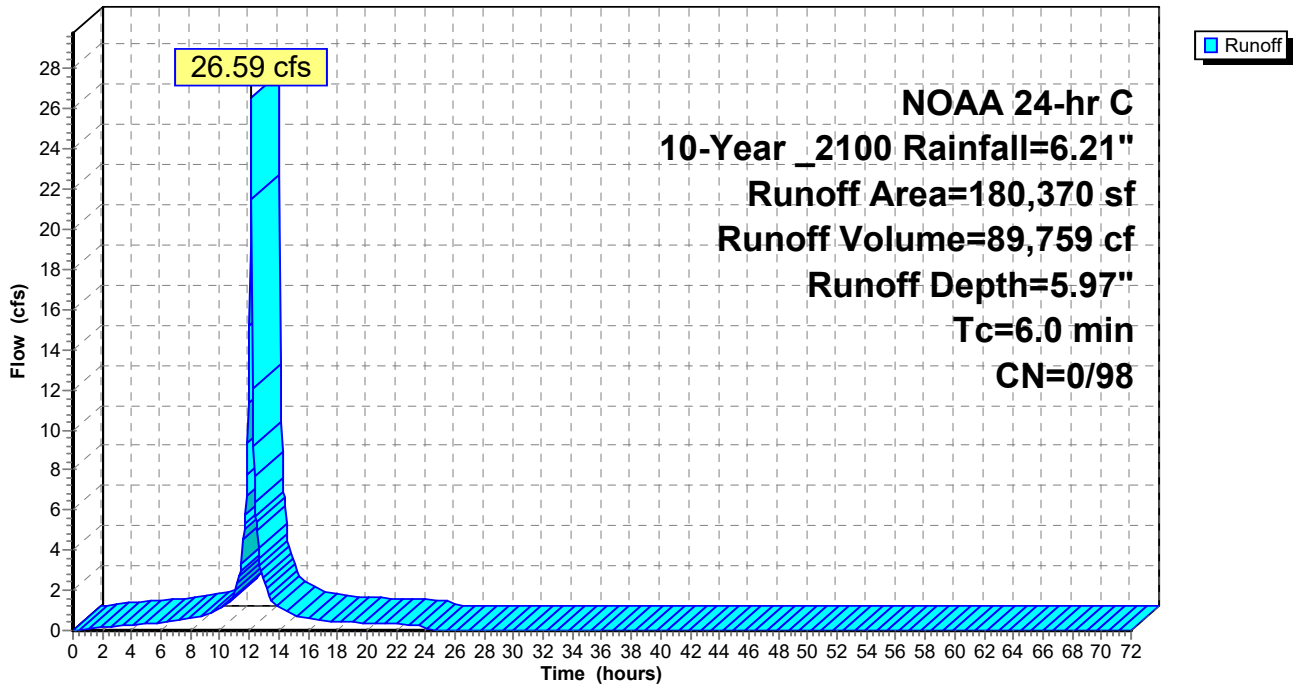
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 180,370	98	Impervious Driveways (other)
180,370	98	100.00% Impervious Area

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

Subcatchment 1Sc: DA1: Driveways (other)

Hydrograph



Summary for Subcatchment 2S: DA 2: All

Runoff = 77.59 cfs @ 12.54 hrs, Volume= 496,811 cf, Depth= 4.15"

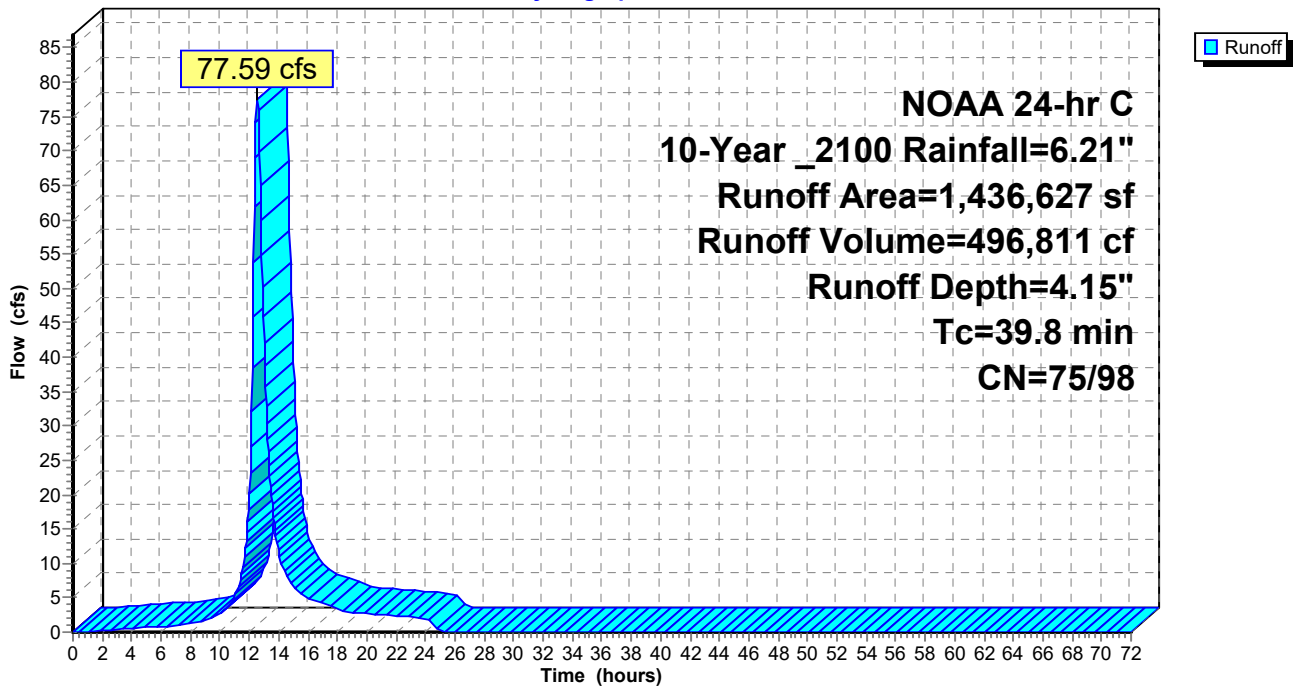
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

	Area (sf)	CN	Description
*	143,894	98	Impervious
	1,270	65	Brush, Good, HSG C
	946,207	74	>75% Grass cover, Good, HSG C
	93,778	80	>75% Grass cover, Good, HSG D
	1,520	72	Woods/grass comb., Good, HSG C
*	85,031	98	Roofs
*	164,927	98	Driveways
<hr/>			
	1,436,627	81	Weighted Average
	1,042,775	75	72.58% Pervious Area
	393,852	98	27.42% Impervious Area

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

Subcatchment 2S: DA 2: All

Hydrograph



Summary for Subcatchment 2Sa: DA 2: CN w/ IC areas

Runoff = 59.61 cfs @ 12.55 hrs, Volume= 372,423 cf, Depth= 3.77"

Routed to Pond 5P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

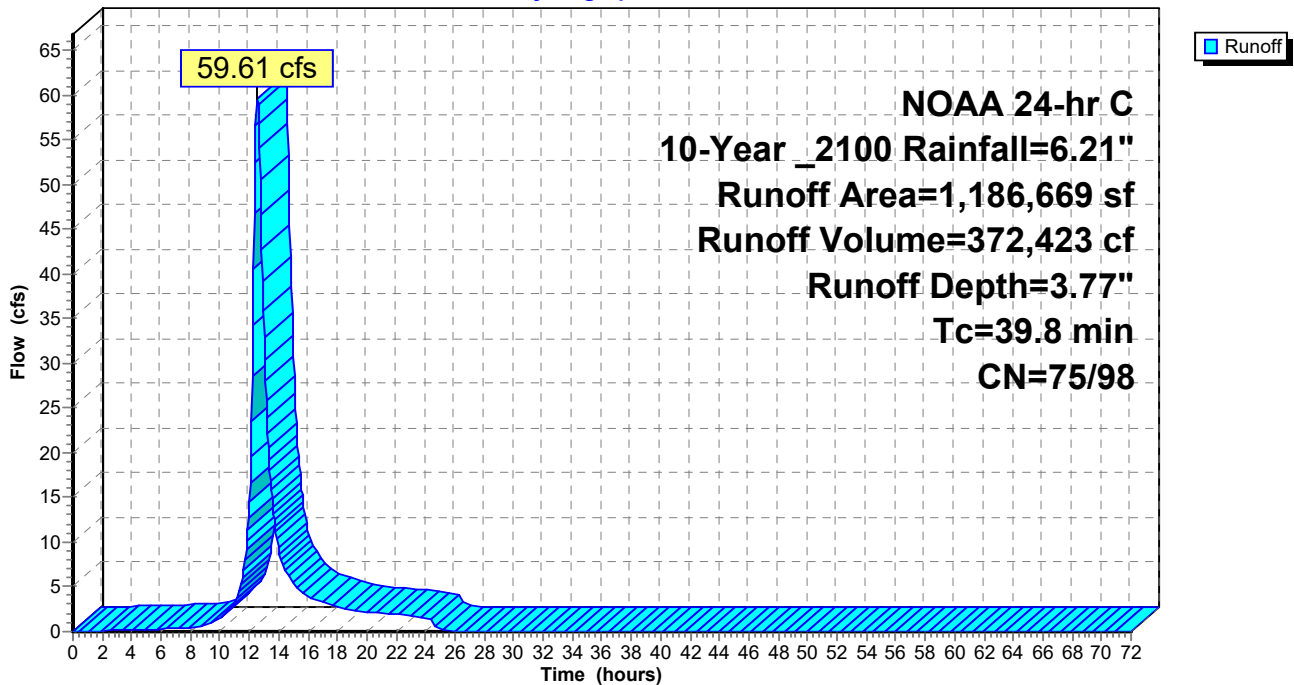
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 143,894	98	Impervious
1,270	65	Brush, Good, HSG C
946,207	74	>75% Grass cover, Good, HSG C
93,778	80	>75% Grass cover, Good, HSG D
1,520	72	Woods/grass comb., Good, HSG C
1,186,669	77	Weighted Average
1,042,775	75	87.87% Pervious Area
143,894	98	12.13% Impervious Area

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

Subcatchment 2Sa: DA 2: CN w/ IC areas

Hydrograph



Summary for Subcatchment 2Sb: DA2: Roofs combined

Runoff = 12.54 cfs @ 12.13 hrs, Volume= 42,315 cf, Depth= 5.97"

Routed to Pond 6P : Basic Rain Garden (infiltration only) 500SF

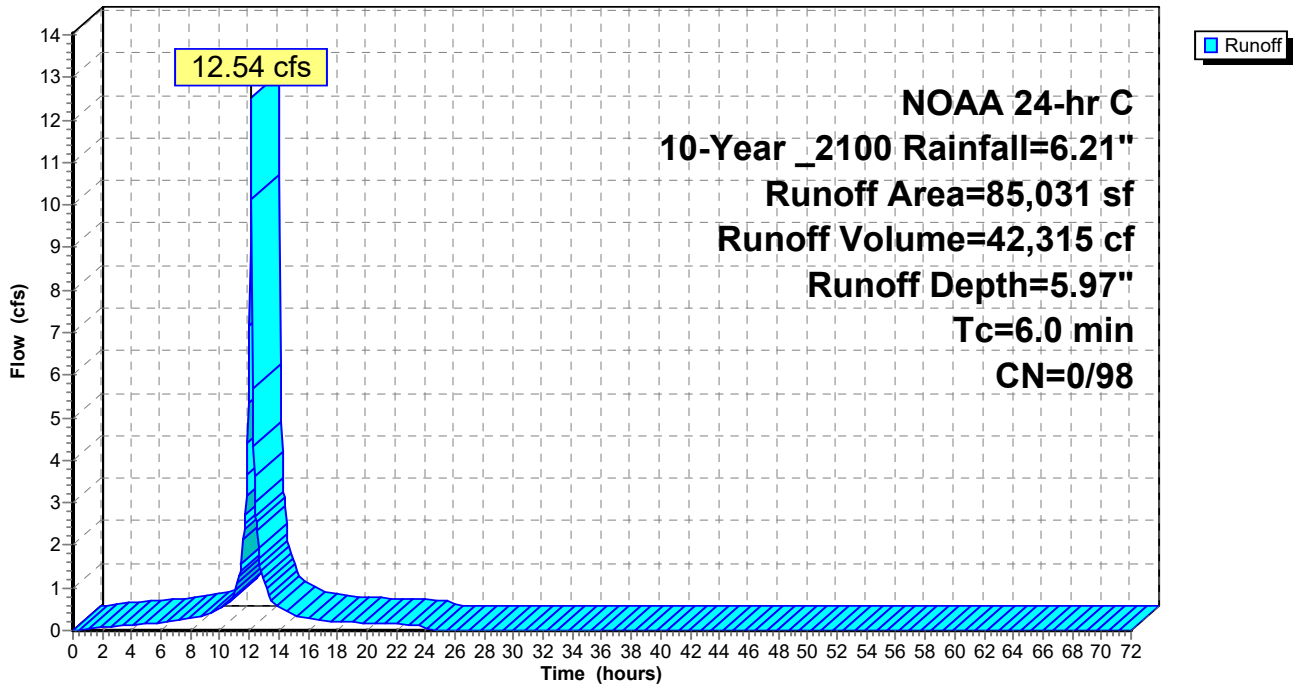
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 85,031	98	
85,031	98	100.00% Impervious Area

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

Subcatchment 2Sb: DA2: Roofs combined

Hydrograph



Summary for Subcatchment 2Sc: DA2: Driveways (other)

Runoff = 24.32 cfs @ 12.13 hrs, Volume= 82,074 cf, Depth= 5.97"

Routed to Pond 7P : Basic Porous Pavement (infiltration only)

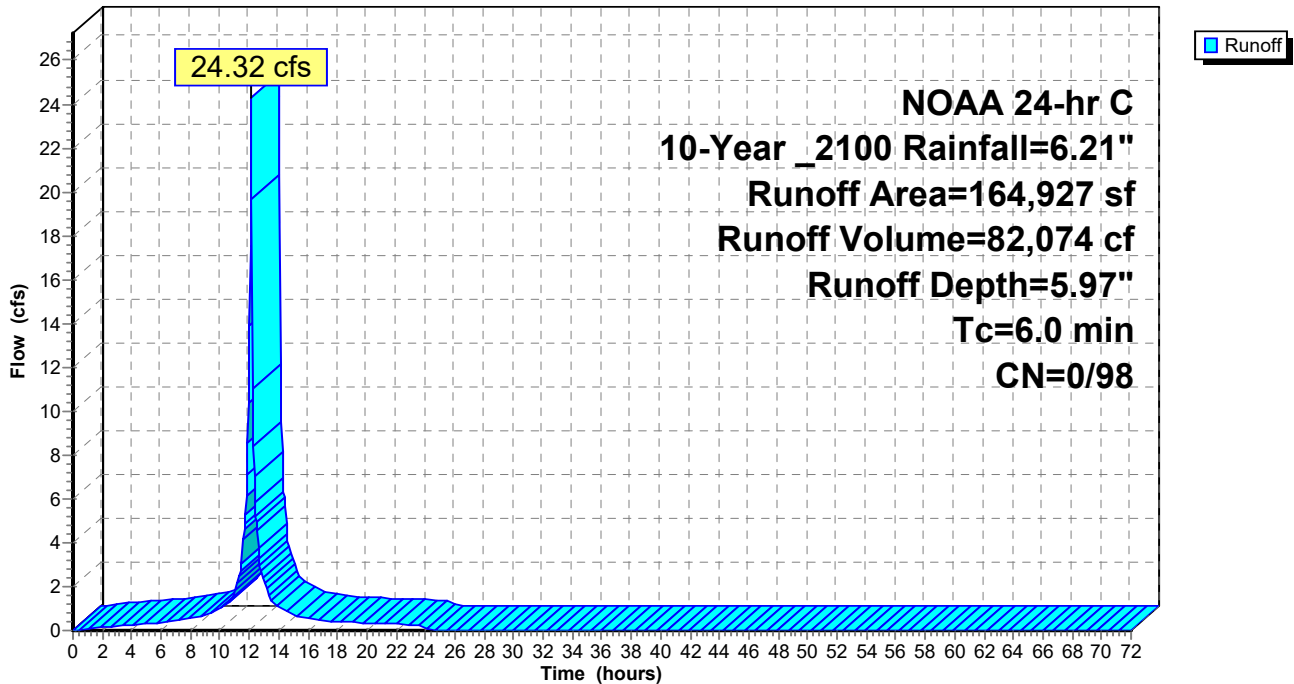
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 164,927	98	Impervious Driveways (other)
164,927	98	100.00% Impervious Area

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

Subcatchment 2Sc: DA2: Driveways (other)

Hydrograph



Summary for Subcatchment 3S: DA 3: All

Runoff = 77.61 cfs @ 12.49 hrs, Volume= 470,478 cf, Depth= 4.31"
 Routed to Link 4L : Combined Flows

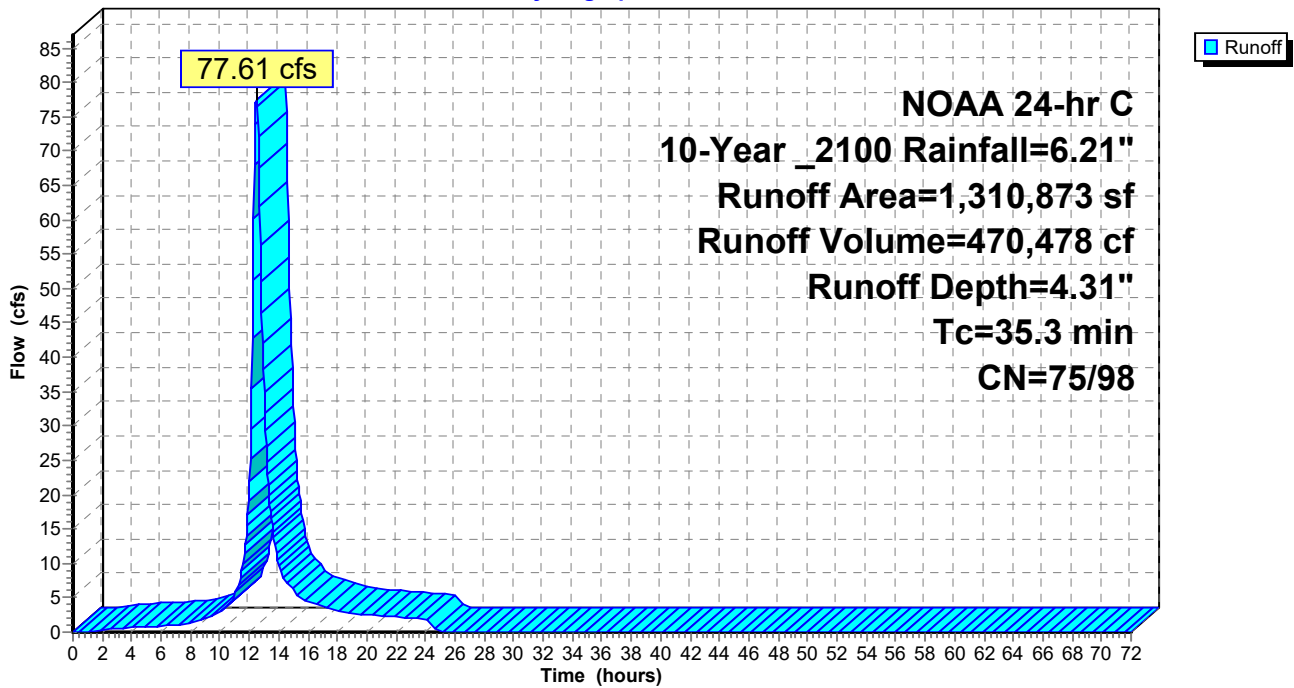
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
*	92,992	98	Roofs
*	184,684	98	Driveways
	1,310,873	83	Weighted Average
	869,479	75	66.33% Pervious Area
	441,394	98	33.67% Impervious Area

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

Subcatchment 3S: DA 3: All

Hydrograph



Summary for Subcatchment 3Sa: DA 3: CNs w/ IC areas

Runoff = 56.36 cfs @ 12.49 hrs, Volume= 332,297 cf, Depth= 3.86"

Routed to Pond 8P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

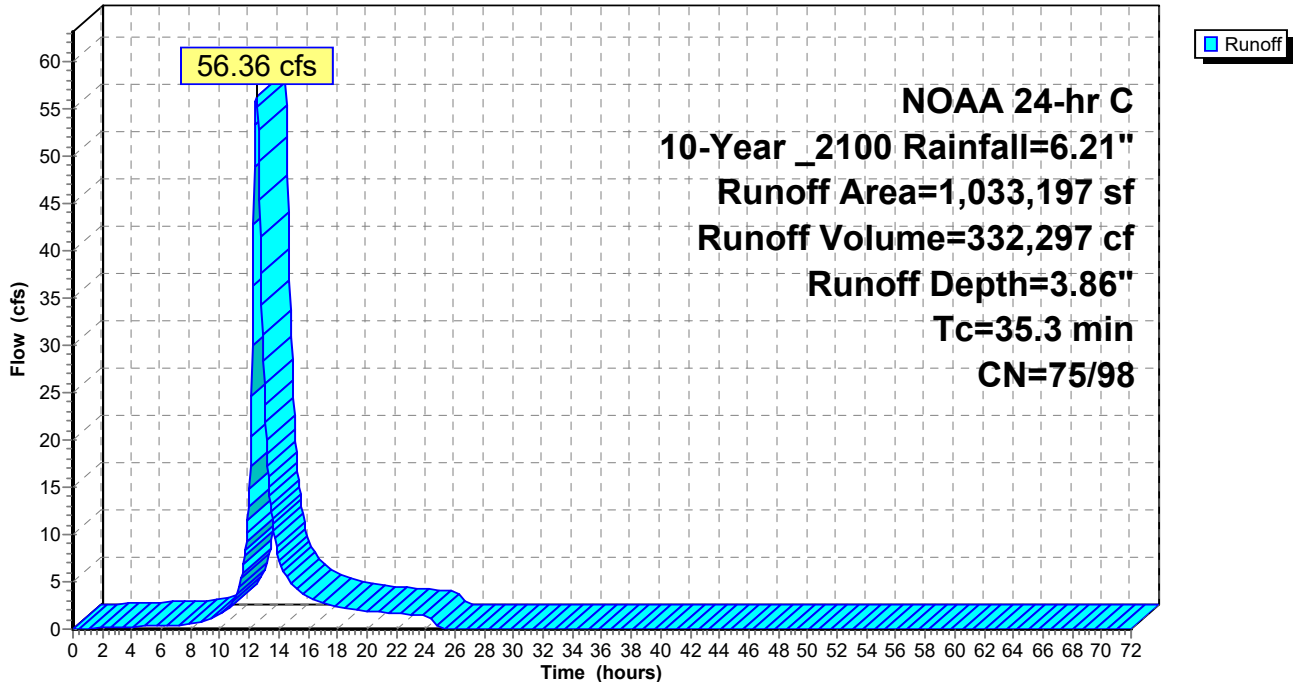
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
	1,033,197	79	Weighted Average
	869,479	75	84.15% Pervious Area
	163,718	98	15.85% Impervious Area

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

Subcatchment 3Sa: DA 3: CNs w/ IC areas

Hydrograph



Summary for Subcatchment 3Sb: DA3: Roofs combined

Runoff = 13.71 cfs @ 12.13 hrs, Volume= 46,276 cf, Depth= 5.97"

Routed to Pond 9P : Basic Rain Garden (infiltration only) 500 SF

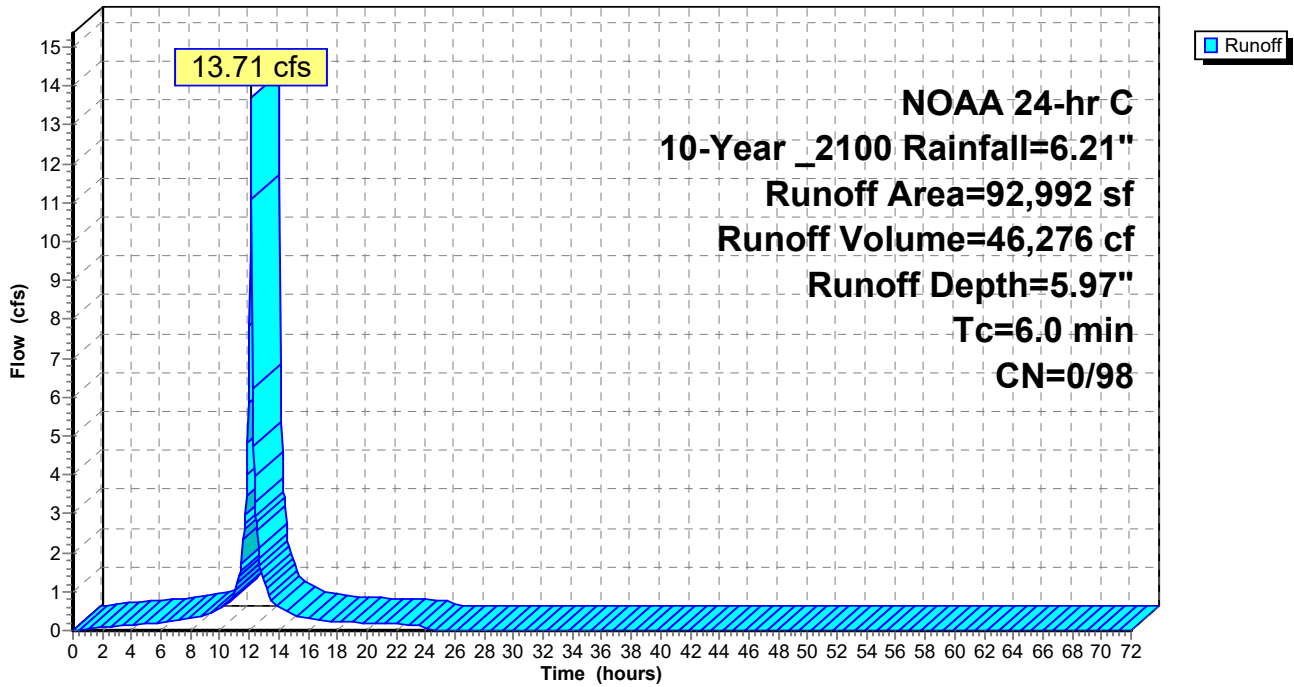
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 92,992	98	
92,992	98	100.00% Impervious Area

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

Subcatchment 3Sb: DA3: Roofs combined

Hydrograph



Summary for Subcatchment 3Sc: DA3: Driveways (other)

Runoff = 27.23 cfs @ 12.13 hrs, Volume= 91,905 cf, Depth= 5.97"

Routed to Pond 10P : Basic Porous Pavement (infiltration only)

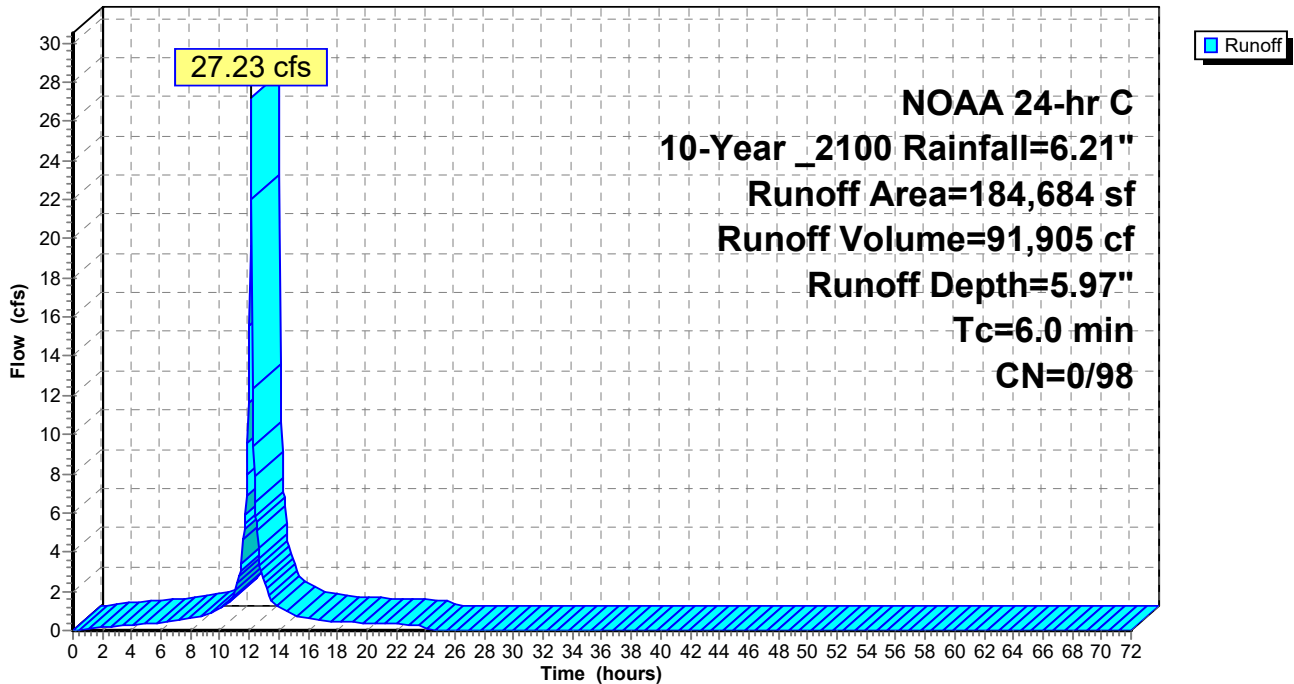
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 184,684	98	Impervious Driveways (other)
184,684	98	100.00% Impervious Area

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

Subcatchment 3Sc: DA3: Driveways (other)

Hydrograph



Summary for Subcatchment 4S: DA 4: All

Runoff = 26.11 cfs @ 12.26 hrs, Volume= 108,713 cf, Depth= 3.97"
 Routed to Link 4L : Combined Flows

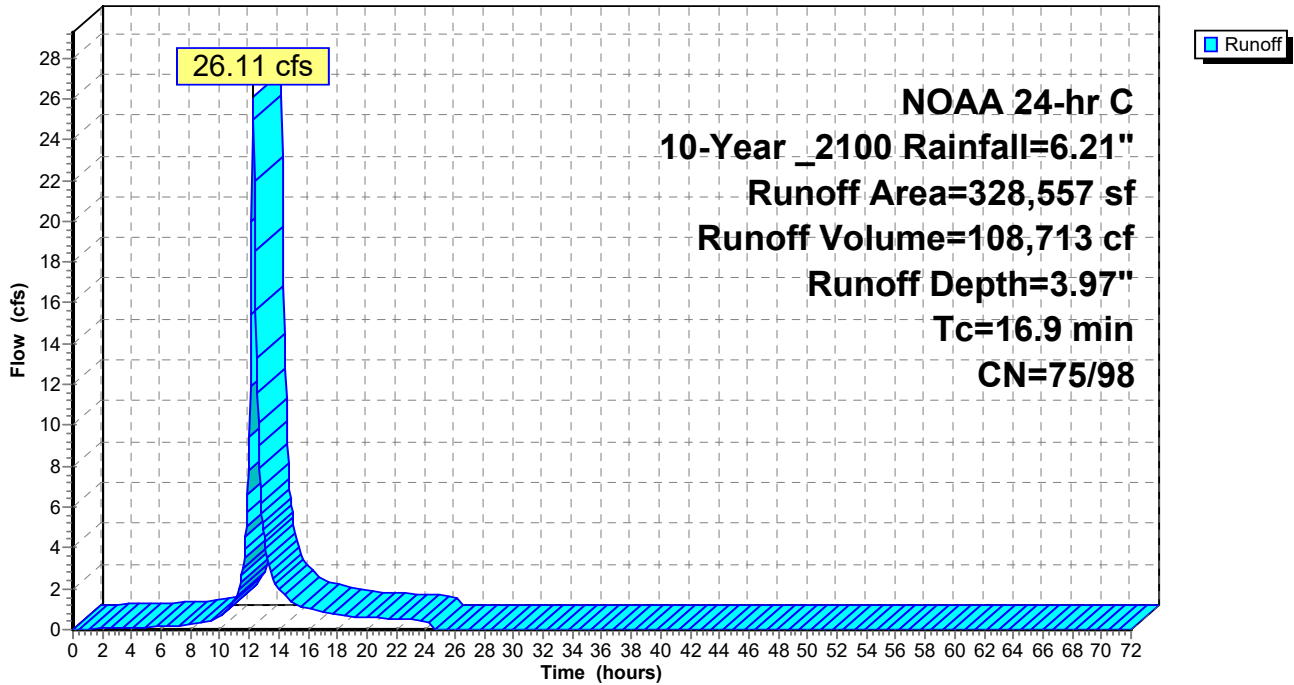
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
*	23,888	98	Roofs
*	35,770	98	Driveways
	328,557	80	Weighted Average
	261,947	75	79.73% Pervious Area
	66,610	98	20.27% Impervious Area

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

Subcatchment 4S: DA 4: All

Hydrograph



Summary for Subcatchment 4Sa: DA 4: CN w/ IC areas

Runoff = 19.67 cfs @ 12.26 hrs, Volume= 79,025 cf, Depth= 3.53"

Routed to Pond 11P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

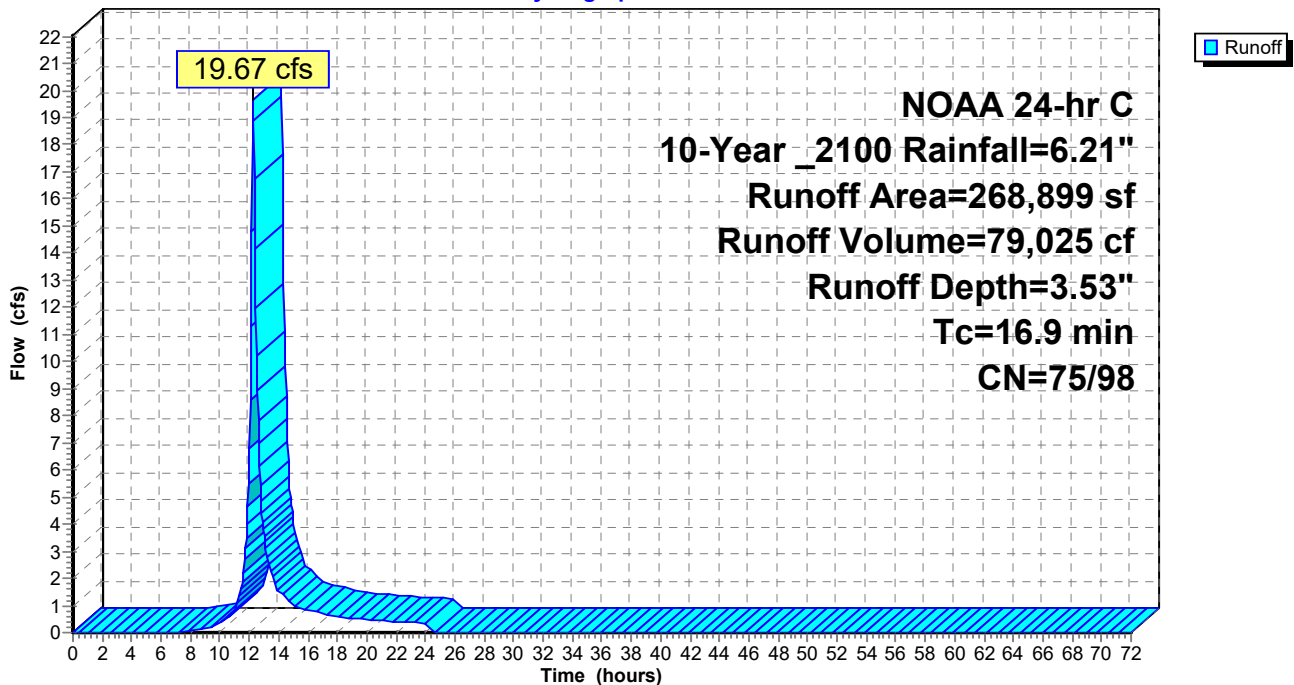
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
	268,899	76	Weighted Average
	261,947	75	97.41% Pervious Area
	6,952	98	2.59% Impervious Area

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

Subcatchment 4Sa: DA 4: CN w/ IC areas

Hydrograph



Summary for Subcatchment 4Sb: DA4: Roofs combined

Runoff = 3.52 cfs @ 12.13 hrs, Volume= 11,888 cf, Depth= 5.97"

Routed to Pond 12P : Basic Rain Garden (infiltration only) 500SF

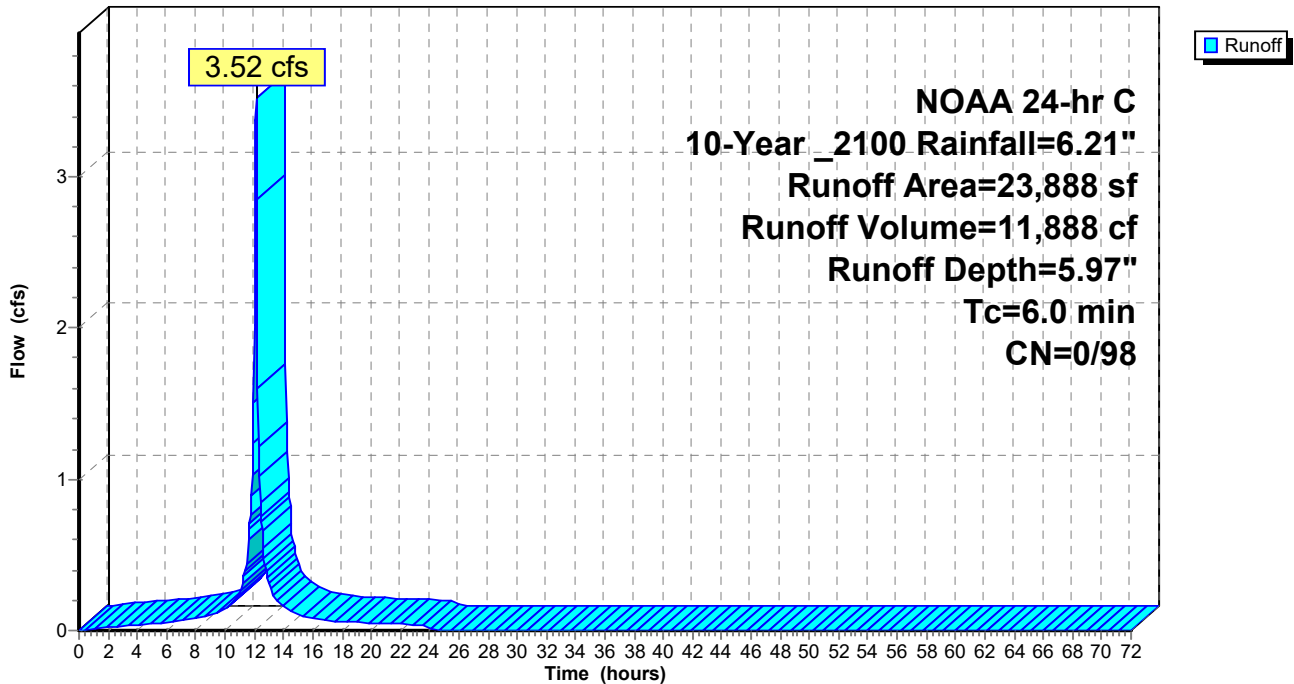
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 23,888	98	
23,888	98	100.00% Impervious Area

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

Subcatchment 4Sb: DA4: Roofs combined

Hydrograph



Summary for Subcatchment 4Sc: DA4: Driveways (other)

Runoff = 5.27 cfs @ 12.13 hrs, Volume= 17,800 cf, Depth= 5.97"

Routed to Pond 13P : Basic Porous Pavement (infiltration only)

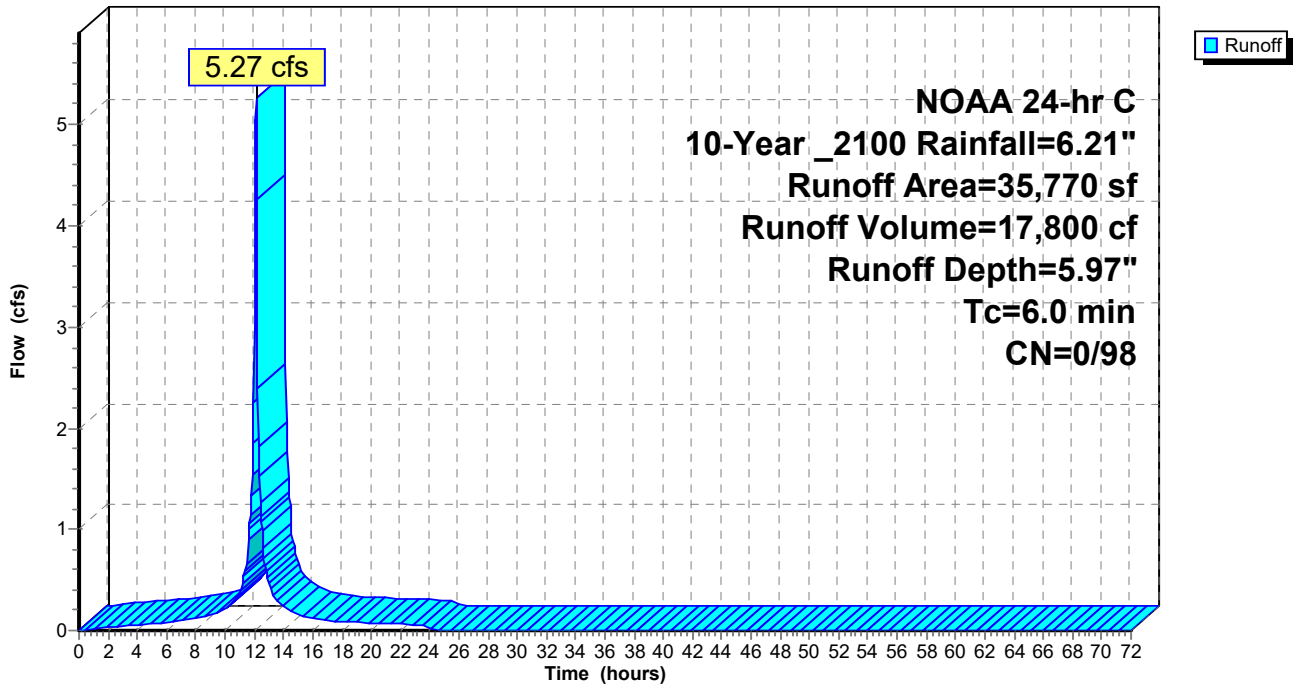
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 10-Year _2100 Rainfall=6.21"

Area (sf)	CN	Description
* 35,770	98	Impervious Driveways (other)
35,770	98	100.00% Impervious Area

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

Subcatchment 4Sc: DA4: Driveways (other)

Hydrograph



Summary for Reach 1R: INFLOW PIPE

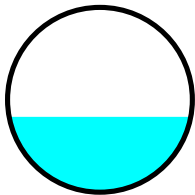
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 3.38" for 10-Year_2100 event
 Inflow = 136.43 cfs @ 12.29 hrs, Volume= 575,661 cf
 Outflow = 136.05 cfs @ 12.29 hrs, Volume= 575,903 cf, Atten= 0%, Lag= 0.2 min
 Routed to Pond 4P : Basin 1 Municipal property 48k sf

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 22.45 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 7.06 fps, Avg. Travel Time= 0.2 min

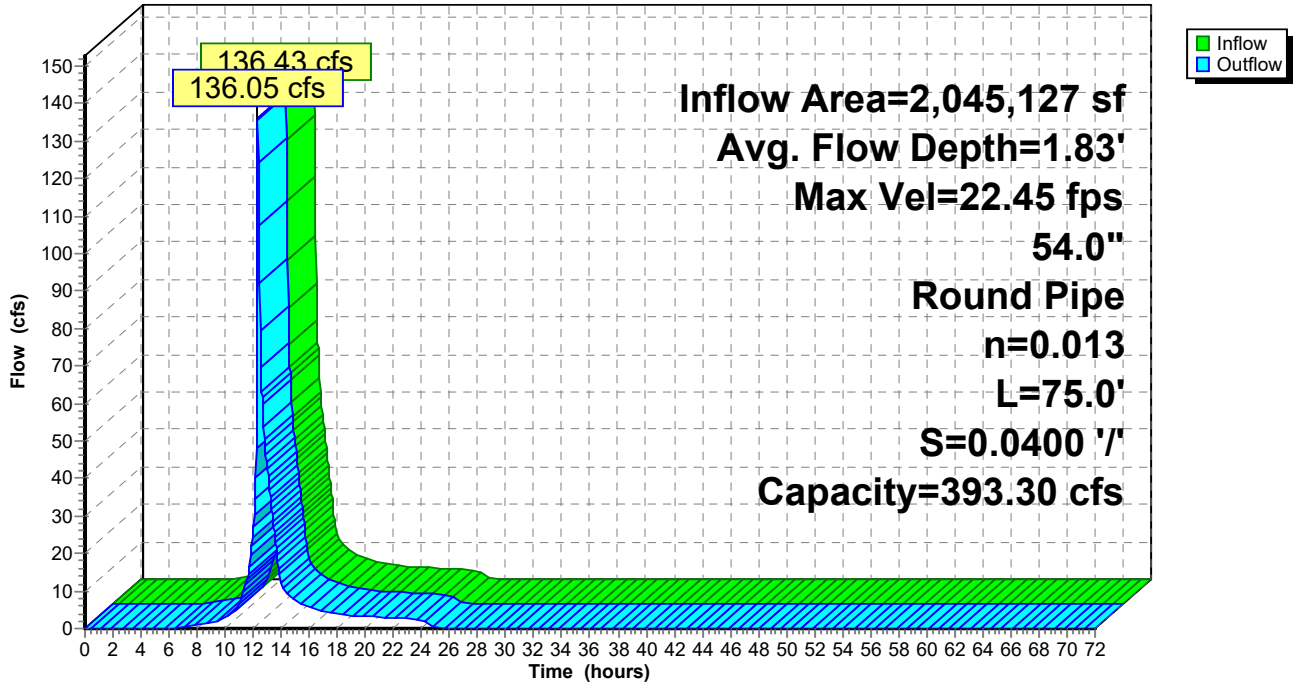
Peak Storage= 455 cf @ 12.29 hrs
 Average Depth at Peak Storage= 1.83' , Surface Width= 4.42'
 Bank-Full Depth= 4.50' Flow Area= 15.9 sf, Capacity= 393.30 cfs

54.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 75.0' Slope= 0.0400 '/'
 Inlet Invert= 75.00', Outlet Invert= 72.00'



Reach 1R: INFLOW PIPE

Hydrograph



Summary for Reach 2R: OUTFLOW PIPE

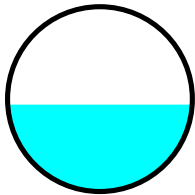
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 3.33" for 10-Year _2100 event
 Inflow = 90.81 cfs @ 12.46 hrs, Volume= 567,420 cf
 Outflow = 90.79 cfs @ 12.46 hrs, Volume= 567,420 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Max. Velocity= 15.71 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 3.30 fps, Avg. Travel Time= 0.3 min

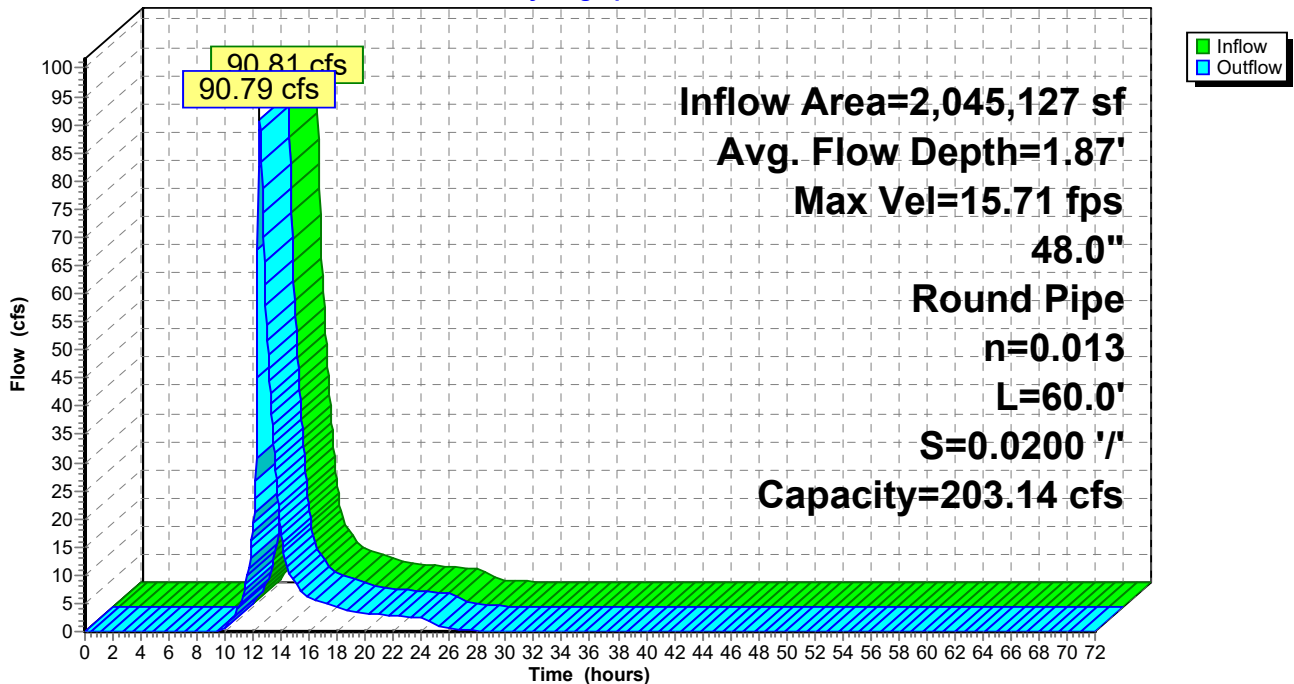
Peak Storage= 347 cf @ 12.46 hrs
 Average Depth at Peak Storage= 1.87' , Surface Width= 3.99'
 Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 203.14 cfs

48.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 60.0' Slope= 0.0200 '/'
 Inlet Invert= 68.00', Outlet Invert= 66.80'



Reach 2R: OUTFLOW PIPE

Hydrograph



Summary for Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,732,396 sf, 10.81% Impervious, Inflow Depth = 3.91" for 10-Year _2100 event
 Inflow = 136.89 cfs @ 12.26 hrs, Volume= 564,871 cf
 Outflow = 134.12 cfs @ 12.28 hrs, Volume= 562,880 cf, Atten= 2%, Lag= 1.0 min
 Primary = 61.71 cfs @ 12.30 hrs, Volume= 511,057 cf
 Routed to Link 1L : Combined Flows
 Secondary = 72.38 cfs @ 12.28 hrs, Volume= 51,823 cf
 Routed to Link 1L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.34' @ 12.30 hrs Surf.Area= 30,624 sf Storage= 67,108 cf

Plug-Flow detention time= 17.9 min calculated for 562,489 cf (100% of inflow)
 Center-of-Mass det. time= 15.9 min (836.8 - 820.9)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 45.00 = 78,177 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 45.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 45.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 45.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 45.00**
2 End Contraction(s)

Primary OutFlow Max=61.71 cfs @ 12.30 hrs HW=100.34' (Free Discharge)

↑1=Culvert (Passes 61.71 cfs of 92.38 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 61.71 cfs @ 6.98 fps)

Secondary OutFlow Max=70.30 cfs @ 12.28 hrs HW=100.34' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 70.30 cfs @ 1.52 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

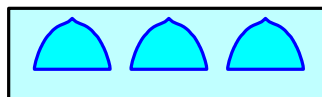
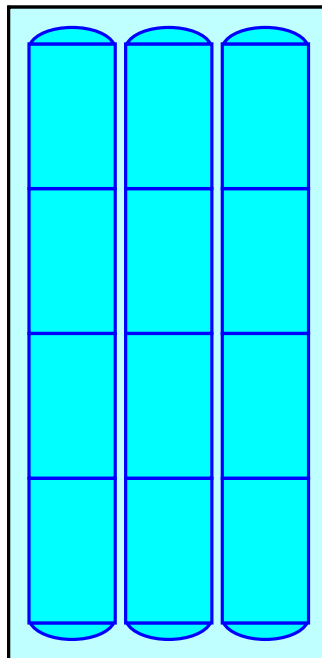
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

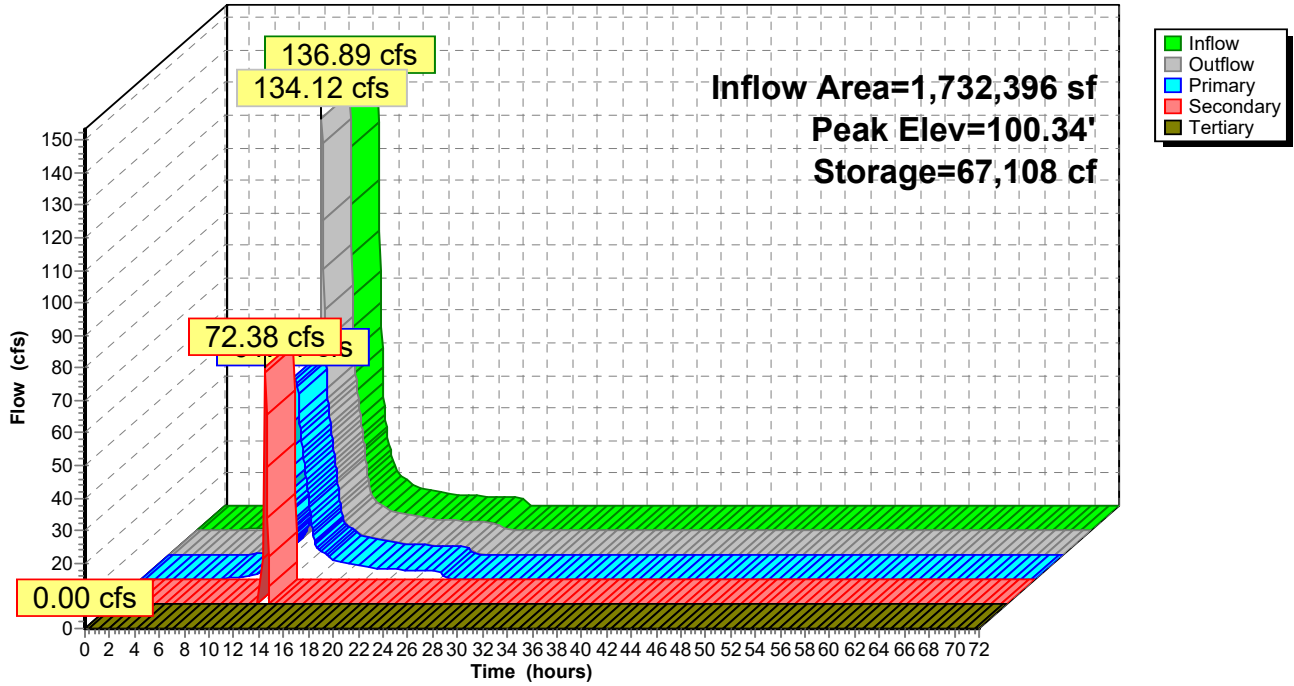
84.3 cy Field

63.8 cy Stone



Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Assumes infiltration through media is non-limiting.

