

Park Ave Solar - Blandford

Type III 24-hr 2-Year Storm Event Rainfall=3.00"

Prepared by Whitman & Bingham Associates, LLC

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=647,607 sf Runoff Depth=1.13"
Flow Length=894' Tc=35.1 min CN=78 Runoff=10.00 cfs 1.399 af

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=744,354 sf Runoff Depth=1.07"
Flow Length=894' Tc=35.1 min CN=77 Runoff=10.82 cfs 1.525 af

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin Runoff Area=96,747 sf Runoff Depth=1.13"
Flow Length=505' Tc=12.4 min CN=78 Runoff=2.28 cfs 0.209 af

Pond 11P: Prop. Stormwater Basin Peak Elev=1,329.29' Storage=2,356 cf Inflow=2.28 cfs 0.209 af
Primary=0.51 cfs 0.209 af Secondary=0.00 cfs 0.000 af Outflow=0.51 cfs 0.209 af

Pond DP #99 Post: Design Point #99 (Post) Inflow=10.51 cfs 1.608 af
Primary=10.51 cfs 1.608 af

Pond DP #99 Pre: Design Point #99 (Pre) Inflow=10.82 cfs 1.525 af
Primary=10.82 cfs 1.525 af

Total Runoff Area = 34.176 ac Runoff Volume = 3.133 af Average Runoff Depth = 1.10"

Park Ave Solar - Blandford

Type III 24-hr 2-Year Storm Event Rainfall=3.00"

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Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)

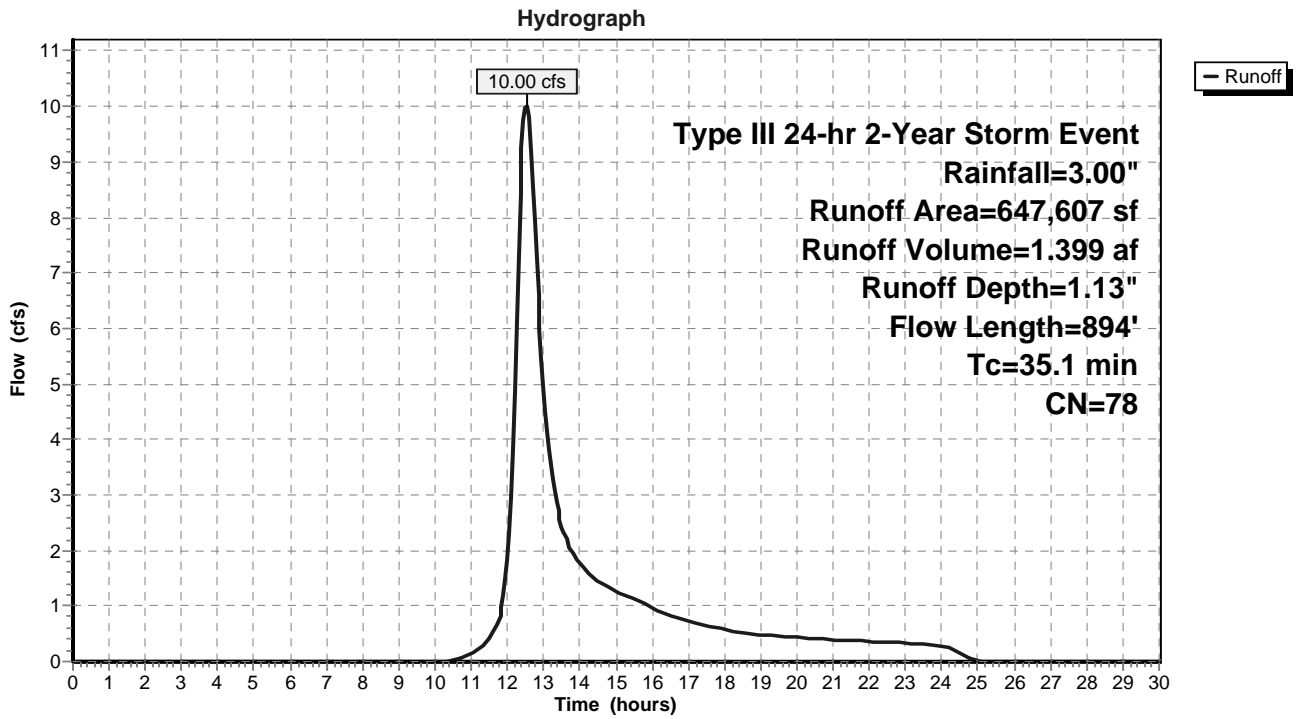
Runoff = 10.00 cfs @ 12.52 hrs, Volume= 1.399 af, Depth= 1.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
9,184	98	Paved parking & roofs
2,289	91	Gravel roads, HSG D
331,812	77	Woods, Good, HSG D
304,322	78	Meadow, non-grazed, HSG D
647,607	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)



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Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)

Runoff = 10.82 cfs @ 12.52 hrs, Volume= 1.525 af, Depth= 1.07"

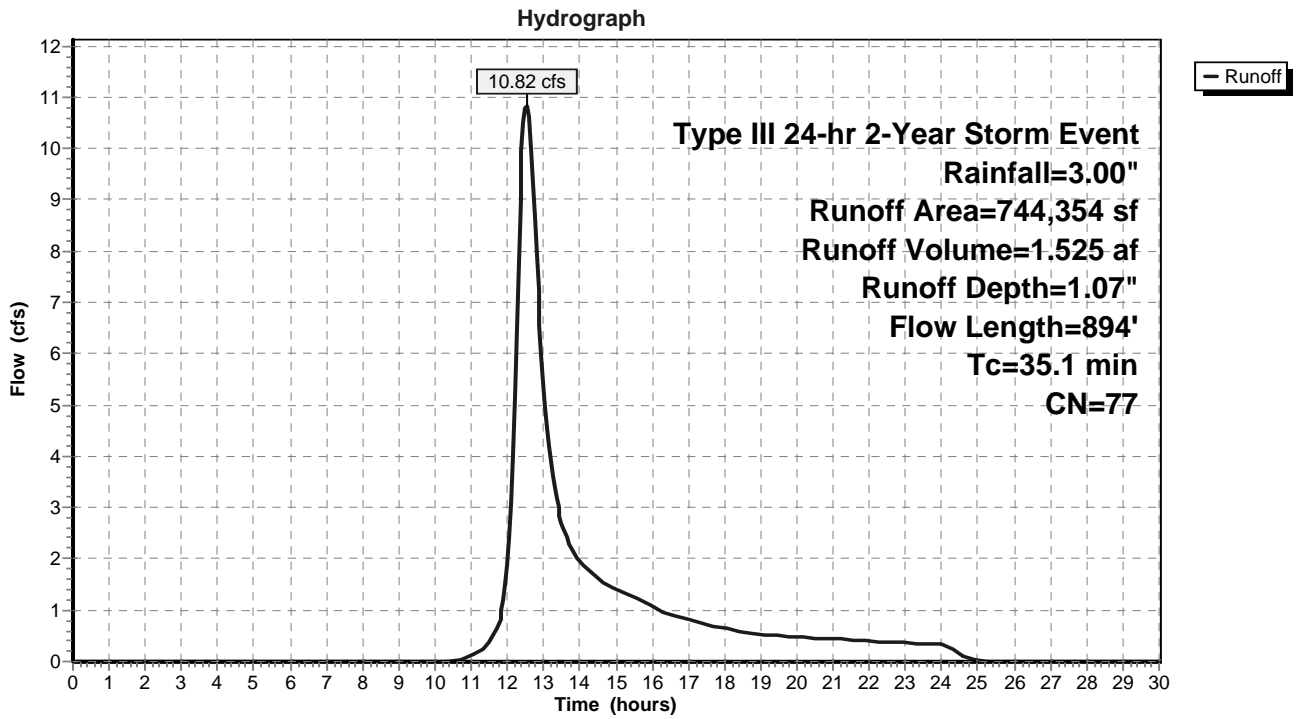
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Type III 24-hr 2-Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
9,353	98	Paved parking & roofs
690,223	77	Woods, Good, HSG D
44,778	78	Meadow, non-grazed, HSG D
744,354	77	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)



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Type III 24-hr 2-Year Storm Event Rainfall=3.00"

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Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Runoff = 2.28 cfs @ 12.18 hrs, Volume= 0.209 af, Depth= 1.13"