Inflow Area = 132,361 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 19.52 cfs @ 12.13 hrs, Volume= 65,868 cf
 Outflow = 4.87 cfs @ 12.40 hrs, Volume= 65,868 cf, Atten= 75%, Lag= 16.7 min
 Discarded = 0.44 cfs @ 12.25 hrs, Volume= 53,087 cf
 Primary = 4.43 cfs @ 12.40 hrs, Volume= 12,781 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.05' @ 12.40 hrs Surf.Area= 38,000 sf Storage= 30,251 cf

Plug-Flow detention time= 515.7 min calculated for 65,822 cf (100% of inflow)
 Center-of-Mass det. time= 516.1 min (1,261.5 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 76.00 = 47,273 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

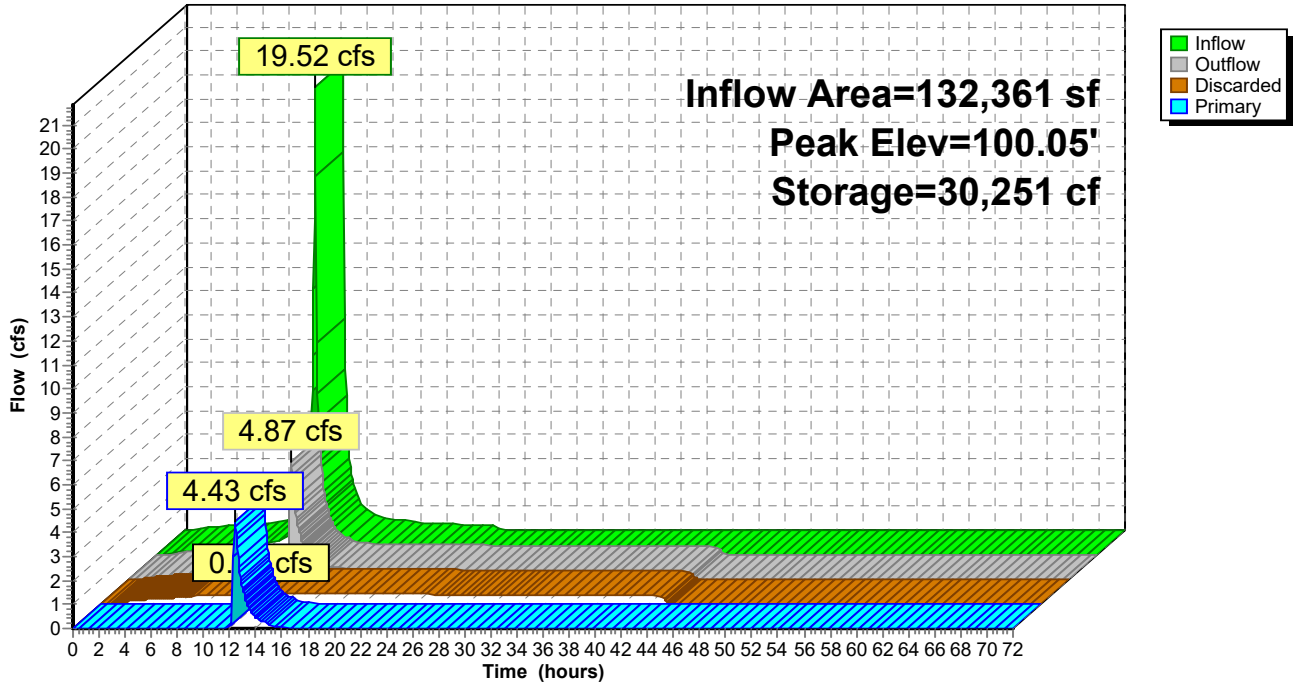
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 76.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.44 cfs @ 12.25 hrs HW=100.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.44 cfs)

Primary OutFlow Max=4.39 cfs @ 12.40 hrs HW=100.05' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 4.39 cfs @ 0.56 fps)

Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Hydrograph



Summary for Pond 3P: Basic Porous Pavement (infiltration only)

Inflow Area = 180,370 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 26.59 cfs @ 12.13 hrs, Volume= 89,759 cf
 Outflow = 2.09 cfs @ 11.15 hrs, Volume= 89,759 cf, Atten= 92%, Lag= 0.0 min
 Discarded = 2.09 cfs @ 11.15 hrs, Volume= 89,759 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.83' @ 13.14 hrs Surf.Area= 180,370 sf Storage= 33,836 cf

Plug-Flow detention time= 112.7 min calculated for 89,759 cf (100% of inflow)
 Center-of-Mass det. time= 112.6 min (858.0 - 745.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	81,888 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	180,370	0.0	0	0
99.75	180,370	35.0	31,565	31,565
99.83	180,370	15.0	2,164	33,729
100.01	180,370	15.0	4,870	38,599
100.25	180,370	100.0	43,289	81,888

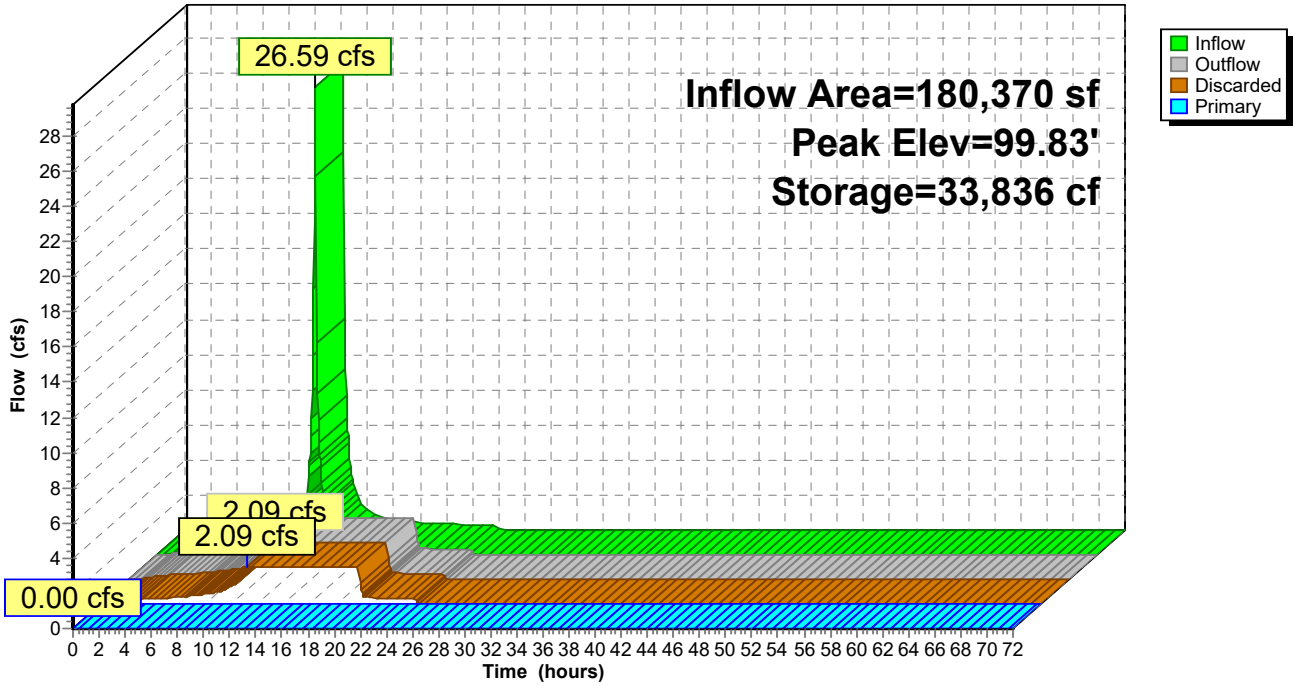
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.09 cfs @ 11.15 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 3P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 4P: Basin 1 Municipal property 48k sf

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.89' @ 12.55 hrs

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 3.38" for 10-Year _2100 event
 Inflow = 136.05 cfs @ 12.29 hrs, Volume= 575,903 cf
 Outflow = 90.81 cfs @ 12.46 hrs, Volume= 567,420 cf, Atten= 33%, Lag= 10.1 min
 Primary = 90.81 cfs @ 12.46 hrs, Volume= 567,420 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 74.25' @ 12.46 hrs Surf.Area= 40,533 sf Storage= 83,362 cf

Plug-Flow detention time= 41.6 min calculated for 567,026 cf (98% of inflow)
 Center-of-Mass det. time= 33.2 min (869.0 - 835.7)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	206,538 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	33,525	0	0
77.00	49,090	206,538	206,538

Device	Routing	Invert	Outlet Devices
#1	Primary	72.25'	24.0" Vert. Low Flow Orifice X 6.00 C= 0.600 Limited to weir flow at low heads
#2	Secondary	74.50'	24.0" W x 18.0" H Vert. SECONDARY OUTLET X 4.00 C= 0.600 Limited to weir flow at low heads
#3	Tertiary	76.75'	60.0" x 60.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

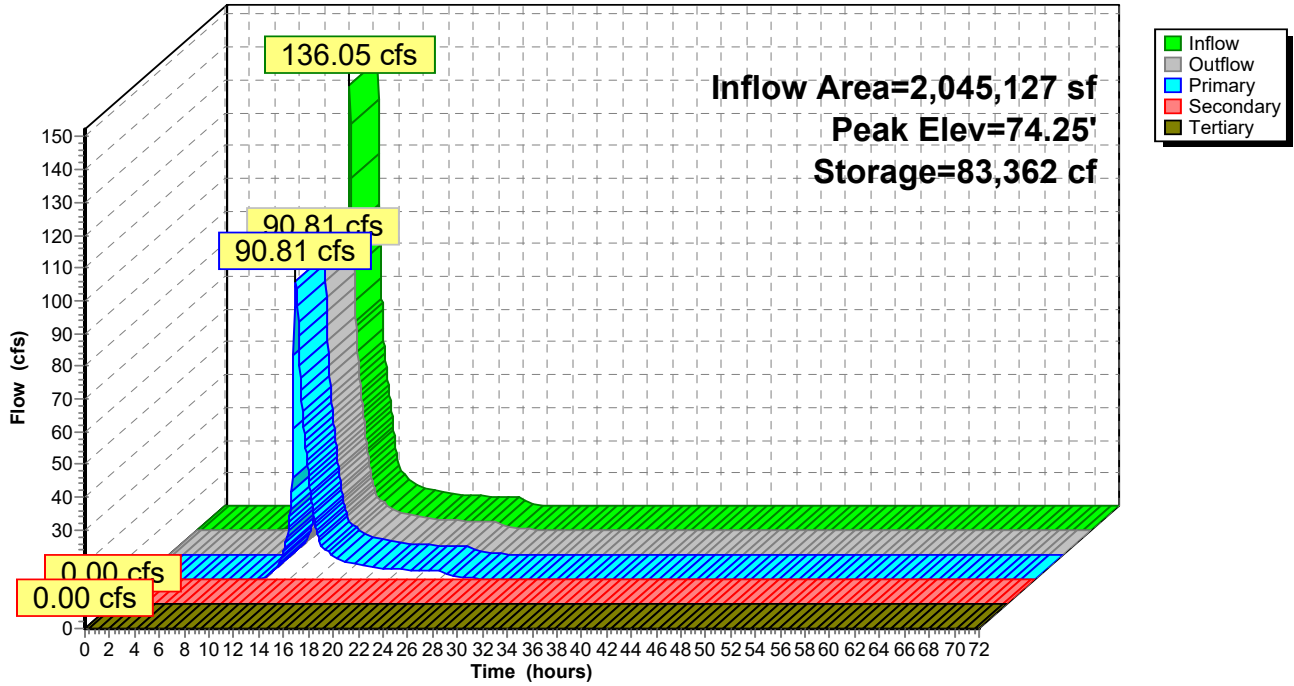
Primary OutFlow Max=90.68 cfs @ 12.46 hrs HW=74.25' (Free Discharge)
 ↑1=**Low Flow Orifice** (Orifice Controls 90.68 cfs @ 4.81 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑2=**SECONDARY OUTLET** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↑3=**Orifice/Grate** (Controls 0.00 cfs)

Pond 4P: Basin 1 Municipal property 48k sf

Hydrograph



Summary for Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 1,186,669 sf, 12.13% Impervious, Inflow Depth = 3.77" for 10-Year _2100 event
 Inflow = 59.61 cfs @ 12.55 hrs, Volume= 372,423 cf
 Outflow = 62.17 cfs @ 12.57 hrs, Volume= 369,422 cf, Atten= 0%, Lag= 1.5 min
 Primary = 36.65 cfs @ 12.55 hrs, Volume= 347,494 cf
 Routed to Link 2L : Combined Flows
 Secondary = 25.32 cfs @ 12.57 hrs, Volume= 21,928 cf
 Routed to Link 2L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.23' @ 12.55 hrs Surf.Area= 18,374 sf Storage= 39,716 cf

Plug-Flow detention time= 21.7 min calculated for 369,166 cf (99% of inflow)
 Center-of-Mass det. time= 16.8 min (860.4 - 843.5)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 27.00 = 46,906 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 27.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 27.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 27.00 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

			Coef. (English)	2.54	2.61	2.61	2.60	2.66	2.70	2.77	2.89	2.88
				2.85	3.07	3.20	3.32					
#4	Tertiary	100.50'		6.0' long Sharp-Crested Rectangular Weir X 27.00								
				2 End Contraction(s)								

Primary OutFlow Max=36.65 cfs @ 12.55 hrs HW=100.23' (Free Discharge)

↑1=Culvert (Passes 36.65 cfs of 54.87 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 36.65 cfs @ 6.91 fps)

Secondary OutFlow Max=22.45 cfs @ 12.57 hrs HW=100.23' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 22.45 cfs @ 1.22 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

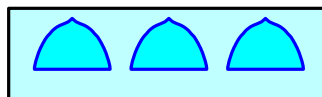
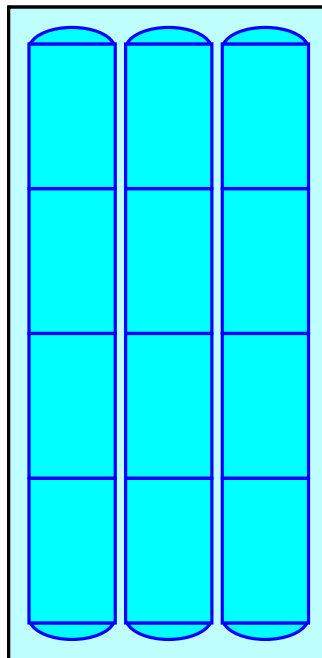
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

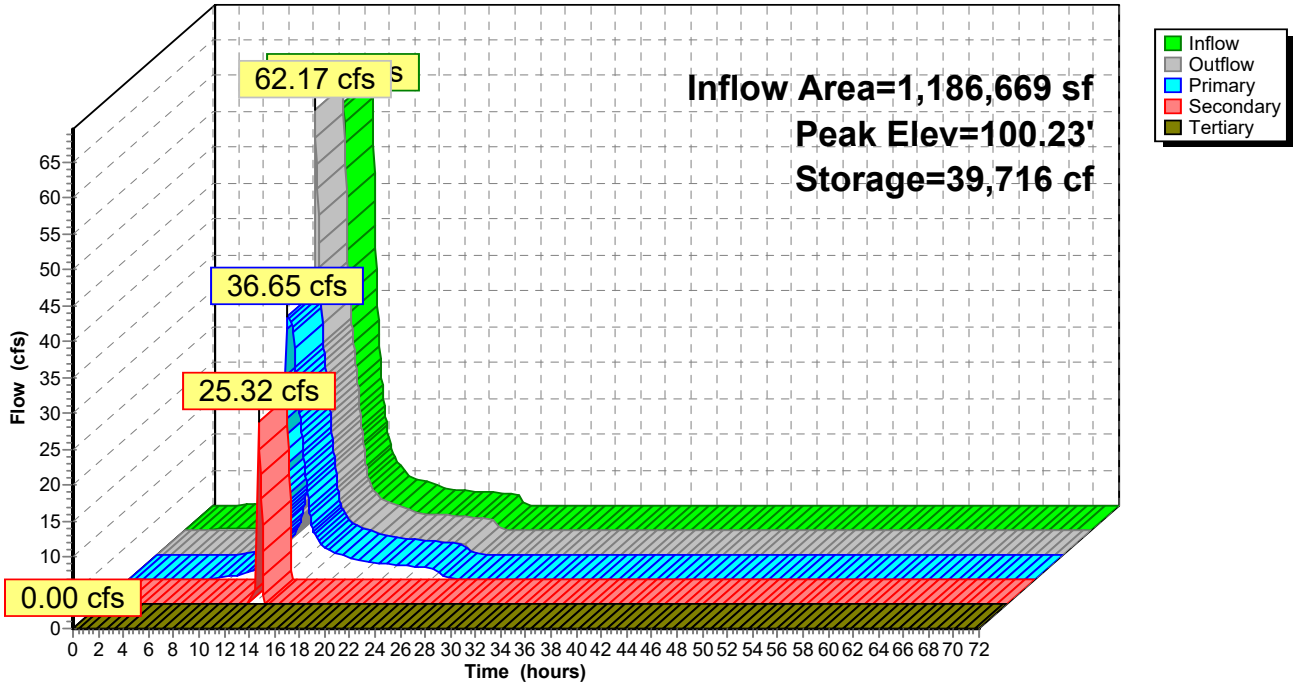
84.3 cy Field

63.8 cy Stone



Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 6P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 85,031 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 12.54 cfs @ 12.13 hrs, Volume= 42,315 cf
 Outflow = 3.78 cfs @ 12.35 hrs, Volume= 42,315 cf, Atten= 70%, Lag= 13.4 min
 Discarded = 0.27 cfs @ 12.20 hrs, Volume= 33,114 cf
 Primary = 3.50 cfs @ 12.35 hrs, Volume= 9,200 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.06' @ 12.35 hrs Surf.Area= 23,500 sf Storage= 18,920 cf

Plug-Flow detention time= 502.7 min calculated for 42,285 cf (100% of inflow)
 Center-of-Mass det. time= 503.2 min (1,248.5 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 47.00 = 29,235 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

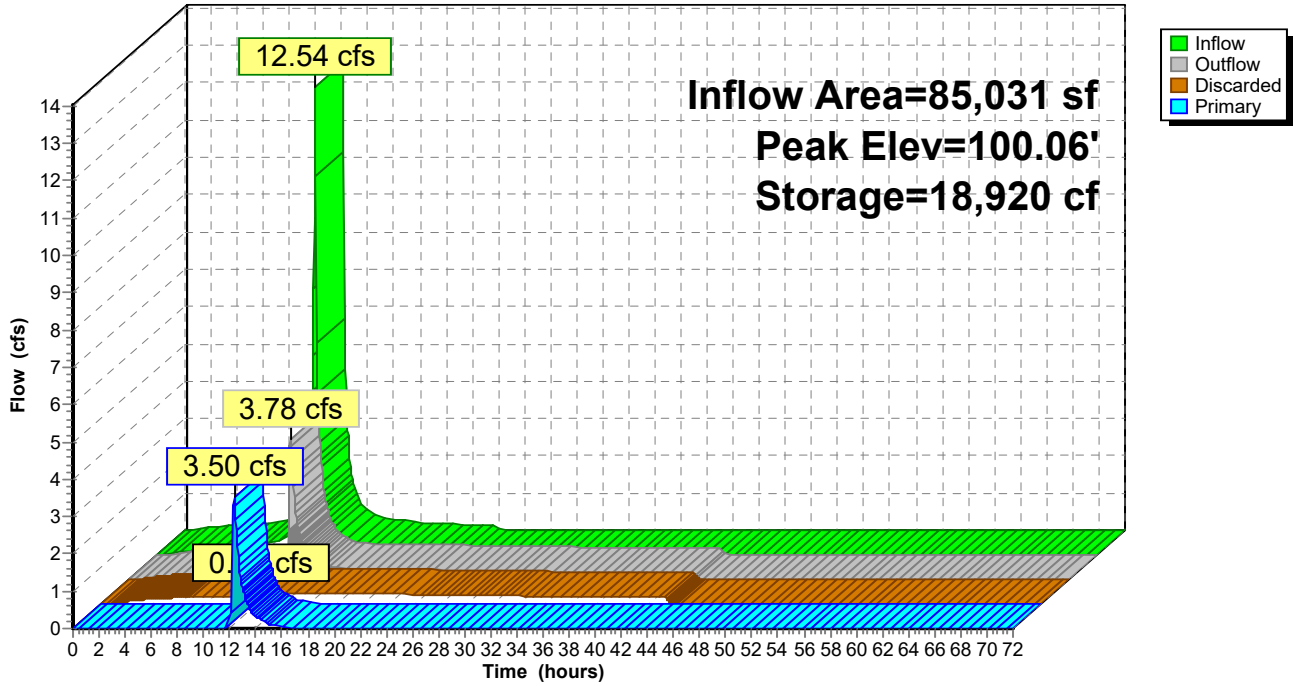
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 47.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.27 cfs @ 12.20 hrs HW=100.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=3.45 cfs @ 12.35 hrs HW=100.06' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 3.45 cfs @ 0.60 fps)

Pond 6P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 7P: Basic Porous Pavement (infiltration only)

Inflow Area = 164,927 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 24.32 cfs @ 12.13 hrs, Volume= 82,074 cf
 Outflow = 1.91 cfs @ 11.15 hrs, Volume= 82,074 cf, Atten= 92%, Lag= 0.0 min
 Discarded = 1.91 cfs @ 11.15 hrs, Volume= 82,074 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.83' @ 13.14 hrs Surf.Area= 164,927 sf Storage= 30,939 cf

Plug-Flow detention time= 112.7 min calculated for 82,074 cf (100% of inflow)
 Center-of-Mass det. time= 112.6 min (858.0 - 745.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	74,877 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	164,927	0.0	0	0
99.75	164,927	35.0	28,862	28,862
99.83	164,927	15.0	1,979	30,841
100.01	164,927	15.0	4,453	35,294
100.25	164,927	100.0	39,582	74,877

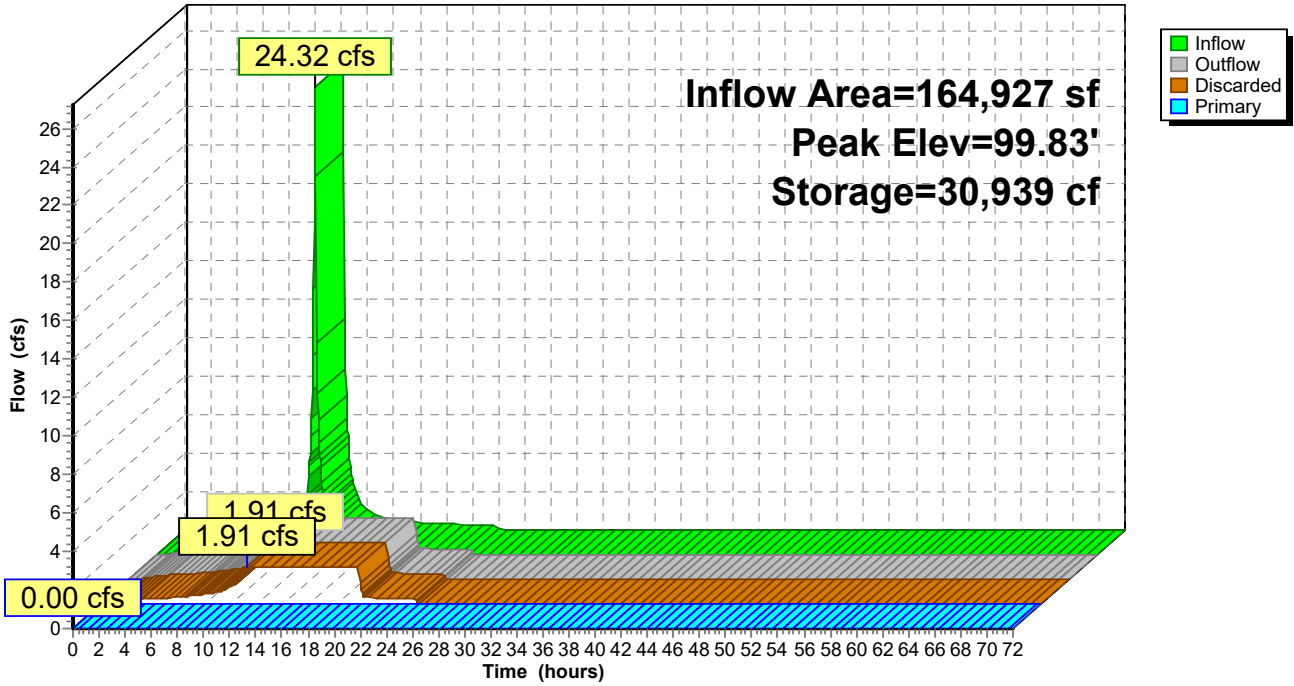
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=1.91 cfs @ 11.15 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.91 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 7P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,033,197 sf, 15.85% Impervious, Inflow Depth = 3.86" for 10-Year _2100 event
 Inflow = 56.36 cfs @ 12.49 hrs, Volume= 332,297 cf
 Outflow = 56.03 cfs @ 12.57 hrs, Volume= 329,348 cf, Atten= 1%, Lag= 4.5 min
 Primary = 35.25 cfs @ 12.55 hrs, Volume= 313,710 cf
 Routed to Link 3L : Combined Flows
 Secondary = 20.76 cfs @ 12.57 hrs, Volume= 15,638 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.22' @ 12.55 hrs Surf.Area= 17,694 sf Storage= 38,190 cf

Plug-Flow detention time= 23.4 min calculated for 329,348 cf (99% of inflow)
 Center-of-Mass det. time= 17.5 min (852.6 - 835.0)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 26.00 = 45,169 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 26.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 26.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 26.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 26.00**
2 End Contraction(s)

Primary OutFlow Max=35.25 cfs @ 12.55 hrs HW=100.22' (Free Discharge)

↑1=Culvert (Passes 35.25 cfs of 52.78 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 35.25 cfs @ 6.91 fps)

Secondary OutFlow Max=19.21 cfs @ 12.57 hrs HW=100.21' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 19.21 cfs @ 1.17 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

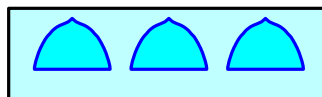
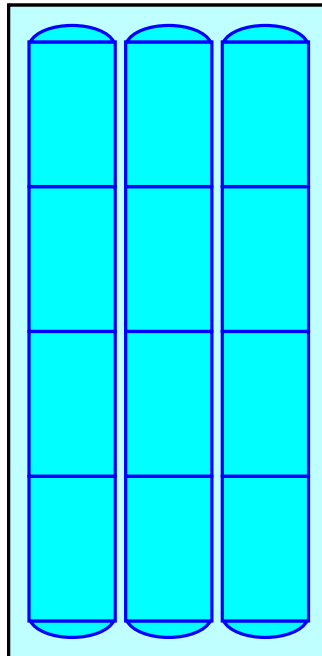
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

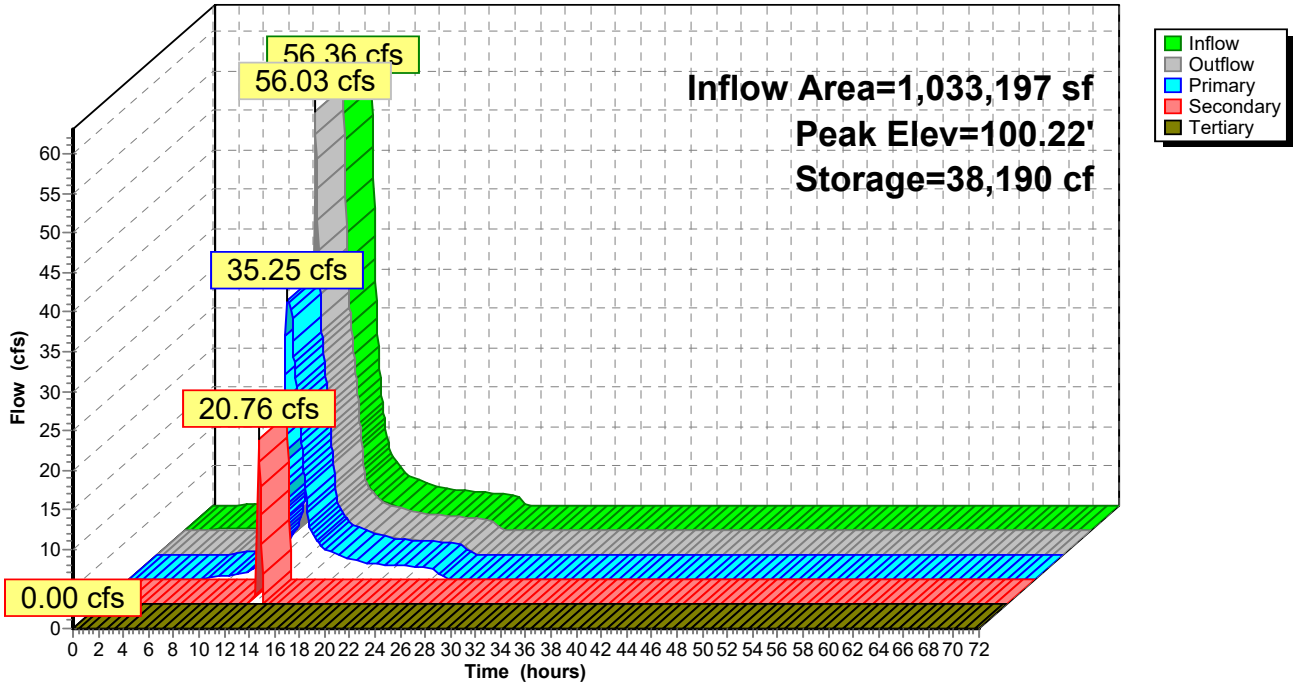
84.3 cy Field

63.8 cy Stone



Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Assumes infiltration through media is non-limiting.

Inflow Area = 92,992 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 13.71 cfs @ 12.13 hrs, Volume= 46,276 cf
 Outflow = 7.12 cfs @ 12.25 hrs, Volume= 46,276 cf, Atten= 48%, Lag= 7.2 min
 Discarded = 0.26 cfs @ 12.15 hrs, Volume= 32,645 cf
 Primary = 6.86 cfs @ 12.25 hrs, Volume= 13,631 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.10' @ 12.25 hrs Surf.Area= 22,500 sf Storage= 18,969 cf

Plug-Flow detention time= 459.6 min calculated for 46,244 cf (100% of inflow)
 Center-of-Mass det. time= 460.1 min (1,205.4 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 45.00 = 27,991 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

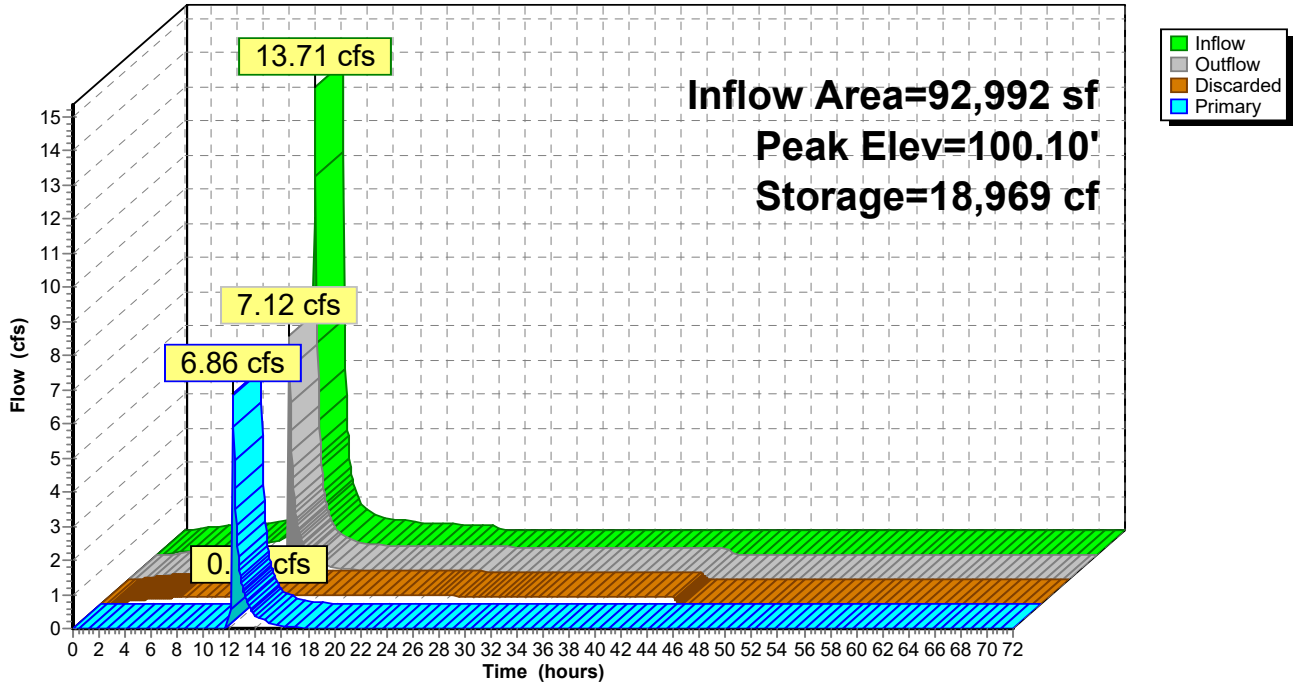
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 45.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.26 cfs @ 12.15 hrs HW=100.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=6.78 cfs @ 12.25 hrs HW=100.10' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 6.78 cfs @ 0.77 fps)

Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Hydrograph



Summary for Pond 10P: Basic Porous Pavement (infiltration only)

Inflow Area = 184,684 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 27.23 cfs @ 12.13 hrs, Volume= 91,905 cf
 Outflow = 2.14 cfs @ 11.15 hrs, Volume= 91,905 cf, Atten= 92%, Lag= 0.0 min
 Discarded = 2.14 cfs @ 11.15 hrs, Volume= 91,905 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.83' @ 13.14 hrs Surf.Area= 184,684 sf Storage= 34,646 cf

Plug-Flow detention time= 112.7 min calculated for 91,905 cf (100% of inflow)
 Center-of-Mass det. time= 112.6 min (858.0 - 745.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	83,847 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	184,684	0.0	0	0
99.75	184,684	35.0	32,320	32,320
99.83	184,684	15.0	2,216	34,536
100.01	184,684	15.0	4,986	39,522
100.25	184,684	100.0	44,324	83,847

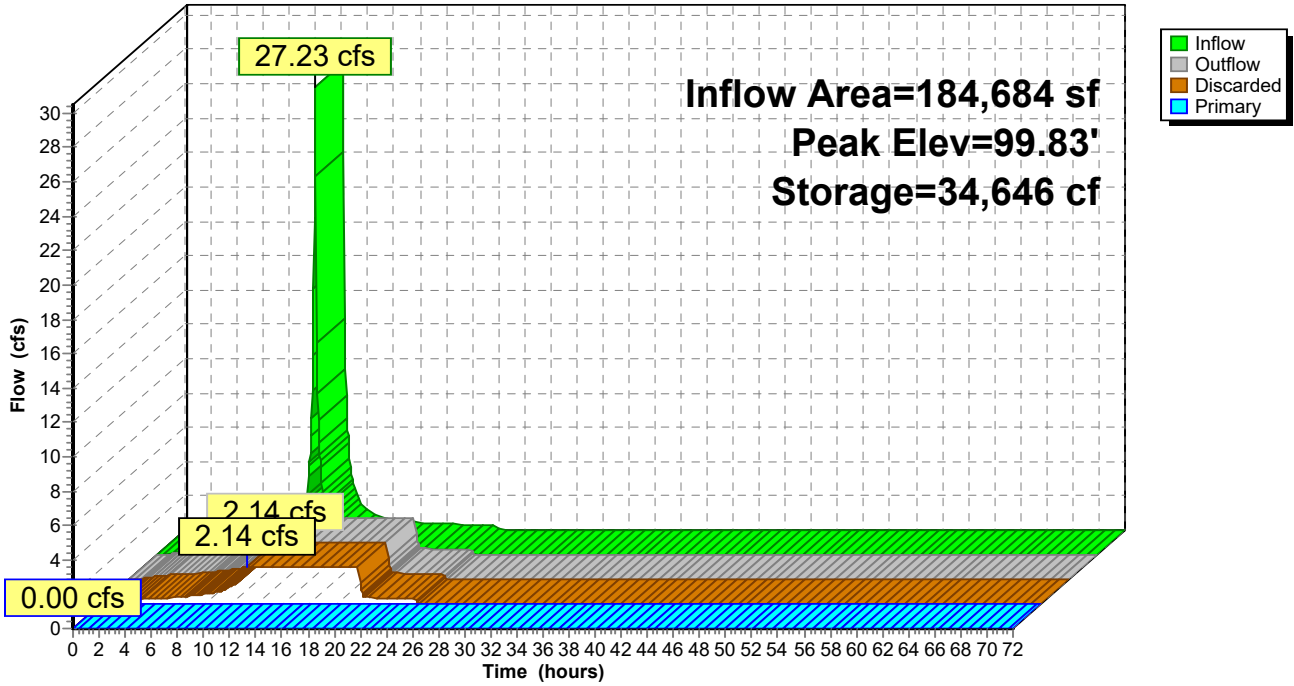
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.14 cfs @ 11.15 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 10P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 268,899 sf, 2.59% Impervious, Inflow Depth = 3.53" for 10-Year _2100 event
 Inflow = 19.67 cfs @ 12.26 hrs, Volume= 79,025 cf
 Outflow = 19.58 cfs @ 12.26 hrs, Volume= 78,509 cf, Atten= 0%, Lag= 0.1 min
 Primary = 4.03 cfs @ 12.26 hrs, Volume= 56,925 cf
 Routed to Link 3L : Combined Flows
 Secondary = 12.23 cfs @ 12.26 hrs, Volume= 19,374 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 3.33 cfs @ 12.26 hrs, Volume= 2,210 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.65' @ 12.26 hrs Surf.Area= 1,997 sf Storage= 4,555 cf

Plug-Flow detention time= 15.2 min calculated for 78,454 cf (99% of inflow)
 Center-of-Mass det. time= 11.4 min (846.0 - 834.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	374 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,615 cf x 3.00 = 4,844 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	160	0.0	0	0	160
98.25	160	35.0	28	28	182
99.25	160	35.0	56	84	227
99.50	160	25.0	10	94	238
100.00	160	100.0	80	174	261
100.51	160	100.0	82	256	284
101.00	160	100.0	78	334	306
101.25	160	100.0	40	374	317

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 3.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 3.00 L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0044 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 3.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

			2.85	3.07	3.20	3.32
#4	Tertiary	100.50'	6.0' long Sharp-Crested Rectangular Weir X 3.00			
			2 End Contraction(s)			

Primary OutFlow Max=4.03 cfs @ 12.26 hrs HW=100.64' (Free Discharge)

↑1=Culvert (Passes 4.03 cfs of 6.32 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 4.03 cfs @ 6.83 fps)

Secondary OutFlow Max=12.14 cfs @ 12.26 hrs HW=100.64' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 12.14 cfs @ 2.09 fps)

Tertiary OutFlow Max=3.22 cfs @ 12.26 hrs HW=100.64' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 3.22 cfs @ 1.24 fps)

Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

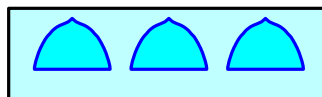
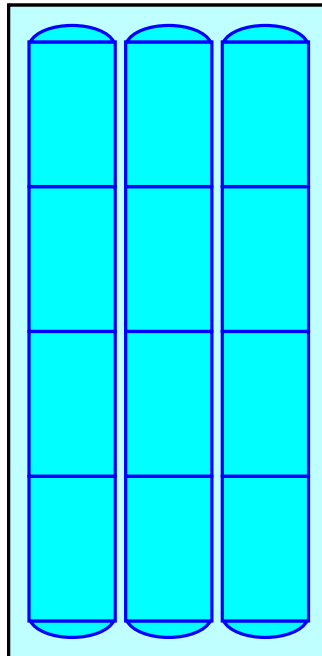
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

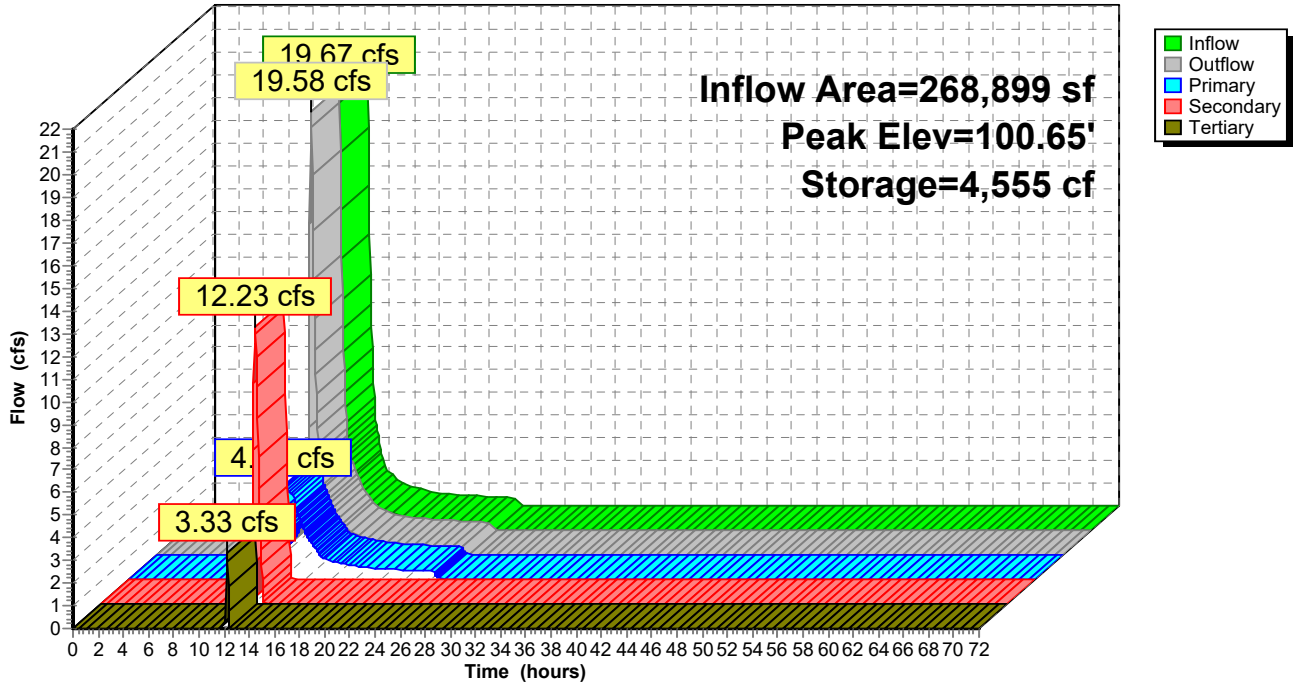
84.3 cy Field

63.8 cy Stone



Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 12P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 23,888 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 3.52 cfs @ 12.13 hrs, Volume= 11,888 cf
 Outflow = 0.79 cfs @ 12.44 hrs, Volume= 11,888 cf, Atten= 78%, Lag= 18.6 min
 Discarded = 0.08 cfs @ 12.30 hrs, Volume= 9,733 cf
 Primary = 0.71 cfs @ 12.44 hrs, Volume= 2,154 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.05' @ 12.44 hrs Surf.Area= 7,000 sf Storage= 5,540 cf

Plug-Flow detention time= 523.3 min calculated for 11,888 cf (100% of inflow)
 Center-of-Mass det. time= 523.2 min (1,268.6 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 14.00 = 8,708 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