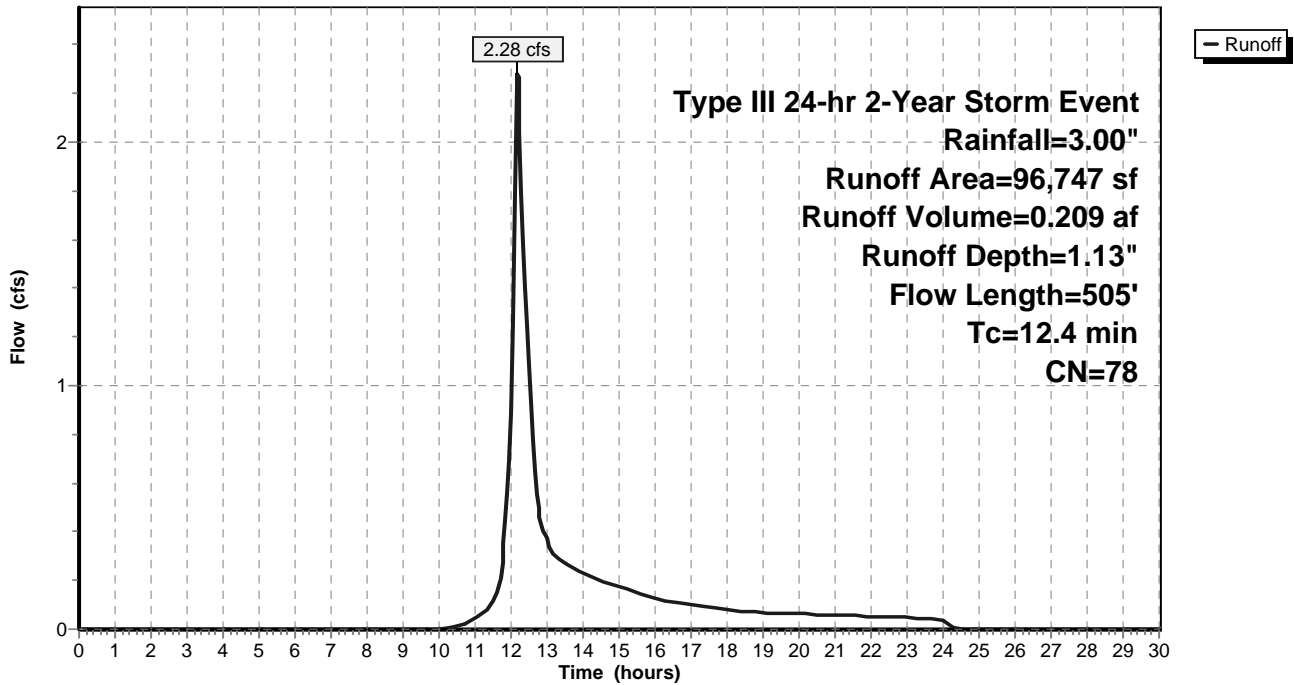
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
70,354	78	Meadow, non-grazed, HSG D
26,393	77	Woods, Good, HSG D
96,747	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0222	0.1		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
0.9	59	0.0222	1.0		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.4	396	0.0757	1.9		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	505	Total			

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Hydrograph



Park Ave Solar - Blandford

Type III 24-hr 2-Year Storm Event Rainfall=3.00"

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Pond 11P: Prop. Stormwater Basin

Inflow Area = 2.221 ac, Inflow Depth = 1.13" for 2-Year Storm Event event
 Inflow = 2.28 cfs @ 12.18 hrs, Volume= 0.209 af
 Outflow = 0.51 cfs @ 11.95 hrs, Volume= 0.209 af, Atten= 78%, Lag= 0.0 min
 Primary = 0.51 cfs @ 11.95 hrs, Volume= 0.209 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,329.29' @ 12.74 hrs Surf.Area= 1,959 sf Storage= 2,356 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 30.6 min (889.3 - 858.7)

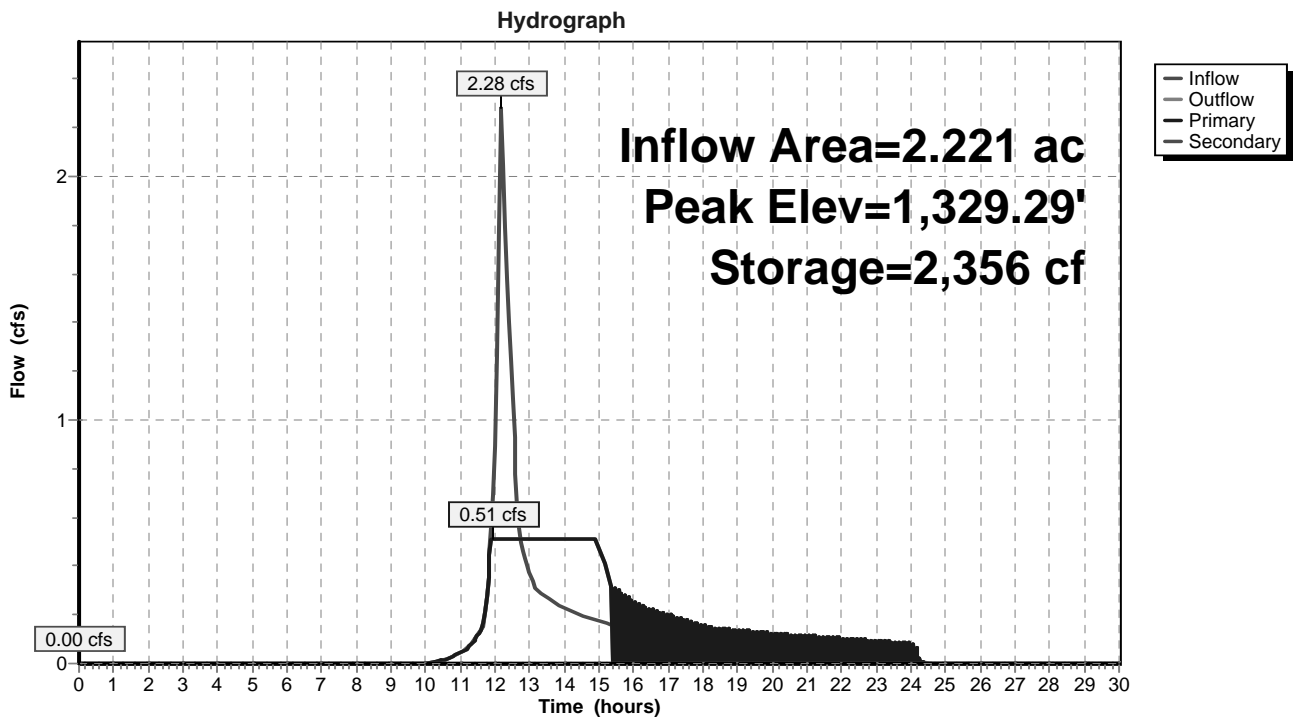
Volume #1	Invert 1,327.00'	Avail.Storage 11,054 cf	Storage Description Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
1,327.00	302	78.3	0	0	302	
1,328.00	864	137.9	559	559	1,333	
1,329.00	1,706	194.2	1,261	1,820	2,830	
1,330.00	2,642	223.2	2,157	3,977	3,816	
1,331.00	3,528	246.6	3,074	7,052	4,722	
1,332.00	4,496	271.1	4,002	11,054	5,764	

Device #1	Routing Primary	Invert 0.00'	Outlet Devices Special & User-Defined												
			Elev. (feet) 0.00 0.01 6.00												
			Disch. (cfs) 0.000 0.510 0.510												
#2	Secondary	1,330.80'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir												
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00												
			3.50 4.00 4.50 5.00 5.50												
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66												
			2.68 2.70 2.74 2.79 2.88												

Primary OutFlow Max=0.51 cfs @ 11.95 hrs HW=1,327.08' TW=0.00' (Dynamic Tailwater)
 ↑1=Special & User-Defined (Custom Controls 0.51 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.01' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 11P: Prop. Stormwater Basin

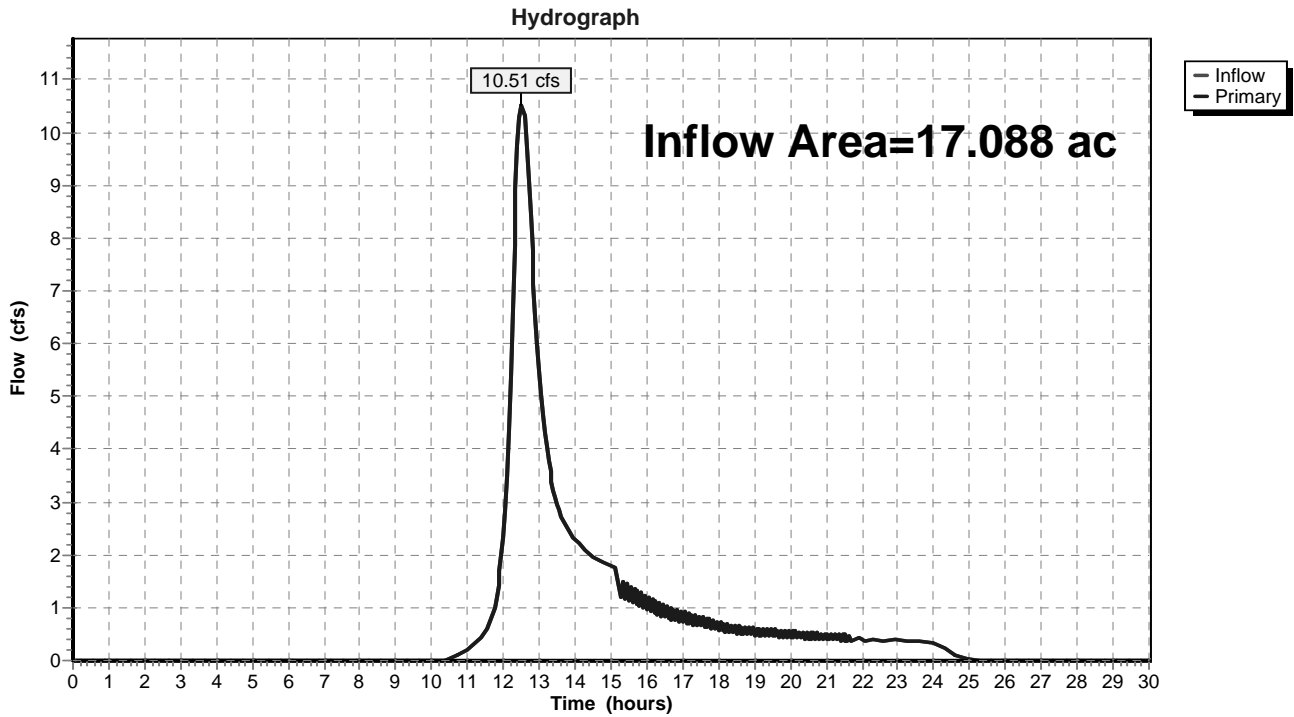


Pond DP #99 Post: Design Point #99 (Post)