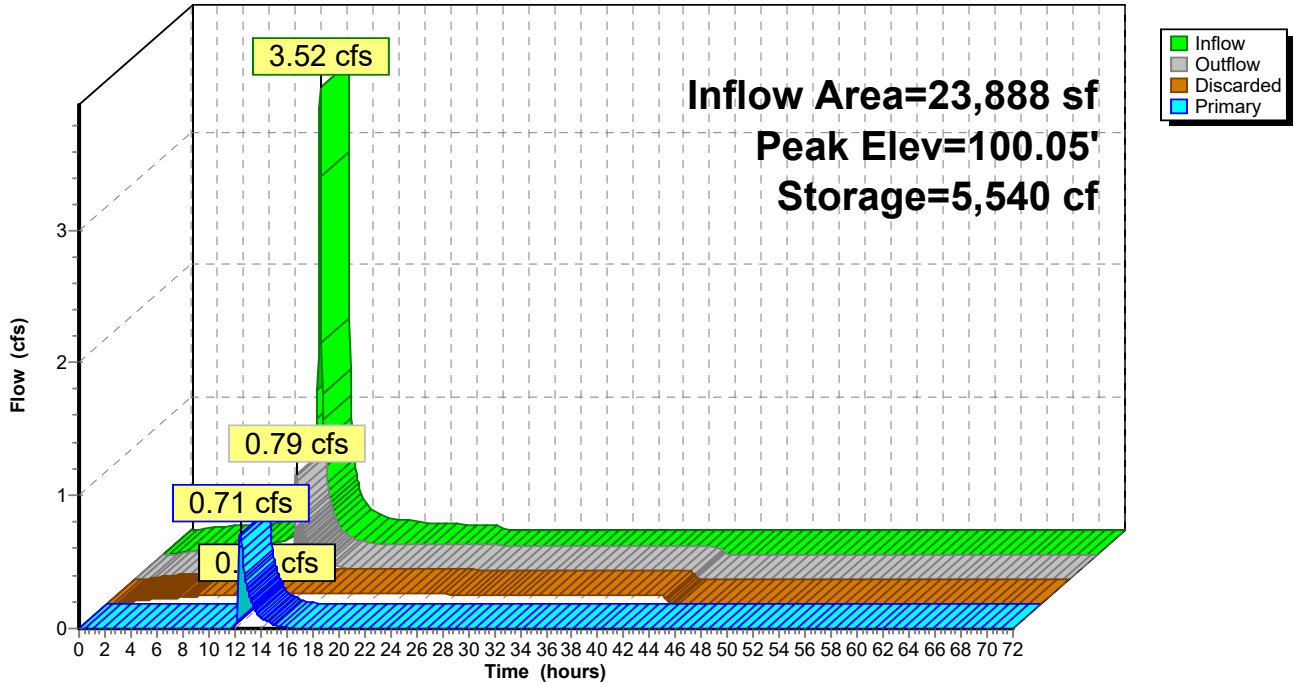
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 14.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.08 cfs @ 12.30 hrs HW=100.03' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.70 cfs @ 12.44 hrs HW=100.05' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 0.70 cfs @ 0.53 fps)

Pond 12P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 13P: Basic Porous Pavement (infiltration only)

Inflow Area = 35,770 sf, 100.00% Impervious, Inflow Depth = 5.97" for 10-Year _2100 event
 Inflow = 5.27 cfs @ 12.13 hrs, Volume= 17,800 cf
 Outflow = 0.41 cfs @ 11.15 hrs, Volume= 17,800 cf, Atten= 92%, Lag= 0.0 min
 Discarded = 0.41 cfs @ 11.15 hrs, Volume= 17,800 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 99.83' @ 13.14 hrs Surf.Area= 35,770 sf Storage= 6,710 cf

Plug-Flow detention time= 112.7 min calculated for 17,800 cf (100% of inflow)
 Center-of-Mass det. time= 112.6 min (858.0 - 745.3)

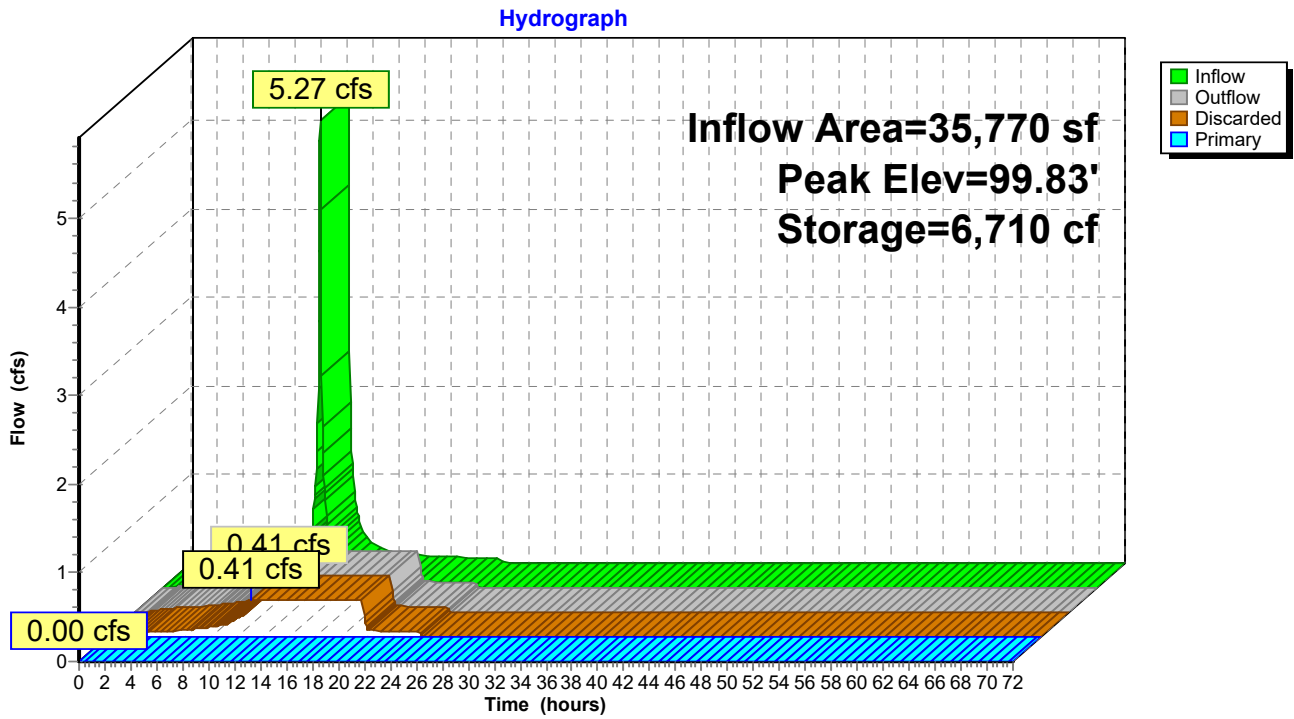
Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	16,240 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	35,770	0.0	0	0
99.75	35,770	35.0	6,260	6,260
99.83	35,770	15.0	429	6,689
100.01	35,770	15.0	966	7,655
100.25	35,770	100.0	8,585	16,240

Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			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										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=0.41 cfs @ 11.15 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=99.25' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Controls 0.00 cfs)

Pond 13P: Basic Porous Pavement (infiltration only)



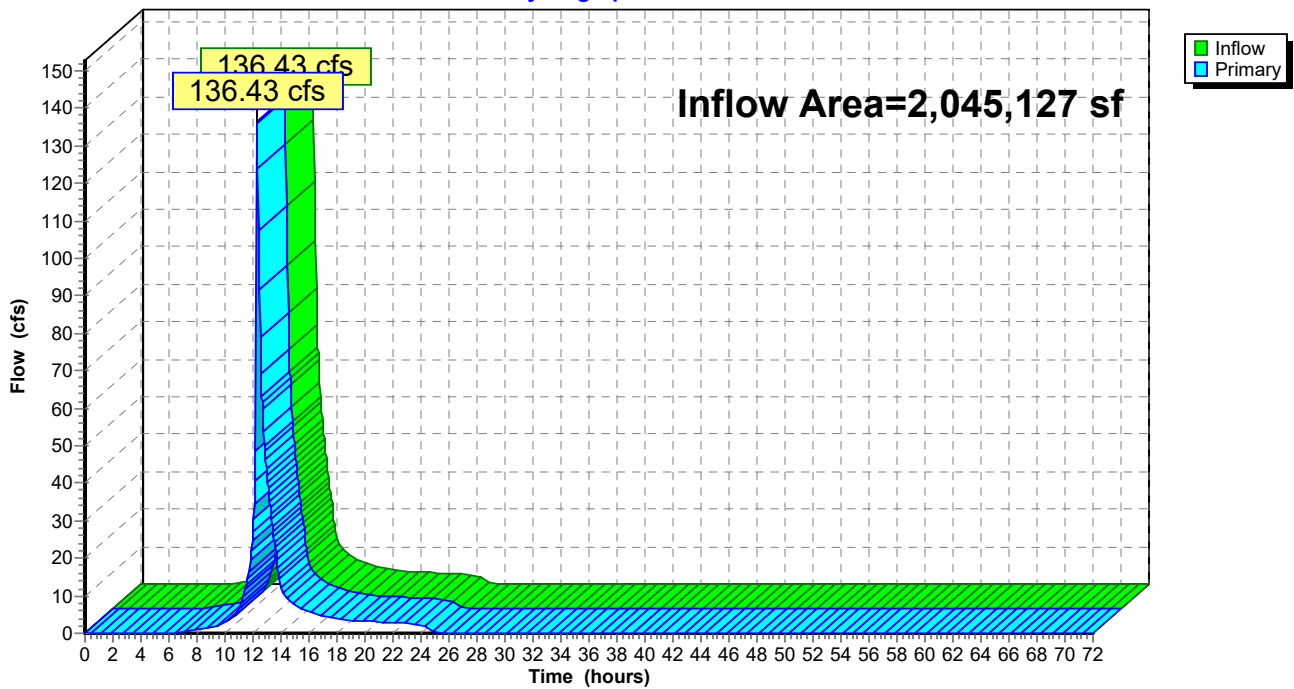
Summary for Link 1L: Combined Flows

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 3.38" for 10-Year_2100 event
Inflow = 136.43 cfs @ 12.29 hrs, Volume= 575,661 cf
Primary = 136.43 cfs @ 12.29 hrs, Volume= 575,661 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : INFLOW PIPE

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1L: Combined Flows

Hydrograph



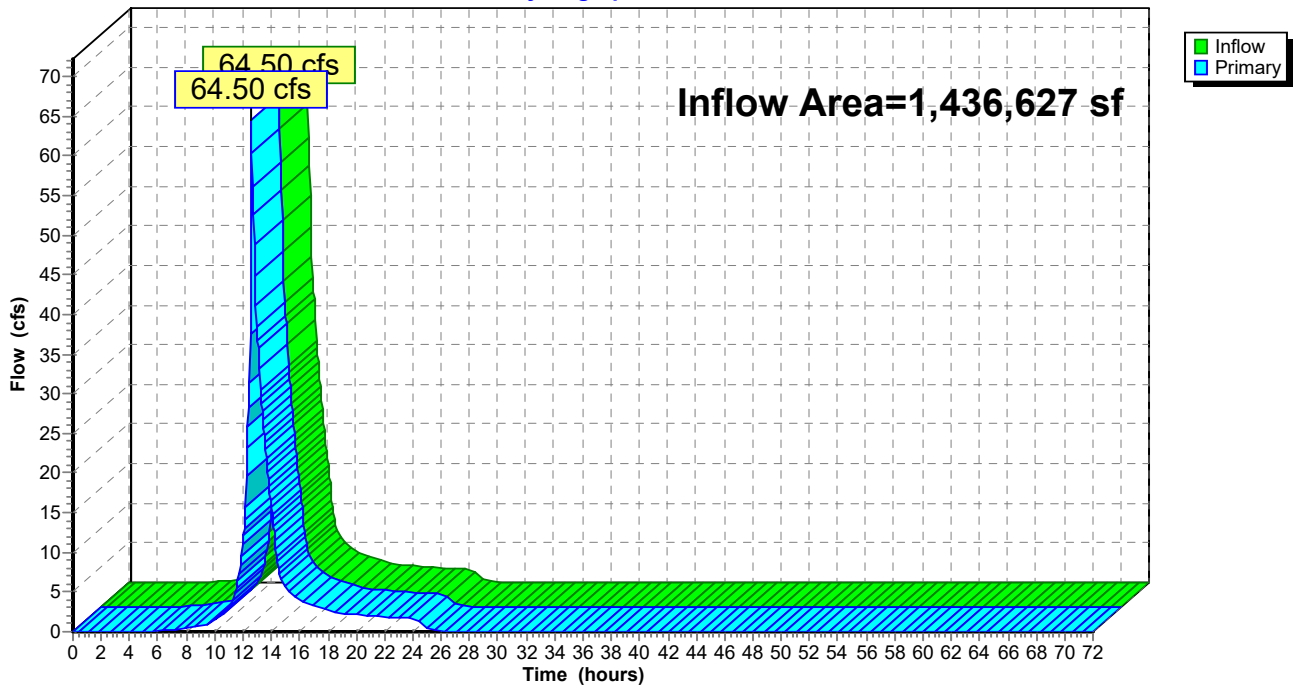
Summary for Link 2L: Combined Flows

Inflow Area = 1,436,627 sf, 27.42% Impervious, Inflow Depth = 3.16" for 10-Year _2100 event
Inflow = 64.50 cfs @ 12.57 hrs, Volume= 378,622 cf
Primary = 64.50 cfs @ 12.57 hrs, Volume= 378,622 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 2L: Combined Flows

Hydrograph



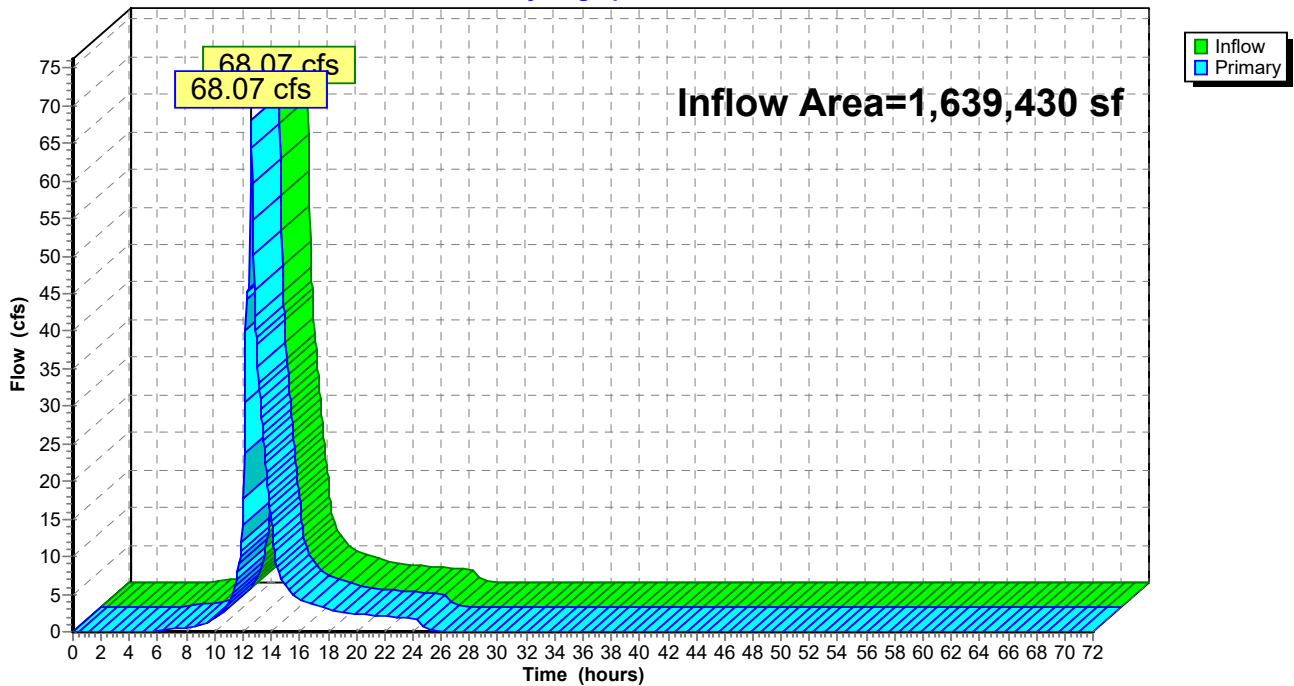
Summary for Link 3L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 3.10" for 10-Year _2100 event
Inflow = 68.07 cfs @ 12.56 hrs, Volume= 423,641 cf
Primary = 68.07 cfs @ 12.56 hrs, Volume= 423,641 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 3L: Combined Flows

Hydrograph



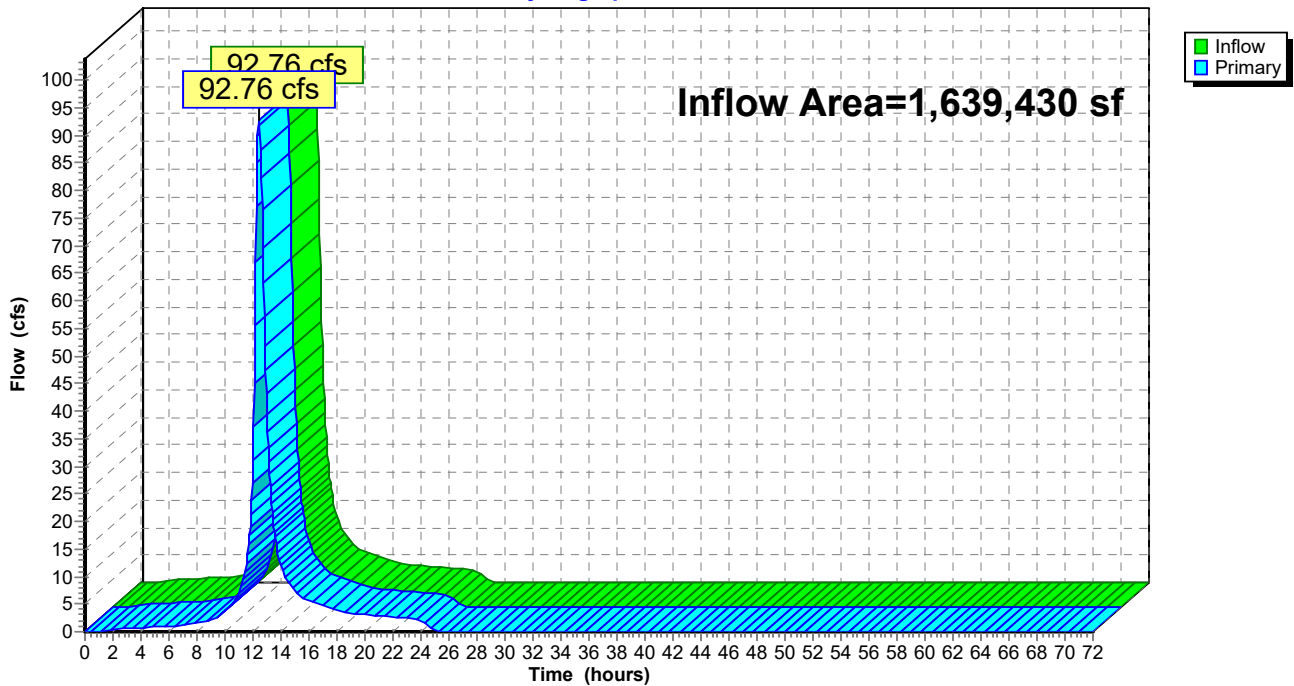
Summary for Link 4L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 4.24" for 10-Year _2100 event
Inflow = 92.76 cfs @ 12.43 hrs, Volume= 579,191 cf
Primary = 92.76 cfs @ 12.43 hrs, Volume= 579,191 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Combined Flows

Hydrograph



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA 1: All Runoff Area=2,045,127 sf 24.45% Impervious Runoff Depth=6.78"
Tc=17.3 min CN=77/98 Runoff=271.05 cfs 1,155,108 cf

Subcatchment 1Sa: DA 1: CN w/ IC areas Runoff Area=1,732,396 sf 10.81% Impervious Runoff Depth=6.43"
Tc=17.3 min CN=77/98 Runoff=222.67 cfs 928,126 cf

Subcatchment 1Sb: DA1: Roofs Runoff Area=132,361 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=28.18 cfs 96,068 cf

Subcatchment 1Sc: DA1: Driveways Runoff Area=180,370 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=38.40 cfs 130,914 cf

Subcatchment 2S: DA 2: All Runoff Area=1,436,627 sf 27.42% Impervious Runoff Depth=6.67"
Tc=39.8 min CN=75/98 Runoff=124.66 cfs 799,121 cf

Subcatchment 2Sa: DA 2: CN w/ IC areas Runoff Area=1,186,669 sf 12.13% Impervious Runoff Depth=6.25"
Tc=39.8 min CN=75/98 Runoff=98.65 cfs 617,700 cf

Subcatchment 2Sb: DA2: Roofs combined Runoff Area=85,031 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=18.10 cfs 61,716 cf

Subcatchment 2Sc: DA2: Driveways Runoff Area=164,927 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=35.11 cfs 119,705 cf

Subcatchment 3S: DA 3: All Runoff Area=1,310,873 sf 33.67% Impervious Runoff Depth=6.85"
Tc=35.3 min CN=75/98 Runoff=123.24 cfs 748,330 cf

Subcatchment 3Sa: DA 3: CNs w/ IC Runoff Area=1,033,197 sf 15.85% Impervious Runoff Depth=6.35"
Tc=35.3 min CN=75/98 Runoff=92.51 cfs 546,791 cf

Subcatchment 3Sb: DA3: Roofs combined Runoff Area=92,992 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=19.80 cfs 67,494 cf

Subcatchment 3Sc: DA3: Driveways Runoff Area=184,684 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=39.32 cfs 134,045 cf

Subcatchment 4S: DA 4: All Runoff Area=328,557 sf 20.27% Impervious Runoff Depth=6.47"
Tc=16.9 min CN=75/98 Runoff=42.37 cfs 177,278 cf

Subcatchment 4Sa: DA 4: CN w/ IC areas Runoff Area=268,899 sf 2.59% Impervious Runoff Depth=5.98"
Tc=16.9 min CN=75/98 Runoff=33.06 cfs 133,978 cf

Subcatchment 4Sb: DA4: Roofs combined Runoff Area=23,888 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=5.09 cfs 17,338 cf

Subcatchment 4Sc: DA4: Driveways Runoff Area=35,770 sf 100.00% Impervious Runoff Depth=8.71"
Tc=6.0 min CN=0/98 Runoff=7.61 cfs 25,962 cf

Reach 1R: INFLOW PIPE Avg. Flow Depth=2.61' Max Vel=26.19 fps Inflow=250.45 cfs 977,366 cf
54.0" Round Pipe n=0.013 L=75.0' S=0.0400 '/' Capacity=393.30 cfs Outflow=250.00 cfs 977,632 cf

Reach 2R: OUTFLOW PIPE Avg. Flow Depth=2.90' Max Vel=18.22 fps Inflow=177.50 cfs 969,118 cf
48.0" Round Pipe n=0.013 L=60.0' S=0.0200 '/' Capacity=203.14 cfs Outflow=177.47 cfs 969,118 cf

Pond 1P: ROAD RG 175SF W/ UDG Peak Elev=100.56' Storage=68,787 cf Inflow=222.67 cfs 928,126 cf
Primary=62.86 cfs 735,538 cf Secondary=146.76 cfs 180,083 cf Tertiary=12.59 cfs 4,987 cf Outflow=222.21 cfs 920,608 cf

Pond 2P: Basic Rain Garden (infiltration Peak Elev=100.15' Storage=34,139 cf Inflow=28.18 cfs 96,068 cf
Discarded=0.44 cfs 57,880 cf Primary=22.51 cfs 38,188 cf Outflow=22.95 cfs 96,068 cf

Pond 3P: Basic Porous Pavement Peak Elev=100.02' Storage=41,269 cf Inflow=38.40 cfs 130,914 cf
Discarded=2.09 cfs 112,343 cf Primary=12.16 cfs 18,570 cf Outflow=14.25 cfs 130,914 cf

Pond 4P: Basin 1 Municipal property Peak Elev=75.72' Storage=146,414 cf Inflow=250.00 cfs 977,632 cf
Primary=142.74 cfs 930,917 cf Secondary=34.76 cfs 38,201 cf Tertiary=0.00 cfs 0 cf Outflow=177.50 cfs 969,118 cf

Pond 5P: ROAD RG 175SF W/ UDG Peak Elev=100.44' Storage=40,702 cf Inflow=98.65 cfs 617,700 cf
Primary=37.33 cfs 496,731 cf Secondary=61.20 cfs 117,917 cf Tertiary=0.00 cfs 0 cf Outflow=98.53 cfs 614,649 cf

Pond 6P: Basic Rain Garden (infiltration Peak Elev=100.16' Storage=21,340 cf Inflow=18.10 cfs 61,716 cf
Discarded=0.27 cfs 36,031 cf Primary=15.21 cfs 25,685 cf Outflow=15.49 cfs 61,716 cf

Pond 7P: Basic Porous Pavement Peak Elev=100.02' Storage=37,569 cf Inflow=35.11 cfs 119,705 cf
Discarded=1.91 cfs 102,724 cf Primary=11.43 cfs 16,981 cf Outflow=13.34 cfs 119,705 cf

Pond 8P: ROAD RG 175SF W/ UDG Peak Elev=100.42' Storage=39,138 cf Inflow=92.51 cfs 546,791 cf
Primary=35.91 cfs 448,162 cf Secondary=56.45 cfs 94,582 cf Tertiary=0.00 cfs 0 cf Outflow=92.35 cfs 542,743 cf

Pond 9P: Basic Rain Garden (infiltration Peak Elev=100.19' Storage=20,911 cf Inflow=19.80 cfs 67,494 cf
Discarded=0.26 cfs 35,160 cf Primary=17.52 cfs 32,334 cf Outflow=17.78 cfs 67,494 cf

Pond 10P: Basic Porous Pavement Peak Elev=100.03' Storage=42,306 cf Inflow=39.32 cfs 134,045 cf
Discarded=2.14 cfs 115,030 cf Primary=12.36 cfs 19,014 cf Outflow=14.49 cfs 134,045 cf

Pond 11P: ROAD RG 175SF W/ UDG Peak Elev=100.83' Storage=4,642 cf Inflow=33.06 cfs 133,978 cf
Primary=4.09 cfs 82,622 cf Secondary=17.77 cfs 39,977 cf Tertiary=11.08 cfs 11,129 cf Outflow=32.93 cfs 133,728 cf

Pond 12P: Basic Rain Garden (infiltration Peak Elev=100.15' Storage=6,259 cf Inflow=5.09 cfs 17,338 cf
Discarded=0.08 cfs 10,623 cf Primary=3.98 cfs 6,715 cf Outflow=4.06 cfs 17,338 cf

Pond 13P: Basic Porous Pavement Peak Elev=100.01' Storage=7,684 cf Inflow=7.61 cfs 25,962 cf
Discarded=0.41 cfs 22,279 cf Primary=3.54 cfs 3,722 cf Outflow=3.96 cfs 26,001 cf

Link 1L: Combined Flows Inflow=250.45 cfs 977,366 cf
Primary=250.45 cfs 977,366 cf

Link 2L: Combined Flows Inflow=108.32 cfs 657,315 cf
Primary=108.32 cfs 657,315 cf

Link 3L: Combined Flows Inflow=133.23 cfs 738,257 cf
Primary=133.23 cfs 738,257 cf

Link 4L: Combined Flows

Inflow=147.89 cfs 925,608 cf
Primary=147.89 cfs 925,608 cf

Total Runoff Area = 10,242,368 sf Runoff Volume = 5,759,673 cf Average Runoff Depth = 6.75"
72.62% Pervious = 7,438,492 sf 27.38% Impervious = 2,803,876 sf

Summary for Subcatchment 1S: DA 1: All

Runoff = 271.05 cfs @ 12.26 hrs, Volume= 1,155,108 cf, Depth= 6.78"
 Routed to nonexistent node 6L

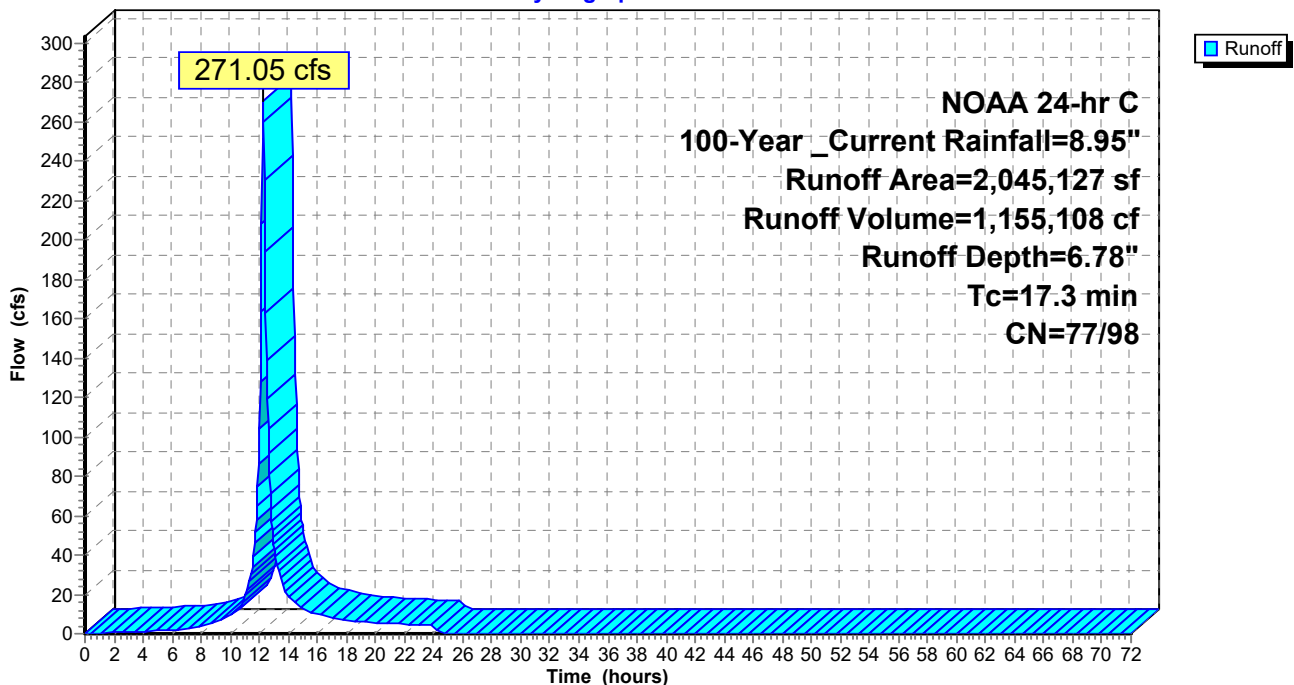
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _Current Rainfall=8.95"

	Area (sf)	CN	Description
*	187,351	98	Impervious
	676,806	74	>75% Grass cover, Good, HSG C
	698,470	80	>75% Grass cover, Good, HSG D
	25,343	73	Woods, Fair, HSG C
	726	79	Woods, Fair, HSG D
	41,773	70	Woods, Good, HSG C
	101,927	77	Woods, Good, HSG D
*	132,361	98	Roofs
*	180,370	98	Driveways
	2,045,127	82	Weighted Average
	1,545,045	77	75.55% Pervious Area
	500,082	98	24.45% Impervious Area

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

Subcatchment 1S: DA 1: All

Hydrograph



Summary for Subcatchment 1Sa: DA 1: CN w/ IC areas

Runoff = 222.67 cfs @ 12.26 hrs, Volume= 928,126 cf, Depth= 6.43"

Routed to Pond 1P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

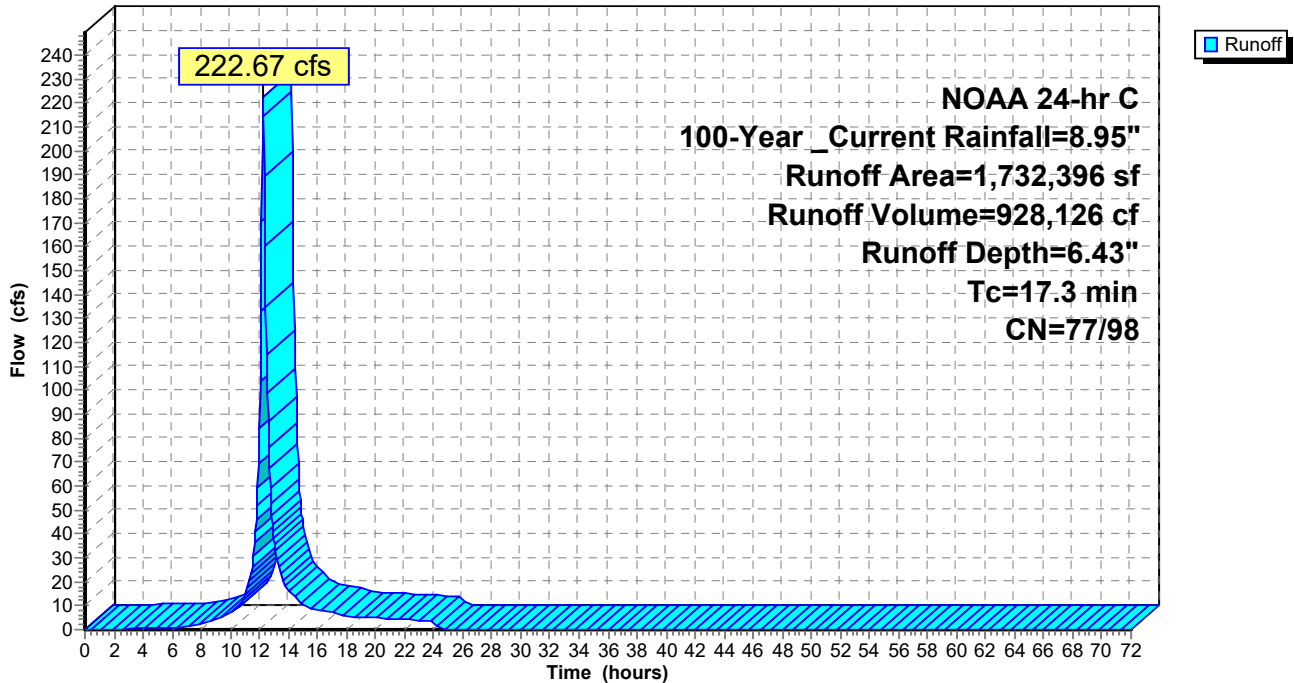
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _Current Rainfall=8.95"

Area (sf)	CN	Description
* 187,351	98	Impervious
676,806	74	>75% Grass cover, Good, HSG C
698,470	80	>75% Grass cover, Good, HSG D
25,343	73	Woods, Fair, HSG C
726	79	Woods, Fair, HSG D
41,773	70	Woods, Good, HSG C
101,927	77	Woods, Good, HSG D
1,732,396	79	Weighted Average
1,545,045	77	89.19% Pervious Area
187,351	98	10.81% Impervious Area

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

Subcatchment 1Sa: DA 1: CN w/ IC areas

Hydrograph



Summary for Subcatchment 1Sb: DA1: Roofs combined

Runoff = 28.18 cfs @ 12.13 hrs, Volume= 96,068 cf, Depth= 8.71"

Routed to Pond 2P : Basic Rain Garden (infiltration only) 500 sf

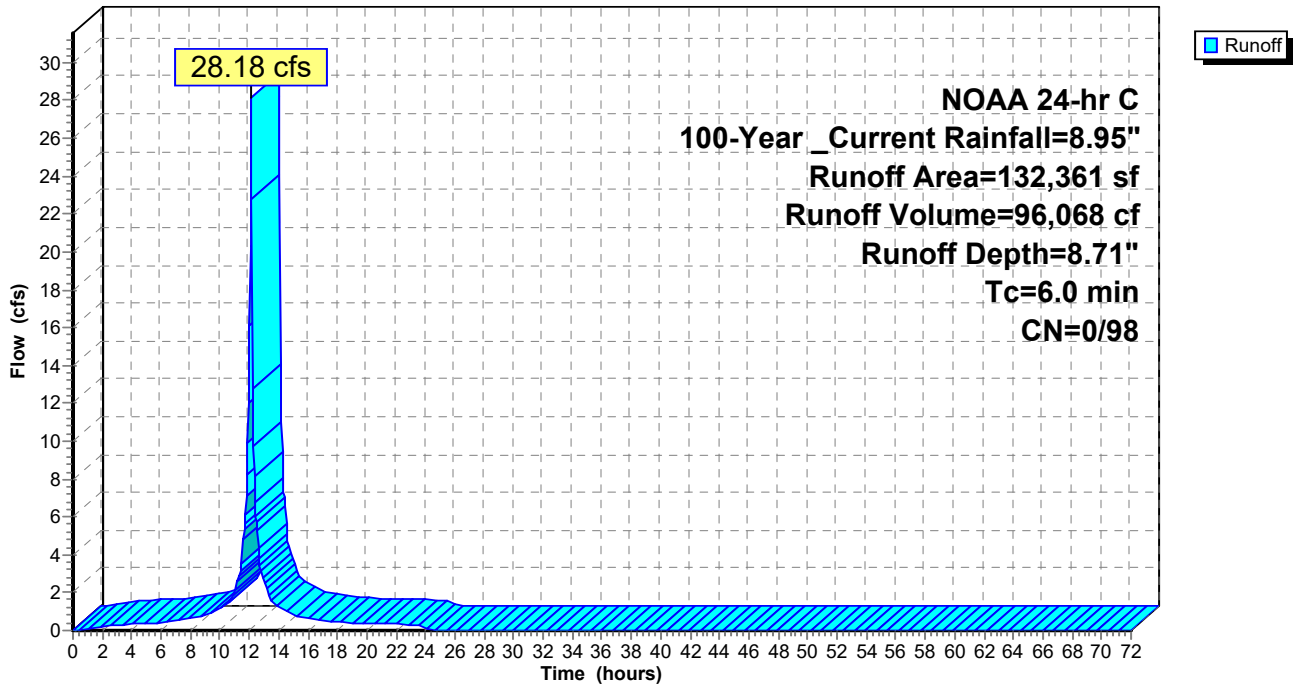
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 132,361	98	
132,361	98	100.00% Impervious Area

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

Subcatchment 1Sb: DA1: Roofs combined

Hydrograph



Summary for Subcatchment 1Sc: DA1: Driveways (other)

Runoff = 38.40 cfs @ 12.13 hrs, Volume= 130,914 cf, Depth= 8.71"

Routed to Pond 3P : Basic Porous Pavement (infiltration only)

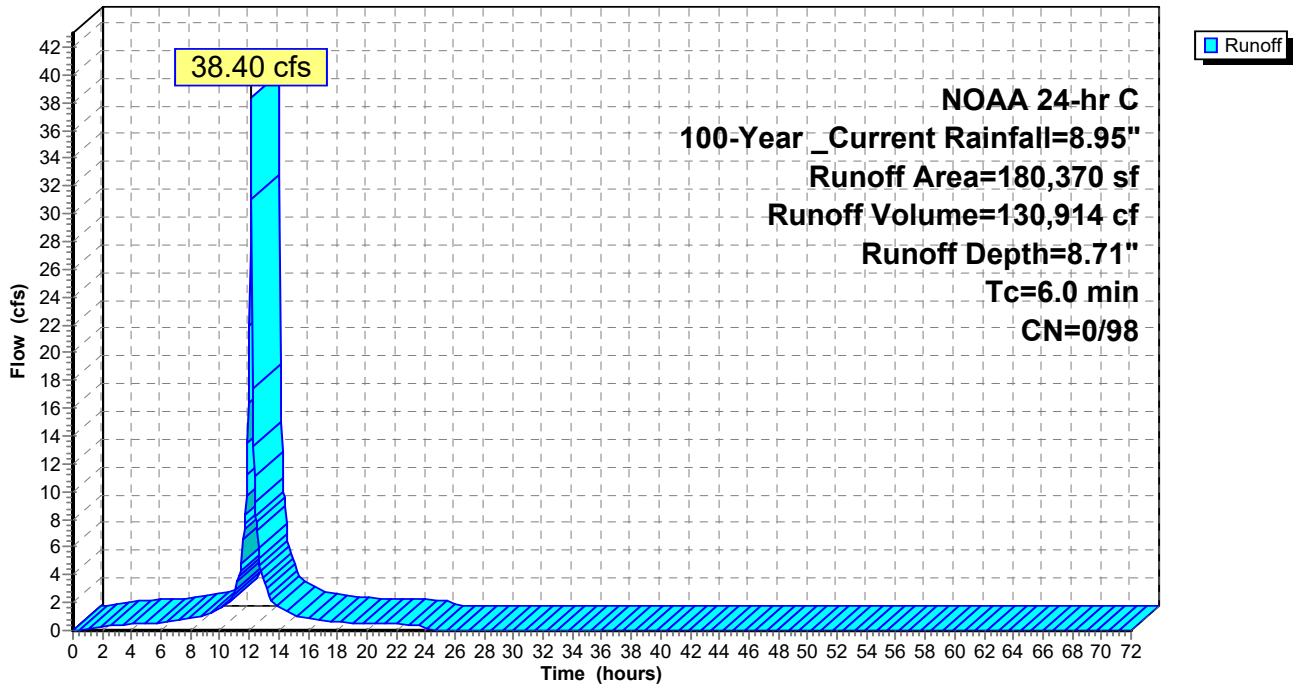
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 180,370	98	Impervious Driveways (other)
180,370	98	100.00% Impervious Area

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

Subcatchment 1Sc: DA1: Driveways (other)

Hydrograph



Summary for Subcatchment 2S: DA 2: All

Runoff = 124.66 cfs @ 12.54 hrs, Volume= 799,121 cf, Depth= 6.67"

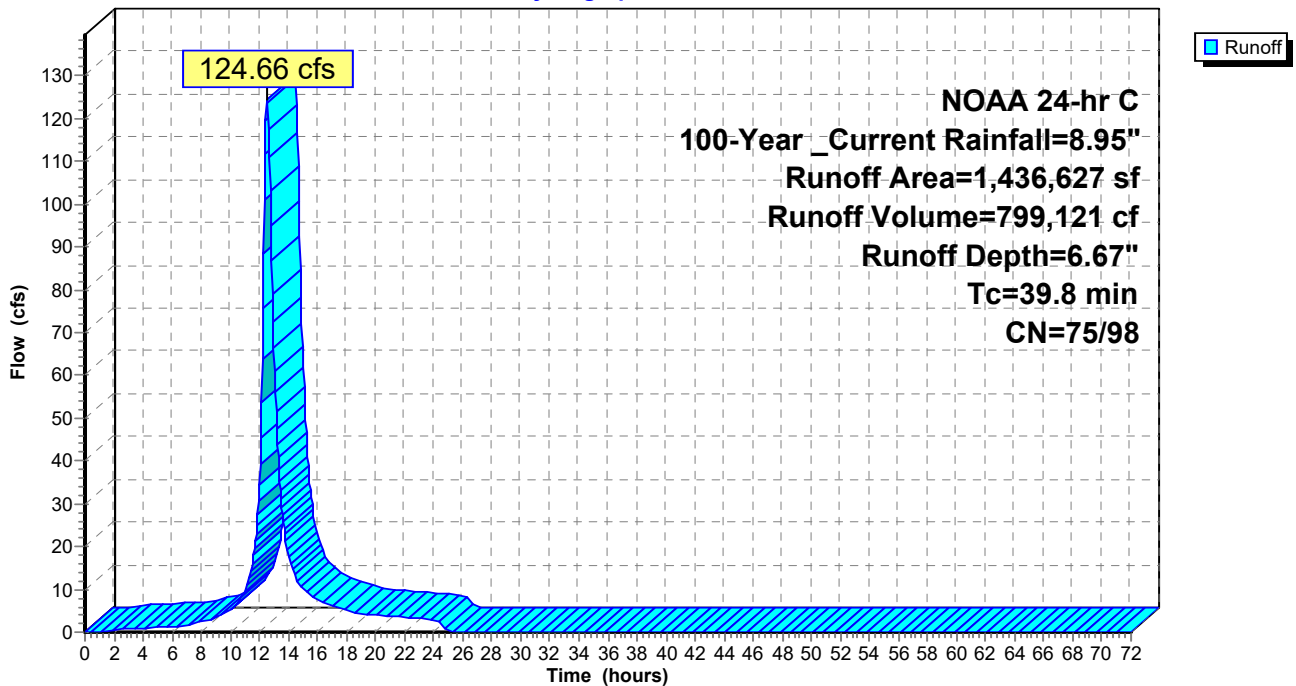
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _Current Rainfall=8.95"

	Area (sf)	CN	Description
*	143,894	98	Impervious
	1,270	65	Brush, Good, HSG C
	946,207	74	>75% Grass cover, Good, HSG C
	93,778	80	>75% Grass cover, Good, HSG D
	1,520	72	Woods/grass comb., Good, HSG C
*	85,031	98	Roofs
*	164,927	98	Driveways
	1,436,627	81	Weighted Average
	1,042,775	75	72.58% Pervious Area
	393,852	98	27.42% Impervious Area

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

Subcatchment 2S: DA 2: All

Hydrograph



Summary for Subcatchment 2Sa: DA 2: CN w/ IC areas

Runoff = 98.65 cfs @ 12.54 hrs, Volume= 617,700 cf, Depth= 6.25"

Routed to Pond 5P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

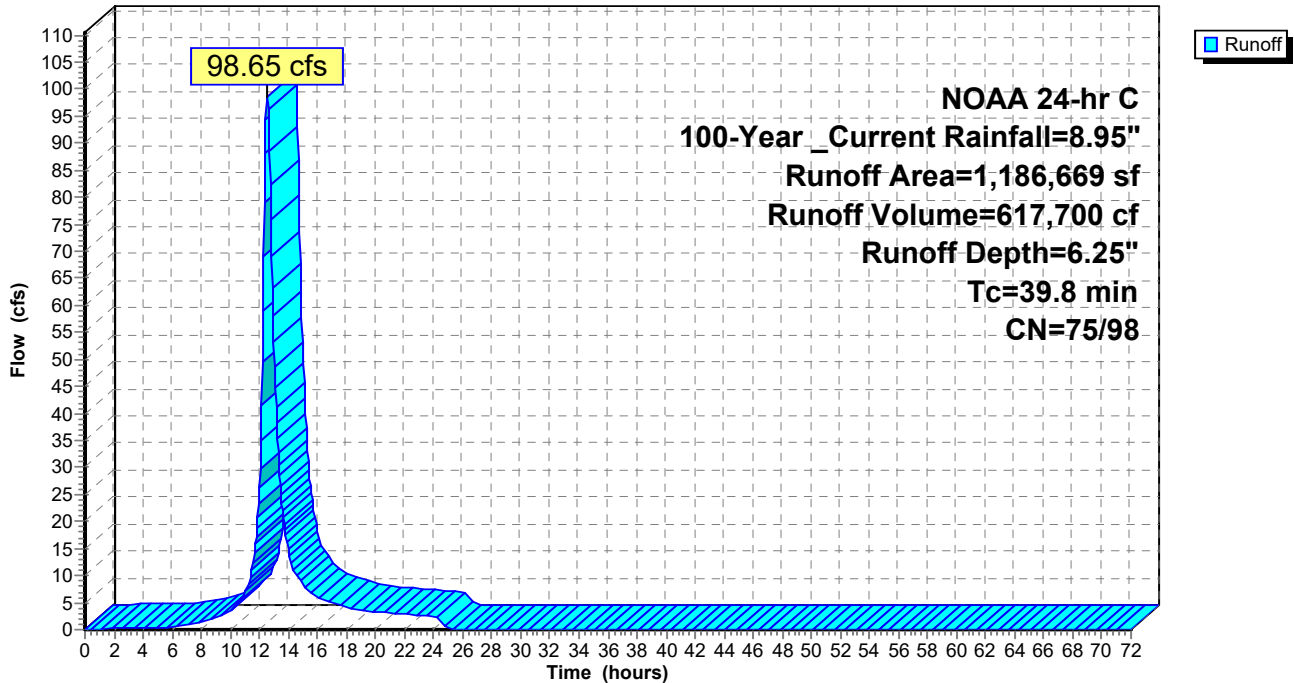
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _Current Rainfall=8.95"

Area (sf)	CN	Description
* 143,894	98	Impervious
1,270	65	Brush, Good, HSG C
946,207	74	>75% Grass cover, Good, HSG C
93,778	80	>75% Grass cover, Good, HSG D
1,520	72	Woods/grass comb., Good, HSG C
1,186,669	77	Weighted Average
1,042,775	75	87.87% Pervious Area
143,894	98	12.13% Impervious Area

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

Subcatchment 2Sa: DA 2: CN w/ IC areas

Hydrograph



Summary for Subcatchment 2Sb: DA2: Roofs combined

Runoff = 18.10 cfs @ 12.13 hrs, Volume= 61,716 cf, Depth= 8.71"

Routed to Pond 6P : Basic Rain Garden (infiltration only) 500SF

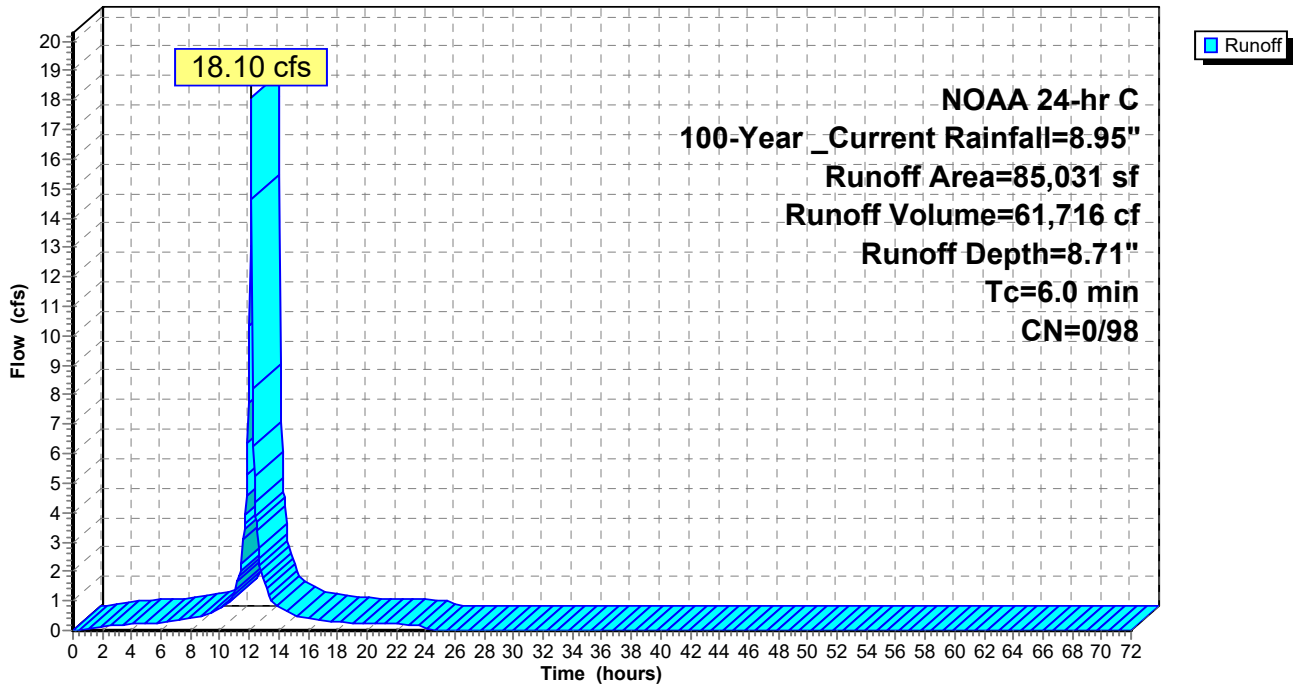
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 85,031	98	
85,031	98	100.00% Impervious Area

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

Subcatchment 2Sb: DA2: Roofs combined

Hydrograph



Summary for Subcatchment 2Sc: DA2: Driveways (other)

Runoff = 35.11 cfs @ 12.13 hrs, Volume= 119,705 cf, Depth= 8.71"

Routed to Pond 7P : Basic Porous Pavement (infiltration only)

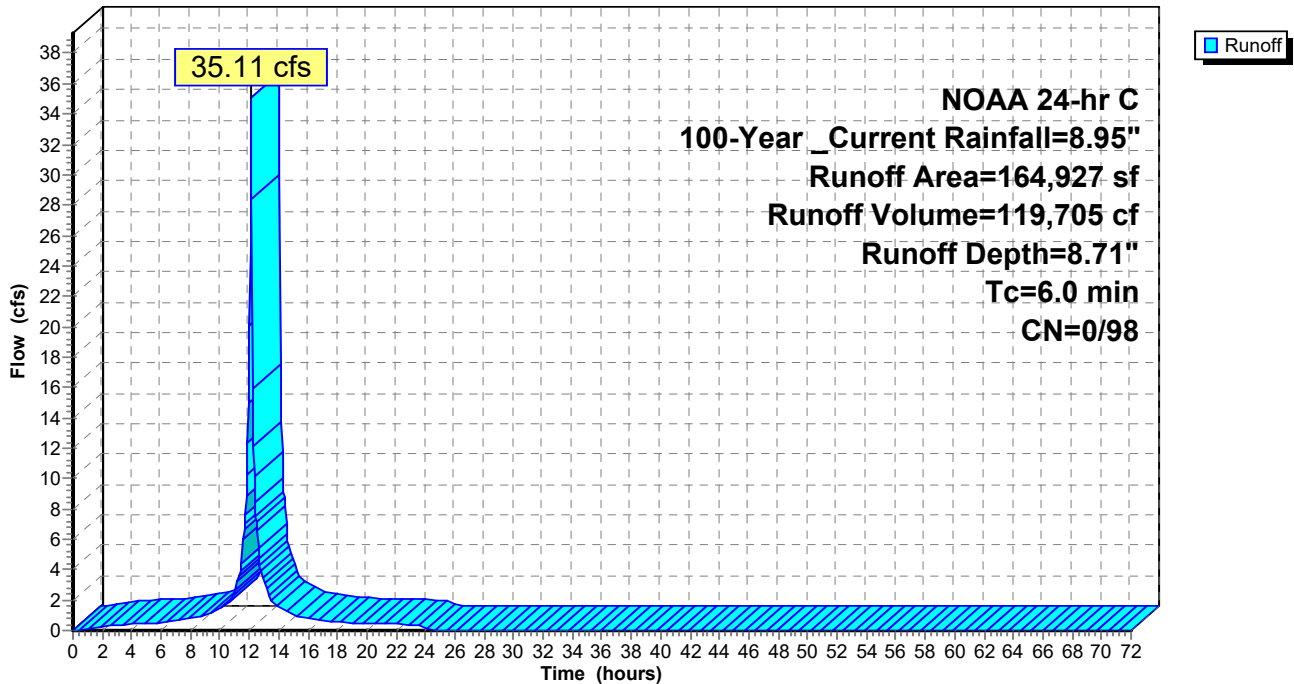
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 164,927	98	Impervious Driveways (other)
164,927	98	100.00% Impervious Area

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

Subcatchment 2Sc: DA2: Driveways (other)

Hydrograph



Summary for Subcatchment 3S: DA 3: All

Runoff = 123.24 cfs @ 12.48 hrs, Volume= 748,330 cf, Depth= 6.85"
 Routed to Link 4L : Combined Flows

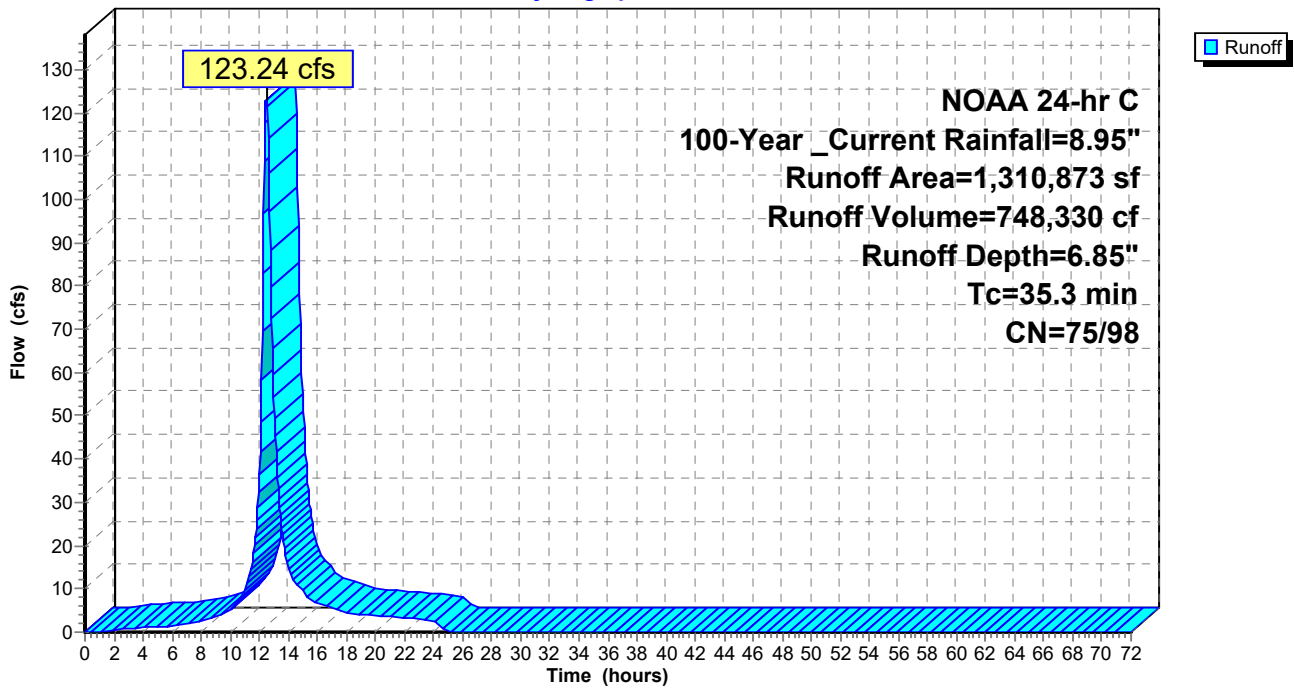
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _Current Rainfall=8.95"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
*	92,992	98	Roofs
*	184,684	98	Driveways
	1,310,873	83	Weighted Average
	869,479	75	66.33% Pervious Area
	441,394	98	33.67% Impervious Area

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

Subcatchment 3S: DA 3: All

Hydrograph



Summary for Subcatchment 3Sa: DA 3: CNs w/ IC areas

Runoff = 92.51 cfs @ 12.49 hrs, Volume= 546,791 cf, Depth= 6.35"

Routed to Pond 8P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

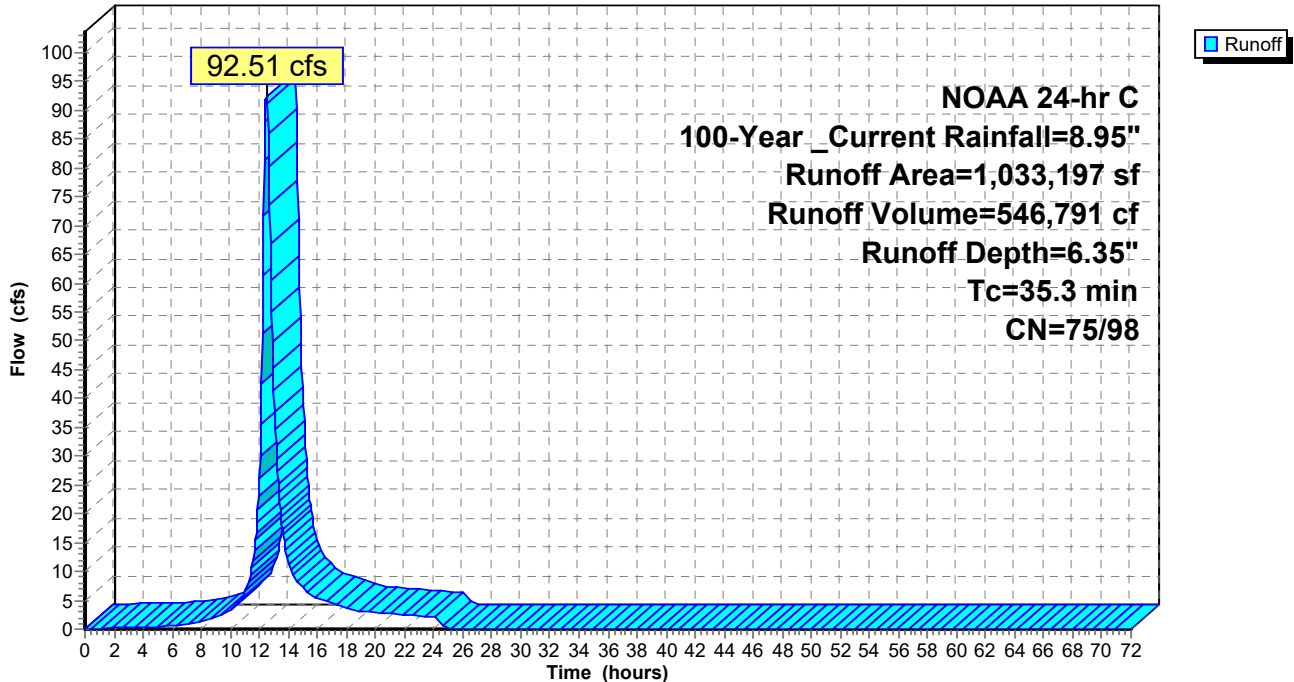
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
	1,033,197	79	Weighted Average
	869,479	75	84.15% Pervious Area
	163,718	98	15.85% Impervious Area

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

Subcatchment 3Sa: DA 3: CNs w/ IC areas

Hydrograph



Summary for Subcatchment 3Sb: DA3: Roofs combined

Runoff = 19.80 cfs @ 12.13 hrs, Volume= 67,494 cf, Depth= 8.71"

Routed to Pond 9P : Basic Rain Garden (infiltration only) 500 SF

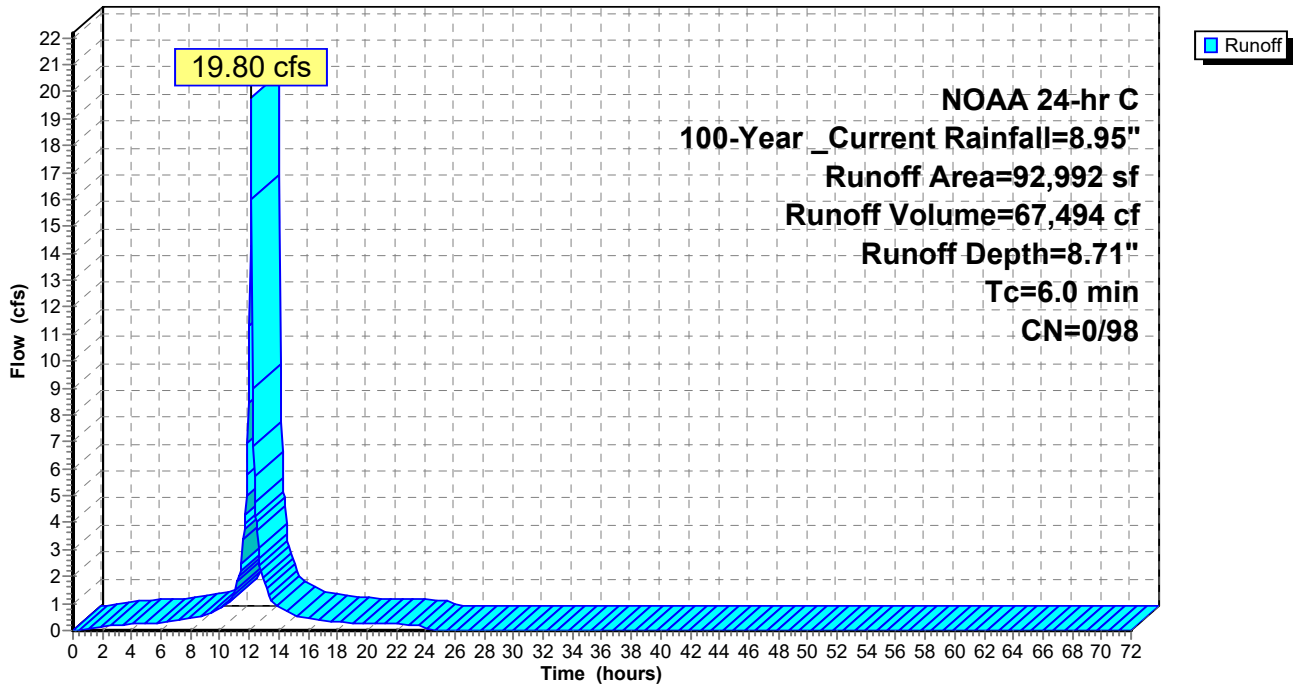
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 92,992	98	
92,992	98	100.00% Impervious Area

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

Subcatchment 3Sb: DA3: Roofs combined

Hydrograph



Summary for Subcatchment 3Sc: DA3: Driveways (other)

Runoff = 39.32 cfs @ 12.13 hrs, Volume= 134,045 cf, Depth= 8.71"

Routed to Pond 10P : Basic Porous Pavement (infiltration only)

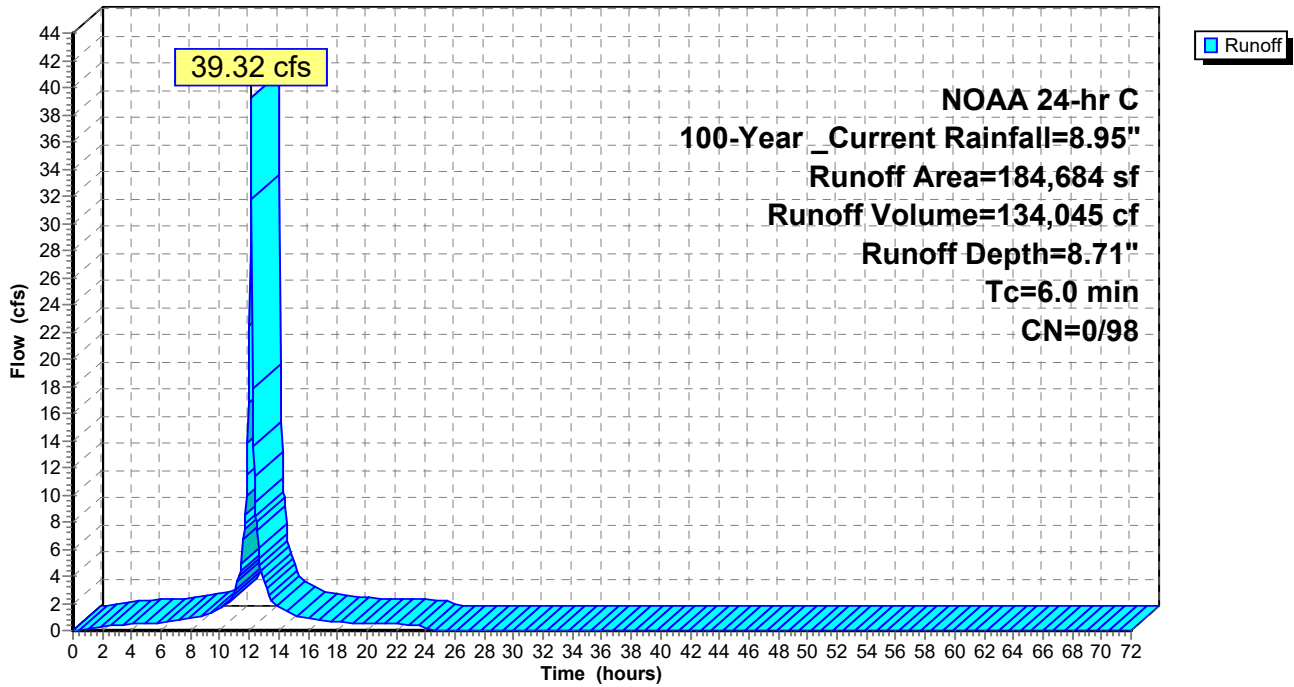
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 184,684	98	Impervious Driveways (other)
184,684	98	100.00% Impervious Area

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

Subcatchment 3Sc: DA3: Driveways (other)

Hydrograph



Summary for Subcatchment 4S: DA 4: All

Runoff = 42.37 cfs @ 12.25 hrs, Volume= 177,278 cf, Depth= 6.47"
 Routed to Link 4L : Combined Flows

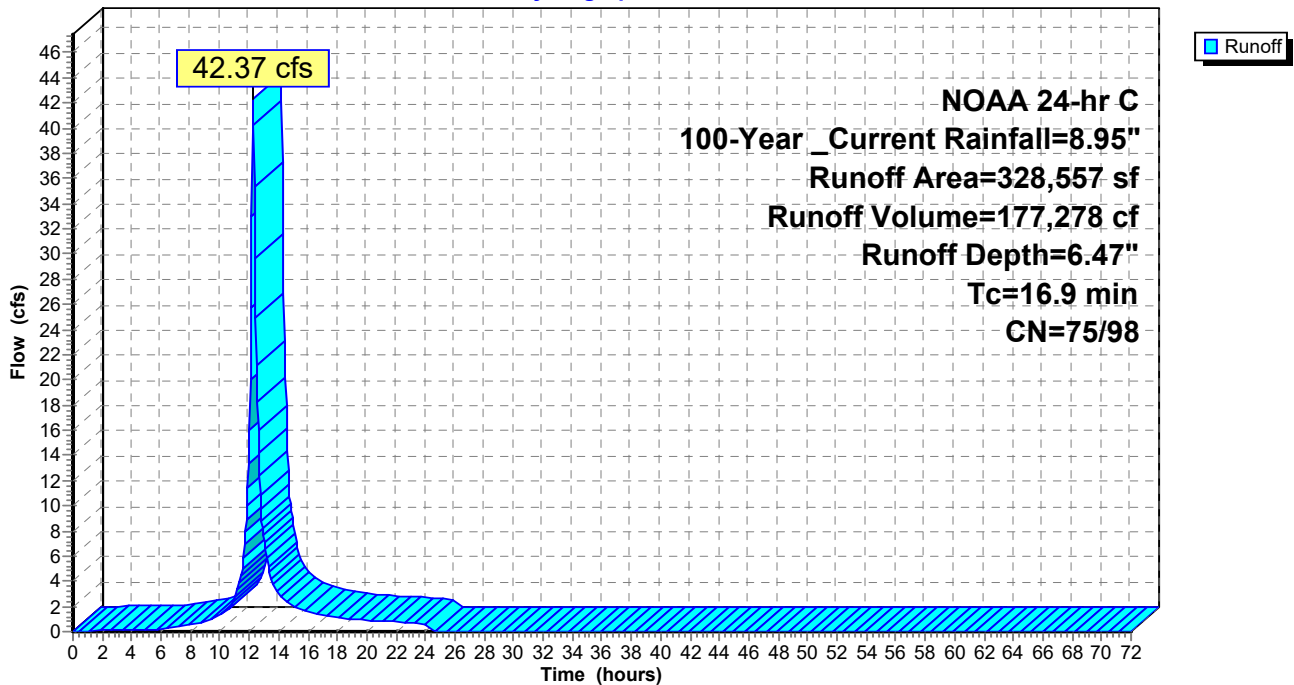
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
*	23,888	98	Roofs
*	35,770	98	Driveways
	328,557	80	Weighted Average
	261,947	75	79.73% Pervious Area
	66,610	98	20.27% Impervious Area

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

Subcatchment 4S: DA 4: All

Hydrograph



Summary for Subcatchment 4Sa: DA 4: CN w/ IC areas

Runoff = 33.06 cfs @ 12.25 hrs, Volume= 133,978 cf, Depth= 5.98"

Routed to Pond 11P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

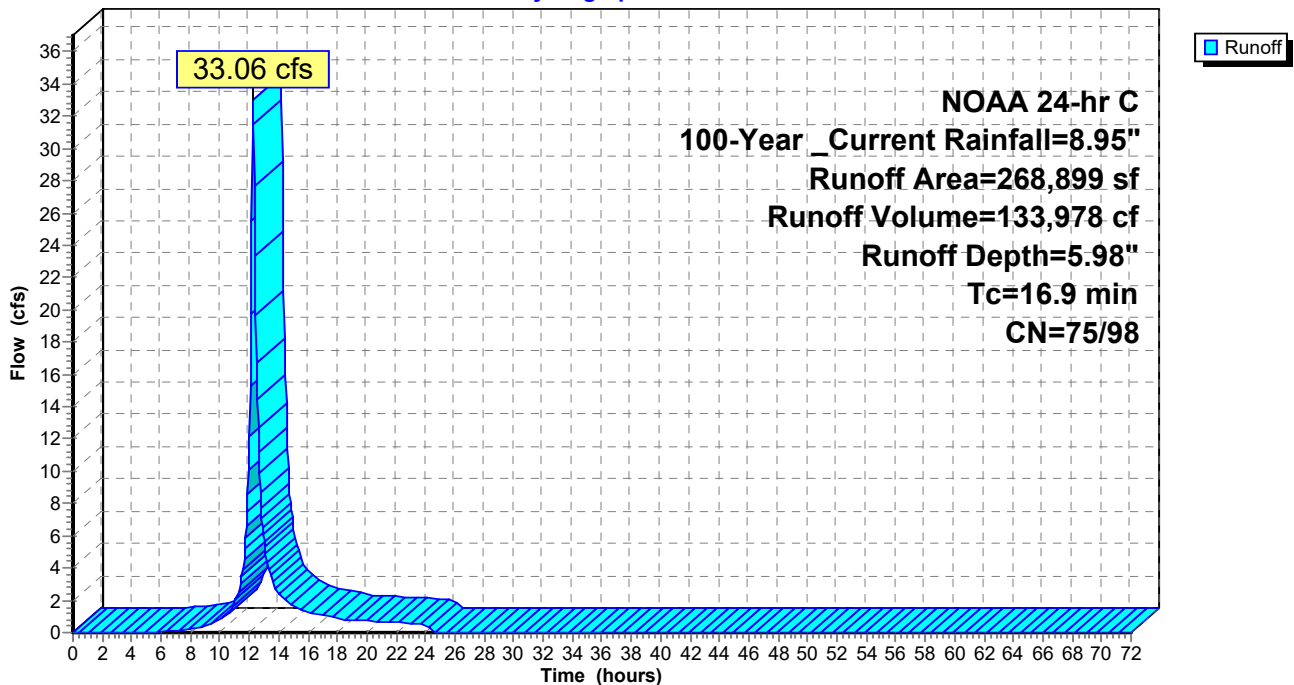
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 6,952	98	Impervious
208,611	74	>75% Grass cover, Good, HSG C
53,336	80	>75% Grass cover, Good, HSG D
268,899	76	Weighted Average
261,947	75	97.41% Pervious Area
6,952	98	2.59% Impervious Area

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

Subcatchment 4Sa: DA 4: CN w/ IC areas

Hydrograph



Summary for Subcatchment 4Sb: DA4: Roofs combined

Runoff = 5.09 cfs @ 12.13 hrs, Volume= 17,338 cf, Depth= 8.71"

Routed to Pond 12P : Basic Rain Garden (infiltration only) 500SF

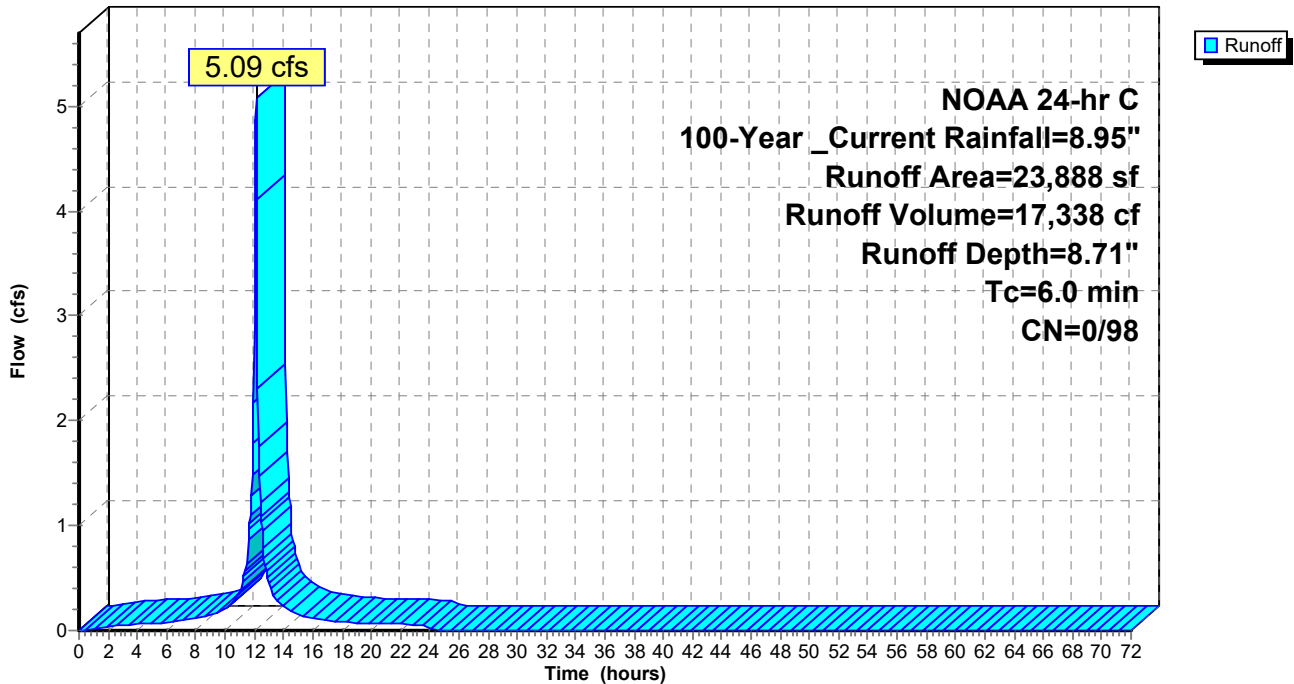
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 23,888	98	
23,888	98	100.00% Impervious Area

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

Subcatchment 4Sb: DA4: Roofs combined

Hydrograph



Summary for Subcatchment 4Sc: DA4: Driveways (other)

Runoff = 7.61 cfs @ 12.13 hrs, Volume= 25,962 cf, Depth= 8.71"

Routed to Pond 13P : Basic Porous Pavement (infiltration only)

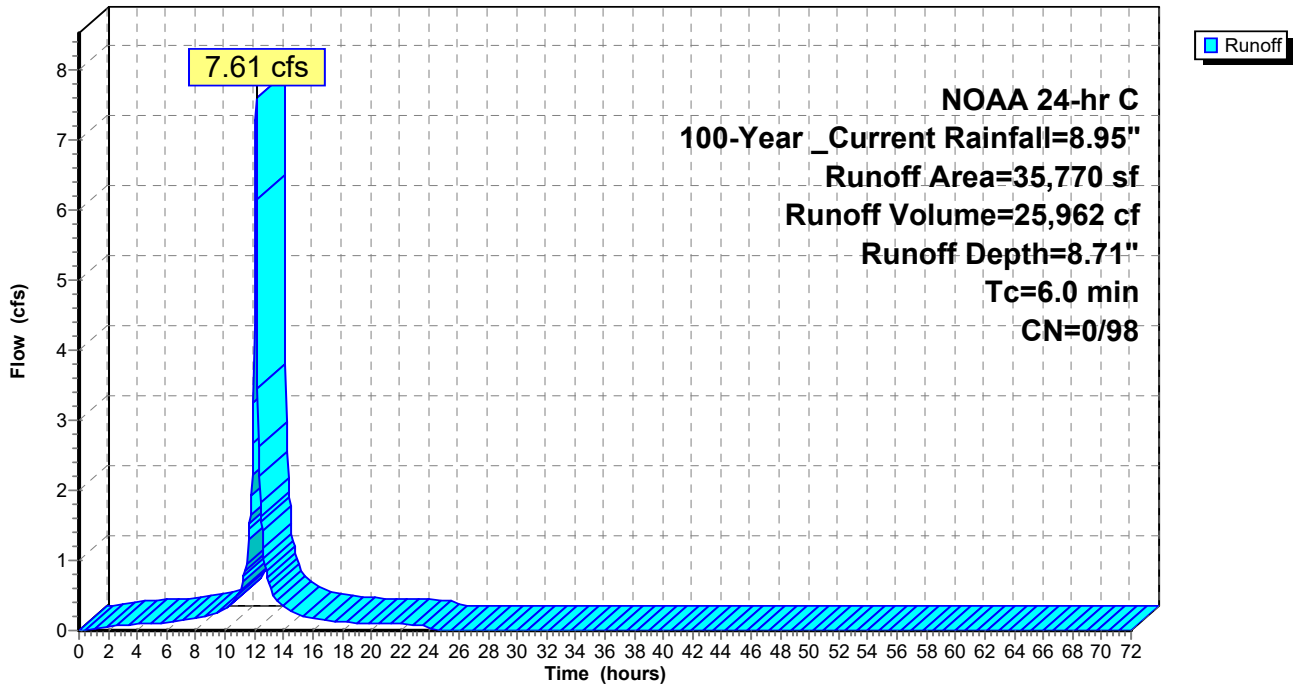
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year_Current Rainfall=8.95"

Area (sf)	CN	Description
* 35,770	98	Impervious Driveways (other)
35,770	98	100.00% Impervious Area

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

Subcatchment 4Sc: DA4: Driveways (other)

Hydrograph



Summary for Reach 1R: INFLOW PIPE

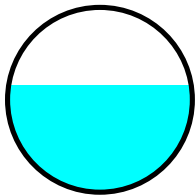
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 5.73" for 100-Year_Current event
 Inflow = 250.45 cfs @ 12.26 hrs, Volume= 977,366 cf
 Outflow = 250.00 cfs @ 12.26 hrs, Volume= 977,632 cf, Atten= 0%, Lag= 0.0 min
 Routed to Pond 4P : Basin 1 Municipal property 48k sf

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 26.19 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 7.95 fps, Avg. Travel Time= 0.2 min

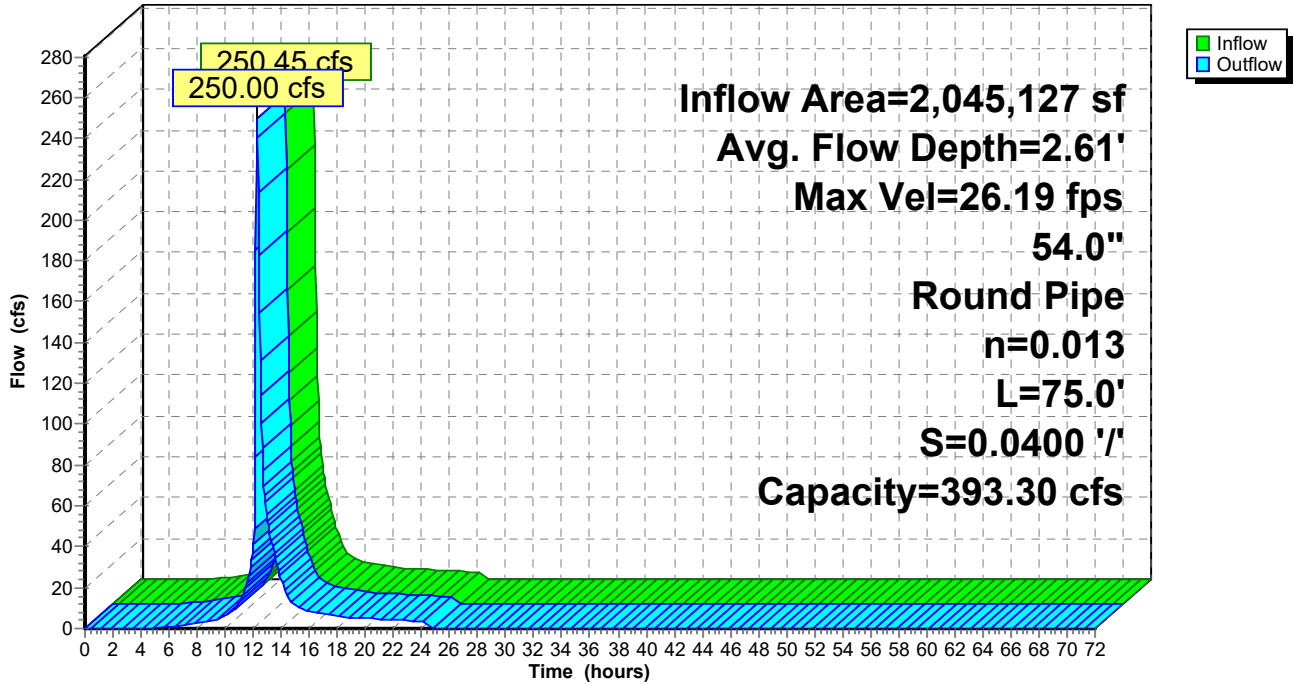
Peak Storage= 716 cf @ 12.26 hrs
 Average Depth at Peak Storage= 2.61' , Surface Width= 4.44'
 Bank-Full Depth= 4.50' Flow Area= 15.9 sf, Capacity= 393.30 cfs

54.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 75.0' Slope= 0.0400 '/'
 Inlet Invert= 75.00', Outlet Invert= 72.00'



Reach 1R: INFLOW PIPE

Hydrograph



Summary for Reach 2R: OUTFLOW PIPE

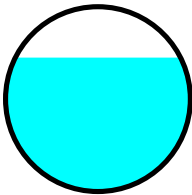
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 5.69" for 100-Year_Current event
 Inflow = 177.50 cfs @ 12.41 hrs, Volume= 969,118 cf
 Outflow = 177.47 cfs @ 12.41 hrs, Volume= 969,118 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Max. Velocity= 18.22 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 3.70 fps, Avg. Travel Time= 0.3 min

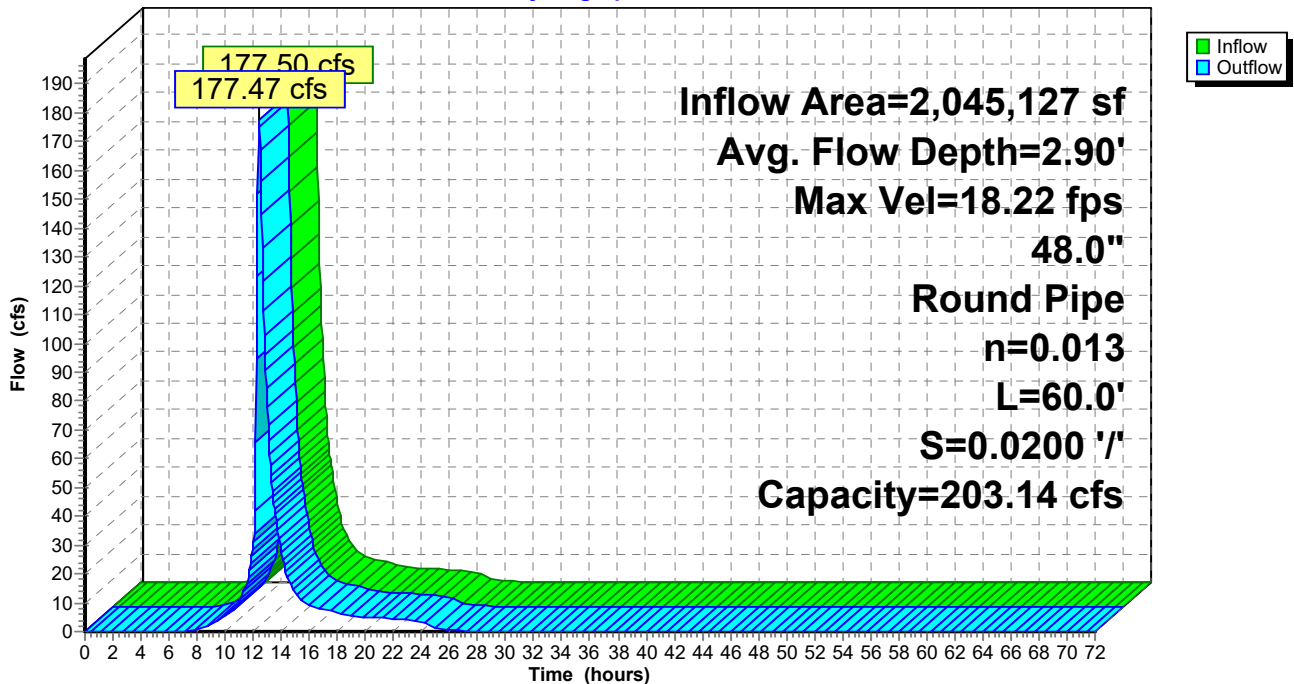
Peak Storage= 585 cf @ 12.41 hrs
 Average Depth at Peak Storage= 2.90' , Surface Width= 3.58'
 Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 203.14 cfs

48.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 60.0' Slope= 0.0200 '/'
 Inlet Invert= 68.00', Outlet Invert= 66.80'



Reach 2R: OUTFLOW PIPE

Hydrograph



Summary for Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,732,396 sf, 10.81% Impervious, Inflow Depth = 6.43" for 100-Year_Current event
 Inflow = 222.67 cfs @ 12.26 hrs, Volume= 928,126 cf
 Outflow = 222.21 cfs @ 12.26 hrs, Volume= 920,608 cf, Atten= 0%, Lag= 0.2 min
 Primary = 62.86 cfs @ 12.26 hrs, Volume= 735,538 cf
 Routed to Link 1L : Combined Flows
 Secondary = 146.76 cfs @ 12.26 hrs, Volume= 180,083 cf
 Routed to Link 1L : Combined Flows
 Tertiary = 12.59 cfs @ 12.26 hrs, Volume= 4,987 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.56' @ 12.26 hrs Surf.Area= 30,624 sf Storage= 68,787 cf

Plug-Flow detention time= 18.3 min calculated for 919,969 cf (99% of inflow)
 Center-of-Mass det. time= 13.3 min (822.1 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 45.00 = 78,177 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 45.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 45.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 45.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 45.00**
2 End Contraction(s)

Primary OutFlow Max=62.84 cfs @ 12.26 hrs HW=100.55' (Free Discharge)

↑1=Culvert (Passes 62.84 cfs of 94.06 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 62.84 cfs @ 7.11 fps)

Secondary OutFlow Max=145.39 cfs @ 12.26 hrs HW=100.55' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 145.39 cfs @ 1.94 fps)

Tertiary OutFlow Max=11.27 cfs @ 12.26 hrs HW=100.55' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 11.27 cfs @ 0.76 fps)

Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

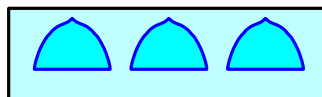
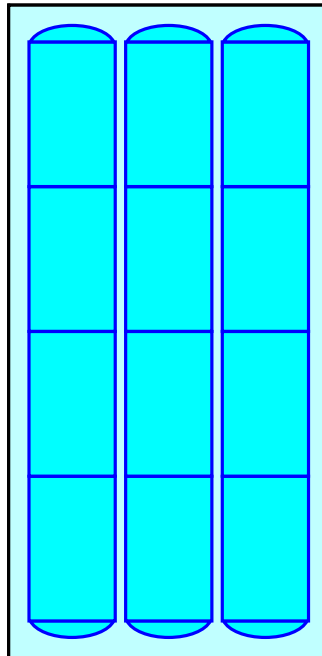
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

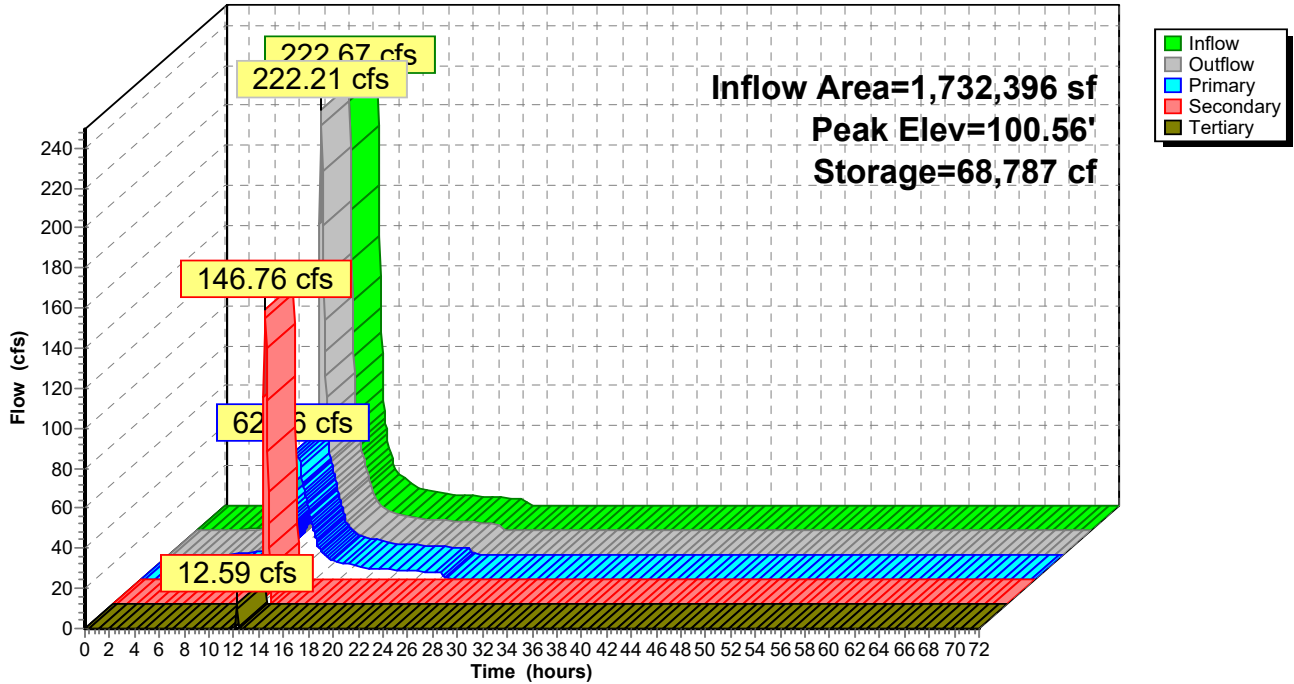
84.3 cy Field

63.8 cy Stone



Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Assumes infiltration through media is non-limiting.