Inflow Area = 17.088 ac, Inflow Depth = 1.13" for 2-Year Storm Event event
Inflow = 10.51 cfs @ 12.52 hrs, Volume= 1.608 af
Primary = 10.51 cfs @ 12.52 hrs, Volume= 1.608 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Post: Design Point #99 (Post)

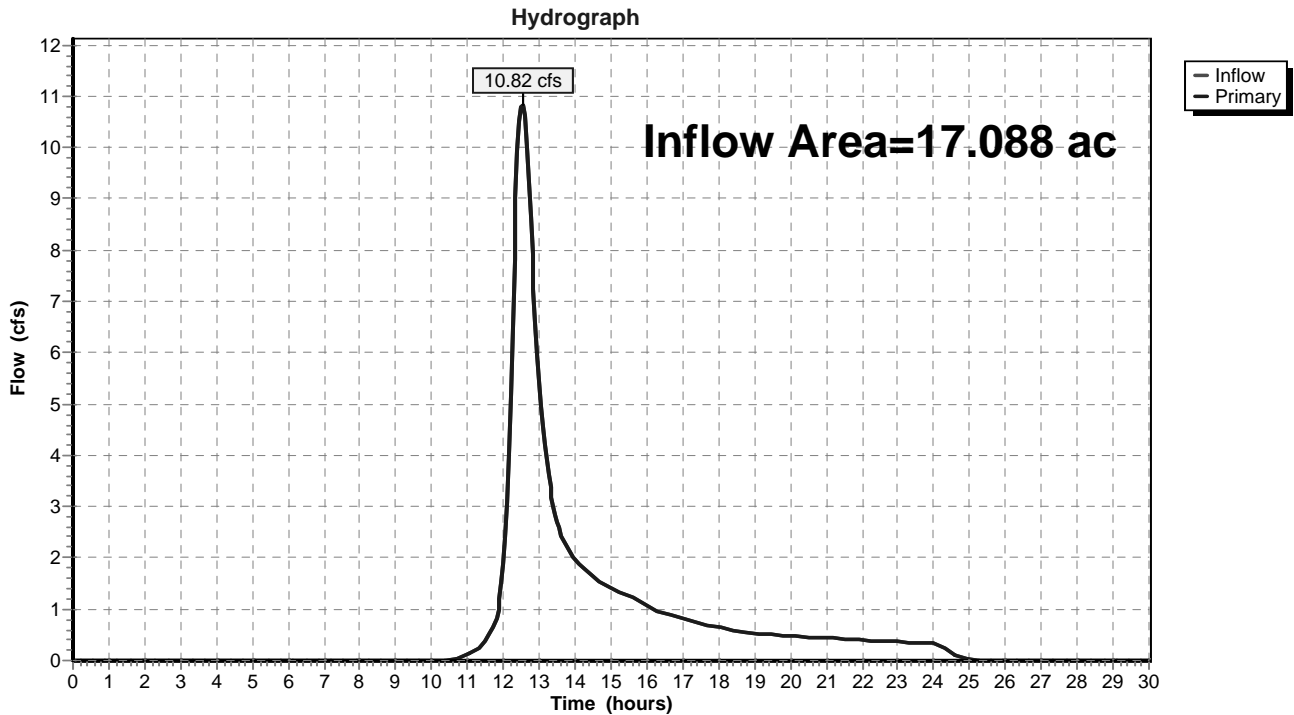


Pond DP #99 Pre: Design Point #99 (Pre)

Inflow Area = 17.088 ac, Inflow Depth = 1.07" for 2-Year Storm Event event
Inflow = 10.82 cfs @ 12.52 hrs, Volume= 1.525 af
Primary = 10.82 cfs @ 12.52 hrs, Volume= 1.525 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Pre: Design Point #99 (Pre)



Park Ave Solar - Blandford

Type III 24-hr 10-Year Storm Event Rainfall=4.50"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=647,607 sf Runoff Depth=2.29"
Flow Length=894' Tc=35.1 min CN=78 Runoff=20.91 cfs 2.841 af

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=744,354 sf Runoff Depth=2.21"
Flow Length=894' Tc=35.1 min CN=77 Runoff=23.13 cfs 3.148 af

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin Runoff Area=96,747 sf Runoff Depth=2.29"
Flow Length=505' Tc=12.4 min CN=78 Runoff=4.81 cfs 0.424 af

Pond 11P: Prop. Stormwater Basin Peak Elev=1,330.88' Storage=6,624 cf Inflow=4.81 cfs 0.424 af
Primary=0.51 cfs 0.406 af Secondary=0.50 cfs 0.018 af Outflow=1.01 cfs 0.425 af

Pond DP #99 Post: Design Point #99 (Post) Inflow=21.42 cfs 3.266 af
Primary=21.42 cfs 3.266 af

Pond DP #99 Pre: Design Point #99 (Pre) Inflow=23.13 cfs 3.148 af
Primary=23.13 cfs 3.148 af

Total Runoff Area = 34.176 ac Runoff Volume = 6.413 af Average Runoff Depth = 2.25"

Park Ave Solar - Blandford

Type III 24-hr 10-Year Storm Event Rainfall=4.50"

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Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)

Runoff = 20.91 cfs @ 12.50 hrs, Volume= 2.841 af, Depth= 2.29"

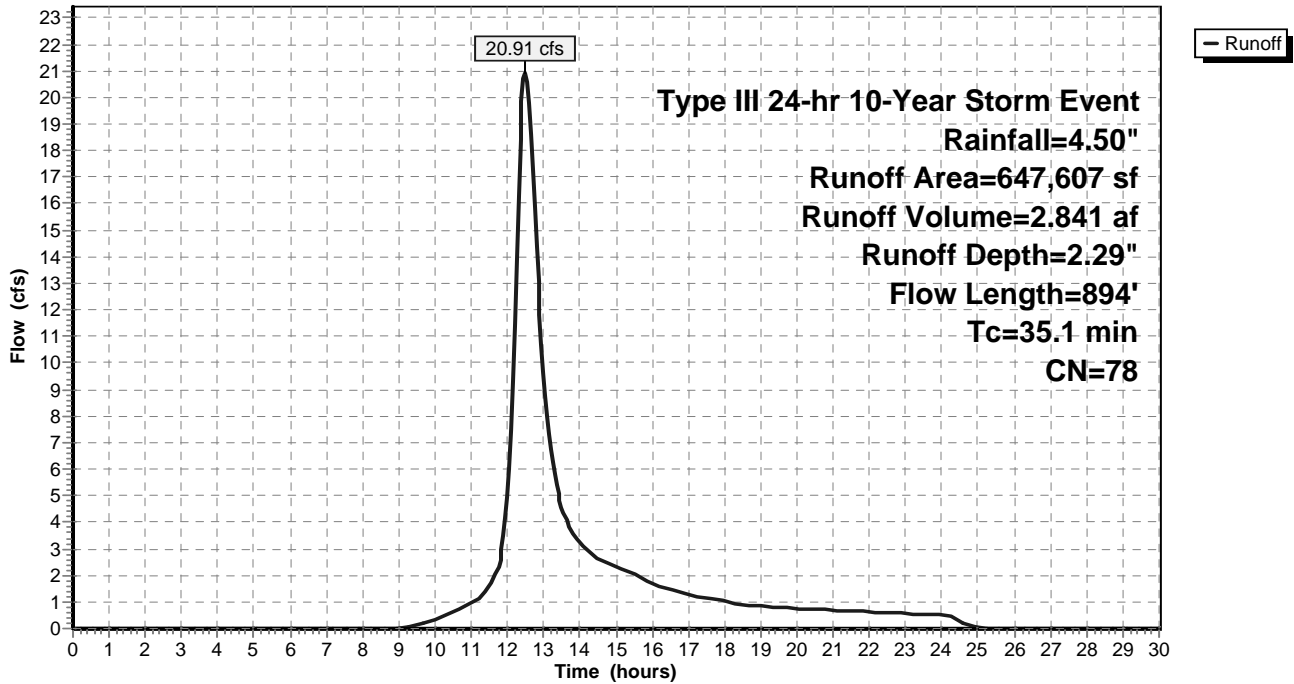
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Event Rainfall=4.50"

Area (sf)	CN	Description
9,184	98	Paved parking & roofs
2,289	91	Gravel roads, HSG D
331,812	77	Woods, Good, HSG D
304,322	78	Meadow, non-grazed, HSG D
647,607	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)

Hydrograph



Park Ave Solar - Blandford

Type III 24-hr 10-Year Storm Event Rainfall=4.50"

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Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)