Inflow Area = 132,361 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 28.18 cfs @ 12.13 hrs, Volume= 96,068 cf
 Outflow = 22.95 cfs @ 12.18 hrs, Volume= 96,068 cf, Atten= 19%, Lag= 3.2 min
 Discarded = 0.44 cfs @ 12.05 hrs, Volume= 57,880 cf
 Primary = 22.51 cfs @ 12.18 hrs, Volume= 38,188 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.15' @ 12.18 hrs Surf.Area= 38,000 sf Storage= 34,139 cf

Plug-Flow detention time= 400.2 min calculated for 96,002 cf (100% of inflow)
 Center-of-Mass det. time= 400.8 min (1,141.2 - 740.4)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 76.00 = 47,273 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

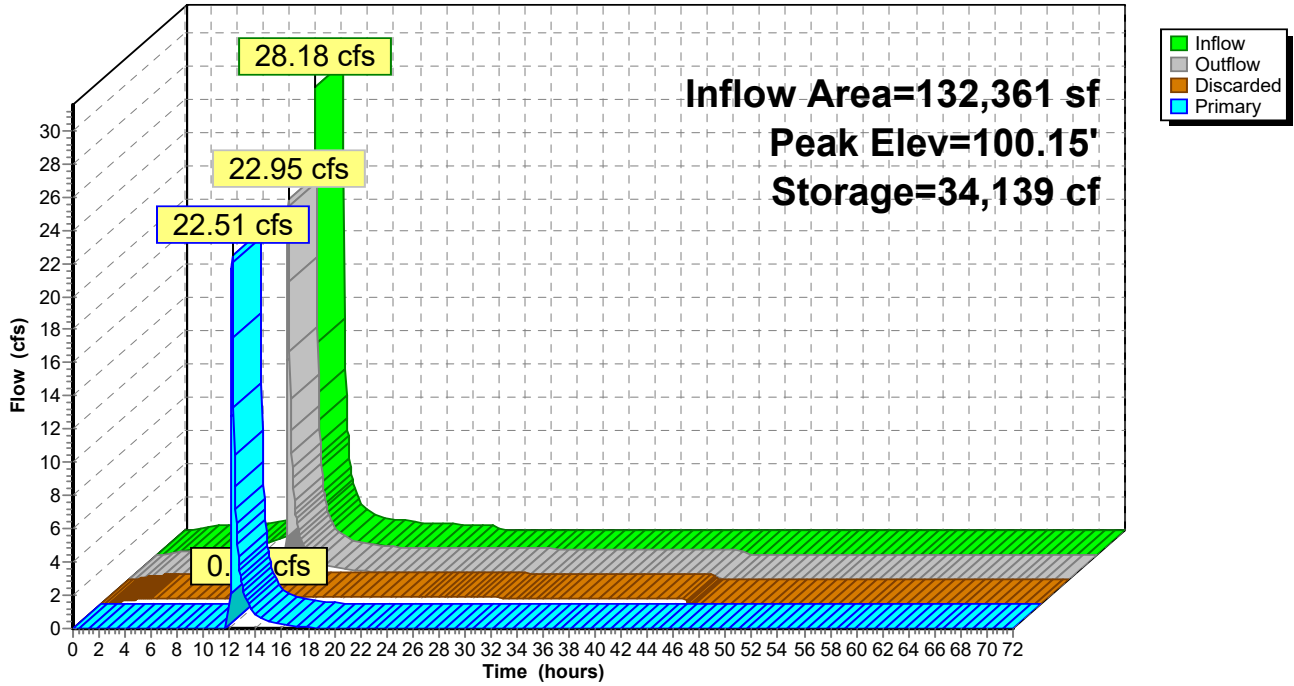
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 76.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.44 cfs @ 12.05 hrs HW=100.03' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.44 cfs)

Primary OutFlow Max=21.86 cfs @ 12.18 hrs HW=100.15' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 21.86 cfs @ 0.95 fps)

Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Hydrograph



Summary for Pond 3P: Basic Porous Pavement (infiltration only)

Inflow Area = 180,370 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 38.40 cfs @ 12.13 hrs, Volume= 130,914 cf
 Outflow = 14.25 cfs @ 12.30 hrs, Volume= 130,914 cf, Atten= 63%, Lag= 10.5 min
 Discarded = 2.09 cfs @ 10.75 hrs, Volume= 112,343 cf
 Primary = 12.16 cfs @ 12.30 hrs, Volume= 18,570 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.02' @ 12.30 hrs Surf.Area= 180,370 sf Storage= 41,269 cf

Plug-Flow detention time= 115.8 min calculated for 130,823 cf (100% of inflow)
 Center-of-Mass det. time= 115.7 min (856.1 - 740.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	81,888 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	180,370	0.0	0	0
99.75	180,370	35.0	31,565	31,565
99.83	180,370	15.0	2,164	33,729
100.01	180,370	15.0	4,870	38,599
100.25	180,370	100.0	43,289	81,888

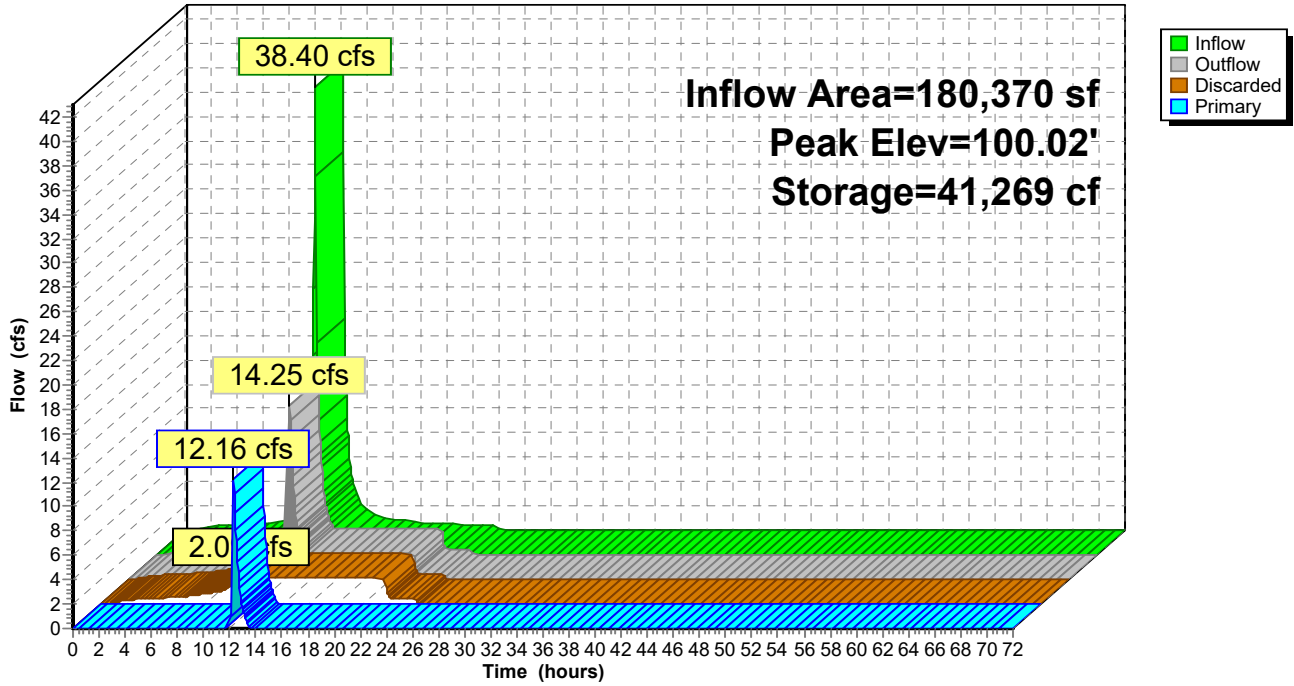
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.09 cfs @ 10.75 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 2.09 cfs)

Primary OutFlow Max=11.94 cfs @ 12.30 hrs HW=100.02' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Weir Controls 11.94 cfs @ 0.42 fps)

Pond 3P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 4P: Basin 1 Municipal property 48k sf

[62] Hint: Exceeded Reach 1R OUTLET depth by 1.78' @ 12.50 hrs

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 5.74" for 100-Year_Current event
 Inflow = 250.00 cfs @ 12.26 hrs, Volume= 977,632 cf
 Outflow = 177.50 cfs @ 12.41 hrs, Volume= 969,118 cf, Atten= 29%, Lag= 9.2 min
 Primary = 142.74 cfs @ 12.41 hrs, Volume= 930,917 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Secondary = 34.76 cfs @ 12.41 hrs, Volume= 38,201 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Reach 2R : OUTFLOW PIPE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 75.72' @ 12.41 hrs Surf.Area= 45,117 sf Storage= 146,414 cf

Plug-Flow detention time= 32.2 min calculated for 968,445 cf (99% of inflow)
 Center-of-Mass det. time= 27.3 min (846.1 - 818.9)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	206,538 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	33,525	0	0
77.00	49,090	206,538	206,538

Device	Routing	Invert	Outlet Devices
#1	Primary	72.25'	24.0" Vert. Low Flow Orifice X 6.00 C= 0.600 Limited to weir flow at low heads
#2	Secondary	74.50'	24.0" W x 18.0" H Vert. SECONDARY OUTLET X 4.00 C= 0.600 Limited to weir flow at low heads
#3	Tertiary	76.75'	60.0" x 60.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

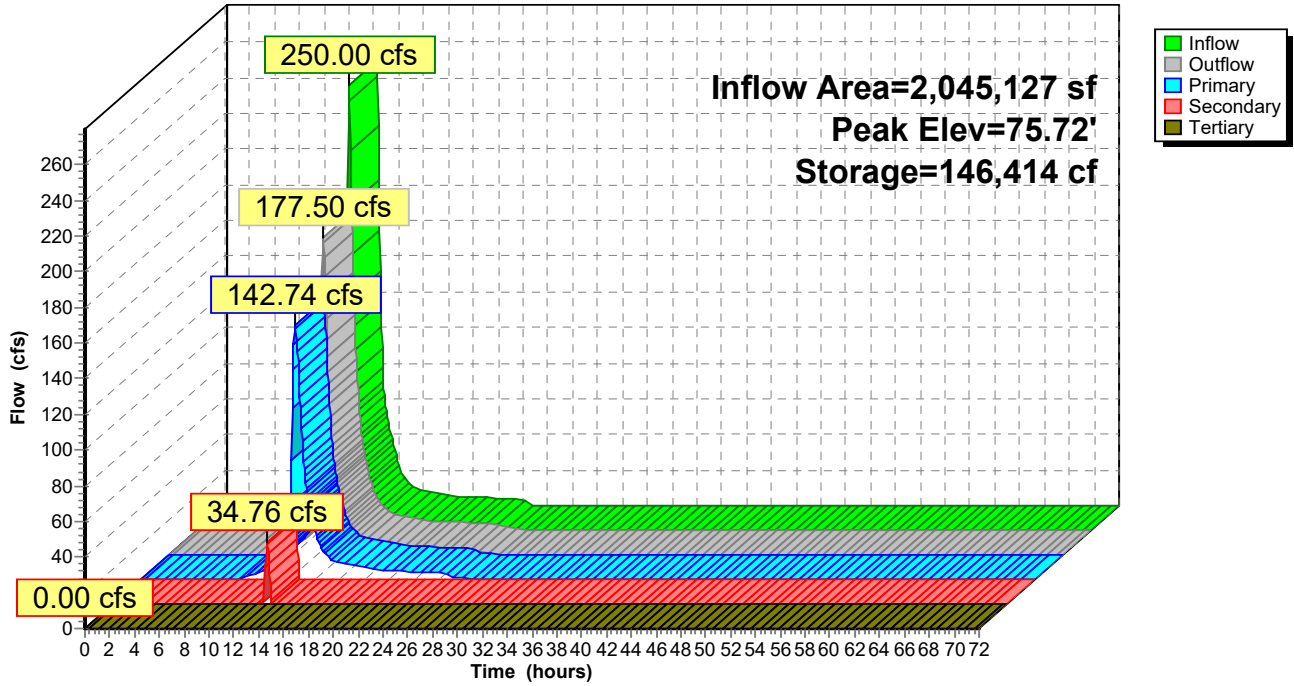
Primary OutFlow Max=142.41 cfs @ 12.41 hrs HW=75.71' (Free Discharge)
 ↖**1=Low Flow Orifice** (Orifice Controls 142.41 cfs @ 7.55 fps)

Secondary OutFlow Max=34.27 cfs @ 12.41 hrs HW=75.71' (Free Discharge)
 ↖**2=SECONDARY OUTLET** (Orifice Controls 34.27 cfs @ 3.53 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=72.00' (Free Discharge)
 ↖**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 4P: Basin 1 Municipal property 48k sf

Hydrograph



Summary for Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,186,669 sf, 12.13% Impervious, Inflow Depth = 6.25" for 100-Year_Current event
 Inflow = 98.65 cfs @ 12.54 hrs, Volume= 617,700 cf
 Outflow = 98.53 cfs @ 12.55 hrs, Volume= 614,649 cf, Atten= 0%, Lag= 0.4 min
 Primary = 37.33 cfs @ 12.55 hrs, Volume= 496,731 cf
 Routed to Link 2L : Combined Flows
 Secondary = 61.20 cfs @ 12.55 hrs, Volume= 117,917 cf
 Routed to Link 2L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.44' @ 12.55 hrs Surf.Area= 18,374 sf Storage= 40,702 cf

Plug-Flow detention time= 16.2 min calculated for 614,222 cf (99% of inflow)
 Center-of-Mass det. time= 13.2 min (844.9 - 831.7)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 27.00 = 46,906 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 27.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 27.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 27.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 27.00**
2 End Contraction(s)

Primary OutFlow Max=37.33 cfs @ 12.55 hrs HW=100.44' (Free Discharge)

↑1=Culvert (Passes 37.33 cfs of 55.87 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 37.33 cfs @ 7.04 fps)

Secondary OutFlow Max=60.99 cfs @ 12.55 hrs HW=100.44' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 60.99 cfs @ 1.72 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

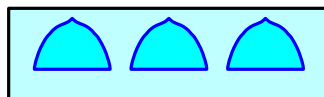
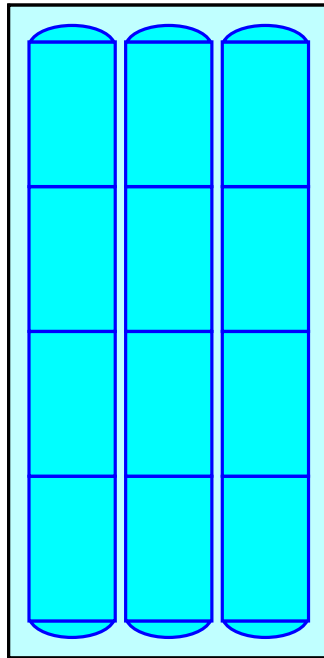
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

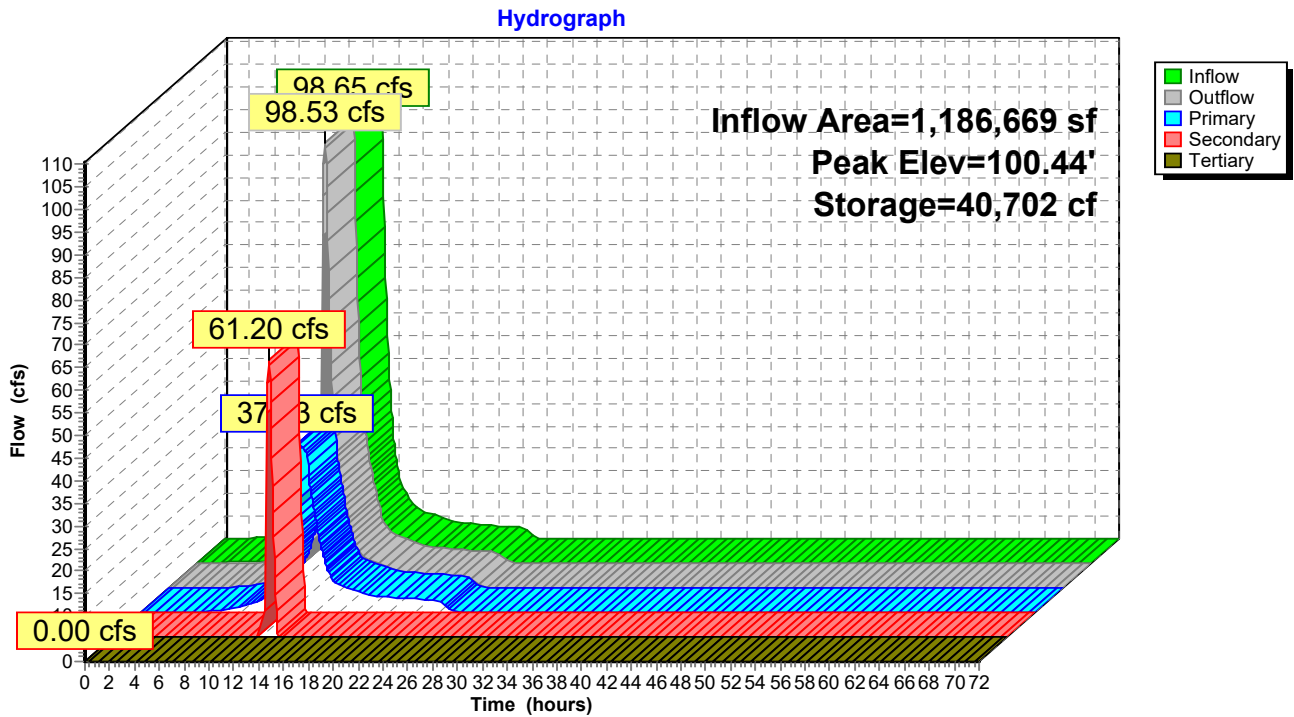
12 Chambers

84.3 cy Field

63.8 cy Stone



Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES



Summary for Pond 6P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 85,031 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 18.10 cfs @ 12.13 hrs, Volume= 61,716 cf
 Outflow = 15.49 cfs @ 12.17 hrs, Volume= 61,716 cf, Atten= 14%, Lag= 2.8 min
 Discarded = 0.27 cfs @ 12.05 hrs, Volume= 36,031 cf
 Primary = 15.21 cfs @ 12.17 hrs, Volume= 25,685 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.16' @ 12.17 hrs Surf.Area= 23,500 sf Storage= 21,340 cf

Plug-Flow detention time= 390.2 min calculated for 61,673 cf (100% of inflow)
 Center-of-Mass det. time= 390.8 min (1,131.2 - 740.4)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 47.00 = 29,235 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

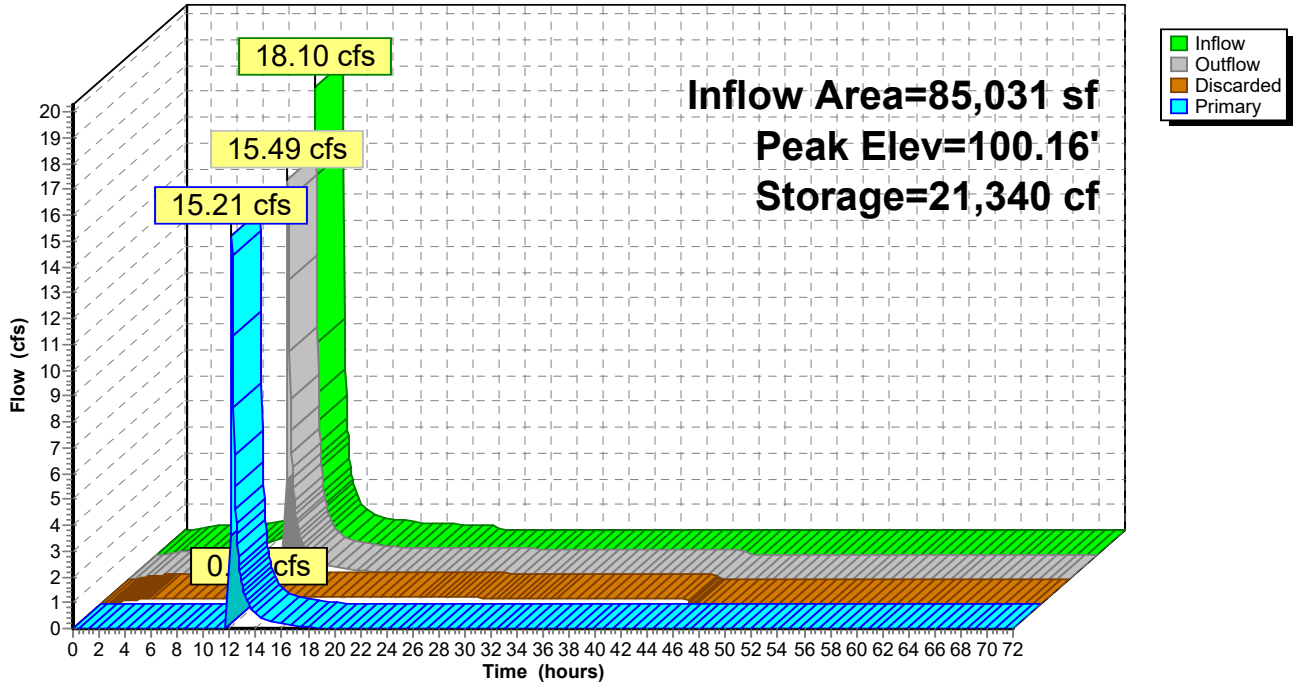
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 47.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.27 cfs @ 12.05 hrs HW=100.06' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=14.59 cfs @ 12.17 hrs HW=100.16' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 14.59 cfs @ 0.97 fps)

Pond 6P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 7P: Basic Porous Pavement (infiltration only)

Inflow Area = 164,927 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 35.11 cfs @ 12.13 hrs, Volume= 119,705 cf
 Outflow = 13.34 cfs @ 12.30 hrs, Volume= 119,705 cf, Atten= 62%, Lag= 10.2 min
 Discarded = 1.91 cfs @ 10.75 hrs, Volume= 102,724 cf
 Primary = 11.43 cfs @ 12.30 hrs, Volume= 16,981 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.02' @ 12.30 hrs Surf.Area= 164,927 sf Storage= 37,569 cf

Plug-Flow detention time= 115.7 min calculated for 119,622 cf (100% of inflow)
 Center-of-Mass det. time= 115.6 min (856.1 - 740.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	74,877 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	164,927	0.0	0	0
99.75	164,927	35.0	28,862	28,862
99.83	164,927	15.0	1,979	30,841
100.01	164,927	15.0	4,453	35,294
100.25	164,927	100.0	39,582	74,877

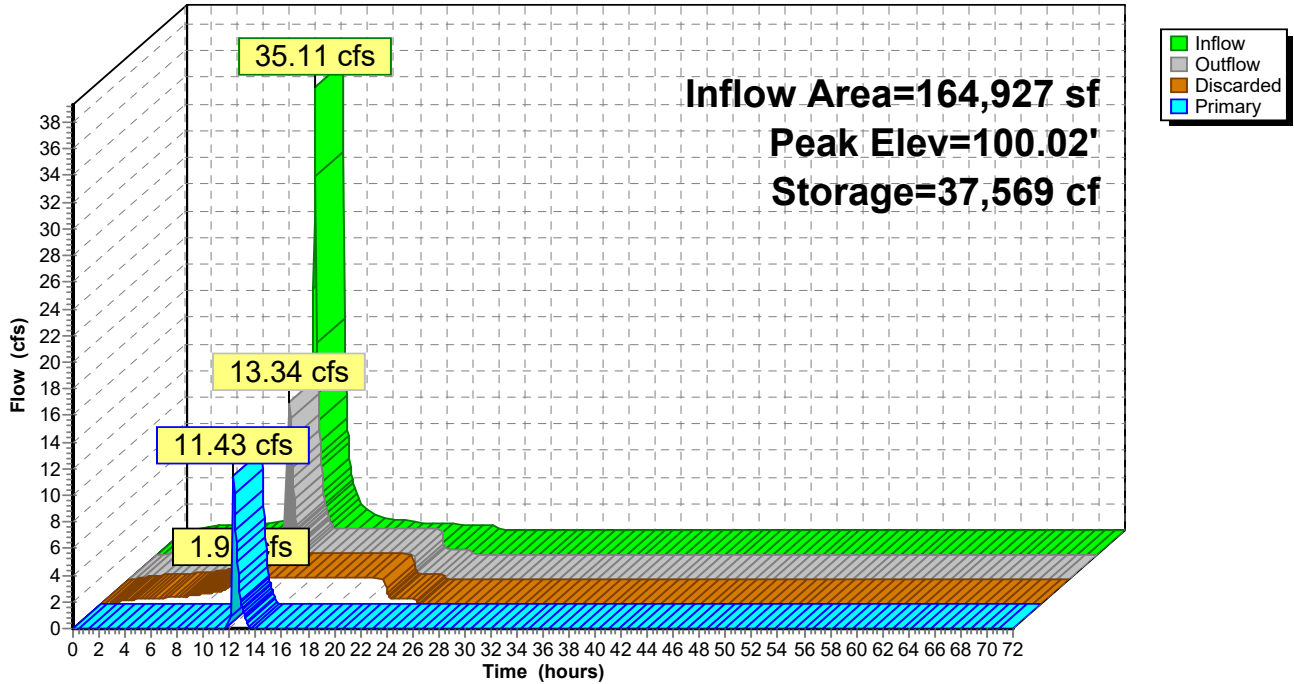
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=1.91 cfs @ 10.75 hrs HW=99.26' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 1.91 cfs)

Primary OutFlow Max=11.18 cfs @ 12.30 hrs HW=100.02' (Free Discharge)
 ↑**2=Edge of Porous Asphalt** (Weir Controls 11.18 cfs @ 0.41 fps)

Pond 7P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,033,197 sf, 15.85% Impervious, Inflow Depth = 6.35" for 100-Year_Current event
 Inflow = 92.51 cfs @ 12.49 hrs, Volume= 546,791 cf
 Outflow = 92.35 cfs @ 12.49 hrs, Volume= 542,743 cf, Atten= 0%, Lag= 0.4 min
 Primary = 35.91 cfs @ 12.49 hrs, Volume= 448,162 cf
 Routed to Link 3L : Combined Flows
 Secondary = 56.45 cfs @ 12.49 hrs, Volume= 94,582 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.42' @ 12.49 hrs Surf.Area= 17,694 sf Storage= 39,138 cf

Plug-Flow detention time= 18.5 min calculated for 542,367 cf (99% of inflow)
 Center-of-Mass det. time= 13.9 min (838.0 - 824.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 26.00 = 45,169 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 26.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 26.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 26.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 26.00**
2 End Contraction(s)

Primary OutFlow Max=35.90 cfs @ 12.49 hrs HW=100.42' (Free Discharge)

↑1=Culvert (Passes 35.90 cfs of 53.74 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 35.90 cfs @ 7.03 fps)

Secondary OutFlow Max=56.11 cfs @ 12.49 hrs HW=100.42' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 56.11 cfs @ 1.70 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.75' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

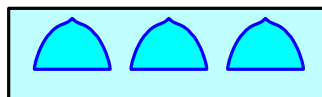
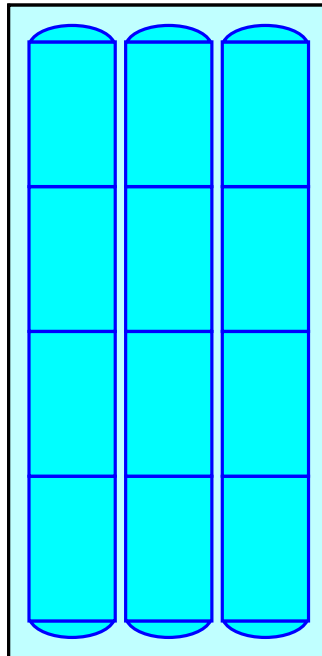
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

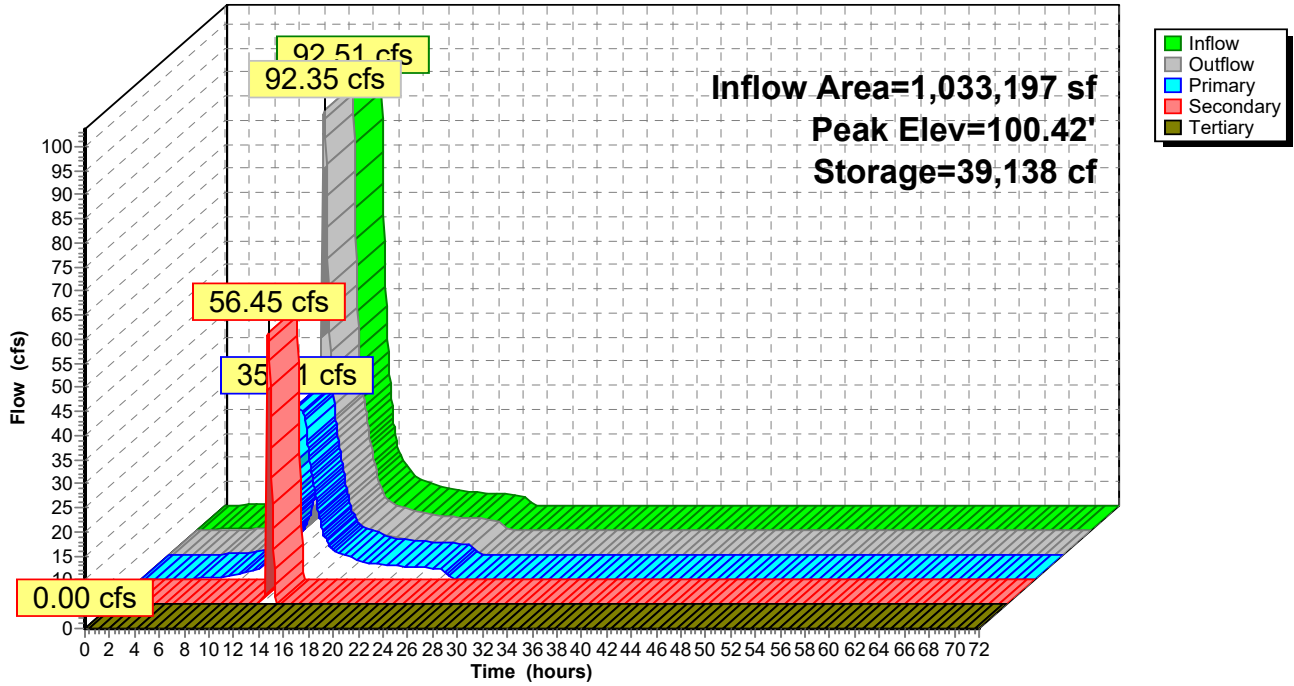
84.3 cy Field

63.8 cy Stone



Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Assumes infiltration through media is non-limiting.

Inflow Area = 92,992 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 19.80 cfs @ 12.13 hrs, Volume= 67,494 cf
 Outflow = 17.78 cfs @ 12.16 hrs, Volume= 67,494 cf, Atten= 10%, Lag= 2.1 min
 Discarded = 0.26 cfs @ 11.95 hrs, Volume= 35,160 cf
 Primary = 17.52 cfs @ 12.16 hrs, Volume= 32,334 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.19' @ 12.16 hrs Surf.Area= 22,500 sf Storage= 20,911 cf

Plug-Flow detention time= 355.7 min calculated for 67,447 cf (100% of inflow)
 Center-of-Mass det. time= 356.3 min (1,096.7 - 740.4)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 45.00 = 27,991 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

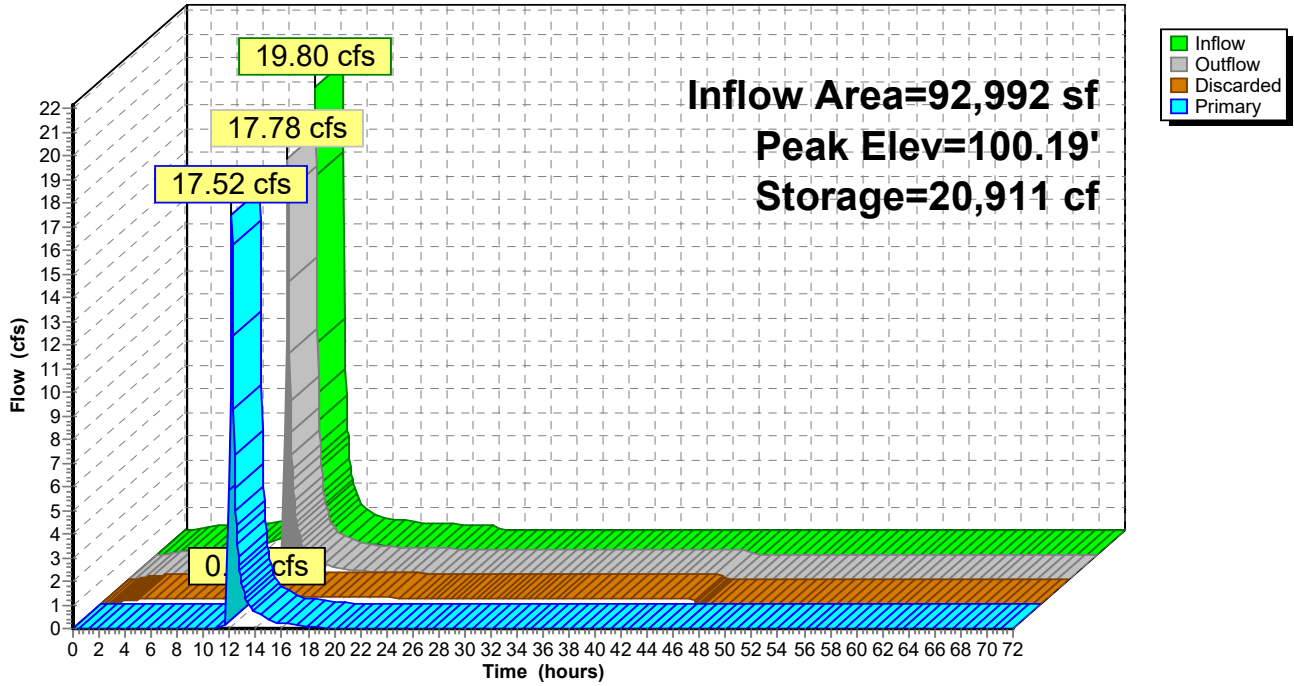
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 45.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.26 cfs @ 11.95 hrs HW=100.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=17.11 cfs @ 12.16 hrs HW=100.18' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 17.11 cfs @ 1.04 fps)

Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Hydrograph



Summary for Pond 10P: Basic Porous Pavement (infiltration only)

Inflow Area = 184,684 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 39.32 cfs @ 12.13 hrs, Volume= 134,045 cf
 Outflow = 14.49 cfs @ 12.30 hrs, Volume= 134,045 cf, Atten= 63%, Lag= 10.6 min
 Discarded = 2.14 cfs @ 10.75 hrs, Volume= 115,030 cf
 Primary = 12.36 cfs @ 12.30 hrs, Volume= 19,014 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.03' @ 12.30 hrs Surf.Area= 184,684 sf Storage= 42,306 cf

Plug-Flow detention time= 115.8 min calculated for 133,952 cf (100% of inflow)
 Center-of-Mass det. time= 115.7 min (856.1 - 740.4)

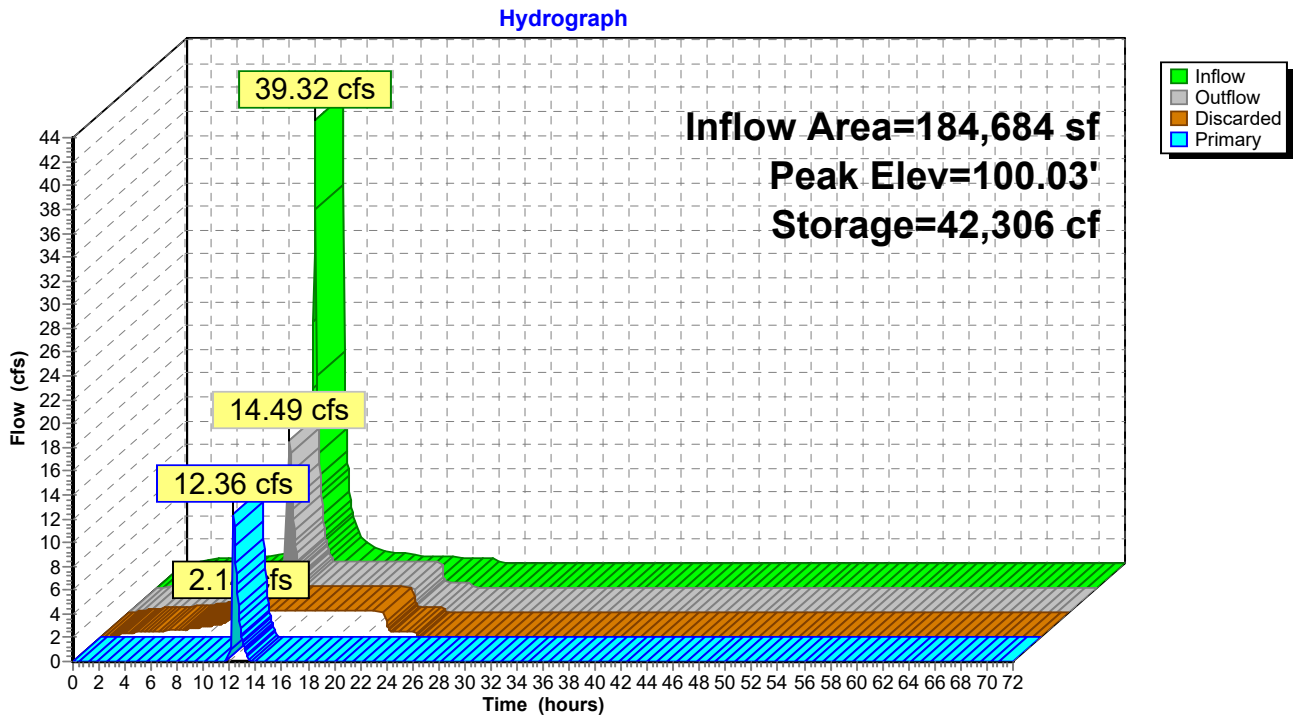
Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	83,847 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	184,684	0.0	0	0
99.75	184,684	35.0	32,320	32,320
99.83	184,684	15.0	2,216	34,536
100.01	184,684	15.0	4,986	39,522
100.25	184,684	100.0	44,324	83,847

Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			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										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.14 cfs @ 10.75 hrs HW=99.26' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 2.14 cfs)

Primary OutFlow Max=12.11 cfs @ 12.30 hrs HW=100.02' (Free Discharge)
 ↑**2=Edge of Porous Asphalt** (Weir Controls 12.11 cfs @ 0.43 fps)

Pond 10P: Basic Porous Pavement (infiltration only)



Summary for Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 268,899 sf, 2.59% Impervious, Inflow Depth = 5.98" for 100-Year_Current event
 Inflow = 33.06 cfs @ 12.25 hrs, Volume= 133,978 cf
 Outflow = 32.93 cfs @ 12.26 hrs, Volume= 133,728 cf, Atten= 0%, Lag= 0.1 min
 Primary = 4.09 cfs @ 12.26 hrs, Volume= 82,622 cf
 Routed to Link 3L : Combined Flows
 Secondary = 17.77 cfs @ 12.26 hrs, Volume= 39,977 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 11.08 cfs @ 12.26 hrs, Volume= 11,129 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.83' @ 12.26 hrs Surf.Area= 1,997 sf Storage= 4,642 cf

Plug-Flow detention time= 10.2 min calculated for 133,635 cf (100% of inflow)
 Center-of-Mass det. time= 9.2 min (829.2 - 820.0)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	374 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,615 cf x 3.00 = 4,844 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	160	0.0	0	0	160
98.25	160	35.0	28	28	182
99.25	160	35.0	56	84	227
99.50	160	25.0	10	94	238
100.00	160	100.0	80	174	261
100.51	160	100.0	82	256	284
101.00	160	100.0	78	334	306
101.25	160	100.0	40	374	317

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 3.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 3.00 L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0044 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 3.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

			2.85	3.07	3.20	3.32
#4	Tertiary	100.50'	6.0' long Sharp-Crested Rectangular Weir X 3.00			
			2 End Contraction(s)			

Primary OutFlow Max=4.09 cfs @ 12.26 hrs HW=100.83' (Free Discharge)

↑1=Culvert (Passes 4.09 cfs of 6.41 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 4.09 cfs @ 6.94 fps)

Secondary OutFlow Max=17.68 cfs @ 12.26 hrs HW=100.83' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 17.68 cfs @ 2.37 fps)

Tertiary OutFlow Max=10.93 cfs @ 12.26 hrs HW=100.83' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 10.93 cfs @ 1.87 fps)

Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

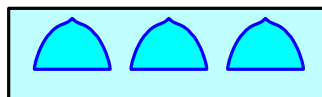
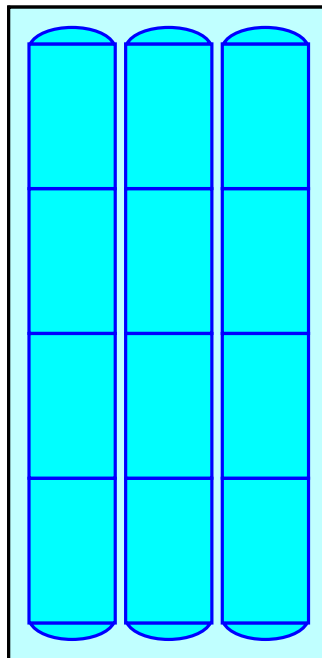
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

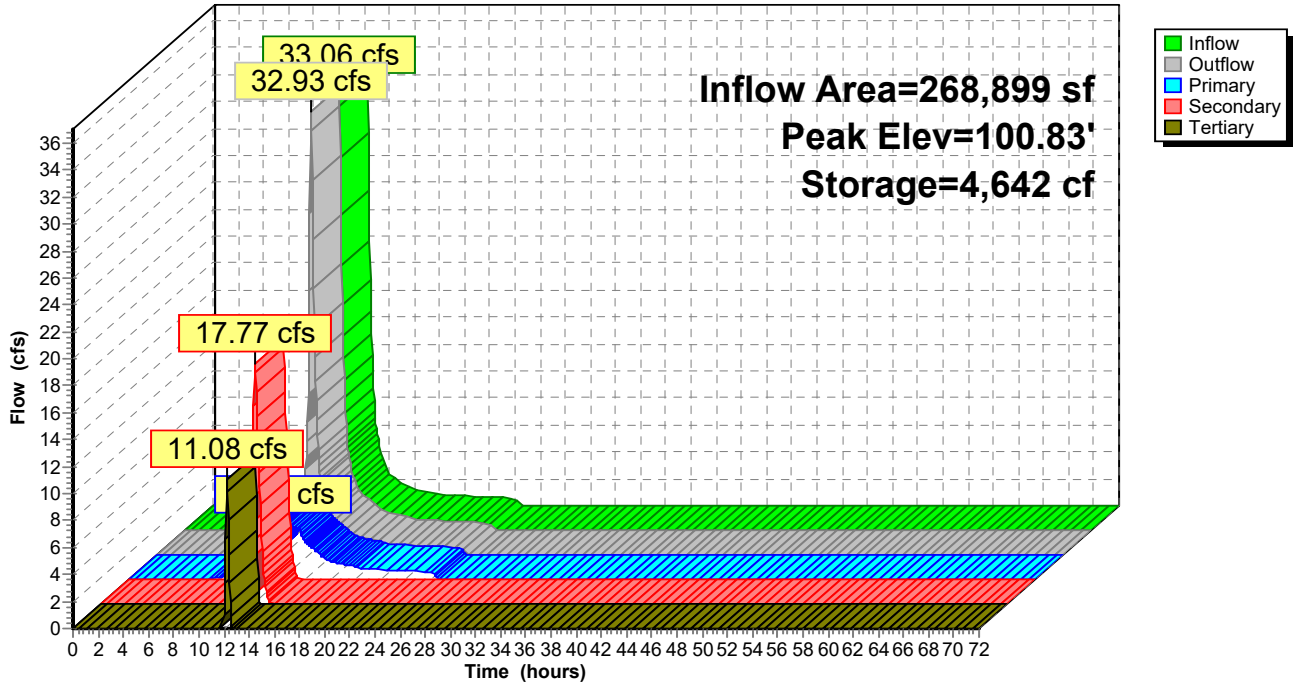
84.3 cy Field

63.8 cy Stone



Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 12P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 23,888 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 5.09 cfs @ 12.13 hrs, Volume= 17,338 cf
 Outflow = 4.06 cfs @ 12.18 hrs, Volume= 17,338 cf, Atten= 20%, Lag= 3.5 min
 Discarded = 0.08 cfs @ 12.05 hrs, Volume= 10,623 cf
 Primary = 3.98 cfs @ 12.18 hrs, Volume= 6,715 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.15' @ 12.18 hrs Surf.Area= 7,000 sf Storage= 6,259 cf

Plug-Flow detention time= 405.6 min calculated for 17,326 cf (100% of inflow)
 Center-of-Mass det. time= 406.2 min (1,146.6 - 740.4)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 14.00 = 8,708 cf Total Available Storage

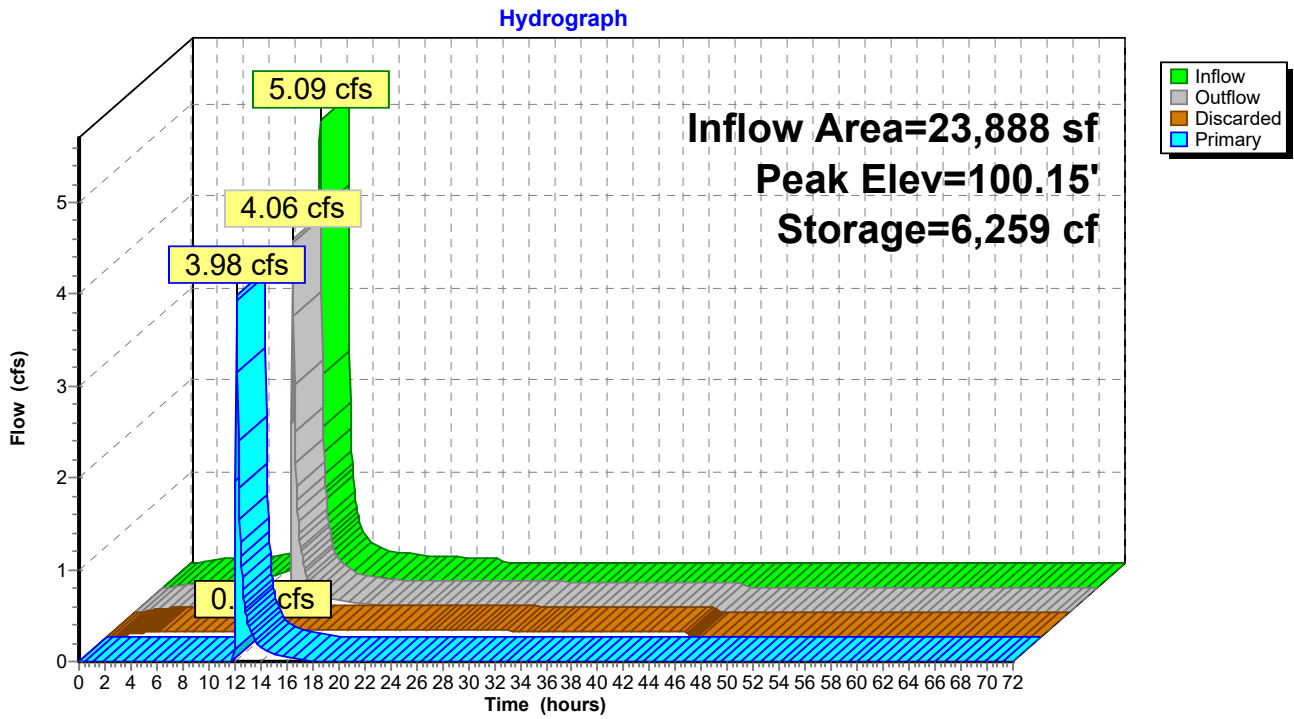
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 14.00 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 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.08 cfs @ 12.05 hrs HW=100.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=3.87 cfs @ 12.18 hrs HW=100.15' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 3.87 cfs @ 0.94 fps)

Pond 12P: Basic Rain Garden (infiltration only) 500SF



Summary for Pond 13P: Basic Porous Pavement (infiltration only)

Inflow Area = 35,770 sf, 100.00% Impervious, Inflow Depth = 8.71" for 100-Year_Current event
 Inflow = 7.61 cfs @ 12.13 hrs, Volume= 25,962 cf
 Outflow = 3.96 cfs @ 12.24 hrs, Volume= 26,001 cf, Atten= 48%, Lag= 7.1 min
 Discarded = 0.41 cfs @ 10.75 hrs, Volume= 22,279 cf
 Primary = 3.54 cfs @ 12.24 hrs, Volume= 3,722 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.01' @ 12.25 hrs Surf.Area= 35,770 sf Storage= 7,684 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 115.1 min (855.5 - 740.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	16,240 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	35,770	0.0	0	0
99.75	35,770	35.0	6,260	6,260
99.83	35,770	15.0	429	6,689
100.01	35,770	15.0	966	7,655
100.25	35,770	100.0	8,585	16,240

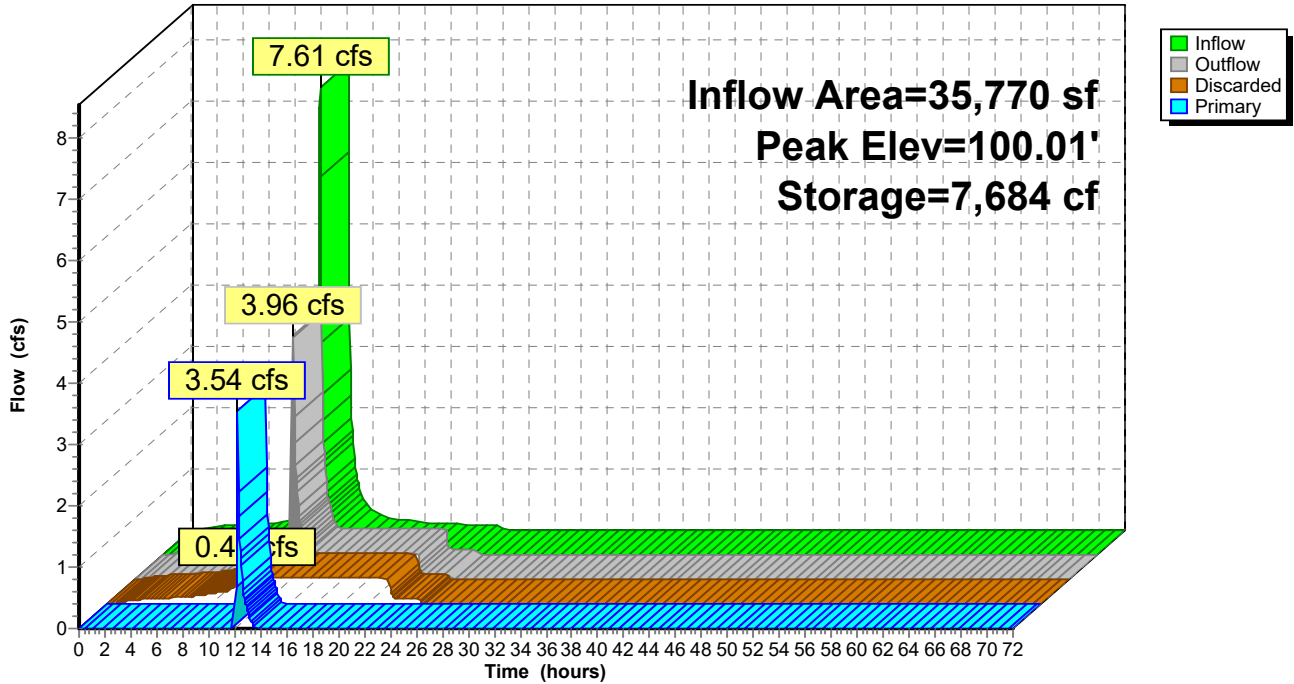
Device	Routing	Invert	Outlet Devices												
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area												
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00												
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00
			Coef. (English)	2.69	2.72	2.75	2.85	2.98	3.08	3.20	3.28	3.31	3.30	3.31	3.32

Discarded OutFlow Max=0.41 cfs @ 10.75 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=3.34 cfs @ 12.24 hrs HW=100.01' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Weir Controls 3.34 cfs @ 0.28 fps)

Pond 13P: Basic Porous Pavement (infiltration only)

Hydrograph



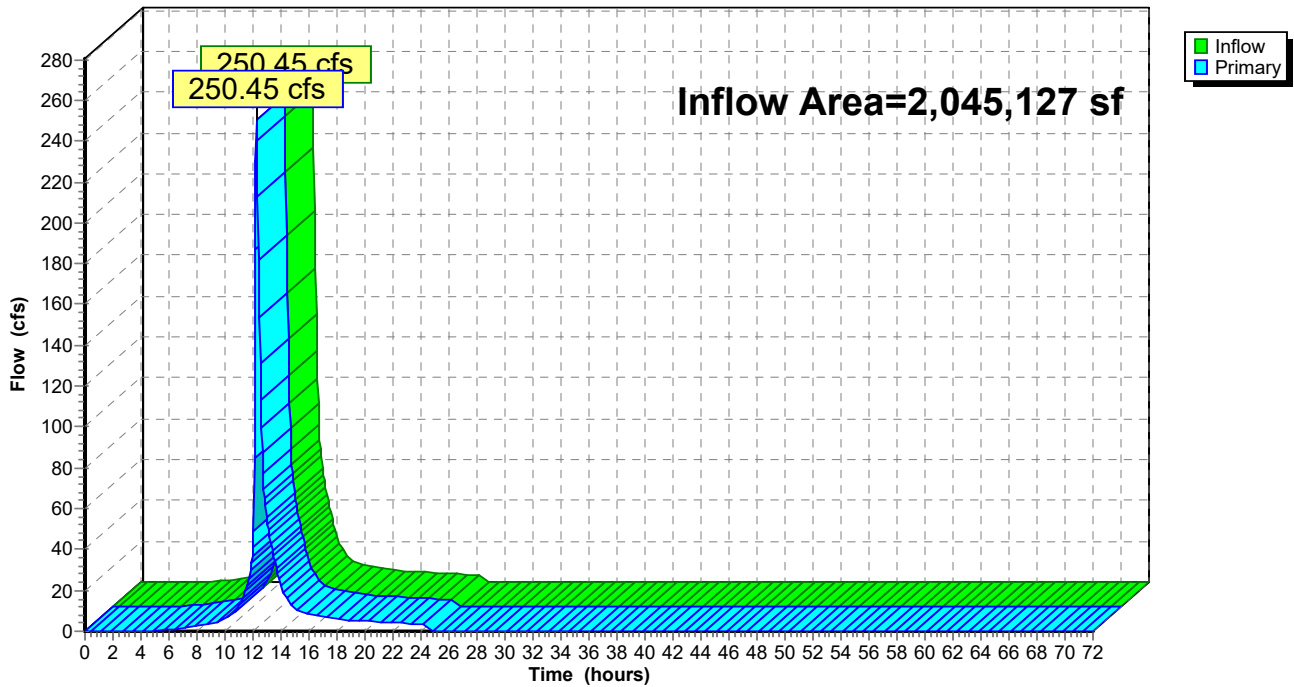
Summary for Link 1L: Combined Flows

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 5.73" for 100-Year_Current event
Inflow = 250.45 cfs @ 12.26 hrs, Volume= 977,366 cf
Primary = 250.45 cfs @ 12.26 hrs, Volume= 977,366 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : INFLOW PIPE

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1L: Combined Flows

Hydrograph



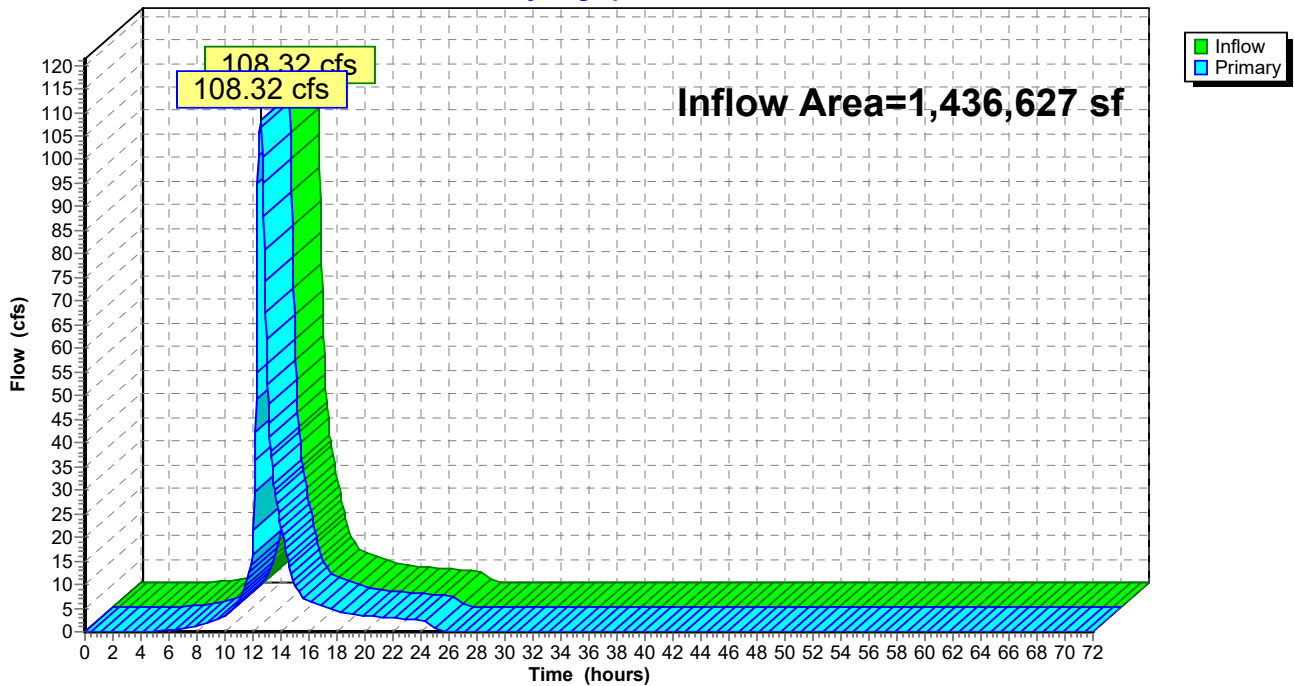
Summary for Link 2L: Combined Flows

Inflow Area = 1,436,627 sf, 27.42% Impervious, Inflow Depth = 5.49" for 100-Year_Current event
Inflow = 108.32 cfs @ 12.52 hrs, Volume= 657,315 cf
Primary = 108.32 cfs @ 12.52 hrs, Volume= 657,315 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 2L: Combined Flows

Hydrograph



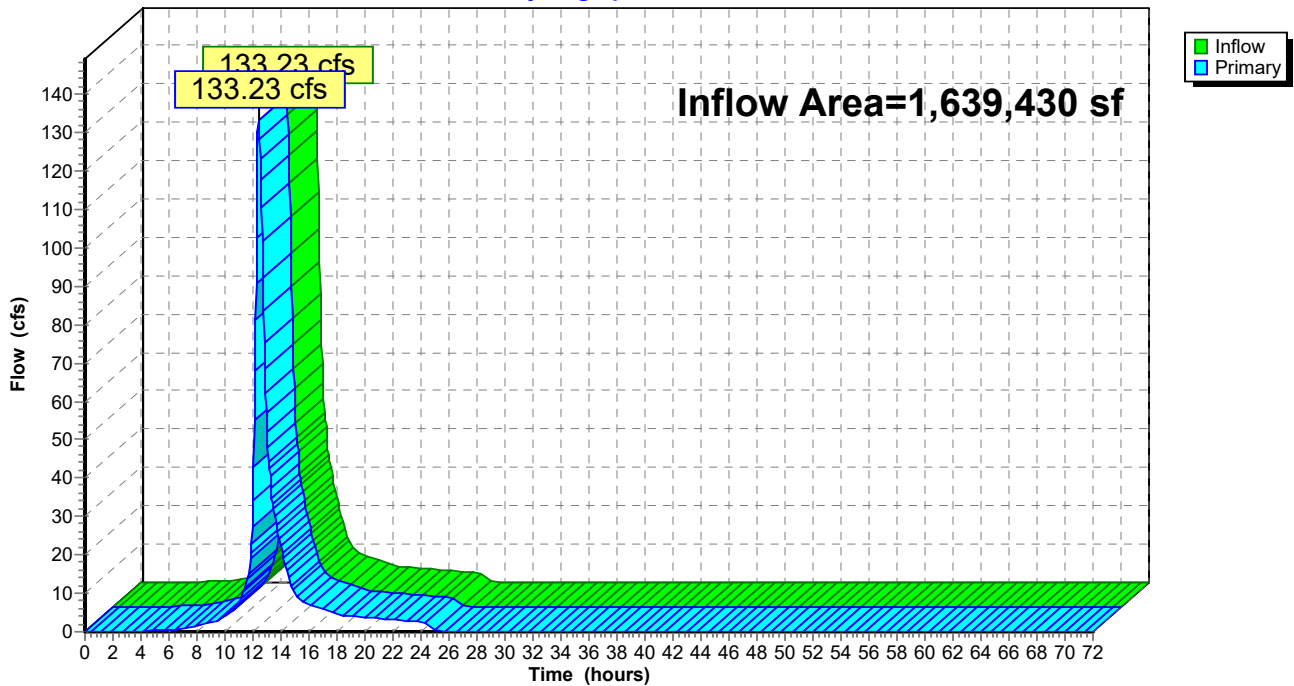
Summary for Link 3L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 5.40" for 100-Year_Current event
Inflow = 133.23 cfs @ 12.37 hrs, Volume= 738,257 cf
Primary = 133.23 cfs @ 12.37 hrs, Volume= 738,257 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 3L: Combined Flows

Hydrograph



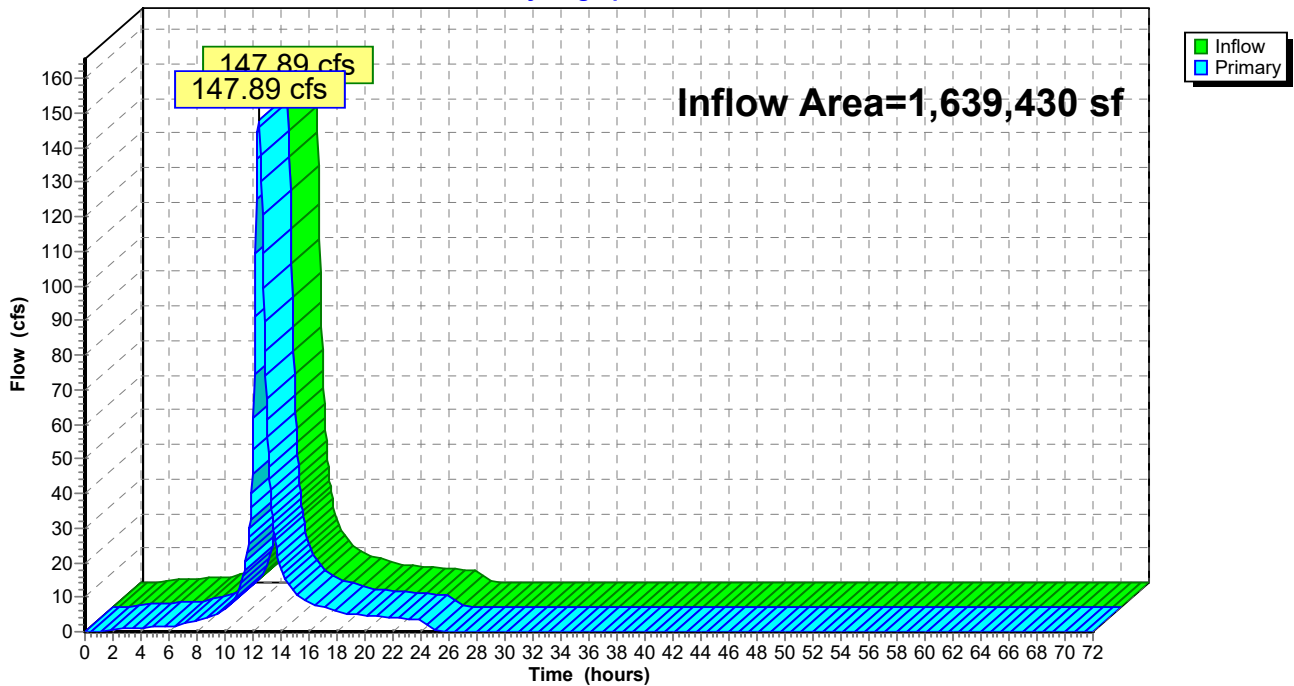
Summary for Link 4L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 6.78" for 100-Year_Current event
Inflow = 147.89 cfs @ 12.42 hrs, Volume= 925,608 cf
Primary = 147.89 cfs @ 12.42 hrs, Volume= 925,608 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Combined Flows

Hydrograph



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA 1: All Runoff Area=2,045,127 sf 24.45% Impervious Runoff Depth=9.85"
Tc=17.3 min CN=77/98 Runoff=389.20 cfs 1,678,129 cf

Subcatchment 1Sa: DA 1: CN w/ IC areas Runoff Area=1,732,396 sf 10.81% Impervious Runoff Depth=9.47"
Tc=17.3 min CN=77/98 Runoff=323.45 cfs 1,367,783 cf

Subcatchment 1Sb: DA1: Roofs Runoff Area=132,361 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=38.28 cfs 131,352 cf

Subcatchment 1Sc: DA1: Driveways Runoff Area=180,370 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=52.17 cfs 178,994 cf

Subcatchment 2S: DA 2: All Runoff Area=1,436,627 sf 27.42% Impervious Runoff Depth=9.72"
Tc=39.8 min CN=75/98 Runoff=180.34 cfs 1,164,232 cf

Subcatchment 2Sa: DA 2: CN w/ IC areas Runoff Area=1,186,669 sf 12.13% Impervious Runoff Depth=9.26"
Tc=39.8 min CN=75/98 Runoff=144.97 cfs 916,180 cf

Subcatchment 2Sb: DA2: Roofs Runoff Area=85,031 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=24.59 cfs 84,383 cf

Subcatchment 2Sc: DA2: Driveways Runoff Area=164,927 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=47.70 cfs 163,669 cf

Subcatchment 3S: DA 3: All Runoff Area=1,310,873 sf 33.67% Impervious Runoff Depth=9.91"
Tc=35.3 min CN=75/98 Runoff=177.13 cfs 1,082,885 cf

Subcatchment 3Sa: DA 3: CNs w/ IC Runoff Area=1,033,197 sf 15.85% Impervious Runoff Depth=9.38"
Tc=35.3 min CN=75/98 Runoff=135.34 cfs 807,326 cf

Subcatchment 3Sb: DA3: Roofs Runoff Area=92,992 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=26.90 cfs 92,283 cf

Subcatchment 3Sc: DA3: Driveways Runoff Area=184,684 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=53.42 cfs 183,276 cf

Subcatchment 4S: DA 4: All Runoff Area=328,557 sf 20.27% Impervious Runoff Depth=9.51"
Tc=16.9 min CN=75/98 Runoff=61.57 cfs 260,377 cf

Subcatchment 4Sa: DA 4: CN w/ IC areas Runoff Area=268,899 sf 2.59% Impervious Runoff Depth=8.98"
Tc=16.9 min CN=75/98 Runoff=48.91 cfs 201,174 cf

Subcatchment 4Sb: DA4: Roofs Runoff Area=23,888 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=6.91 cfs 23,706 cf

Subcatchment 4Sc: DA4: Driveways Runoff Area=35,770 sf 100.00% Impervious Runoff Depth=11.91"
Tc=6.0 min CN=0/98 Runoff=10.35 cfs 35,497 cf

Reach 1R: INFLOW PIPE Avg. Flow Depth=3.53' Max Vel=28.15 fps Inflow=377.53 cfs 1,480,074 cf
54.0" Round Pipe n=0.013 L=75.0' S=0.0400 '/' Capacity=393.30 cfs Outflow=376.81 cfs 1,480,130 cf

Reach 2R: OUTFLOW PIPE Avg. Flow Depth=4.00' Max Vel=18.38 fps Inflow=258.43 cfs 1,454,167 cf
48.0" Round Pipe n=0.013 L=60.0' S=0.0200 '/' Capacity=203.14 cfs Outflow=224.68 cfs 1,454,167 cf

Pond 1P: ROAD RG 175SF W/ UDG Peak Elev=100.67' Storage=69,699 cf Inflow=323.45 cfs 1,367,783 cf
Primary=63.48 cfs 979,442 cf Secondary=194.71 cfs 334,990 cf Tertiary=64.66 cfs 46,668 cf Outflow=322.84 cfs 1,361,100 cf

Pond 2P: Basic Rain Garden (infiltration Peak Elev=100.20' Storage=36,047 cf Inflow=38.28 cfs 131,352 cf
Discarded=0.44 cfs 60,499 cf Primary=34.40 cfs 70,852 cf Outflow=34.84 cfs 131,352 cf

Pond 3P: Basic Porous Pavement Peak Elev=100.05' Storage=46,469 cf Inflow=52.17 cfs 178,994 cf
Discarded=2.09 cfs 130,873 cf Primary=38.18 cfs 48,122 cf Outflow=40.27 cfs 178,994 cf

Pond 4P: Basin 1 Municipal property Peak Elev=76.99' Storage=205,833 cf Inflow=376.81 cfs 1,480,130 cf
Primary=175.42 cfs 1,314,644 cf Secondary=75.50 cfs 134,761 cf Tertiary=7.51 cfs 4,762 cf Outflow=258.43 cfs 1,454,167 cf

Pond 5P: ROAD RG 175SF W/ UDG Peak Elev=100.58' Storage=41,384 cf Inflow=144.97 cfs 916,180 cf
Primary=37.79 cfs 652,655 cf Secondary=93.84 cfs 246,789 cf Tertiary=13.28 cfs 13,138 cf Outflow=144.91 cfs 912,583 cf

Pond 6P: Basic Rain Garden (infiltration Peak Elev=100.21' Storage=22,424 cf Inflow=24.59 cfs 84,383 cf
Discarded=0.27 cfs 37,515 cf Primary=22.17 cfs 46,867 cf Outflow=22.44 cfs 84,383 cf

Pond 7P: Basic Porous Pavement Peak Elev=100.05' Storage=42,089 cf Inflow=47.70 cfs 163,669 cf
Discarded=1.91 cfs 119,667 cf Primary=35.55 cfs 44,002 cf Outflow=37.45 cfs 163,669 cf

Pond 8P: ROAD RG 175SF W/ UDG Peak Elev=100.57' Storage=39,810 cf Inflow=135.34 cfs 807,326 cf
Primary=36.36 cfs 589,494 cf Secondary=88.20 cfs 204,704 cf Tertiary=10.69 cfs 8,921 cf Outflow=135.26 cfs 803,119 cf

Pond 9P: Basic Rain Garden (infiltration Peak Elev=100.23' Storage=21,924 cf Inflow=26.90 cfs 92,283 cf
Discarded=0.26 cfs 36,165 cf Primary=24.49 cfs 56,118 cf Outflow=24.75 cfs 92,283 cf

Pond 10P: Basic Porous Pavement Peak Elev=100.05' Storage=47,703 cf Inflow=53.42 cfs 183,276 cf
Discarded=2.14 cfs 134,003 cf Primary=38.90 cfs 49,273 cf Outflow=41.04 cfs 183,276 cf

Pond 11P: ROAD RG 175SF W/ UDG Peak Elev=101.00' Storage=4,725 cf Inflow=48.91 cfs 201,174 cf
Primary=4.14 cfs 110,041 cf Secondary=24.02 cfs 65,049 cf Tertiary=20.60 cfs 25,780 cf Outflow=48.77 cfs 200,870 cf

Pond 12P: Basic Rain Garden (infiltration Peak Elev=100.20' Storage=6,619 cf Inflow=6.91 cfs 23,706 cf
Discarded=0.08 cfs 11,127 cf Primary=6.20 cfs 12,579 cf Outflow=6.28 cfs 23,706 cf

Pond 13P: Basic Porous Pavement Peak Elev=100.02' Storage=8,055 cf Inflow=10.35 cfs 35,497 cf
Discarded=0.41 cfs 25,953 cf Primary=9.56 cfs 9,865 cf Outflow=9.97 cfs 35,818 cf

Link 1L: Combined Flows Inflow=377.53 cfs 1,480,074 cf
Primary=377.53 cfs 1,480,074 cf

Link 2L: Combined Flows Inflow=158.81 cfs 1,003,452 cf
Primary=158.81 cfs 1,003,452 cf

Link 3L: Combined Flows Inflow=195.34 cfs 1,131,823 cf
Primary=195.34 cfs 1,131,823 cf

Link 4L: Combined Flows

Inflow=213.01 cfs 1,343,262 cf
Primary=213.01 cfs 1,343,262 cf

Total Runoff Area = 10,242,368 sf Runoff Volume = 8,371,246 cf Average Runoff Depth = 9.81"
72.62% Pervious = 7,438,492 sf 27.38% Impervious = 2,803,876 sf

Summary for Subcatchment 1S: DA 1: All

Runoff = 389.20 cfs @ 12.26 hrs, Volume= 1,678,129 cf, Depth= 9.85"
 Routed to nonexistent node 6L

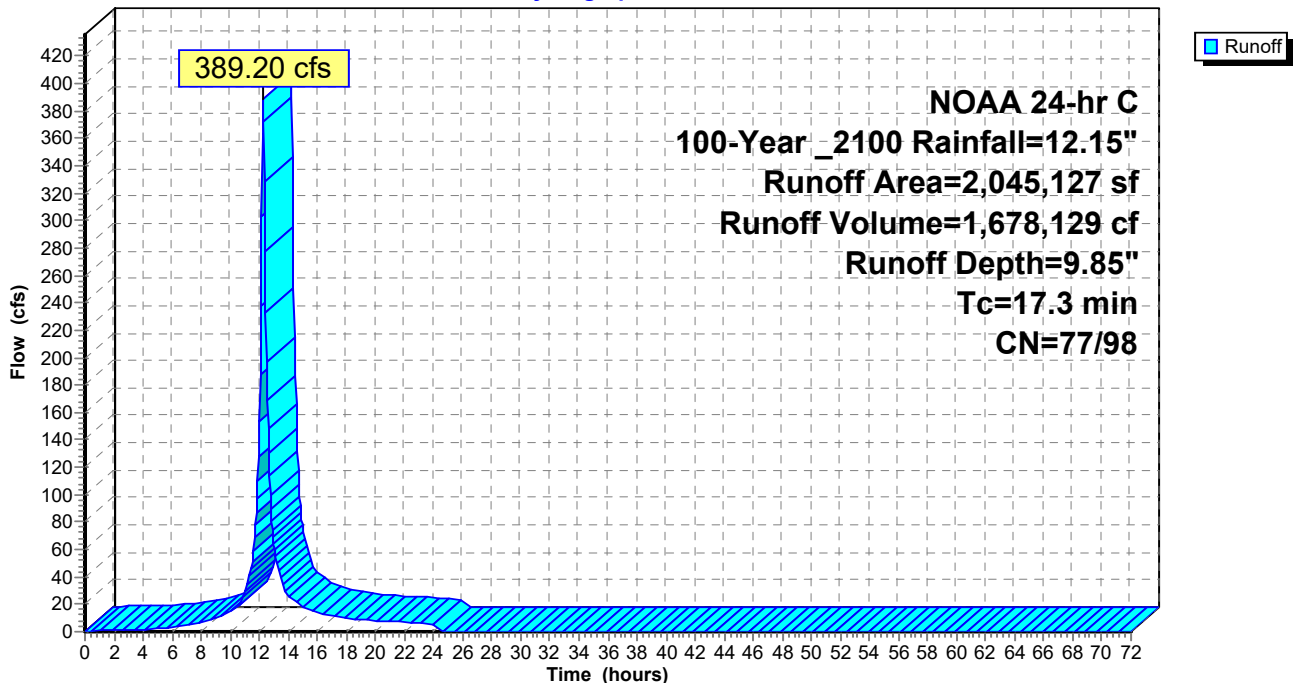
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

	Area (sf)	CN	Description
*	187,351	98	Impervious
	676,806	74	>75% Grass cover, Good, HSG C
	698,470	80	>75% Grass cover, Good, HSG D
	25,343	73	Woods, Fair, HSG C
	726	79	Woods, Fair, HSG D
	41,773	70	Woods, Good, HSG C
	101,927	77	Woods, Good, HSG D
*	132,361	98	Roofs
*	180,370	98	Driveways
	2,045,127	82	Weighted Average
	1,545,045	77	75.55% Pervious Area
	500,082	98	24.45% Impervious Area

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

Subcatchment 1S: DA 1: All

Hydrograph



Summary for Subcatchment 1Sa: DA 1: CN w/ IC areas

Runoff = 323.45 cfs @ 12.26 hrs, Volume= 1,367,783 cf, Depth= 9.47"

Routed to Pond 1P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

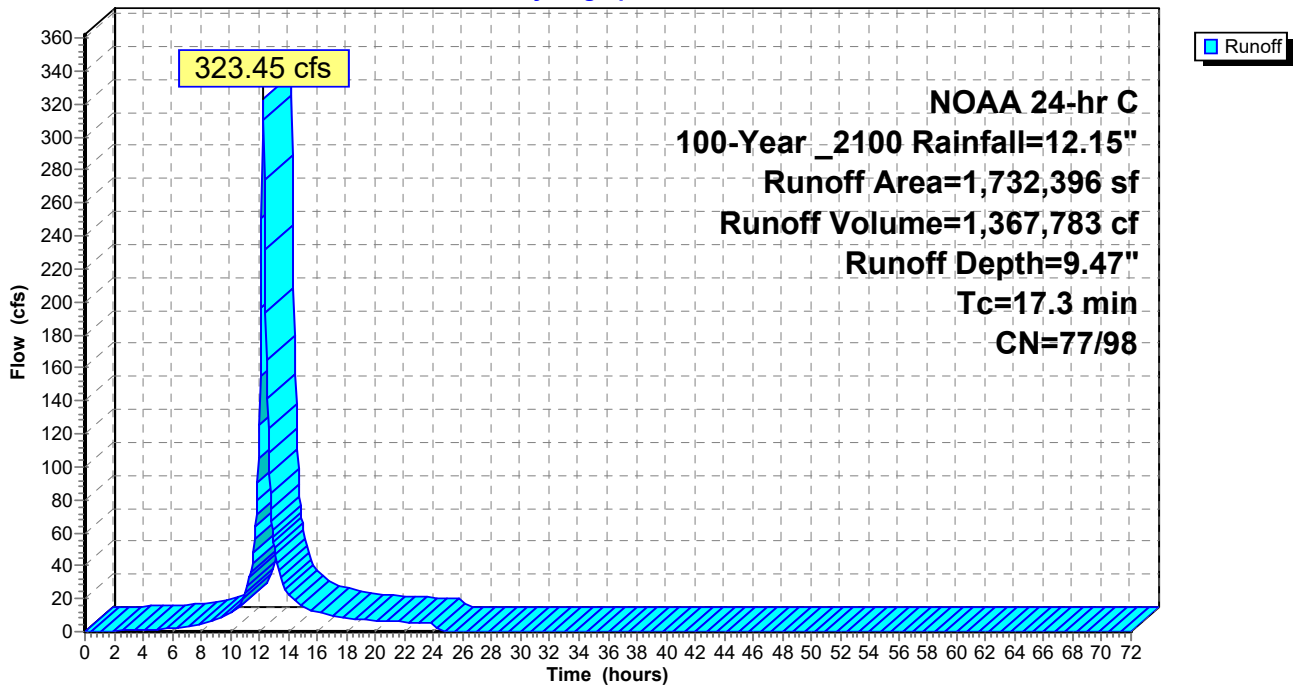
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 187,351	98	Impervious
676,806	74	>75% Grass cover, Good, HSG C
698,470	80	>75% Grass cover, Good, HSG D
25,343	73	Woods, Fair, HSG C
726	79	Woods, Fair, HSG D
41,773	70	Woods, Good, HSG C
101,927	77	Woods, Good, HSG D
1,732,396	79	Weighted Average
1,545,045	77	89.19% Pervious Area
187,351	98	10.81% Impervious Area

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

Subcatchment 1Sa: DA 1: CN w/ IC areas

Hydrograph



Summary for Subcatchment 1Sb: DA1: Roofs combined

Runoff = 38.28 cfs @ 12.13 hrs, Volume= 131,352 cf, Depth=11.91"

Routed to Pond 2P : Basic Rain Garden (infiltration only) 500 sf

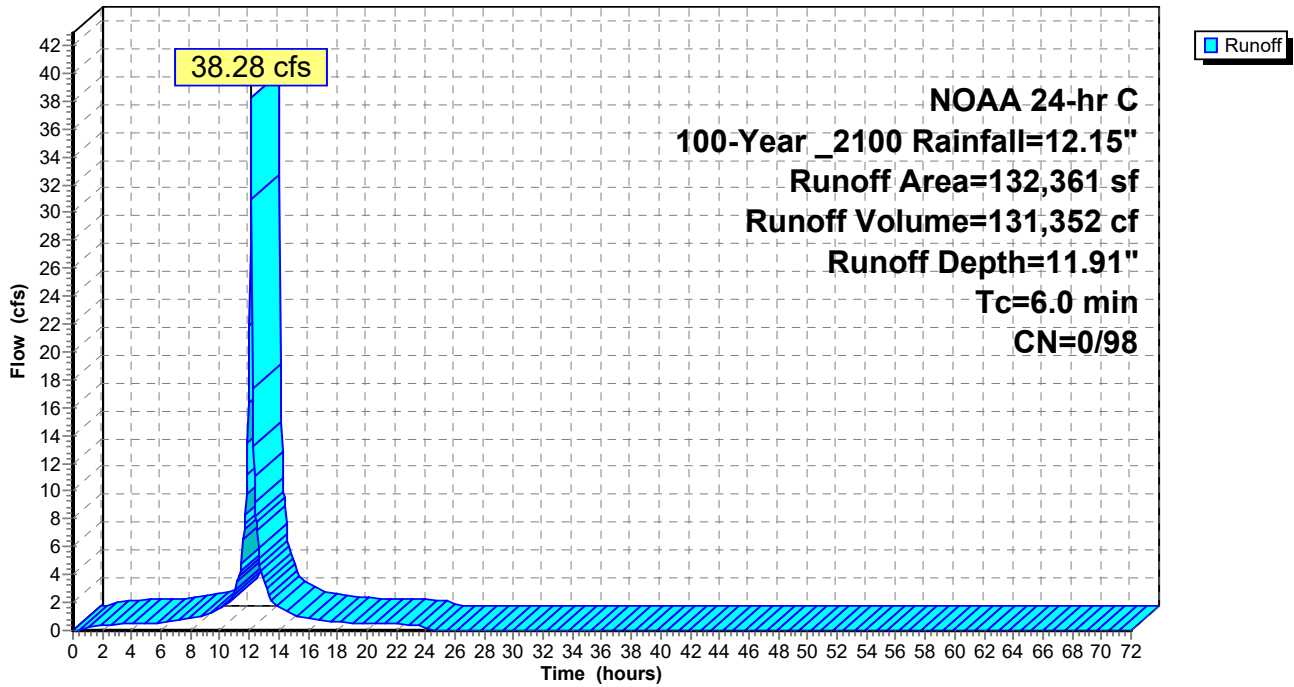
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 132,361	98	
132,361	98	100.00% Impervious Area

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

Subcatchment 1Sb: DA1: Roofs combined

Hydrograph



Summary for Subcatchment 1Sc: DA1: Driveways (other)

Runoff = 52.17 cfs @ 12.13 hrs, Volume= 178,994 cf, Depth=11.91"

Routed to Pond 3P : Basic Porous Pavement (infiltration only)

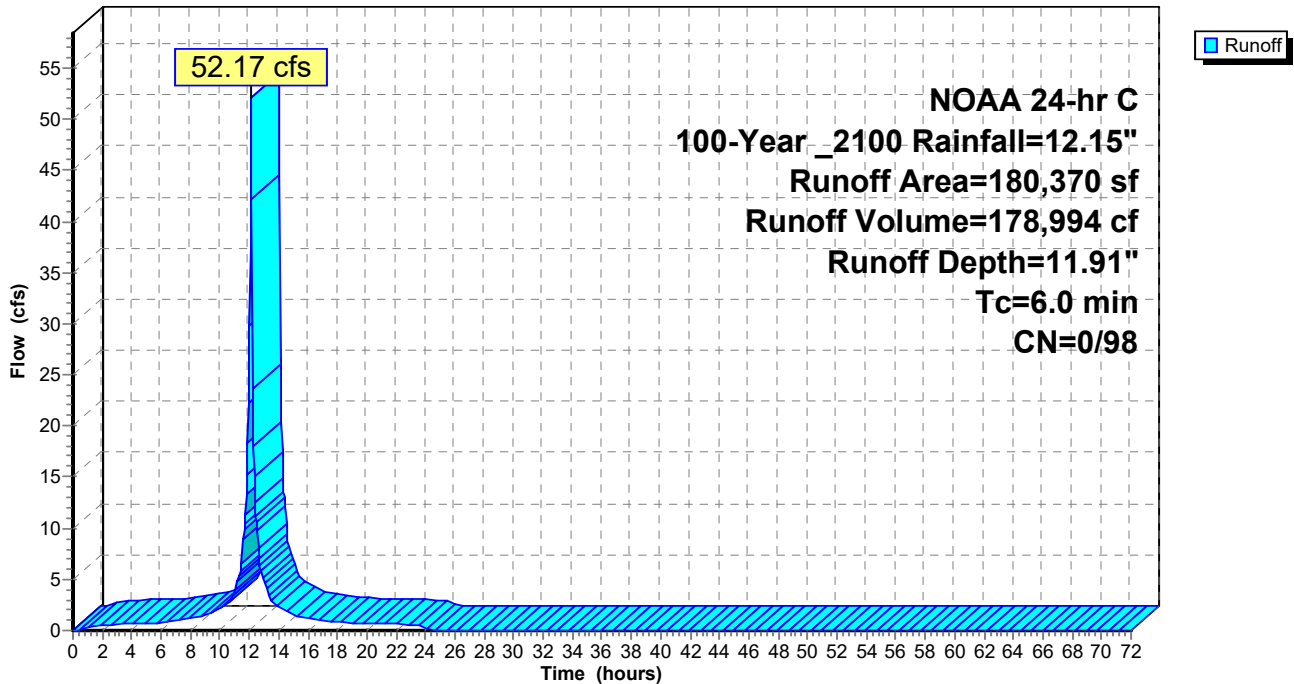
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 180,370	98	Impervious Driveways (other)
180,370	98	100.00% Impervious Area

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

Subcatchment 1Sc: DA1: Driveways (other)

Hydrograph



Summary for Subcatchment 2S: DA 2: All

Runoff = 180.34 cfs @ 12.53 hrs, Volume= 1,164,232 cf, Depth= 9.72"

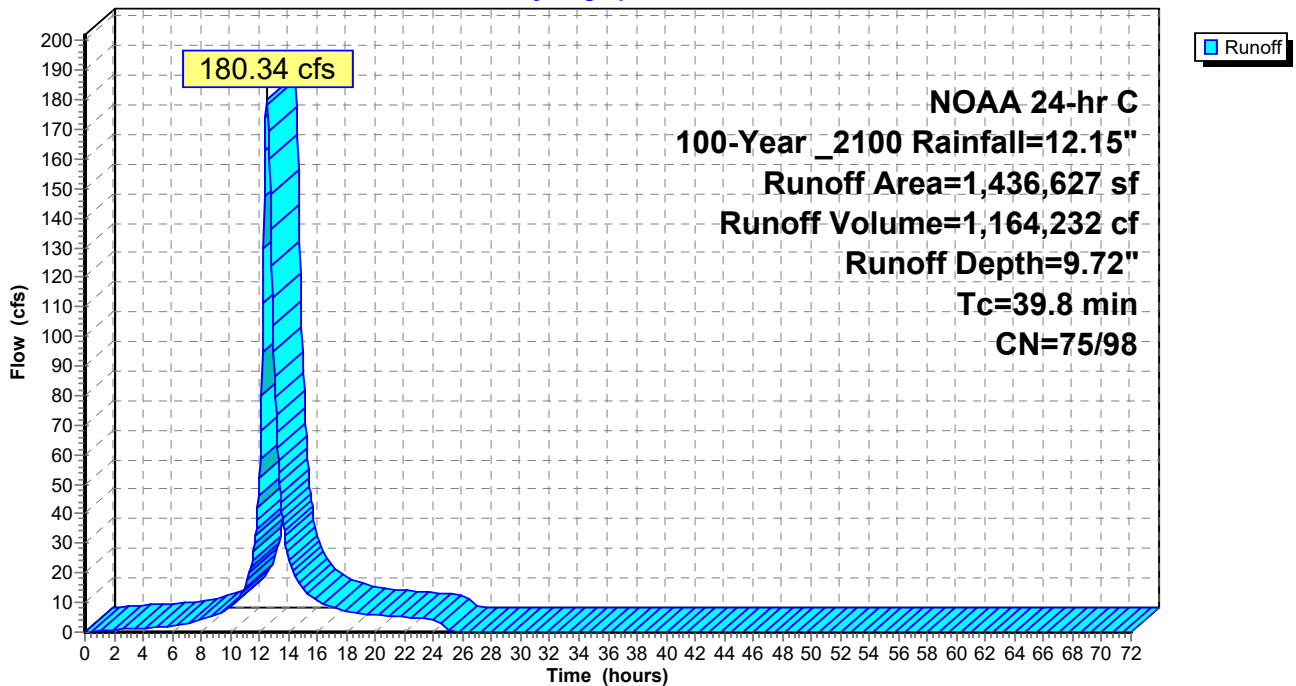
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

	Area (sf)	CN	Description
*	143,894	98	Impervious
	1,270	65	Brush, Good, HSG C
	946,207	74	>75% Grass cover, Good, HSG C
	93,778	80	>75% Grass cover, Good, HSG D
	1,520	72	Woods/grass comb., Good, HSG C
*	85,031	98	Roofs
*	164,927	98	Driveways
<hr/>			
	1,436,627	81	Weighted Average
	1,042,775	75	72.58% Pervious Area
	393,852	98	27.42% Impervious Area

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

Subcatchment 2S: DA 2: All

Hydrograph



Summary for Subcatchment 2Sa: DA 2: CN w/ IC areas

Runoff = 144.97 cfs @ 12.53 hrs, Volume= 916,180 cf, Depth= 9.26"

Routed to Pond 5P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

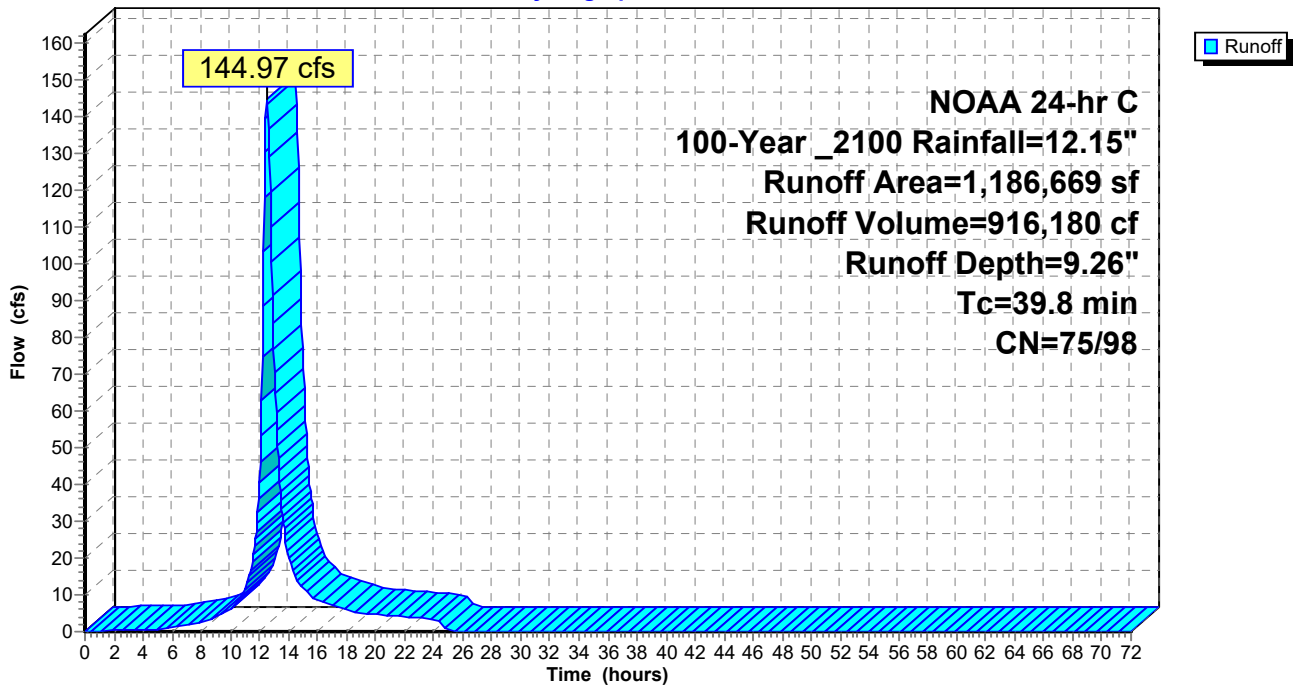
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 143,894	98	Impervious
1,270	65	Brush, Good, HSG C
946,207	74	>75% Grass cover, Good, HSG C
93,778	80	>75% Grass cover, Good, HSG D
1,520	72	Woods/grass comb., Good, HSG C
1,186,669	77	Weighted Average
1,042,775	75	87.87% Pervious Area
143,894	98	12.13% Impervious Area

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

Subcatchment 2Sa: DA 2: CN w/ IC areas

Hydrograph



Summary for Subcatchment 2Sb: DA2: Roofs combined

Runoff = 24.59 cfs @ 12.13 hrs, Volume= 84,383 cf, Depth=11.91"

Routed to Pond 6P : Basic Rain Garden (infiltration only) 500SF

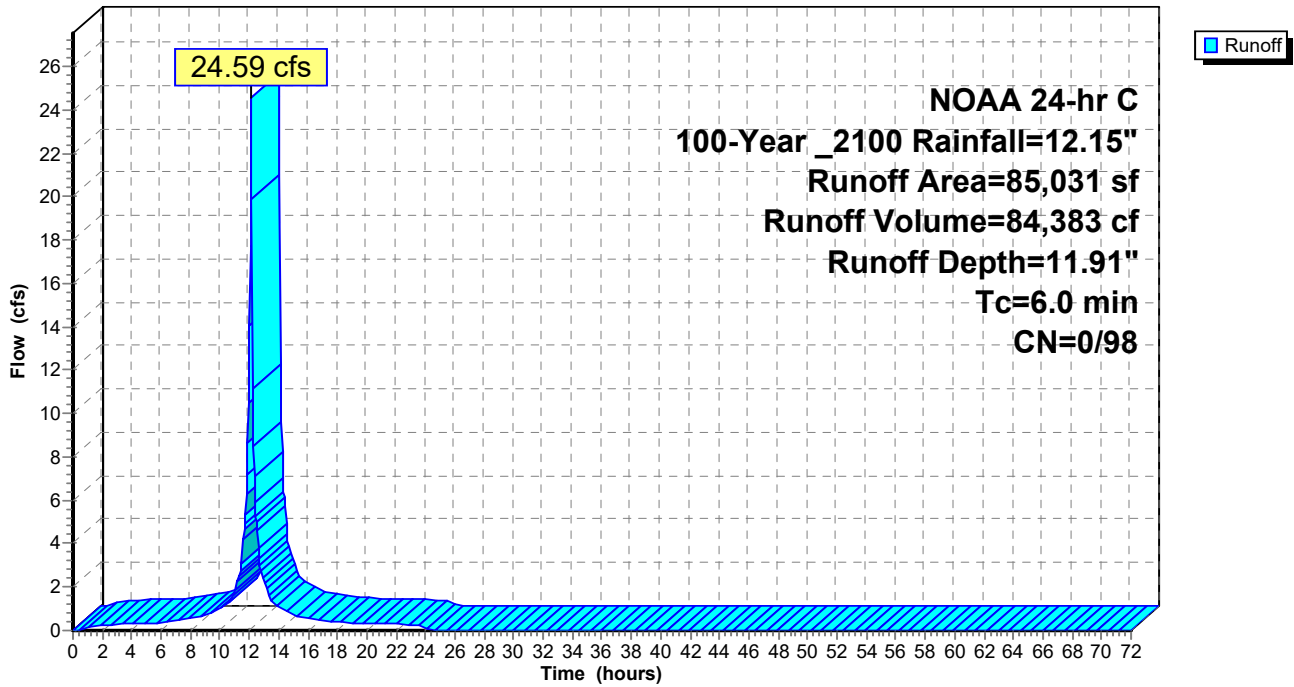
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 85,031	98	
85,031	98	100.00% Impervious Area

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

Subcatchment 2Sb: DA2: Roofs combined

Hydrograph



Summary for Subcatchment 2Sc: DA2: Driveways (other)

Runoff = 47.70 cfs @ 12.13 hrs, Volume= 163,669 cf, Depth=11.91"

Routed to Pond 7P : Basic Porous Pavement (infiltration only)

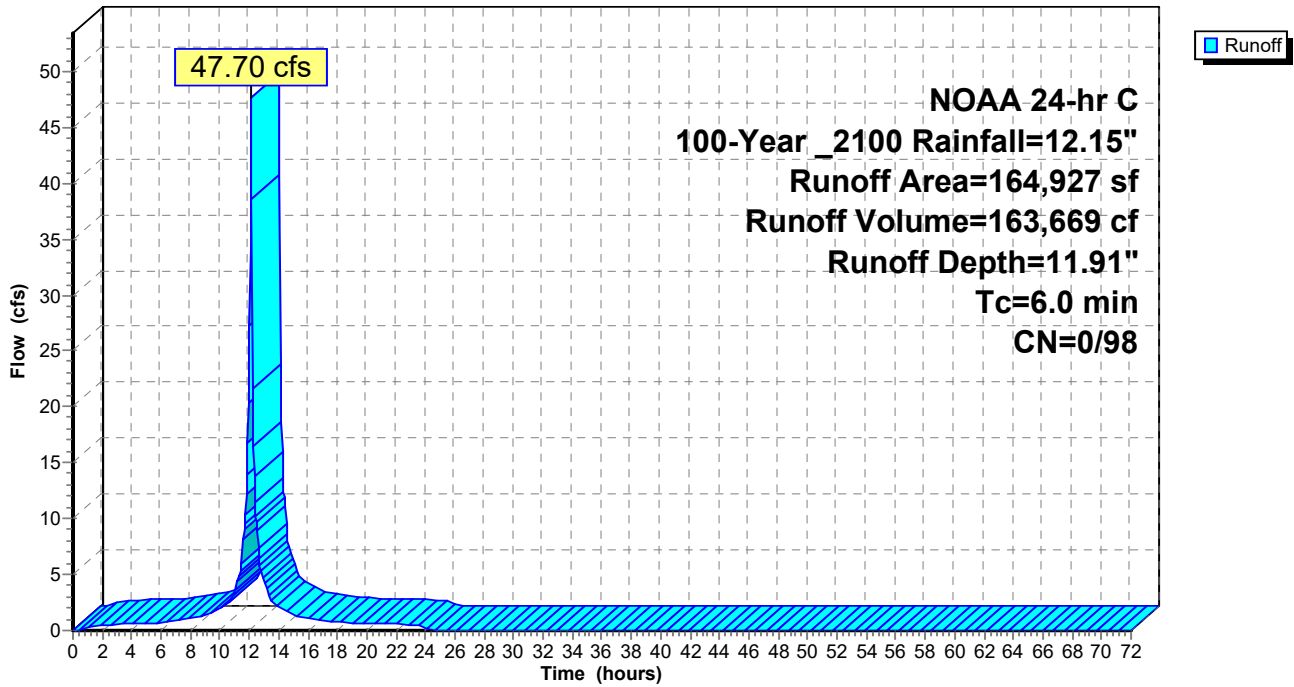
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 164,927	98	Impervious Driveways (other)
164,927	98	100.00% Impervious Area

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

Subcatchment 2Sc: DA2: Driveways (other)

Hydrograph



Summary for Subcatchment 3S: DA 3: All

Runoff = 177.13 cfs @ 12.48 hrs, Volume= 1,082,885 cf, Depth= 9.91"
 Routed to Link 4L : Combined Flows

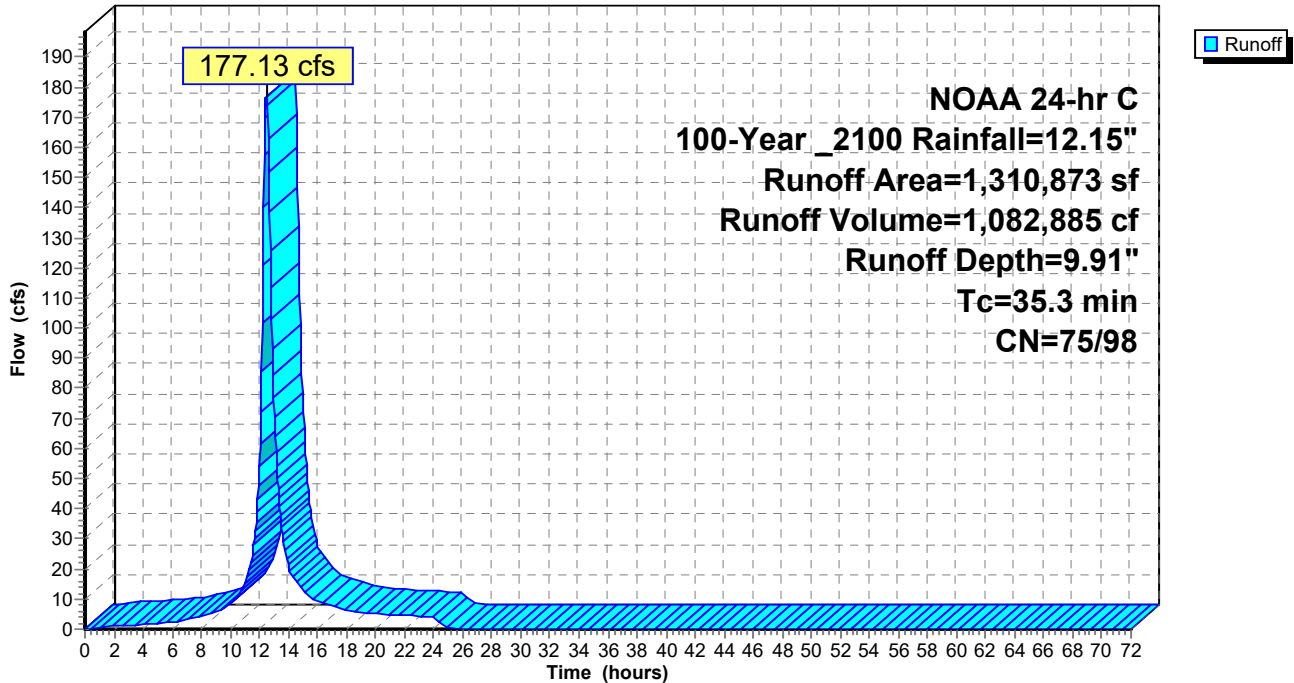
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
*	92,992	98	Roofs
*	184,684	98	Driveways
<hr/>			
	1,310,873	83	Weighted Average
	869,479	75	66.33% Pervious Area
	441,394	98	33.67% Impervious Area

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

Subcatchment 3S: DA 3: All

Hydrograph



Summary for Subcatchment 3Sa: DA 3: CNs w/ IC areas

Runoff = 135.34 cfs @ 12.48 hrs, Volume= 807,326 cf, Depth= 9.38"

Routed to Pond 8P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

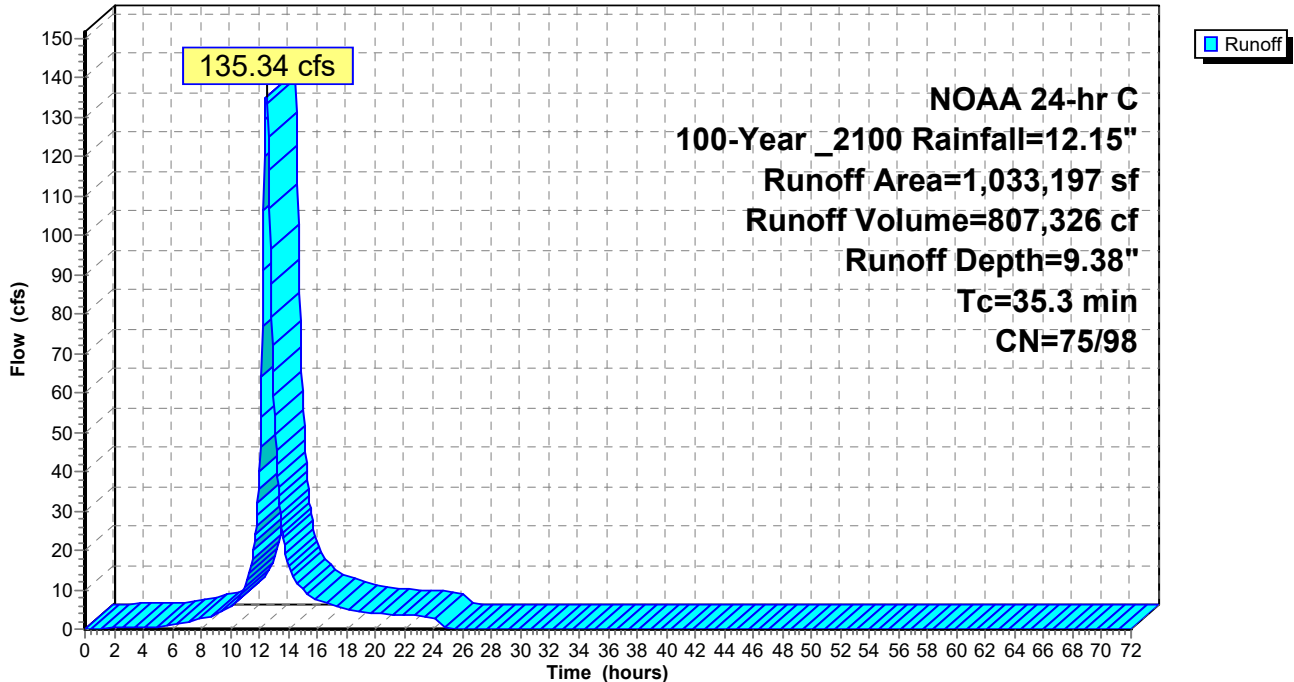
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