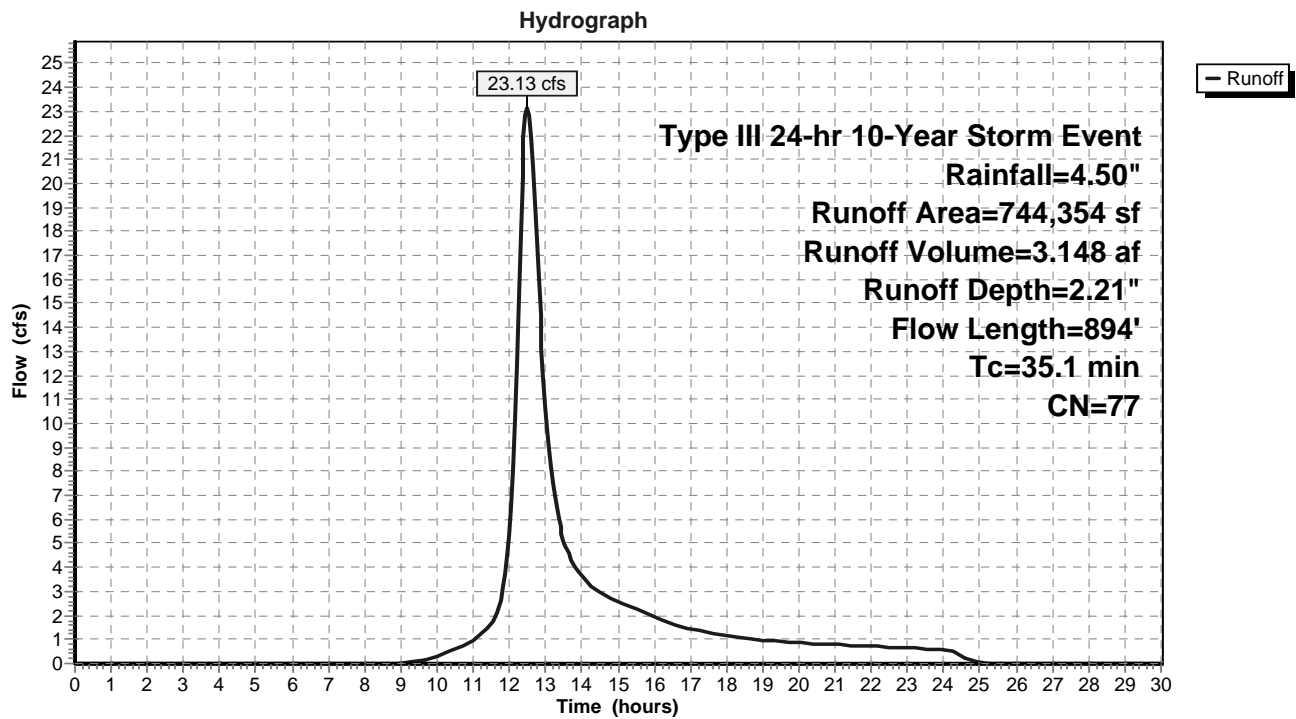
Runoff = 23.13 cfs @ 12.50 hrs, Volume= 3.148 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Event Rainfall=4.50"

Area (sf)	CN	Description
9,353	98	Paved parking & roofs
690,223	77	Woods, Good, HSG D
44,778	78	Meadow, non-grazed, HSG D
744,354	77	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)



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Type III 24-hr 10-Year Storm Event Rainfall=4.50"

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Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Runoff = 4.81 cfs @ 12.17 hrs, Volume= 0.424 af, Depth= 2.29"

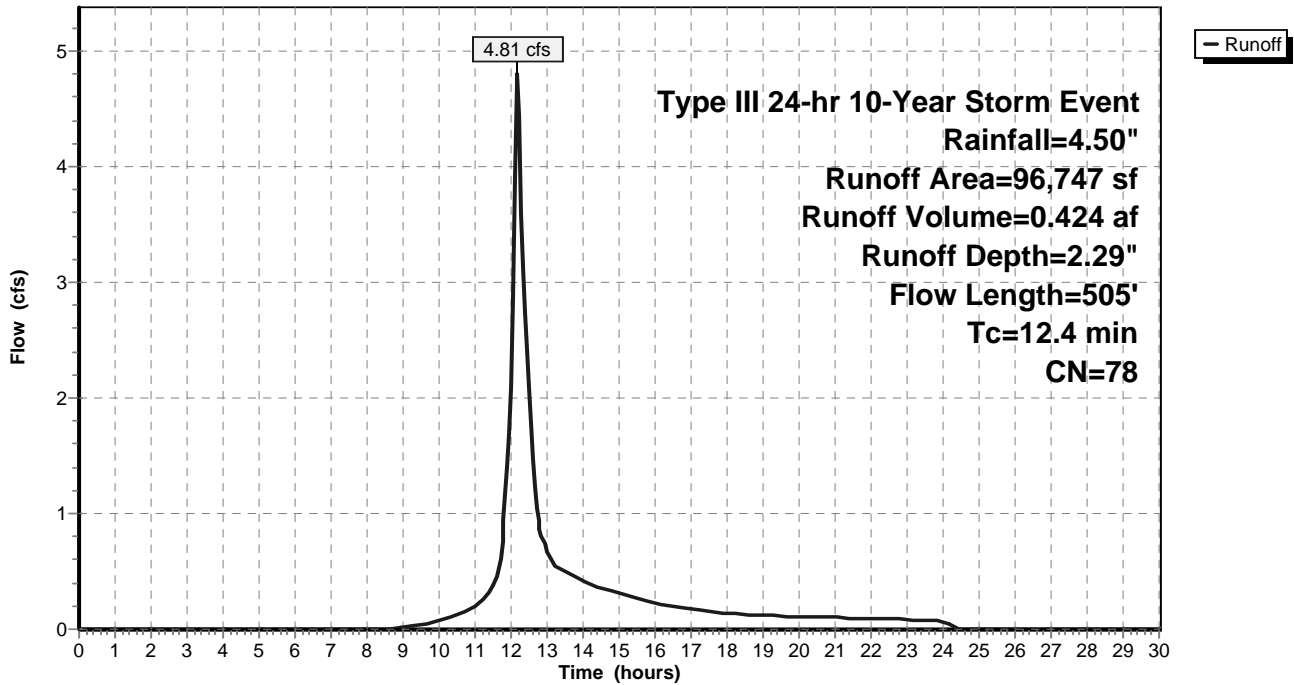
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Year Storm Event Rainfall=4.50"

Area (sf)	CN	Description
70,354	78	Meadow, non-grazed, HSG D
26,393	77	Woods, Good, HSG D
96,747	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0222	0.1		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
0.9	59	0.0222	1.0		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.4	396	0.0757	1.9		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	505	Total			

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Hydrograph



Park Ave Solar - Blandford

Type III 24-hr 10-Year Storm Event Rainfall=4.50"

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Pond 11P: Prop. Stormwater Basin

Inflow Area = 2.221 ac, Inflow Depth = 2.29" for 10-Year Storm Event event
 Inflow = 4.81 cfs @ 12.17 hrs, Volume= 0.424 af
 Outflow = 1.01 cfs @ 12.72 hrs, Volume= 0.425 af, Atten= 79%, Lag= 33.0 min
 Primary = 0.51 cfs @ 11.75 hrs, Volume= 0.406 af
 Secondary = 0.50 cfs @ 12.72 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,330.88' @ 12.72 hrs Surf.Area= 3,412 sf Storage= 6,624 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 106.5 min (944.4 - 837.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,327.00'	11,054 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,327.00	302	78.3	0	0	302
1,328.00	864	137.9	559	559	1,333
1,329.00	1,706	194.2	1,261	1,820	2,830
1,330.00	2,642	223.2	2,157	3,977	3,816
1,331.00	3,528	246.6	3,074	7,052	4,722
1,332.00	4,496	271.1	4,002	11,054	5,764

Device	Routing	Invert	Outlet Devices											
#1	Primary	0.00'	Special & User-Defined											
			Elev. (feet) 0.00 0.01 6.00											
			Disch. (cfs) 0.000 0.510 0.510											
#2	Secondary	1,330.80'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir											
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00											
			3.50 4.00 4.50 5.00 5.50											
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66											
			2.68 2.70 2.74 2.79 2.88											