	Area (sf)	CN	Description
*	163,718	98	Impervious
	4,569	65	Brush, Good, HSG C
	730,392	74	>75% Grass cover, Good, HSG C
	134,518	80	>75% Grass cover, Good, HSG D
	1,033,197	79	Weighted Average
	869,479	75	84.15% Pervious Area
	163,718	98	15.85% Impervious Area

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

Subcatchment 3Sa: DA 3: CNs w/ IC areas

Hydrograph



Summary for Subcatchment 3Sb: DA3: Roofs combined

Runoff = 26.90 cfs @ 12.13 hrs, Volume= 92,283 cf, Depth=11.91"

Routed to Pond 9P : Basic Rain Garden (infiltration only) 500 SF

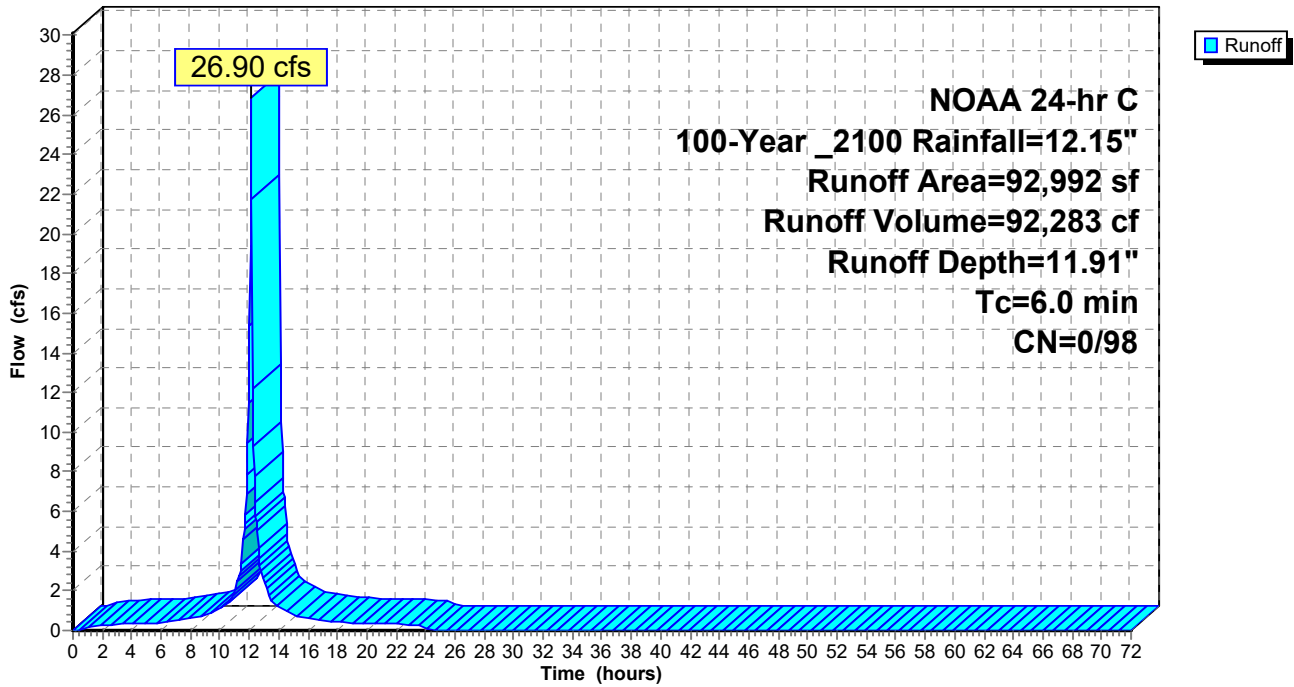
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 92,992	98	
92,992	98	100.00% Impervious Area

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

Subcatchment 3Sb: DA3: Roofs combined

Hydrograph



Summary for Subcatchment 3Sc: DA3: Driveways (other)

Runoff = 53.42 cfs @ 12.13 hrs, Volume= 183,276 cf, Depth=11.91"

Routed to Pond 10P : Basic Porous Pavement (infiltration only)

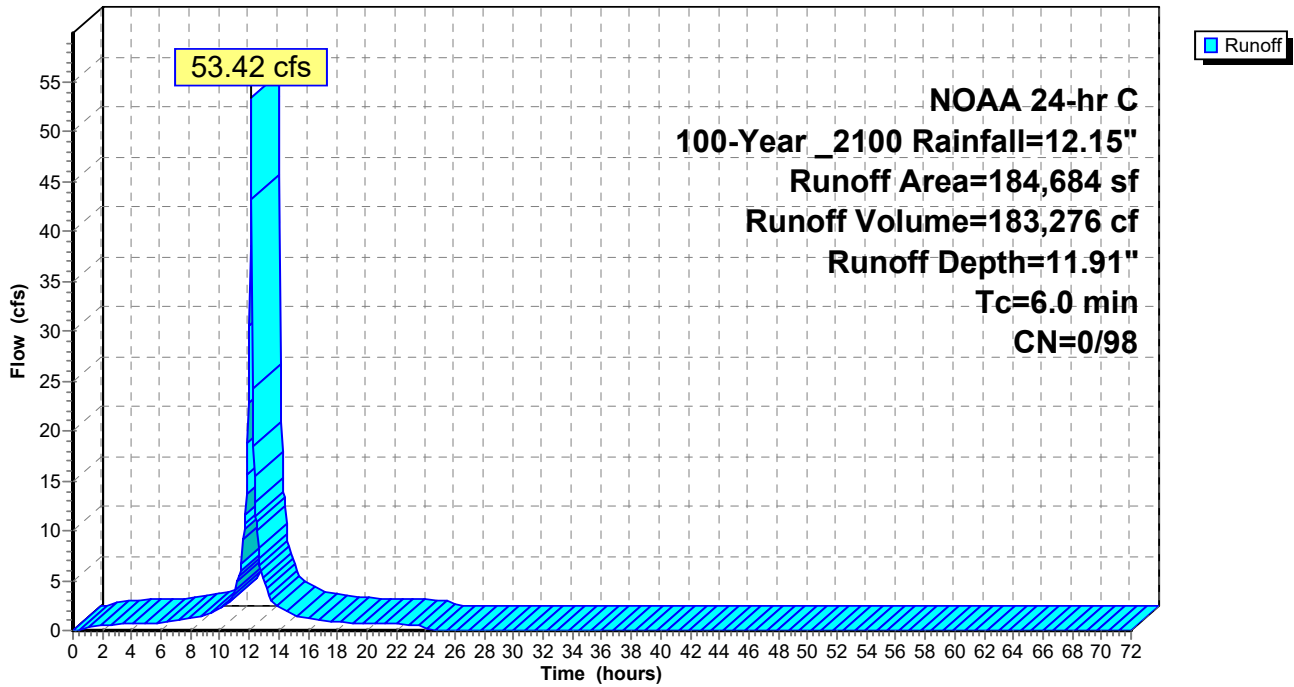
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 184,684	98	Impervious Driveways (other)
184,684	98	100.00% Impervious Area

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

Subcatchment 3Sc: DA3: Driveways (other)

Hydrograph



Summary for Subcatchment 4S: DA 4: All

Runoff = 61.57 cfs @ 12.25 hrs, Volume= 260,377 cf, Depth= 9.51"
 Routed to Link 4L : Combined Flows

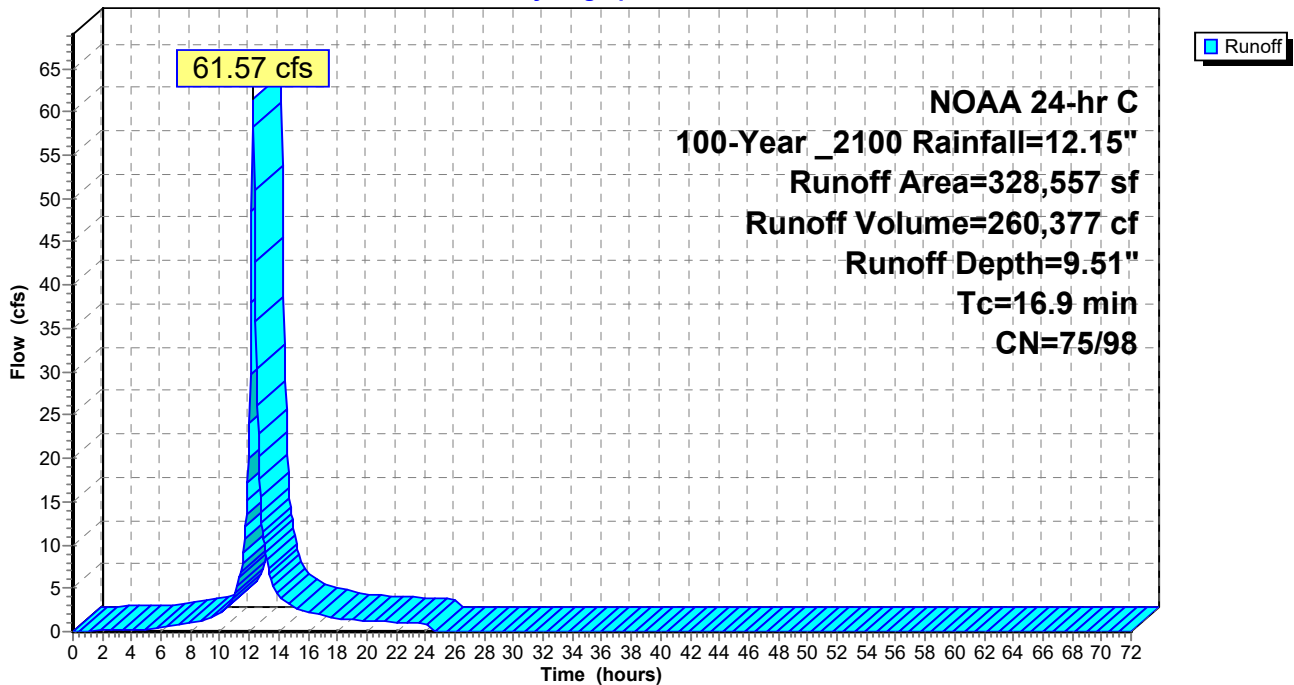
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
*	23,888	98	Roofs
*	35,770	98	Driveways
	328,557	80	Weighted Average
	261,947	75	79.73% Pervious Area
	66,610	98	20.27% Impervious Area

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

Subcatchment 4S: DA 4: All

Hydrograph



Summary for Subcatchment 4Sa: DA 4: CN w/ IC areas

Runoff = 48.91 cfs @ 12.25 hrs, Volume= 201,174 cf, Depth= 8.98"

Routed to Pond 11P : ROAD RG 175SF W/ UDG STORAGE CHAMBERES

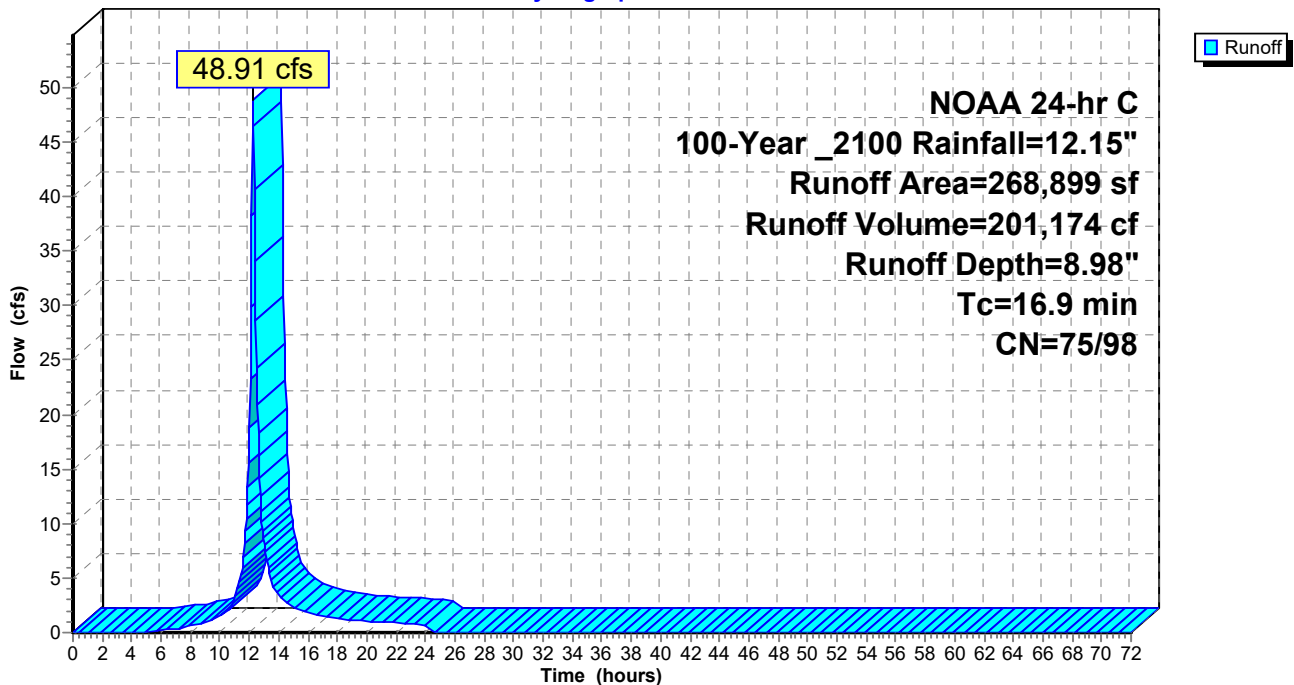
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

	Area (sf)	CN	Description
*	6,952	98	Impervious
	208,611	74	>75% Grass cover, Good, HSG C
	53,336	80	>75% Grass cover, Good, HSG D
	268,899	76	Weighted Average
	261,947	75	97.41% Pervious Area
	6,952	98	2.59% Impervious Area

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

Subcatchment 4Sa: DA 4: CN w/ IC areas

Hydrograph



Summary for Subcatchment 4Sb: DA4: Roofs combined

Runoff = 6.91 cfs @ 12.13 hrs, Volume= 23,706 cf, Depth=11.91"

Routed to Pond 12P : Basic Rain Garden (infiltration only) 500SF

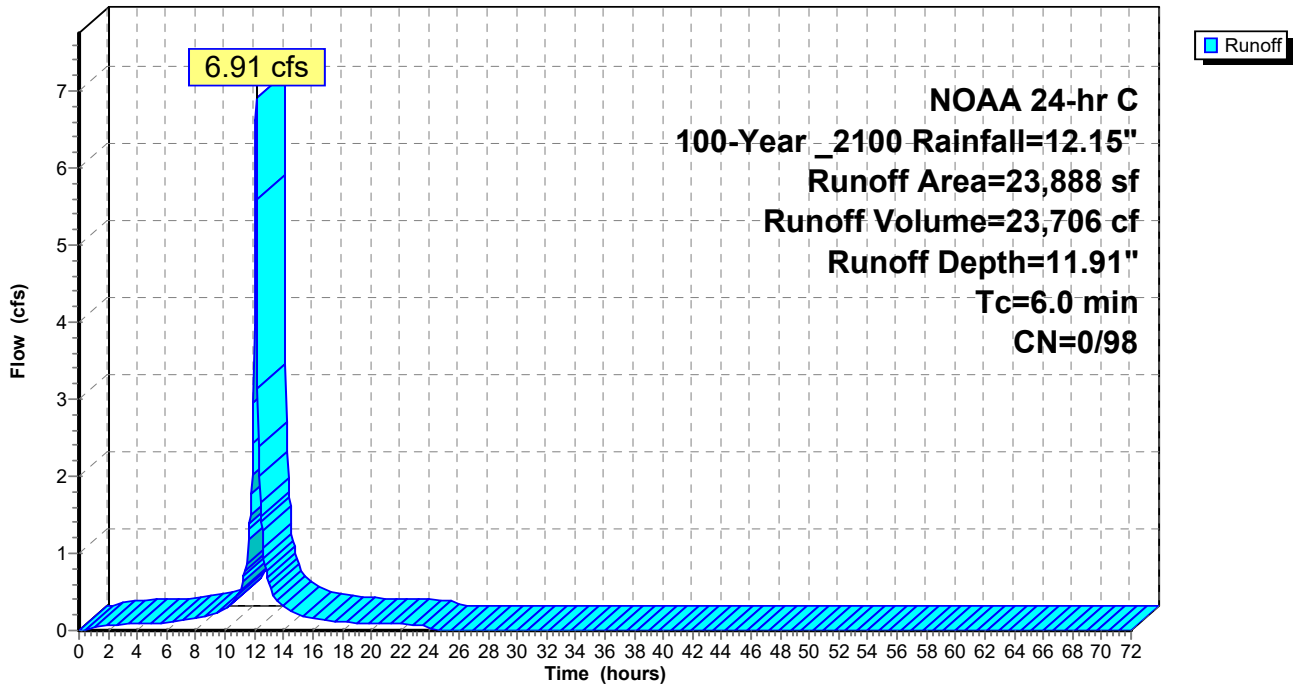
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 23,888	98	
23,888	98	100.00% Impervious Area

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

Subcatchment 4Sb: DA4: Roofs combined

Hydrograph



Summary for Subcatchment 4Sc: DA4: Driveways (other)

Runoff = 10.35 cfs @ 12.13 hrs, Volume= 35,497 cf, Depth=11.91"

Routed to Pond 13P : Basic Porous Pavement (infiltration only)

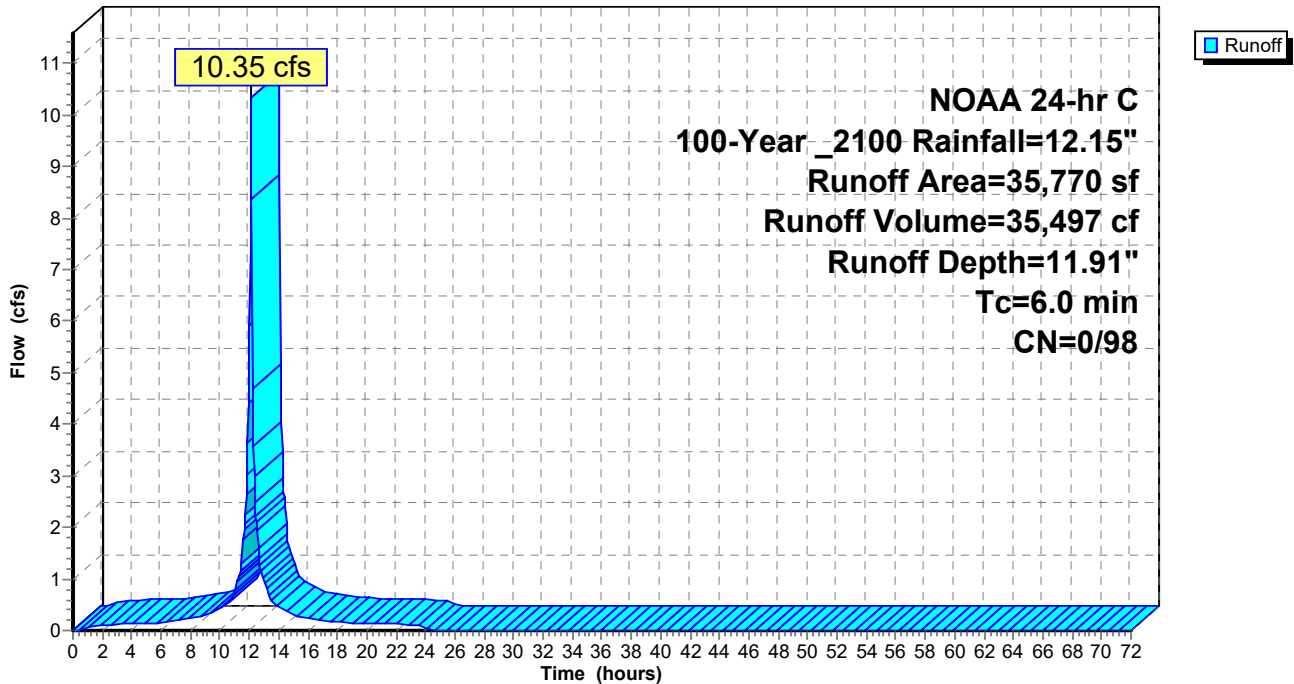
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-72.00 hrs, dt= 0.05
 NOAA 24-hr C 100-Year _2100 Rainfall=12.15"

Area (sf)	CN	Description
* 35,770	98	Impervious Driveways (other)
35,770	98	100.00% Impervious Area

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

Subcatchment 4Sc: DA4: Driveways (other)

Hydrograph



Summary for Reach 1R: INFLOW PIPE

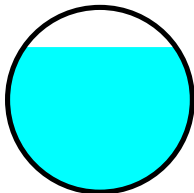
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 8.68" for 100-Year_2100 event
 Inflow = 377.53 cfs @ 12.24 hrs, Volume= 1,480,074 cf
 Outflow = 376.81 cfs @ 12.24 hrs, Volume= 1,480,130 cf, Atten= 0%, Lag= 0.1 min
 Routed to Pond 4P : Basin 1 Municipal property 48k sf

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 28.15 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 8.80 fps, Avg. Travel Time= 0.1 min

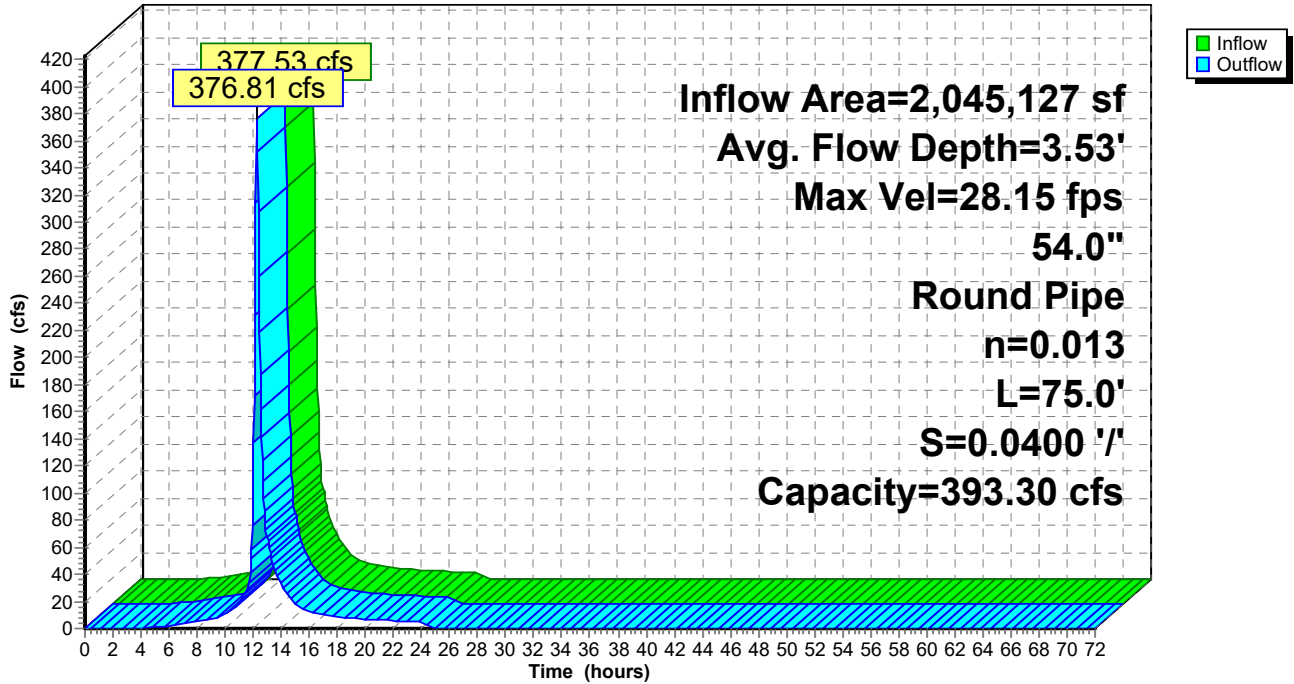
Peak Storage= 1,004 cf @ 12.24 hrs
 Average Depth at Peak Storage= 3.53' , Surface Width= 3.70'
 Bank-Full Depth= 4.50' Flow Area= 15.9 sf, Capacity= 393.30 cfs

54.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 75.0' Slope= 0.0400 '/'
 Inlet Invert= 75.00', Outlet Invert= 72.00'



Reach 1R: INFLOW PIPE

Hydrograph



Summary for Reach 2R: OUTFLOW PIPE

[52] Hint: Inlet/Outlet conditions not evaluated

[55] Hint: Peak inflow is 127% of Manning's capacity

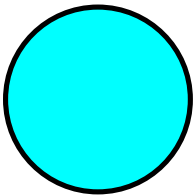
[76] Warning: Detained 56,419 cf (Pond w/culvert advised)

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 8.53" for 100-Year _2100 event
 Inflow = 258.43 cfs @ 12.30 hrs, Volume= 1,454,167 cf
 Outflow = 224.68 cfs @ 12.88 hrs, Volume= 1,454,167 cf, Atten= 13%, Lag= 34.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Max. Velocity= 18.38 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 4.02 fps, Avg. Travel Time= 0.2 min

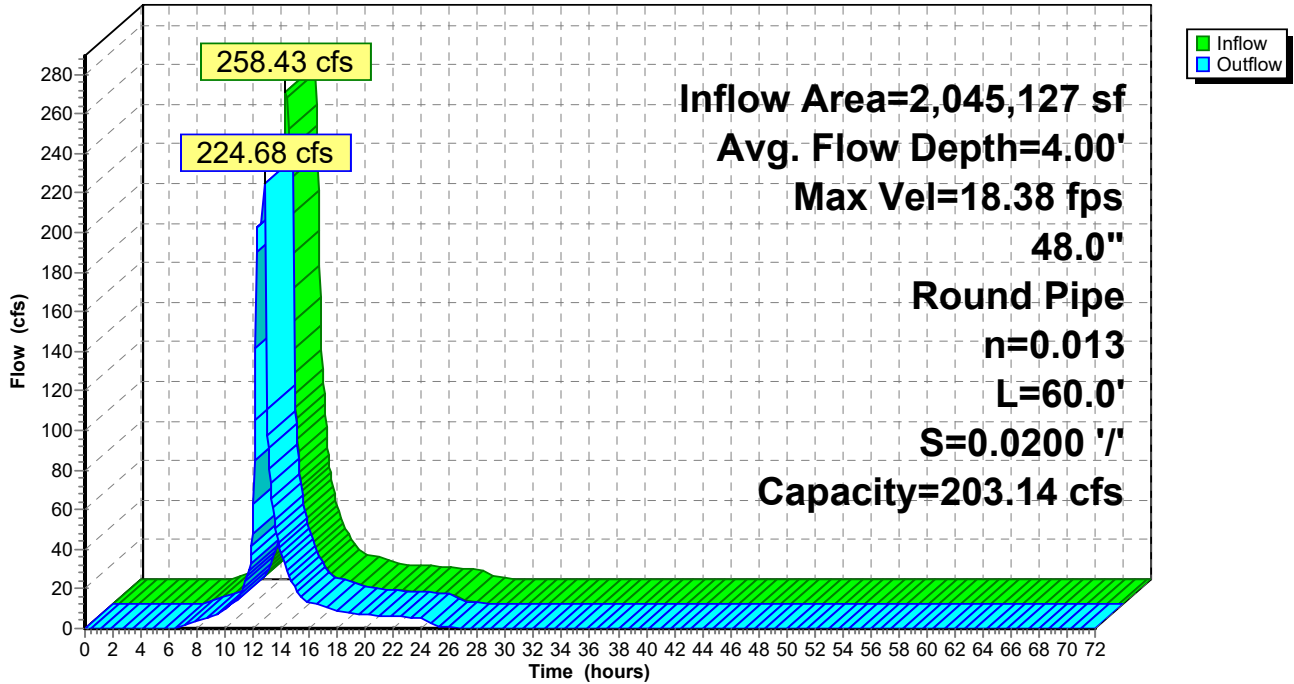
Peak Storage= 754 cf @ 12.25 hrs
 Average Depth at Peak Storage= 4.00'
 Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 203.14 cfs

48.0" Round Pipe
 n= 0.013 Concrete pipe, bends & connections
 Length= 60.0' Slope= 0.0200 '/'
 Inlet Invert= 68.00', Outlet Invert= 66.80'



Reach 2R: OUTFLOW PIPE

Hydrograph



Summary for Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,732,396 sf, 10.81% Impervious, Inflow Depth = 9.47" for 100-Year _2100 event
 Inflow = 323.45 cfs @ 12.26 hrs, Volume= 1,367,783 cf
 Outflow = 322.84 cfs @ 12.26 hrs, Volume= 1,361,100 cf, Atten= 0%, Lag= 0.1 min
 Primary = 63.48 cfs @ 12.26 hrs, Volume= 979,442 cf
 Routed to Link 1L : Combined Flows
 Secondary = 194.71 cfs @ 12.26 hrs, Volume= 334,990 cf
 Routed to Link 1L : Combined Flows
 Tertiary = 64.66 cfs @ 12.26 hrs, Volume= 46,668 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.67' @ 12.26 hrs Surf.Area= 30,624 sf Storage= 69,699 cf

Plug-Flow detention time= 14.6 min calculated for 1,361,100 cf (100% of inflow)
 Center-of-Mass det. time= 11.1 min (810.3 - 799.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 45.00 = 78,177 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 45.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 45.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 45.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 45.00**
2 End Contraction(s)

Primary OutFlow Max=63.46 cfs @ 12.26 hrs HW=100.67' (Free Discharge)

↑1=Culvert (Passes 63.46 cfs of 94.98 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 63.46 cfs @ 7.18 fps)

Secondary OutFlow Max=193.36 cfs @ 12.26 hrs HW=100.67' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 193.36 cfs @ 2.13 fps)

Tertiary OutFlow Max=62.01 cfs @ 12.26 hrs HW=100.67' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 62.01 cfs @ 1.35 fps)

Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

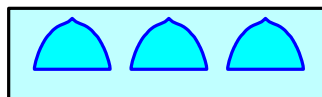
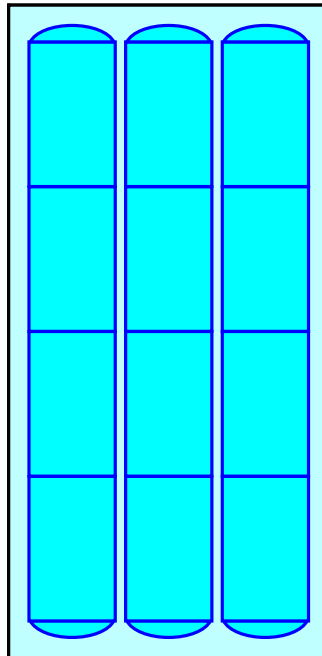
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

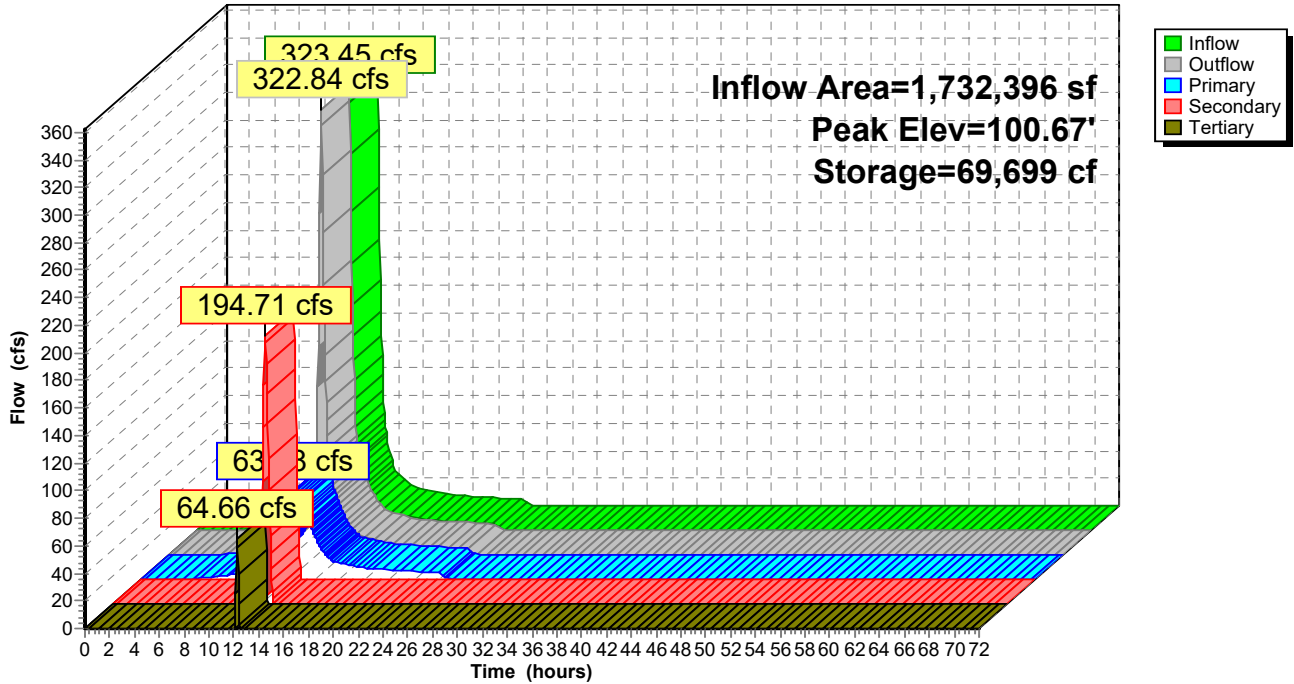
84.3 cy Field

63.8 cy Stone



Pond 1P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Assumes infiltration through media is non-limiting.

Inflow Area = 132,361 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 38.28 cfs @ 12.13 hrs, Volume= 131,352 cf
 Outflow = 34.84 cfs @ 12.16 hrs, Volume= 131,352 cf, Atten= 9%, Lag= 2.0 min
 Discarded = 0.44 cfs @ 11.75 hrs, Volume= 60,499 cf
 Primary = 34.40 cfs @ 12.16 hrs, Volume= 70,852 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.20' @ 12.16 hrs Surf.Area= 38,000 sf Storage= 36,047 cf

Plug-Flow detention time= 321.0 min calculated for 131,260 cf (100% of inflow)
 Center-of-Mass det. time= 321.7 min (1,058.8 - 737.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 76.00 = 47,273 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

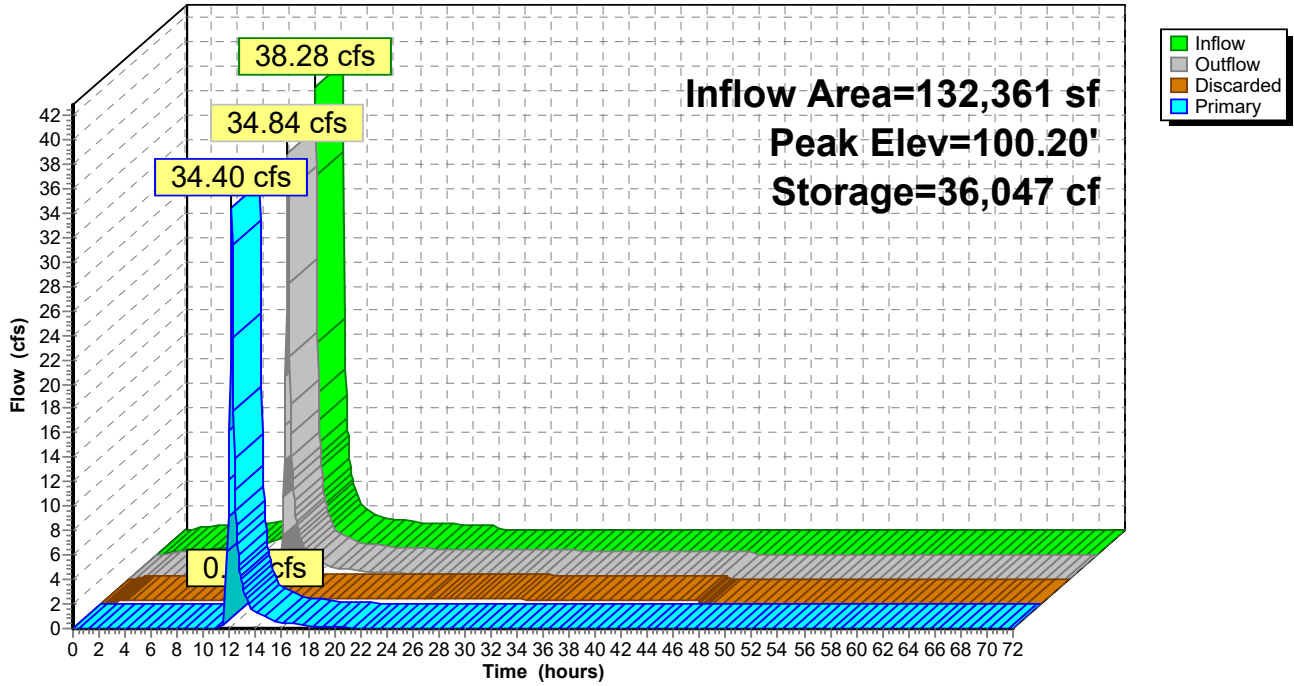
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 76.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.44 cfs @ 11.75 hrs HW=100.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.44 cfs)

Primary OutFlow Max=33.73 cfs @ 12.16 hrs HW=100.20' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 33.73 cfs @ 1.10 fps)

Pond 2P: Basic Rain Garden (infiltration only) 500 sf

Hydrograph



Summary for Pond 3P: Basic Porous Pavement (infiltration only)

Inflow Area = 180,370 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 52.17 cfs @ 12.13 hrs, Volume= 178,994 cf
 Outflow = 40.27 cfs @ 12.19 hrs, Volume= 178,994 cf, Atten= 23%, Lag= 4.0 min
 Discarded = 2.09 cfs @ 10.05 hrs, Volume= 130,873 cf
 Primary = 38.18 cfs @ 12.19 hrs, Volume= 48,122 cf
 Routed to Link 1L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.05' @ 12.19 hrs Surf.Area= 180,370 sf Storage= 46,469 cf

Plug-Flow detention time= 103.4 min calculated for 178,870 cf (100% of inflow)
 Center-of-Mass det. time= 103.3 min (840.4 - 737.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	81,888 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	180,370	0.0	0	0
99.75	180,370	35.0	31,565	31,565
99.83	180,370	15.0	2,164	33,729
100.01	180,370	15.0	4,870	38,599
100.25	180,370	100.0	43,289	81,888

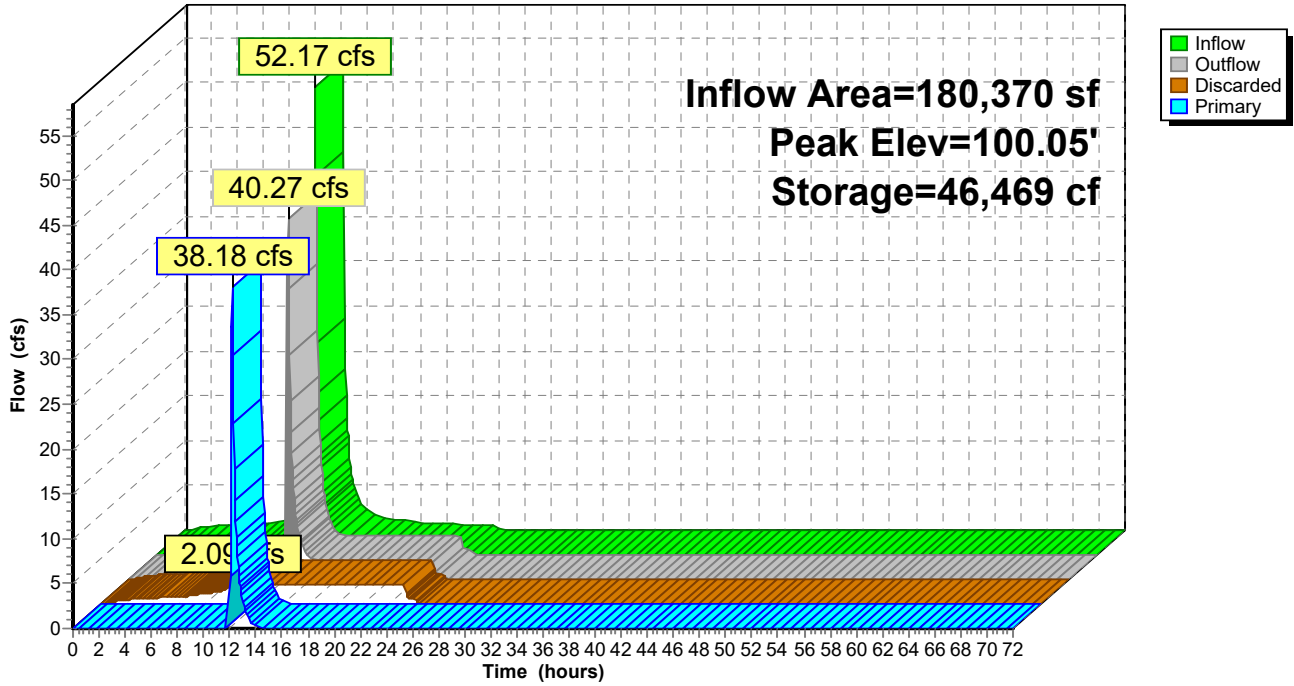
Device	Routing	Invert	Outlet Devices												
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area												
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00												
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00
			Coef. (English)	2.69	2.72	2.75	2.85	2.98	3.08	3.20	3.28	3.31	3.30	3.31	3.32

Discarded OutFlow Max=2.09 cfs @ 10.05 hrs HW=99.26' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 2.09 cfs)

Primary OutFlow Max=37.37 cfs @ 12.19 hrs HW=100.05' (Free Discharge)
 ↑**2=Edge of Porous Asphalt** (Weir Controls 37.37 cfs @ 0.62 fps)

Pond 3P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 4P: Basin 1 Municipal property 48k sf

[62] Hint: Exceeded Reach 1R OUTLET depth by 2.57' @ 12.50 hrs

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 8.68" for 100-Year _2100 event
 Inflow = 376.81 cfs @ 12.24 hrs, Volume= 1,480,130 cf
 Outflow = 258.43 cfs @ 12.30 hrs, Volume= 1,454,167 cf, Atten= 31%, Lag= 3.7 min
 Primary = 175.42 cfs @ 12.30 hrs, Volume= 1,314,644 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Secondary = 75.50 cfs @ 12.30 hrs, Volume= 134,761 cf
 Routed to Reach 2R : OUTFLOW PIPE
 Tertiary = 7.51 cfs @ 12.30 hrs, Volume= 4,762 cf
 Routed to Reach 2R : OUTFLOW PIPE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 76.99' @ 12.30 hrs Surf.Area= 49,045 sf Storage= 205,833 cf

Plug-Flow detention time= 35.0 min calculated for 1,453,158 cf (98% of inflow)
 Center-of-Mass det. time= 24.5 min (831.1 - 806.6)

Volume	Invert	Avail.Storage	Storage Description
#1	72.00'	206,538 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	33,525	0	0
77.00	49,090	206,538	206,538

Device	Routing	Invert	Outlet Devices
#1	Primary	72.25'	24.0" Vert. Low Flow Orifice X 6.00 C= 0.600 Limited to weir flow at low heads
#2	Secondary	74.50'	24.0" W x 18.0" H Vert. SECONDARY OUTLET X 4.00 C= 0.600 Limited to weir flow at low heads
#3	Tertiary	76.75'	60.0" x 60.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

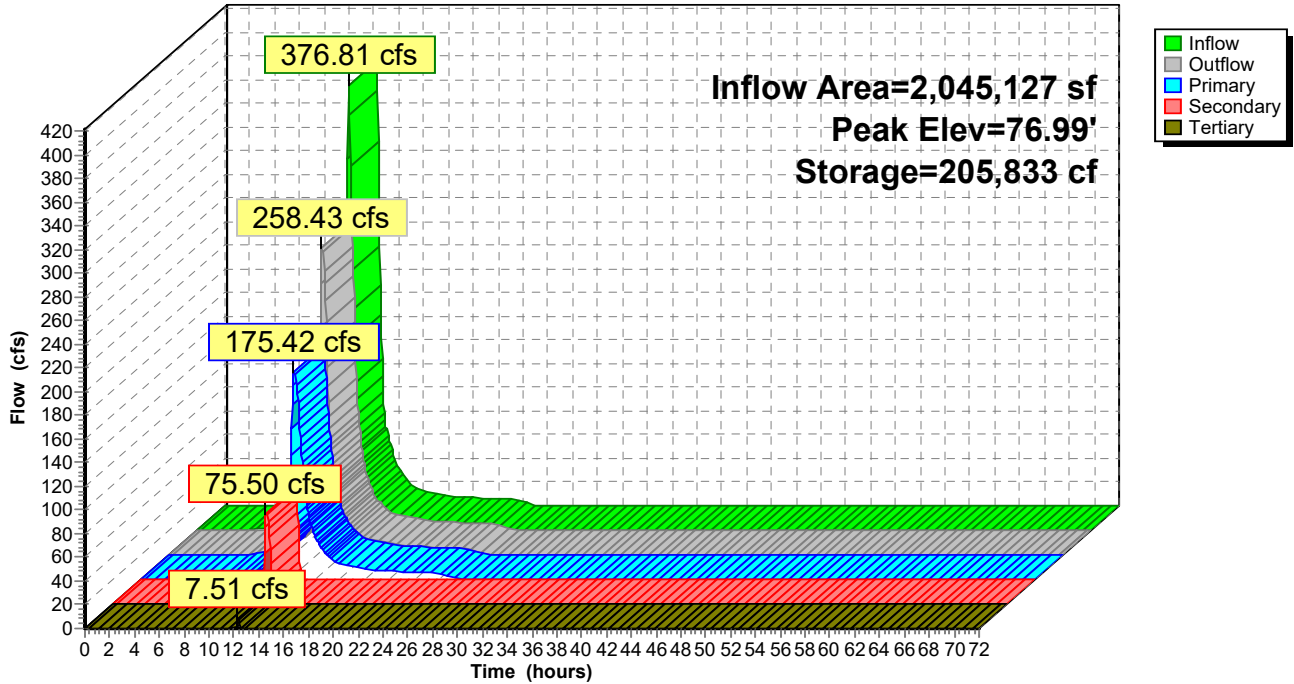
Primary OutFlow Max=175.42 cfs @ 12.30 hrs HW=76.99' (Free Discharge)
 ↑1=**Low Flow Orifice** (Orifice Controls 175.42 cfs @ 9.31 fps)

Secondary OutFlow Max=75.51 cfs @ 12.30 hrs HW=76.99' (Free Discharge)
 ↑2=**SECONDARY OUTLET** (Orifice Controls 75.51 cfs @ 6.29 fps)

Tertiary OutFlow Max=7.48 cfs @ 12.30 hrs HW=76.99' (Free Discharge)
 ↑3=**Orifice/Grate** (Weir Controls 7.48 cfs @ 1.59 fps)

Pond 4P: Basin 1 Municipal property 48k sf

Hydrograph



Summary for Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,186,669 sf, 12.13% Impervious, Inflow Depth = 9.26" for 100-Year _2100 event
 Inflow = 144.97 cfs @ 12.53 hrs, Volume= 916,180 cf
 Outflow = 144.91 cfs @ 12.54 hrs, Volume= 912,583 cf, Atten= 0%, Lag= 0.2 min
 Primary = 37.79 cfs @ 12.54 hrs, Volume= 652,655 cf
 Routed to Link 2L : Combined Flows
 Secondary = 93.84 cfs @ 12.54 hrs, Volume= 246,789 cf
 Routed to Link 2L : Combined Flows
 Tertiary = 13.28 cfs @ 12.54 hrs, Volume= 13,138 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.58' @ 12.54 hrs Surf.Area= 18,374 sf Storage= 41,384 cf

Plug-Flow detention time= 13.9 min calculated for 912,583 cf (100% of inflow)
 Center-of-Mass det. time= 11.0 min (833.2 - 822.2)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 27.00 = 46,906 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 27.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 27.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 27.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 27.00**
2 End Contraction(s)

Primary OutFlow Max=37.79 cfs @ 12.54 hrs HW=100.58' (Free Discharge)

↑1=Culvert (Passes 37.79 cfs of 56.56 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 37.79 cfs @ 7.13 fps)

Secondary OutFlow Max=93.55 cfs @ 12.54 hrs HW=100.58' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 93.55 cfs @ 1.99 fps)

Tertiary OutFlow Max=12.11 cfs @ 12.54 hrs HW=100.58' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 12.11 cfs @ 0.93 fps)

Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

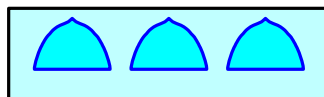
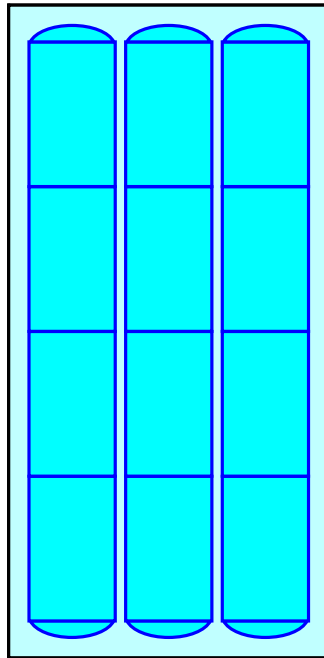
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