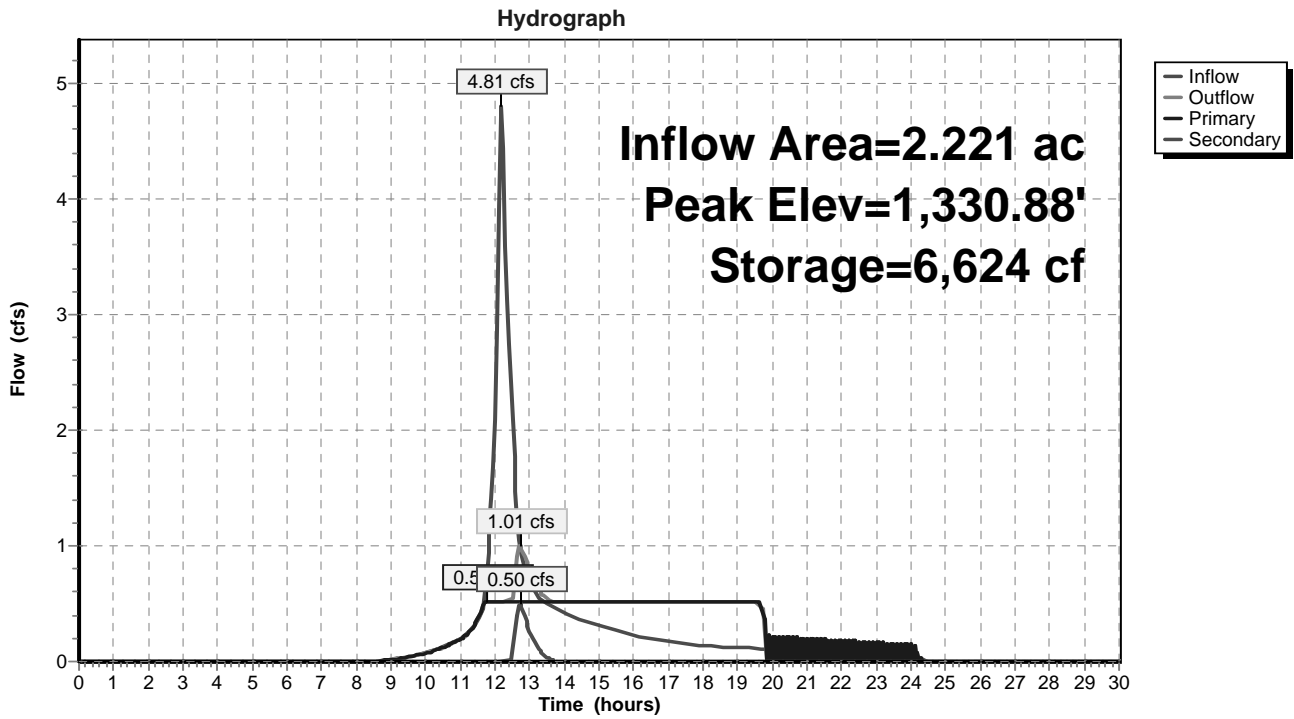
Primary OutFlow Max=0.51 cfs @ 11.75 hrs HW=1,327.12' TW=0.00' (Dynamic Tailwater)

↑1=**Special & User-Defined** (Custom Controls 0.51 cfs)

Secondary OutFlow Max=0.48 cfs @ 12.72 hrs HW=1,330.88' TW=0.00' (Dynamic Tailwater)

↑2=**Broad-Crested Rectangular Weir** (Weir Controls 0.48 cfs @ 0.6 fps)

Pond 11P: Prop. Stormwater Basin

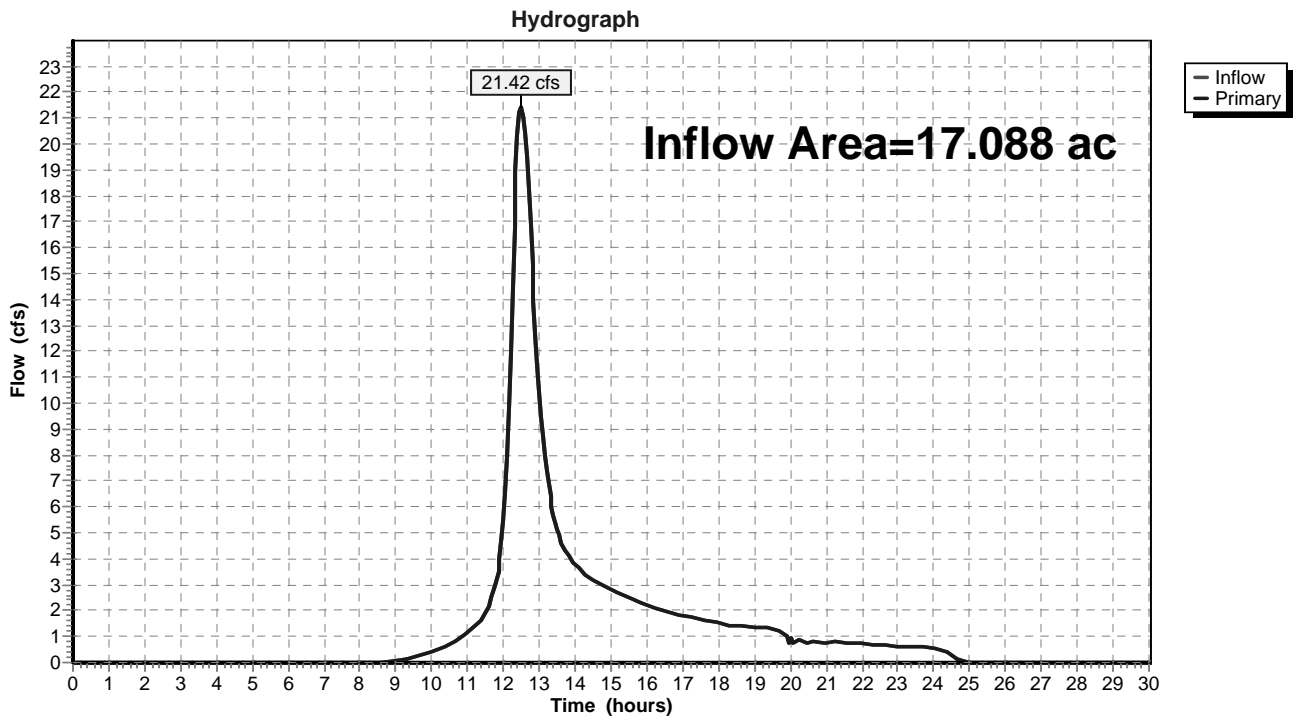


Pond DP #99 Post: Design Point #99 (Post)

Inflow Area = 17.088 ac, Inflow Depth = 2.29" for 10-Year Storm Event event
Inflow = 21.42 cfs @ 12.50 hrs, Volume= 3.266 af
Primary = 21.42 cfs @ 12.50 hrs, Volume= 3.266 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Post: Design Point #99 (Post)



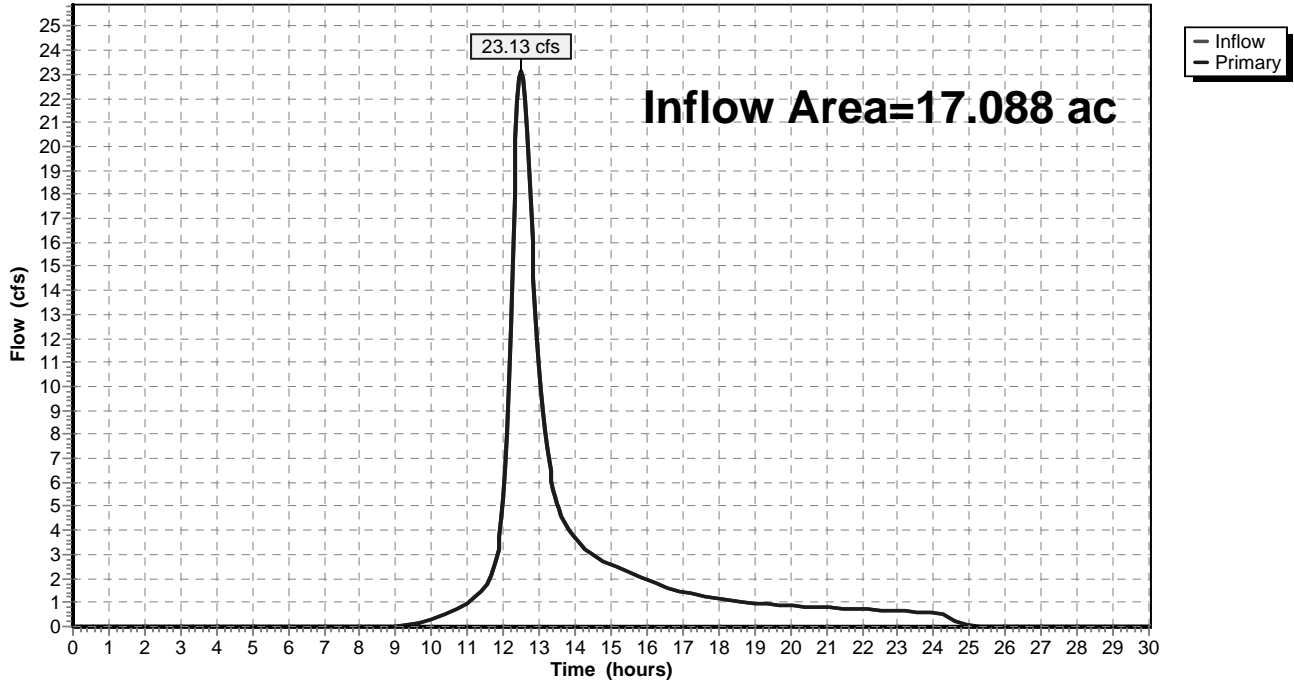
Pond DP #99 Pre: Design Point #99 (Pre)

Inflow Area = 17.088 ac, Inflow Depth = 2.21" for 10-Year Storm Event event
Inflow = 23.13 cfs @ 12.50 hrs, Volume= 3.148 af
Primary = 23.13 cfs @ 12.50 hrs, Volume= 3.148 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Pre: Design Point #99 (Pre)

Hydrograph



Park Ave Solar - Blandford

Type III 24-hr 25-Year Storm Event Rainfall=5.30"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=647,607 sf Runoff Depth=2.97"
Flow Length=894' Tc=35.1 min CN=78 Runoff=27.14 cfs 3.677 af