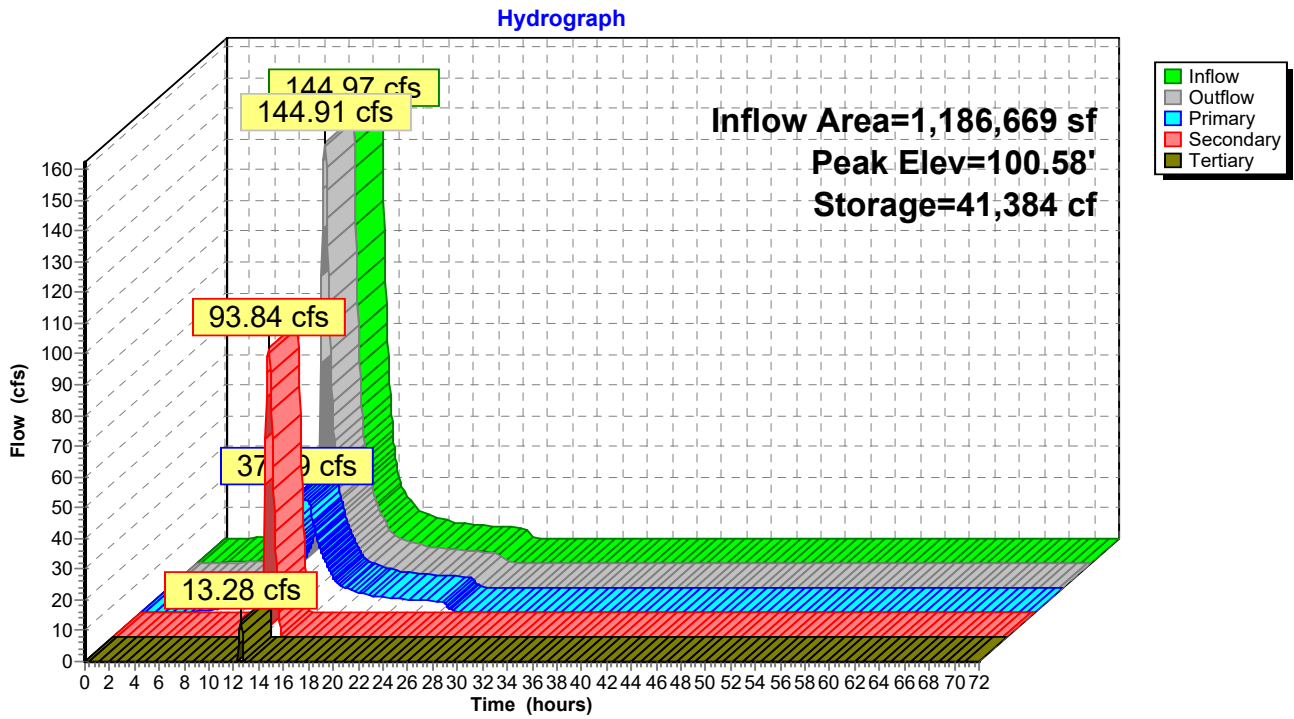
12 Chambers

84.3 cy Field

63.8 cy Stone



Pond 5P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES



Summary for Pond 6P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 85,031 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 24.59 cfs @ 12.13 hrs, Volume= 84,383 cf
 Outflow = 22.44 cfs @ 12.16 hrs, Volume= 84,383 cf, Atten= 9%, Lag= 1.9 min
 Discarded = 0.27 cfs @ 11.70 hrs, Volume= 37,515 cf
 Primary = 22.17 cfs @ 12.16 hrs, Volume= 46,867 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.21' @ 12.16 hrs Surf.Area= 23,500 sf Storage= 22,424 cf

Plug-Flow detention time= 312.5 min calculated for 84,383 cf (100% of inflow)
 Center-of-Mass det. time= 312.4 min (1,049.6 - 737.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 47.00 = 29,235 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

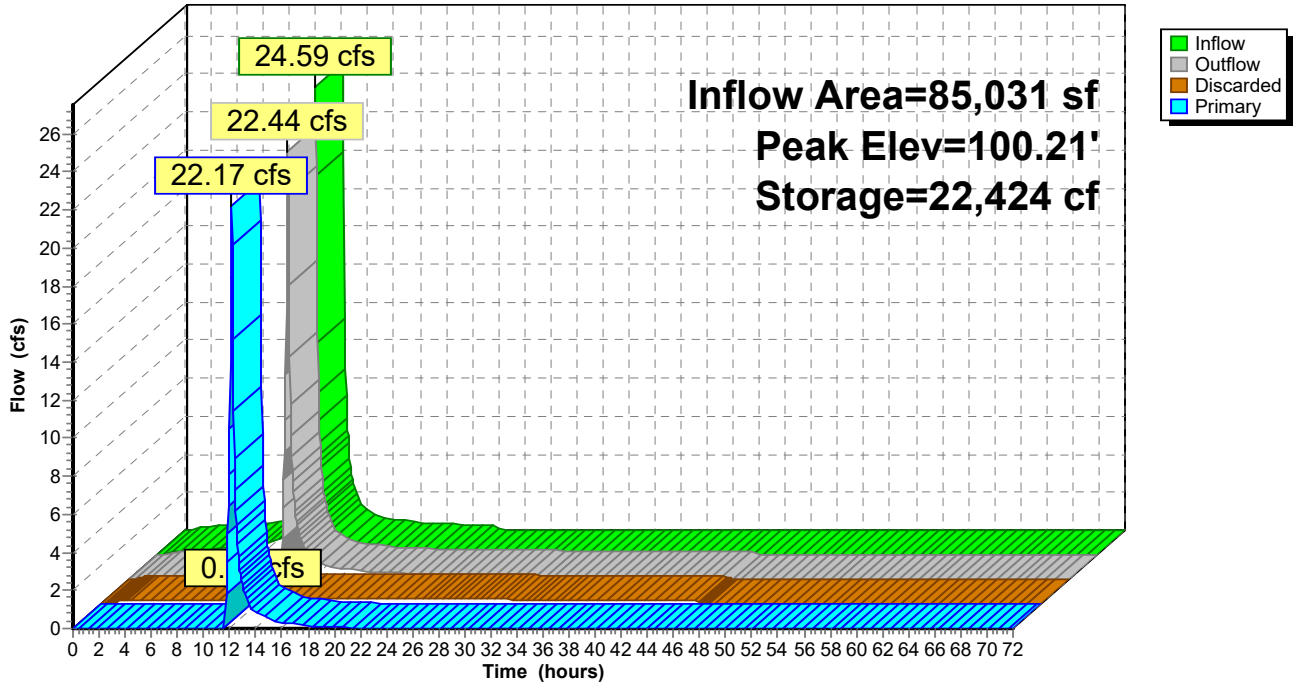
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 47.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.27 cfs @ 11.70 hrs HW=100.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=21.77 cfs @ 12.16 hrs HW=100.21' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 21.77 cfs @ 1.11 fps)

Pond 6P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 7P: Basic Porous Pavement (infiltration only)

Inflow Area = 164,927 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 47.70 cfs @ 12.13 hrs, Volume= 163,669 cf
 Outflow = 37.45 cfs @ 12.19 hrs, Volume= 163,669 cf, Atten= 21%, Lag= 3.8 min
 Discarded = 1.91 cfs @ 10.05 hrs, Volume= 119,667 cf
 Primary = 35.55 cfs @ 12.19 hrs, Volume= 44,002 cf
 Routed to Link 2L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.05' @ 12.19 hrs Surf.Area= 164,927 sf Storage= 42,089 cf

Plug-Flow detention time= 103.3 min calculated for 163,556 cf (100% of inflow)
 Center-of-Mass det. time= 103.2 min (840.3 - 737.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	74,877 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	164,927	0.0	0	0
99.75	164,927	35.0	28,862	28,862
99.83	164,927	15.0	1,979	30,841
100.01	164,927	15.0	4,453	35,294
100.25	164,927	100.0	39,582	74,877

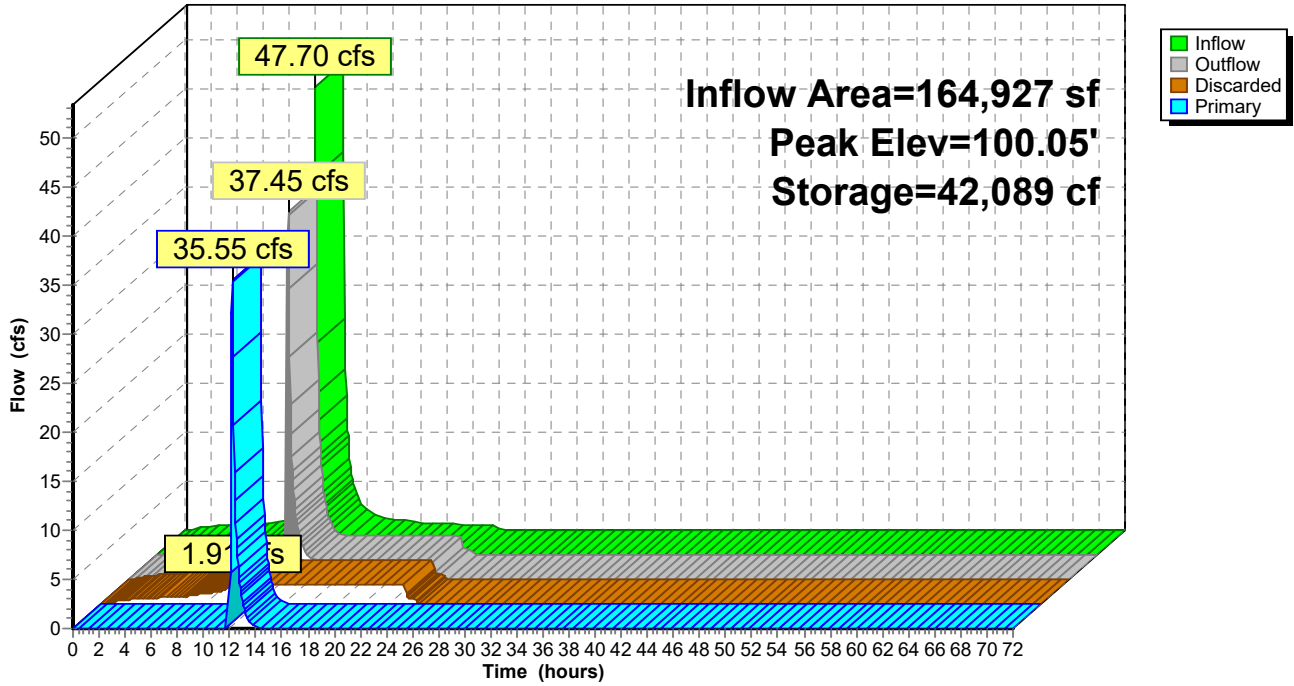
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=1.91 cfs @ 10.05 hrs HW=99.26' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.91 cfs)

Primary OutFlow Max=34.60 cfs @ 12.19 hrs HW=100.05' (Free Discharge)
 ↑2=Edge of Porous Asphalt (Weir Controls 34.60 cfs @ 0.60 fps)

Pond 7P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 1,033,197 sf, 15.85% Impervious, Inflow Depth = 9.38" for 100-Year _2100 event
 Inflow = 135.34 cfs @ 12.48 hrs, Volume= 807,326 cf
 Outflow = 135.26 cfs @ 12.48 hrs, Volume= 803,119 cf, Atten= 0%, Lag= 0.2 min
 Primary = 36.36 cfs @ 12.48 hrs, Volume= 589,494 cf
 Routed to Link 3L : Combined Flows
 Secondary = 88.20 cfs @ 12.48 hrs, Volume= 204,704 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 10.69 cfs @ 12.48 hrs, Volume= 8,921 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 100.57' @ 12.48 hrs Surf.Area= 17,694 sf Storage= 39,810 cf

Plug-Flow detention time= 15.2 min calculated for 803,119 cf (99% of inflow)
 Center-of-Mass det. time= 11.5 min (826.7 - 815.2)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	497 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,737 cf x 26.00 = 45,169 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	175	0.0	0	0	175
98.25	175	35.0	31	31	198
99.25	175	35.0	61	92	245
99.50	175	25.0	11	103	257
100.00	175	100.0	88	190	281
100.51	175	100.0	89	280	304
101.75	175	100.0	217	497	363

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 26.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 26.00 L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 26.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

#4 Tertiary 100.50' **6.0' long Sharp-Crested Rectangular Weir X 26.00**
2 End Contraction(s)

Primary OutFlow Max=36.36 cfs @ 12.48 hrs HW=100.57' (Free Discharge)

↑1=Culvert (Passes 36.36 cfs of 54.42 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 36.36 cfs @ 7.12 fps)

Secondary OutFlow Max=87.86 cfs @ 12.48 hrs HW=100.57' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 87.86 cfs @ 1.97 fps)

Tertiary OutFlow Max=9.65 cfs @ 12.48 hrs HW=100.57' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 9.65 cfs @ 0.87 fps)

Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

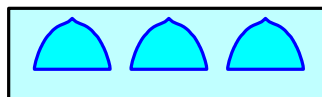
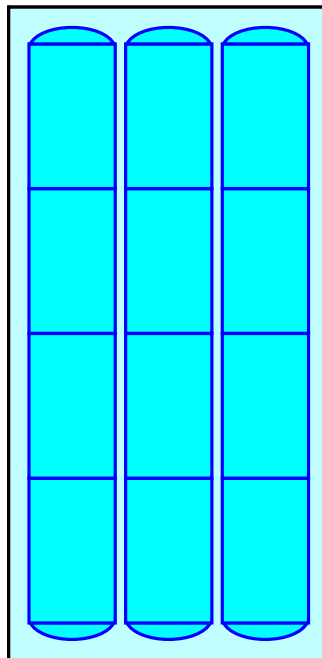
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

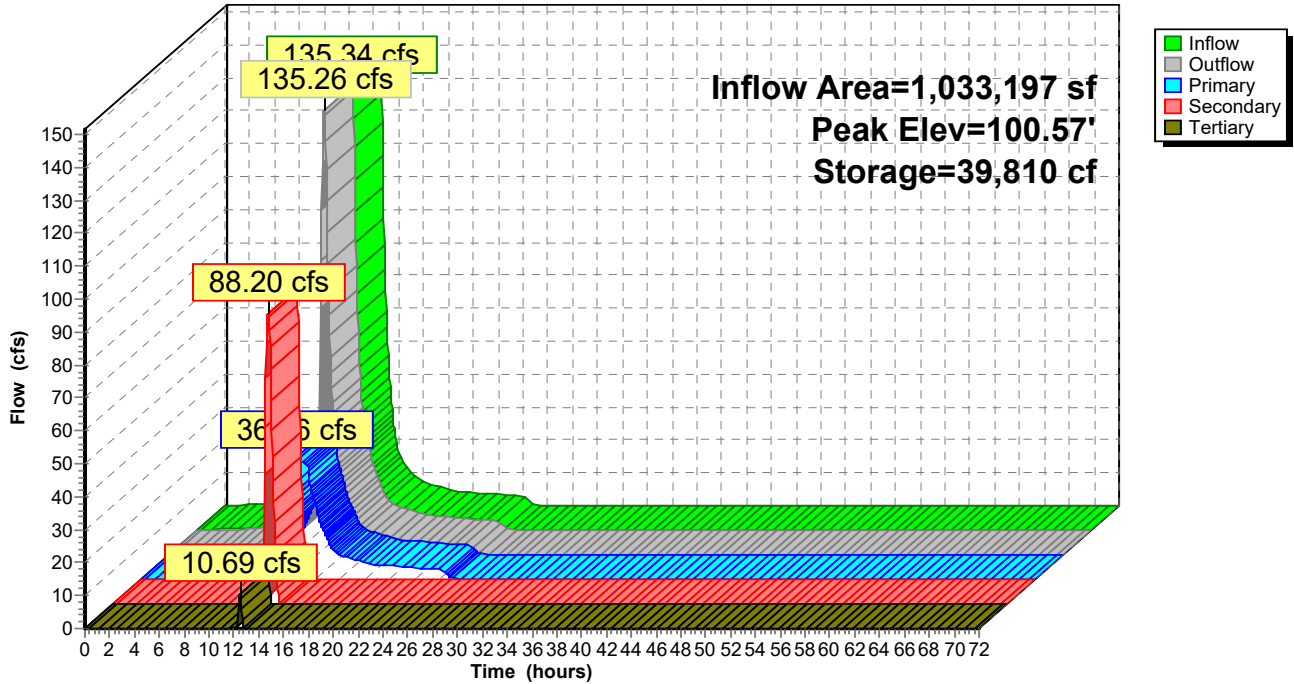
84.3 cy Field

63.8 cy Stone



Pond 8P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Assumes infiltration through media is non-limiting.

Inflow Area = 92,992 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 26.90 cfs @ 12.13 hrs, Volume= 92,283 cf
 Outflow = 24.75 cfs @ 12.16 hrs, Volume= 92,283 cf, Atten= 8%, Lag= 1.8 min
 Discarded = 0.26 cfs @ 11.45 hrs, Volume= 36,165 cf
 Primary = 24.49 cfs @ 12.16 hrs, Volume= 56,118 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.23' @ 12.16 hrs Surf.Area= 22,500 sf Storage= 21,924 cf

Plug-Flow detention time= 280.6 min calculated for 92,219 cf (100% of inflow)
 Center-of-Mass det. time= 281.3 min (1,018.4 - 737.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 45.00 = 27,991 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

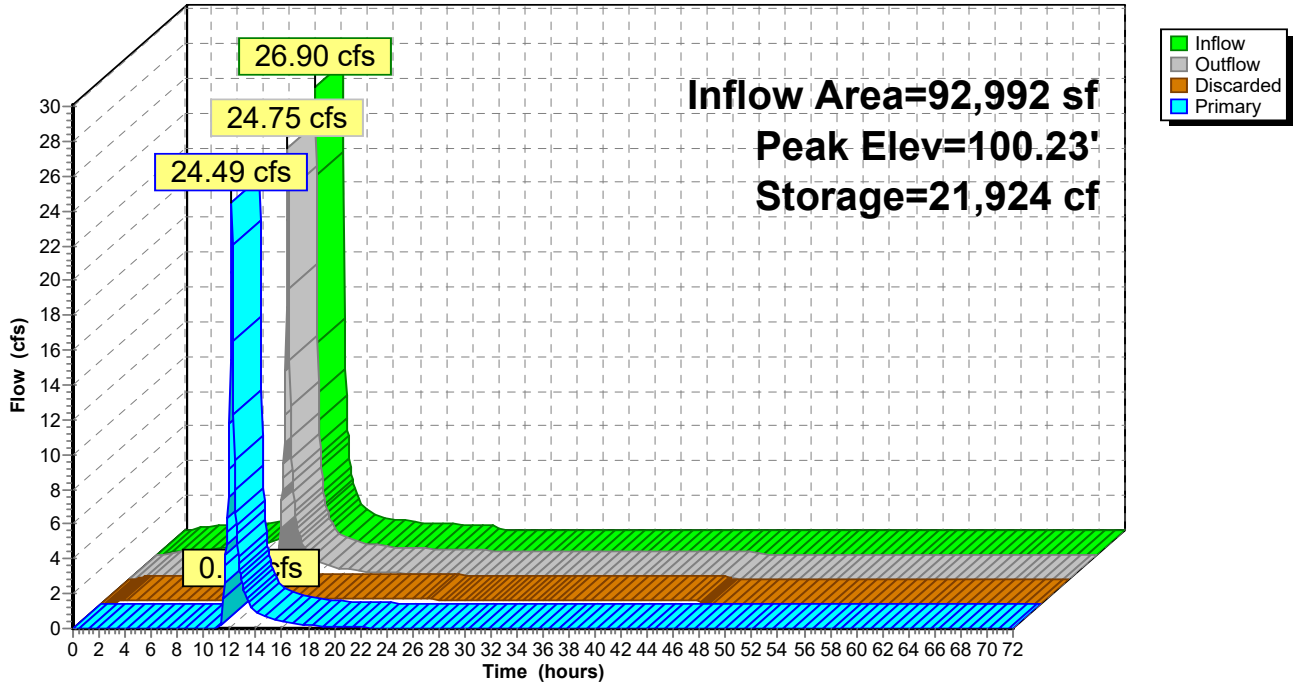
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 45.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.26 cfs @ 11.45 hrs HW=100.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=24.11 cfs @ 12.16 hrs HW=100.23' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 24.11 cfs @ 1.17 fps)

Pond 9P: Basic Rain Garden (infiltration only) 500 SF

Hydrograph



Summary for Pond 10P: Basic Porous Pavement (infiltration only)

Inflow Area = 184,684 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 53.42 cfs @ 12.13 hrs, Volume= 183,276 cf
 Outflow = 41.04 cfs @ 12.19 hrs, Volume= 183,276 cf, Atten= 23%, Lag= 4.1 min
 Discarded = 2.14 cfs @ 10.05 hrs, Volume= 134,003 cf
 Primary = 38.90 cfs @ 12.19 hrs, Volume= 49,273 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.05' @ 12.19 hrs Surf.Area= 184,684 sf Storage= 47,703 cf

Plug-Flow detention time= 103.4 min calculated for 183,148 cf (100% of inflow)
 Center-of-Mass det. time= 103.3 min (840.5 - 737.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	83,847 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	184,684	0.0	0	0
99.75	184,684	35.0	32,320	32,320
99.83	184,684	15.0	2,216	34,536
100.01	184,684	15.0	4,986	39,522
100.25	184,684	100.0	44,324	83,847

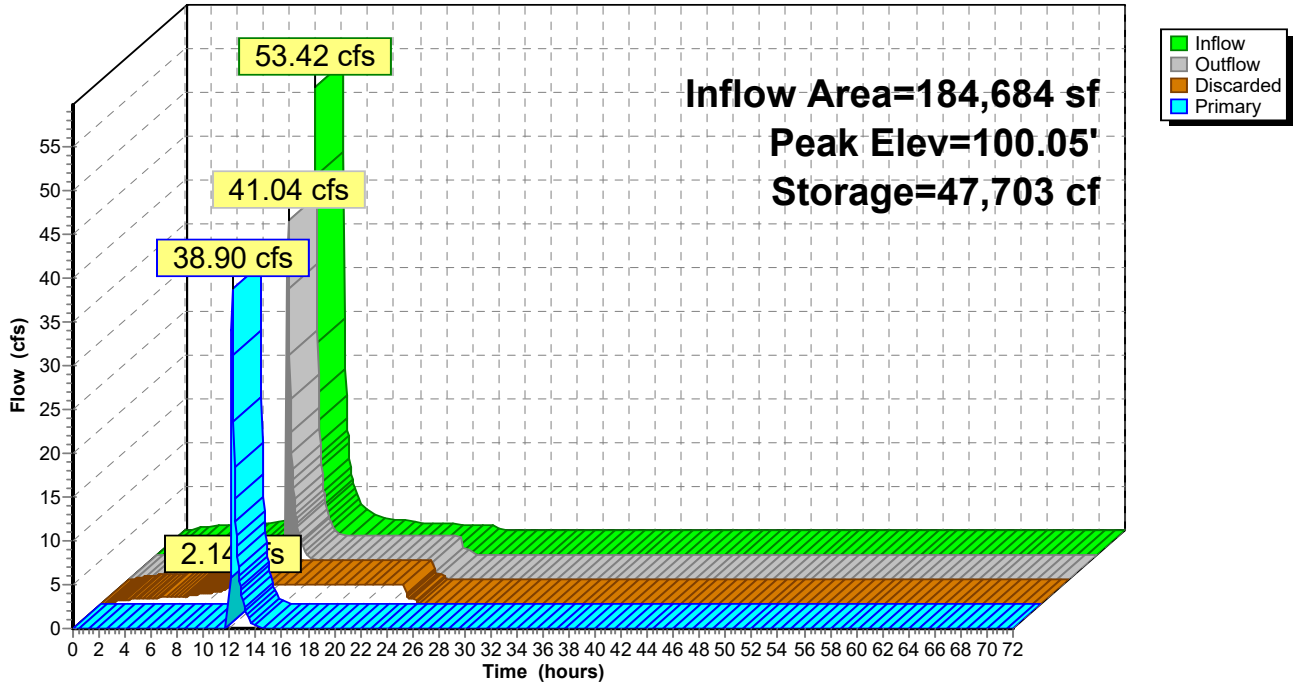
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=2.14 cfs @ 10.05 hrs HW=99.26' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 2.14 cfs)

Primary OutFlow Max=38.14 cfs @ 12.19 hrs HW=100.05' (Free Discharge)
 ↑**2=Edge of Porous Asphalt** (Weir Controls 38.14 cfs @ 0.62 fps)

Pond 10P: Basic Porous Pavement (infiltration only)

Hydrograph



Summary for Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Inflow Area = 268,899 sf, 2.59% Impervious, Inflow Depth = 8.98" for 100-Year _2100 event
 Inflow = 48.91 cfs @ 12.25 hrs, Volume= 201,174 cf
 Outflow = 48.77 cfs @ 12.25 hrs, Volume= 200,870 cf, Atten= 0%, Lag= 0.0 min
 Primary = 4.14 cfs @ 12.25 hrs, Volume= 110,041 cf
 Routed to Link 3L : Combined Flows
 Secondary = 24.02 cfs @ 12.25 hrs, Volume= 65,049 cf
 Routed to Link 3L : Combined Flows
 Tertiary = 20.60 cfs @ 12.25 hrs, Volume= 25,780 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 101.00' @ 12.25 hrs Surf.Area= 1,997 sf Storage= 4,725 cf

Plug-Flow detention time= 10.2 min calculated for 200,870 cf (100% of inflow)
 Center-of-Mass det. time= 8.3 min (817.0 - 808.7)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	374 cf	Custom Stage Data (Conic) Listed below (Recalc)
#2A	93.75'	689 cf	15.75'W x 32.10'L x 4.50'H Field A 2,275 cf Overall - 551 cf Embedded = 1,724 cf x 40.0% Voids
#3A	95.25'	551 cf	ADS_StormTech SC-740 +Cap x 12 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
1,615 cf x 3.00 = 4,844 cf Total Available Storage			

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.75	160	0.0	0	0	160
98.25	160	35.0	28	28	182
99.25	160	35.0	56	84	227
99.50	160	25.0	10	94	238
100.00	160	100.0	80	174	261
100.51	160	100.0	82	256	284
101.00	160	100.0	78	334	306
101.25	160	100.0	40	374	317

Device	Routing	Invert	Outlet Devices
#1	Primary	94.17'	6.0" Round Culvert X 3.00 L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 94.17' / 94.12' S= 0.0050 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#2	Device 1	94.33'	6.0" Round 6" HDPE Underdrain X 3.00 L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 94.33' / 94.17' S= 0.0044 ' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Secondary	100.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir X 3.00 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

#4 Tertiary 100.50' 2.85 3.07 3.20 3.32
6.0' long Sharp-Crested Rectangular Weir X 3.00
2 End Contraction(s)

Primary OutFlow Max=4.14 cfs @ 12.25 hrs HW=101.00' (Free Discharge)

↑1=Culvert (Passes 4.14 cfs of 6.50 cfs potential flow)

↑2=6" HDPE Underdrain (Barrel Controls 4.14 cfs @ 7.03 fps)

Secondary OutFlow Max=23.97 cfs @ 12.25 hrs HW=101.00' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 23.97 cfs @ 2.66 fps)

Tertiary OutFlow Max=20.51 cfs @ 12.25 hrs HW=101.00' (Free Discharge)

↑4=Sharp-Crested Rectangular Weir (Weir Controls 20.51 cfs @ 2.31 fps)

Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width

18.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 4.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

2,274.9 cf Field - 551.3 cf Chambers = 1,723.6 cf Stone x 40.0% Voids = 689.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,240.7 cf = 0.028 af

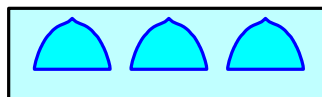
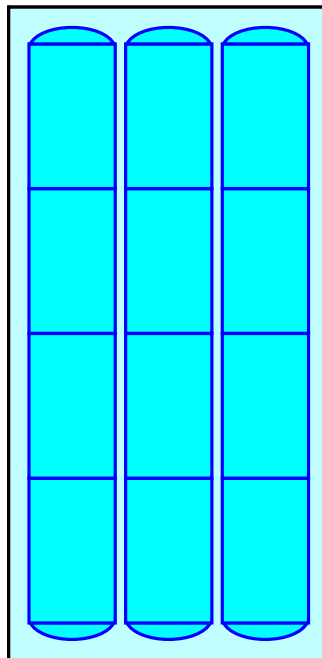
Overall Storage Efficiency = 54.5%

Overall System Size = 32.10' x 15.75' x 4.50'

12 Chambers

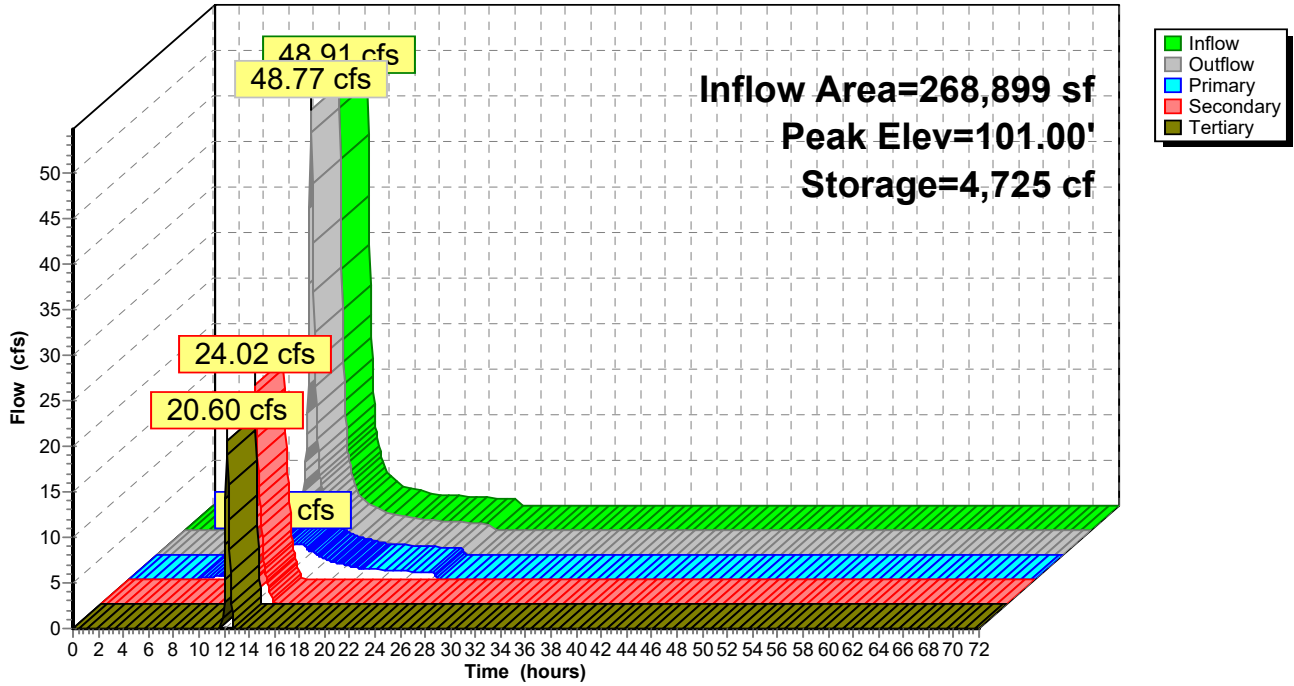
84.3 cy Field

63.8 cy Stone



Pond 11P: ROAD RG 175SF W/ UDG STORAGE CHAMBERES

Hydrograph



Summary for Pond 12P: Basic Rain Garden (infiltration only) 500SF

Assumes infiltration through media is non-limiting.

Inflow Area = 23,888 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 6.91 cfs @ 12.13 hrs, Volume= 23,706 cf
 Outflow = 6.28 cfs @ 12.16 hrs, Volume= 23,706 cf, Atten= 9%, Lag= 2.0 min
 Discarded = 0.08 cfs @ 11.80 hrs, Volume= 11,127 cf
 Primary = 6.20 cfs @ 12.16 hrs, Volume= 12,579 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.20' @ 12.16 hrs Surf.Area= 7,000 sf Storage= 6,619 cf

Plug-Flow detention time= 326.0 min calculated for 23,689 cf (100% of inflow)
 Center-of-Mass det. time= 326.7 min (1,063.8 - 737.1)

Volume	Invert	Avail.Storage	Storage Description
#1	98.25'	622 cf	Custom Stage Data (Conic) Listed below (Recalc)
			622 cf x 14.00 = 8,708 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
98.25	374	0.0	0	0	374
99.25	374	35.0	131	131	443
99.50	374	25.0	23	154	460
100.00	500	100.0	218	372	591
100.25	500	100.0	125	497	611
100.50	500	100.0	125	622	631

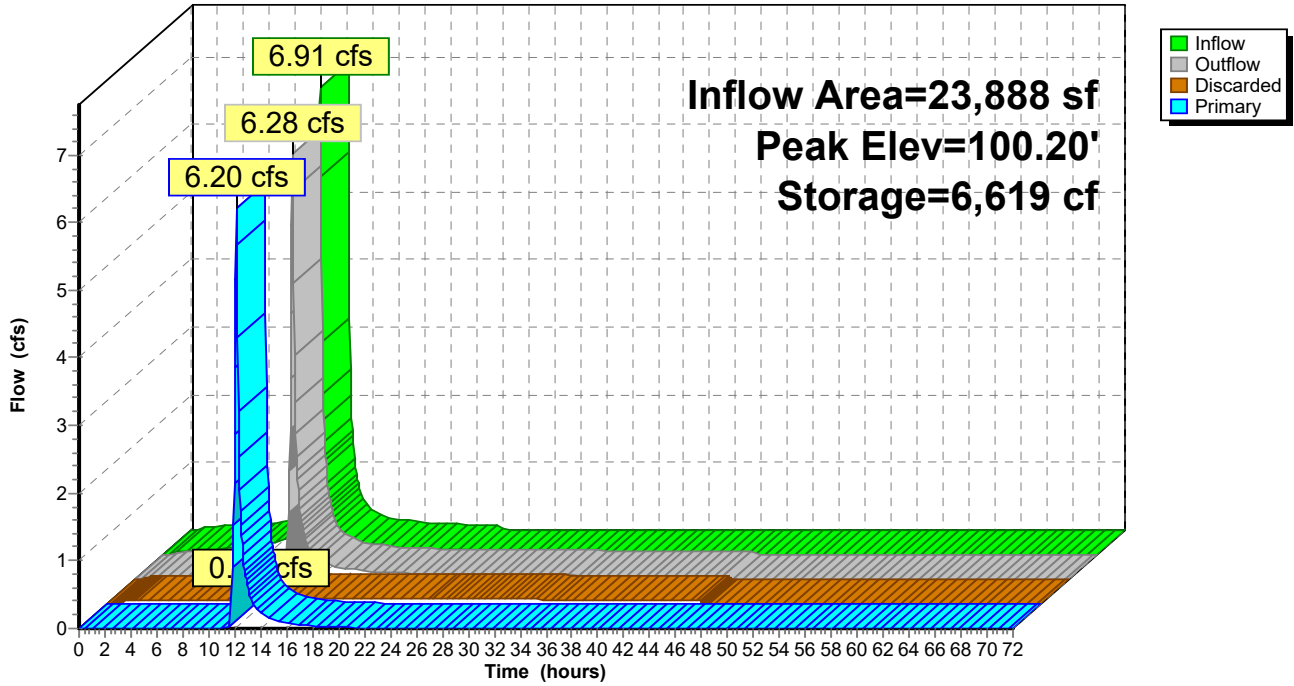
Device	Routing	Invert	Outlet Devices
#1	Discarded	98.25'	0.500 in/hr Exfiltration over Surface area
#2	Primary	100.00'	2.0' long x 3.0' breadth Broad-Crested Rectangular Weir X 14.00 Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.08 cfs @ 11.80 hrs HW=100.02' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=6.07 cfs @ 12.16 hrs HW=100.20' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 6.07 cfs @ 1.09 fps)

Pond 12P: Basic Rain Garden (infiltration only) 500SF

Hydrograph



Summary for Pond 13P: Basic Porous Pavement (infiltration only)

Inflow Area = 35,770 sf, 100.00% Impervious, Inflow Depth = 11.91" for 100-Year _2100 event
 Inflow = 10.35 cfs @ 12.13 hrs, Volume= 35,497 cf
 Outflow = 9.97 cfs @ 12.14 hrs, Volume= 35,818 cf, Atten= 4%, Lag= 1.0 min
 Discarded = 0.41 cfs @ 10.05 hrs, Volume= 25,953 cf
 Primary = 9.56 cfs @ 12.14 hrs, Volume= 9,865 cf
 Routed to Link 3L : Combined Flows

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 100.02' @ 12.15 hrs Surf.Area= 35,770 sf Storage= 8,055 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 101.5 min (838.6 - 737.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	99.25'	16,240 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.25	35,770	0.0	0	0
99.75	35,770	35.0	6,260	6,260
99.83	35,770	15.0	429	6,689
100.01	35,770	15.0	966	7,655
100.25	35,770	100.0	8,585	16,240

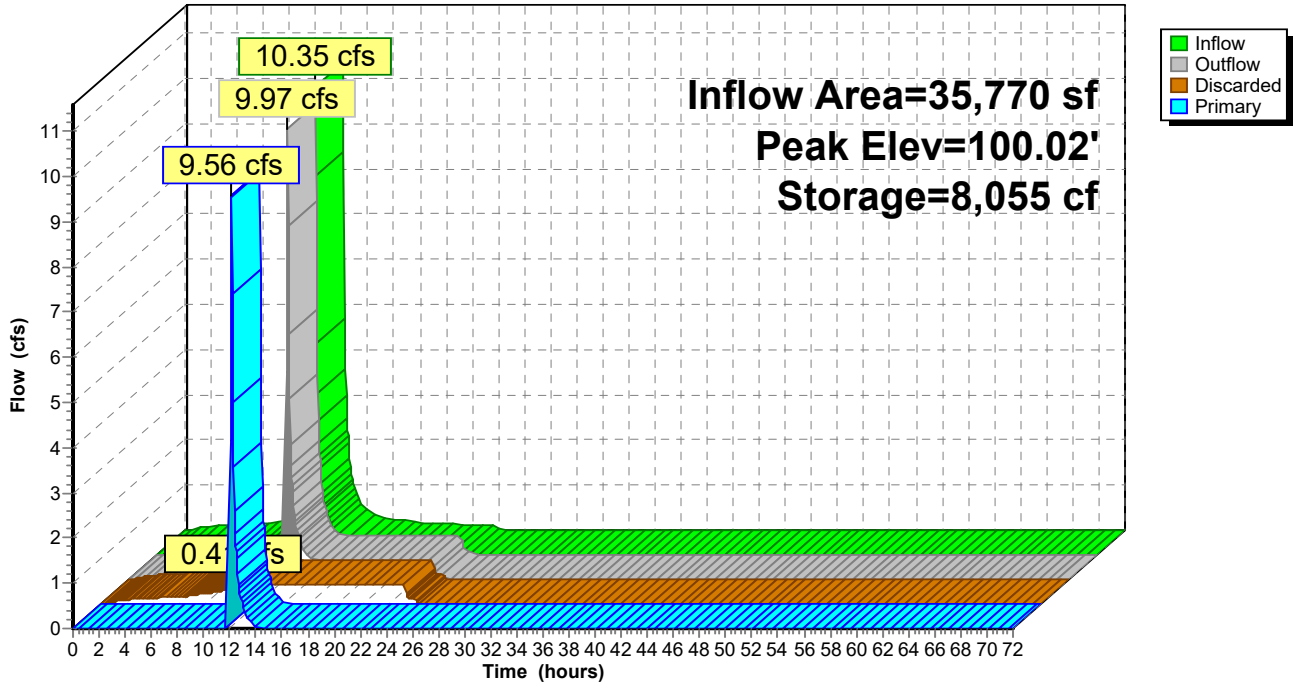
Device	Routing	Invert	Outlet Devices										
#1	Discarded	99.25'	0.500 in/hr Exfiltration over Surface area										
#2	Primary	100.00'	15.0' long x 1.0' breadth Edge of Porous Asphalt X 76.00										
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00										
			Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32										

Discarded OutFlow Max=0.41 cfs @ 10.05 hrs HW=99.26' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.41 cfs)

Primary OutFlow Max=9.29 cfs @ 12.14 hrs HW=100.02' (Free Discharge)
 ↑**2=Edge of Porous Asphalt** (Weir Controls 9.29 cfs @ 0.39 fps)

Pond 13P: Basic Porous Pavement (infiltration only)

Hydrograph



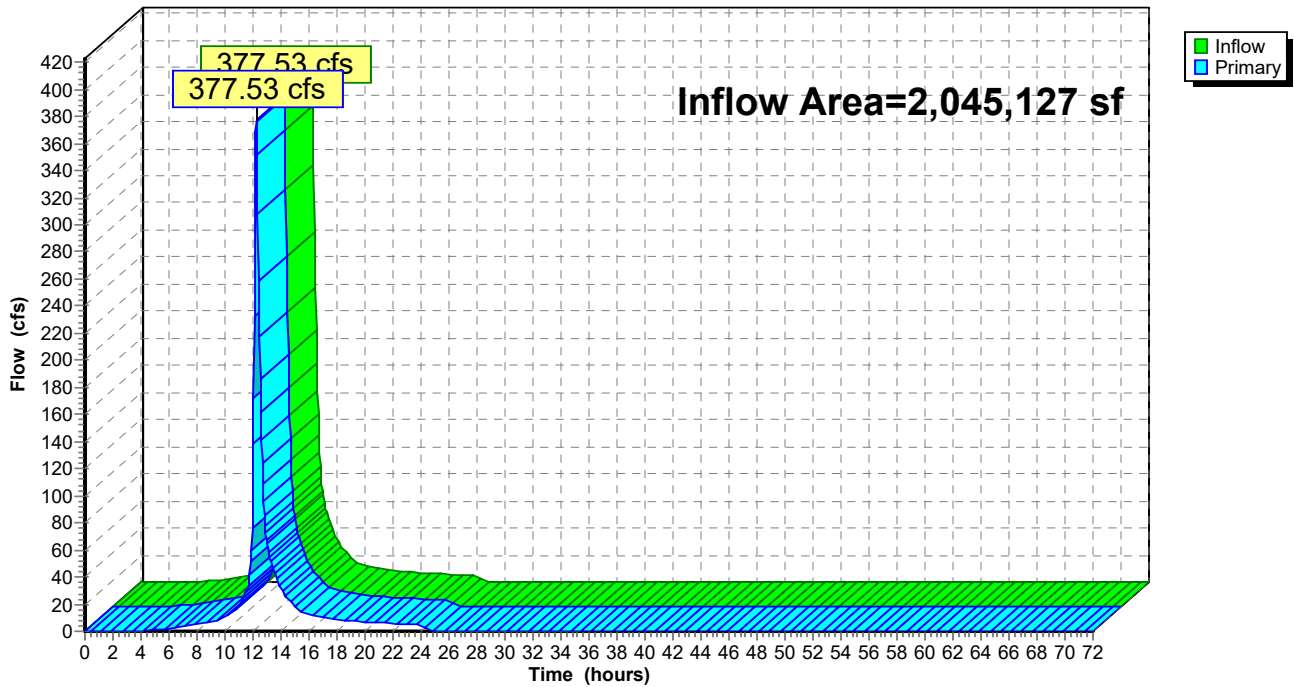
Summary for Link 1L: Combined Flows

Inflow Area = 2,045,127 sf, 24.45% Impervious, Inflow Depth = 8.68" for 100-Year_2100 event
Inflow = 377.53 cfs @ 12.24 hrs, Volume= 1,480,074 cf
Primary = 377.53 cfs @ 12.24 hrs, Volume= 1,480,074 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : INFLOW PIPE

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1L: Combined Flows

Hydrograph



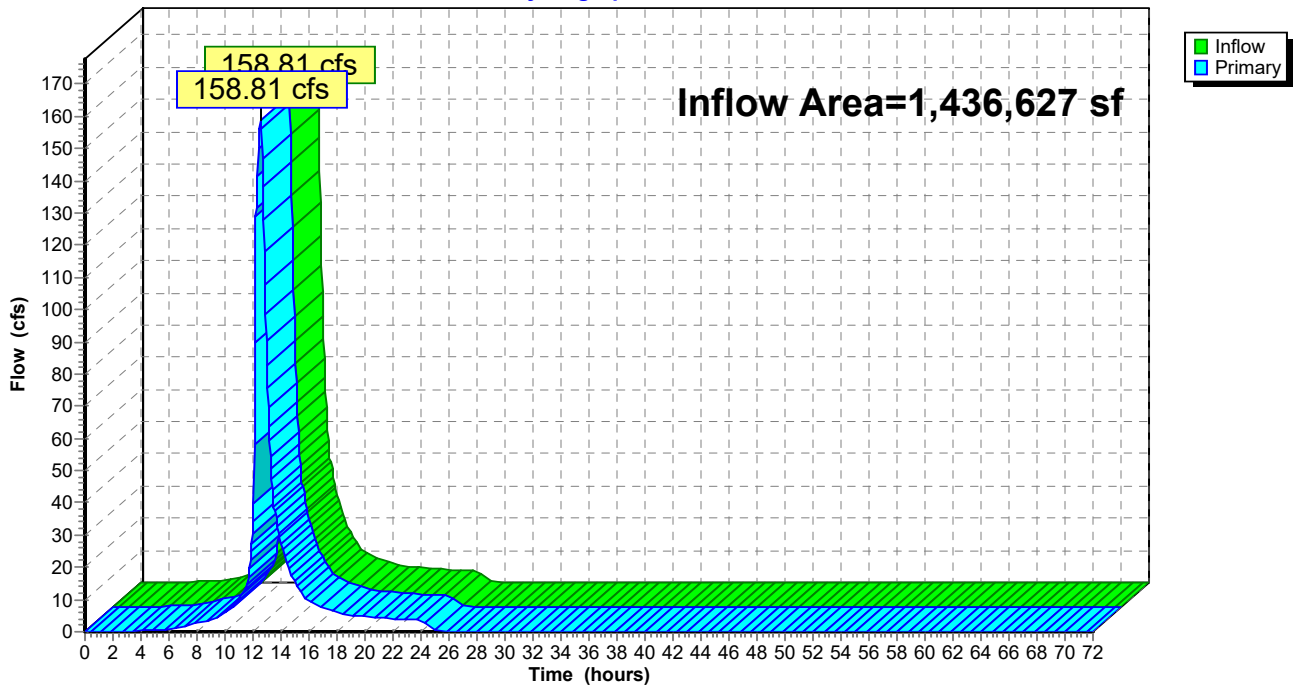
Summary for Link 2L: Combined Flows

Inflow Area = 1,436,627 sf, 27.42% Impervious, Inflow Depth = 8.38" for 100-Year _2100 event
Inflow = 158.81 cfs @ 12.52 hrs, Volume= 1,003,452 cf
Primary = 158.81 cfs @ 12.52 hrs, Volume= 1,003,452 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 2L: Combined Flows

Hydrograph



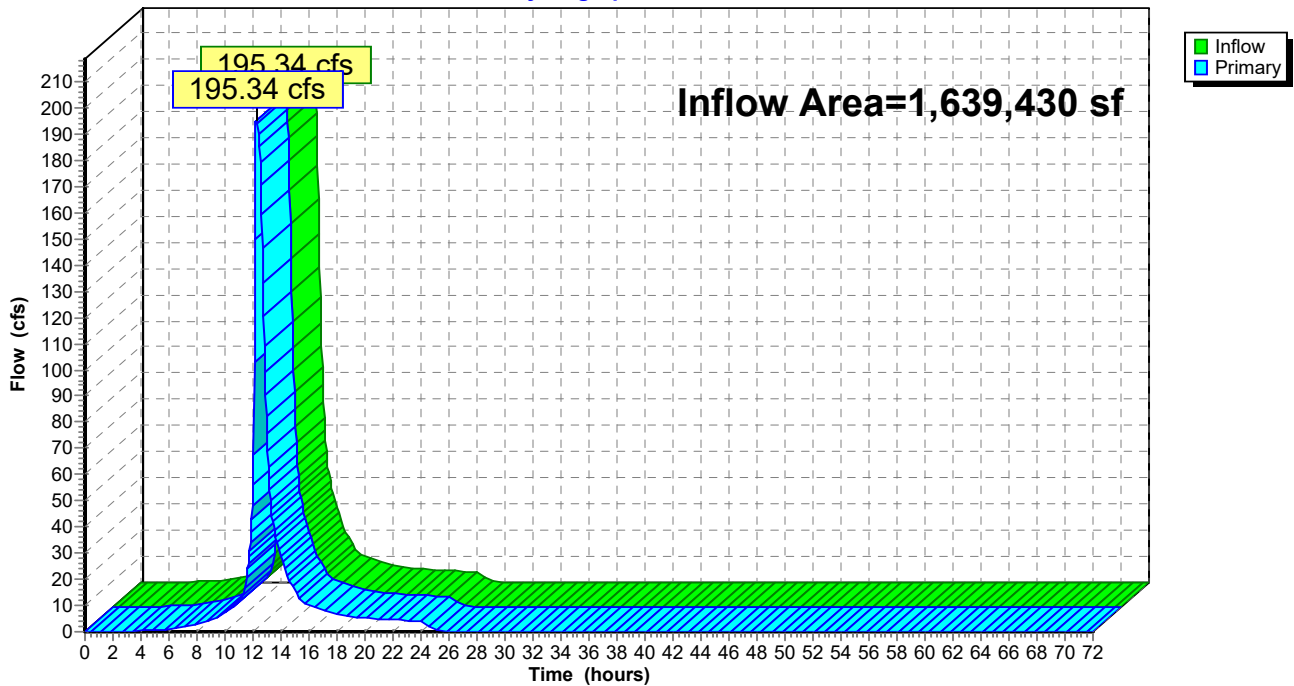
Summary for Link 3L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 8.28" for 100-Year_2100 event
Inflow = 195.34 cfs @ 12.23 hrs, Volume= 1,131,823 cf
Primary = 195.34 cfs @ 12.23 hrs, Volume= 1,131,823 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 3L: Combined Flows

Hydrograph



Summary for Link 4L: Combined Flows

Inflow Area = 1,639,430 sf, 30.99% Impervious, Inflow Depth = 9.83" for 100-Year_2100 event
Inflow = 213.01 cfs @ 12.42 hrs, Volume= 1,343,262 cf
Primary = 213.01 cfs @ 12.42 hrs, Volume= 1,343,262 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Combined Flows

Hydrograph