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=744,354 sf Runoff Depth=2.88"
Flow Length=894' Tc=35.1 min CN=77 Runoff=30.21 cfs 4.095 af

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin Runoff Area=96,747 sf Runoff Depth=2.97"
Flow Length=505' Tc=12.4 min CN=78 Runoff=6.24 cfs 0.549 af

Pond 11P: Prop. Stormwater Basin Peak Elev=1,331.03' Storage=7,152 cf Inflow=6.24 cfs 0.549 af
Primary=0.51 cfs 0.457 af Secondary=2.58 cfs 0.093 af Outflow=3.09 cfs 0.550 af

Pond DP #99 Post: Design Point #99 (Post) Inflow=30.15 cfs 4.227 af
Primary=30.15 cfs 4.227 af

Pond DP #99 Pre: Design Point #99 (Pre) Inflow=30.21 cfs 4.095 af
Primary=30.21 cfs 4.095 af

Total Runoff Area = 34.176 ac Runoff Volume = 8.322 af Average Runoff Depth = 2.92"

Park Ave Solar - Blandford

Type III 24-hr 25-Year Storm Event Rainfall=5.30"

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Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)

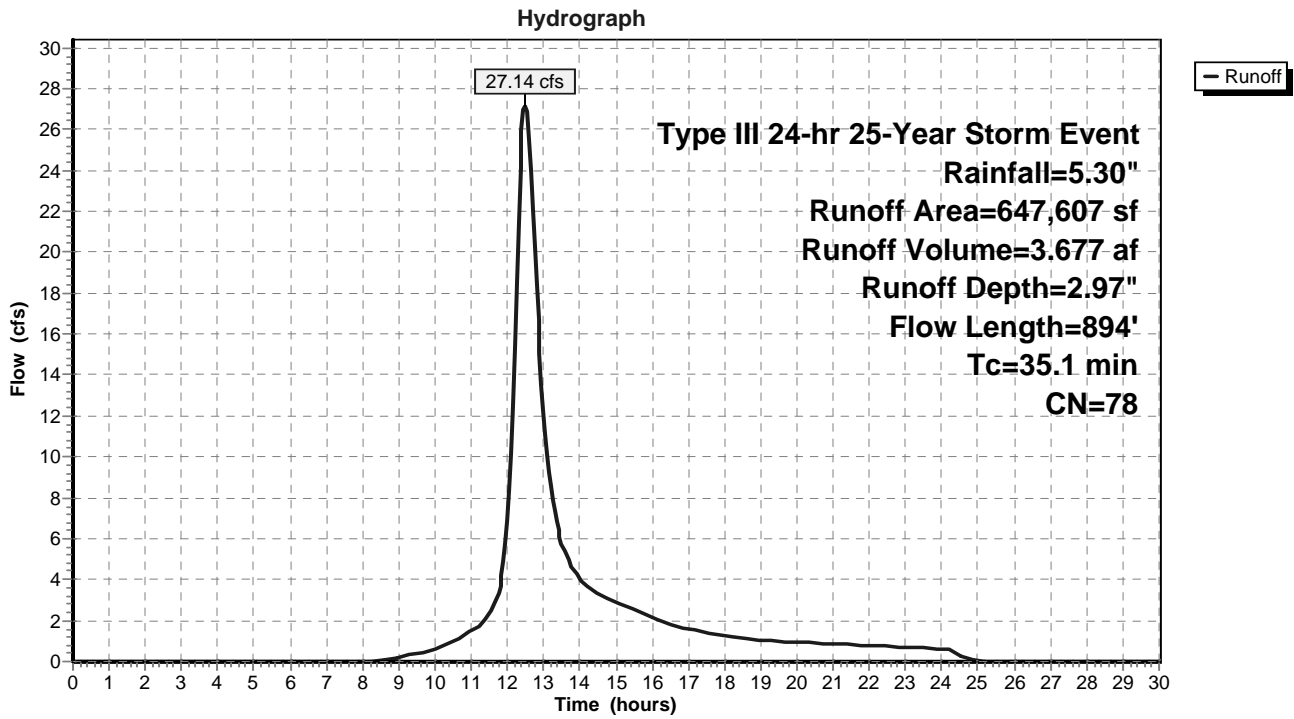
Runoff = 27.14 cfs @ 12.49 hrs, Volume= 3.677 af, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Storm Event Rainfall=5.30"

Area (sf)	CN	Description
9,184	98	Paved parking & roofs
2,289	91	Gravel roads, HSG D
331,812	77	Woods, Good, HSG D
304,322	78	Meadow, non-grazed, HSG D
647,607	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)



Park Ave Solar - Blandford

Type III 24-hr 25-Year Storm Event Rainfall=5.30"

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Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)

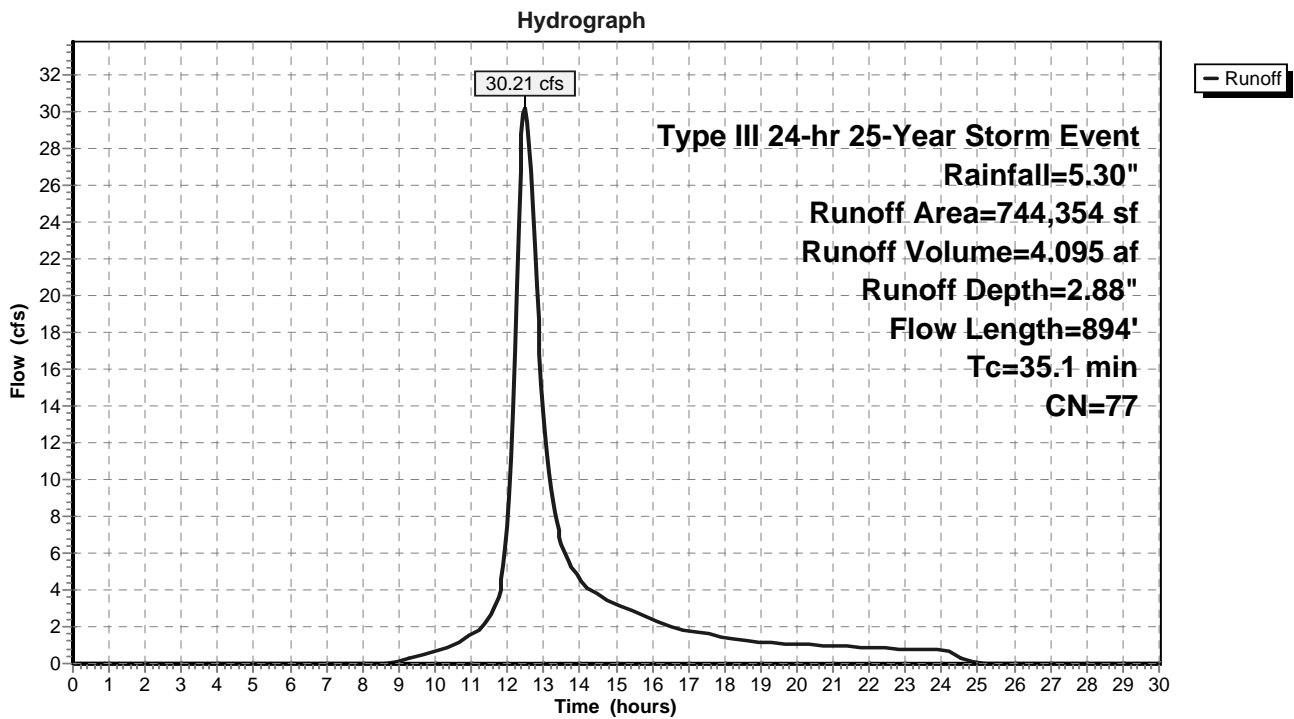
Runoff = 30.21 cfs @ 12.49 hrs, Volume= 4.095 af, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Storm Event Rainfall=5.30"

Area (sf)	CN	Description
9,353	98	Paved parking & roofs
690,223	77	Woods, Good, HSG D
44,778	78	Meadow, non-grazed, HSG D
744,354	77	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)



Park Ave Solar - Blandford

Type III 24-hr 25-Year Storm Event Rainfall=5.30"

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Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Runoff = 6.24 cfs @ 12.17 hrs, Volume= 0.549 af, Depth= 2.97"

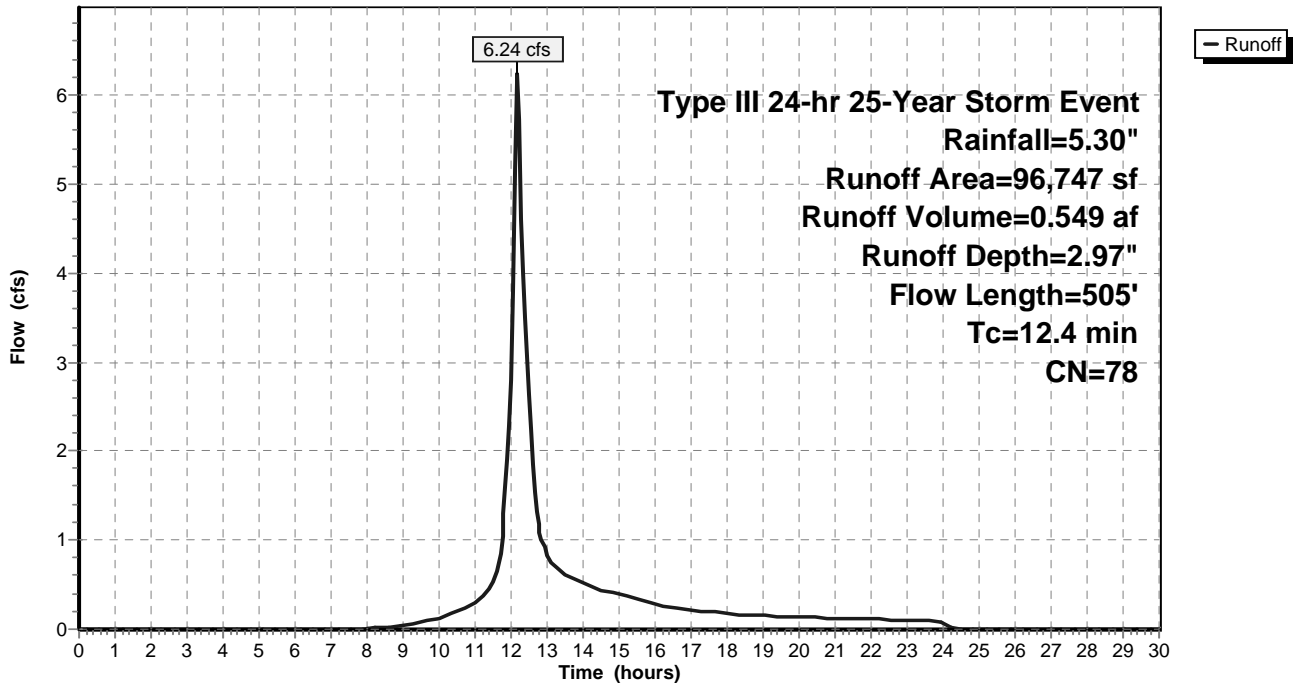
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Storm Event Rainfall=5.30"

Area (sf)	CN	Description
70,354	78	Meadow, non-grazed, HSG D
26,393	77	Woods, Good, HSG D
96,747	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0222	0.1		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
0.9	59	0.0222	1.0		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.4	396	0.0757	1.9		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	505	Total			

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Hydrograph



Pond 11P: Prop. Stormwater Basin

Inflow Area = 2.221 ac, Inflow Depth = 2.97" for 25-Year Storm Event event
 Inflow = 6.24 cfs @ 12.17 hrs, Volume= 0.549 af
 Outflow = 3.09 cfs @ 12.46 hrs, Volume= 0.550 af, Atten= 50%, Lag= 17.2 min
 Primary = 0.51 cfs @ 11.60 hrs, Volume= 0.457 af
 Secondary = 2.58 cfs @ 12.46 hrs, Volume= 0.093 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,331.03' @ 12.46 hrs Surf.Area= 3,554 sf Storage= 7,152 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 96.5 min (927.0 - 830.4)

Volume #1	Invert 1,327.00'	Avail.Storage 11,054 cf	Storage Description Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
1,327.00	302	78.3	0	0	302	
1,328.00	864	137.9	559	559	1,333	
1,329.00	1,706	194.2	1,261	1,820	2,830	
1,330.00	2,642	223.2	2,157	3,977	3,816	
1,331.00	3,528	246.6	3,074	7,052	4,722	
1,332.00	4,496	271.1	4,002	11,054	5,764	

Device #1	Routing Primary	Invert 0.00'	Outlet Devices Special & User-Defined													
			Elev. (feet) 0.00 0.01 6.00													
			Disch. (cfs) 0.000 0.510 0.510													
#2	Secondary	1,330.80'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir													
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00													
			3.50 4.00 4.50 5.00 5.50													
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66													
			2.68 2.70 2.74 2.79 2.88													

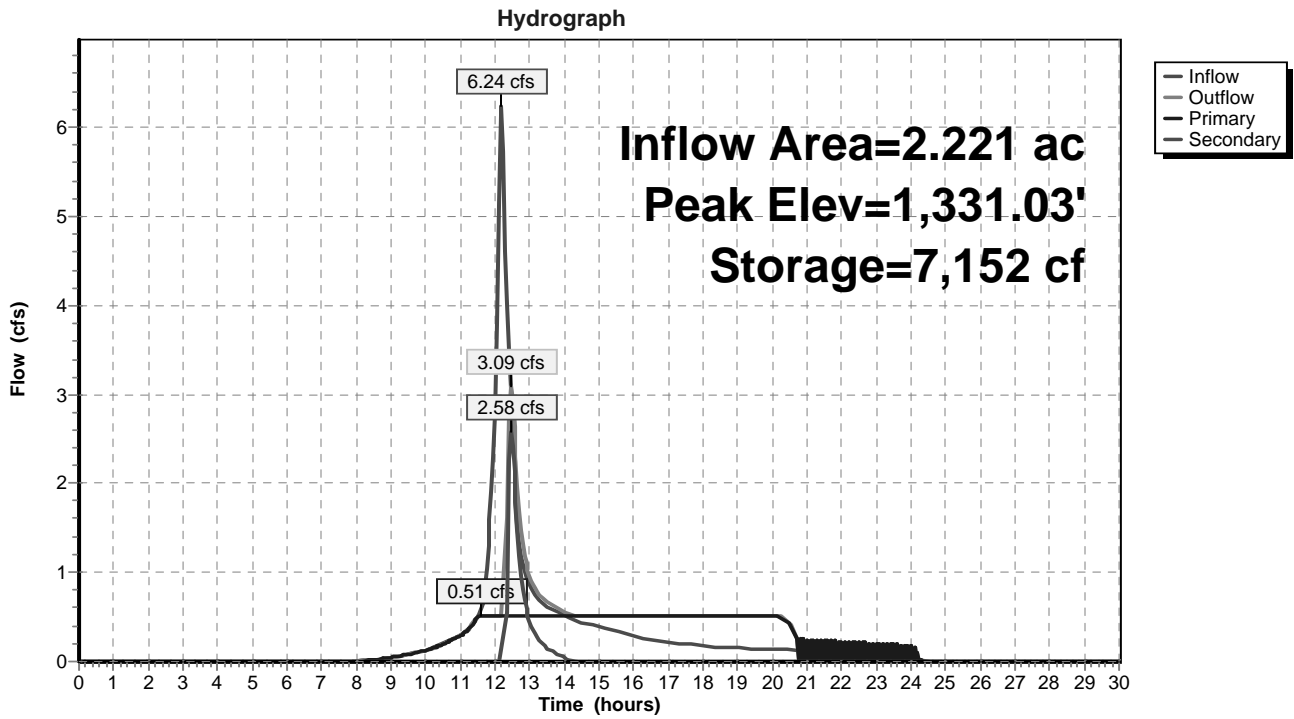
Primary OutFlow Max=0.51 cfs @ 11.60 hrs HW=1,327.06' TW=0.00' (Dynamic Tailwater)

↑1=Special & User-Defined (Custom Controls 0.51 cfs)

Secondary OutFlow Max=2.55 cfs @ 12.46 hrs HW=1,331.03' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.55 cfs @ 1.1 fps)

Pond 11P: Prop. Stormwater Basin

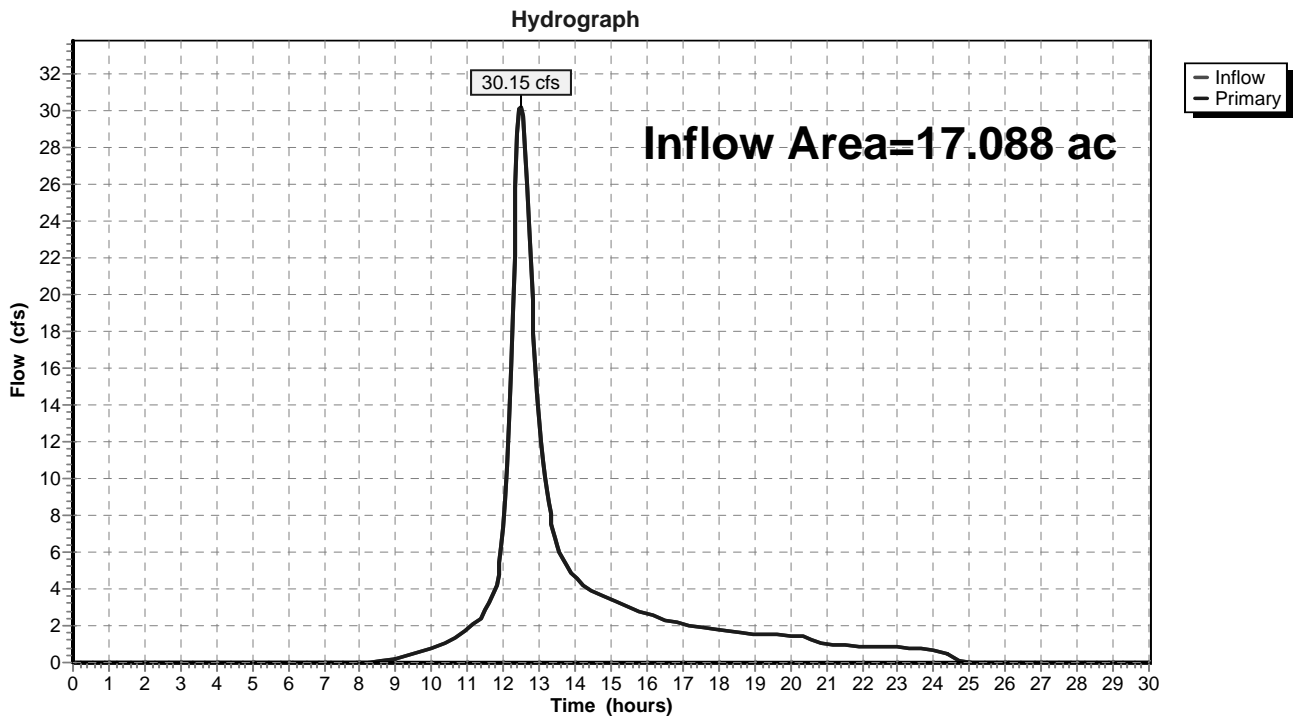


Pond DP #99 Post: Design Point #99 (Post)

Inflow Area = 17.088 ac, Inflow Depth = 2.97" for 25-Year Storm Event event
Inflow = 30.15 cfs @ 12.48 hrs, Volume= 4.227 af
Primary = 30.15 cfs @ 12.48 hrs, Volume= 4.227 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Post: Design Point #99 (Post)



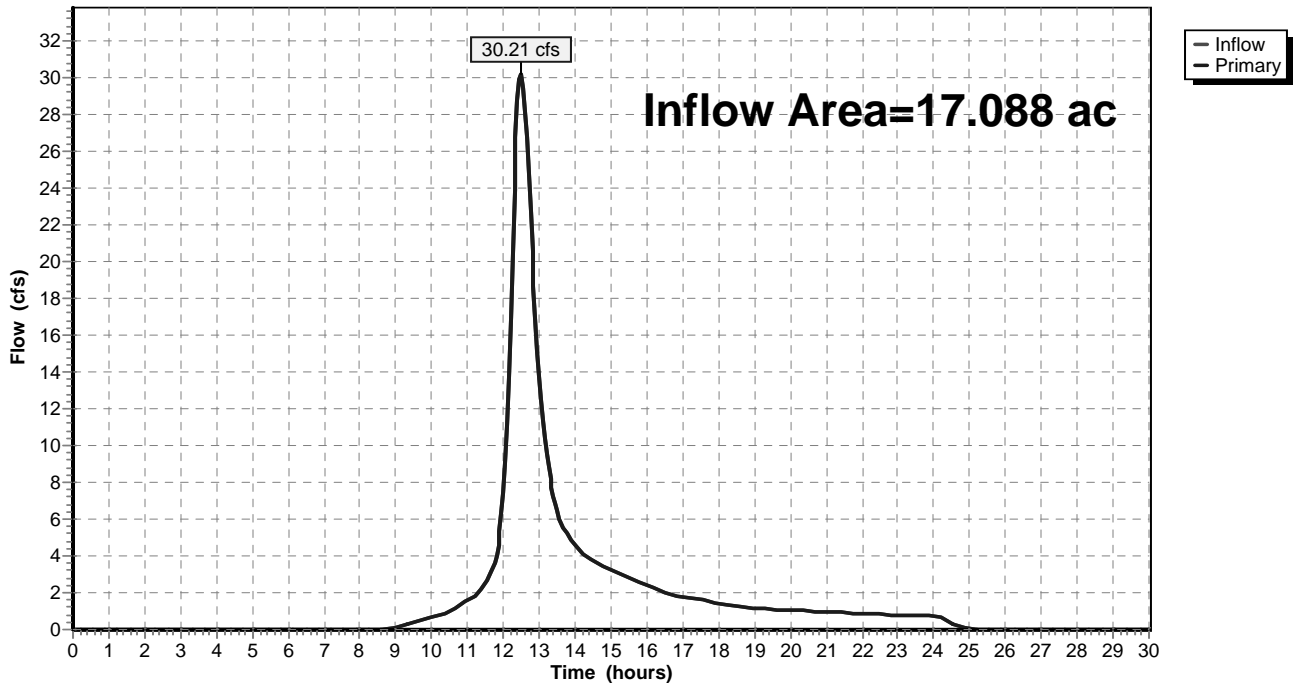
Pond DP #99 Pre: Design Point #99 (Pre)

Inflow Area = 17.088 ac, Inflow Depth = 2.88" for 25-Year Storm Event event
Inflow = 30.21 cfs @ 12.49 hrs, Volume= 4.095 af
Primary = 30.21 cfs @ 12.49 hrs, Volume= 4.095 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Pre: Design Point #99 (Pre)

Hydrograph



Park Ave Solar - Blandford

Type III 24-hr 100-Year Storm Event Rainfall=6.60"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=647,607 sf Runoff Depth=4.11"
Flow Length=894' Tc=35.1 min CN=78 Runoff=37.55 cfs 5.096 af

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (P Runoff Area=744,354 sf Runoff Depth=4.01"
Flow Length=894' Tc=35.1 min CN=77 Runoff=42.09 cfs 5.708 af

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin Runoff Area=96,747 sf Runoff Depth=4.11"
Flow Length=505' Tc=12.4 min CN=78 Runoff=8.63 cfs 0.761 af

Pond 11P: Prop. Stormwater Basin Peak Elev=1,331.19' Storage=7,741 cf Inflow=8.63 cfs 0.761 af
Primary=0.51 cfs 0.530 af Secondary=6.08 cfs 0.233 af Outflow=6.59 cfs 0.762 af

Pond DP #99 Post: Design Point #99 (Post) Inflow=42.06 cfs 5.859 af
Primary=42.06 cfs 5.859 af

Pond DP #99 Pre: Design Point #99 (Pre) Inflow=42.09 cfs 5.708 af
Primary=42.09 cfs 5.708 af

Total Runoff Area = 34.176 ac Runoff Volume = 11.565 af Average Runoff Depth = 4.06"

Park Ave Solar - Blandford

Type III 24-hr 100-Year Storm Event Rainfall=6.60"

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Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)

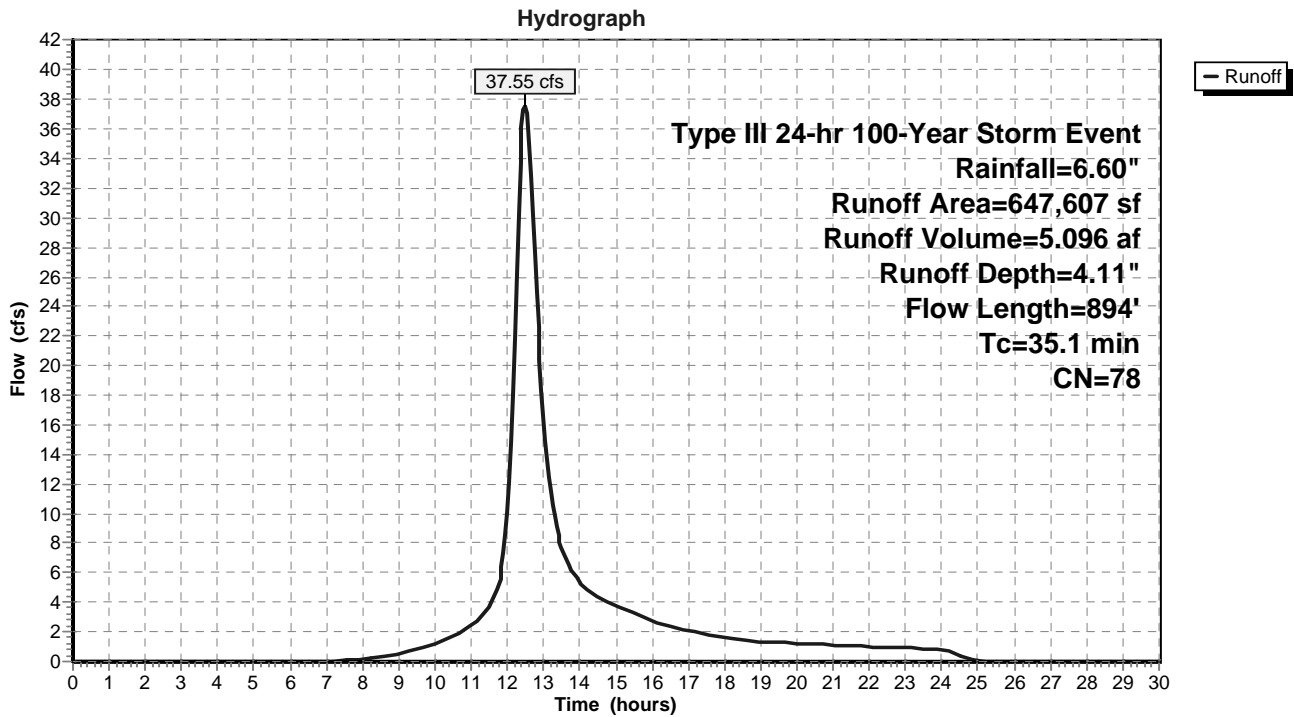
Runoff = 37.55 cfs @ 12.48 hrs, Volume= 5.096 af, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-Year Storm Event Rainfall=6.60"

Area (sf)	CN	Description
9,184	98	Paved parking & roofs
2,289	91	Gravel roads, HSG D
331,812	77	Woods, Good, HSG D
304,322	78	Meadow, non-grazed, HSG D
647,607	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Post: Area Trib. to Ex. Drainage Swale/Wetlands (Post)



Park Ave Solar - Blandford

Type III 24-hr 100-Year Storm Event Rainfall=6.60"

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Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)

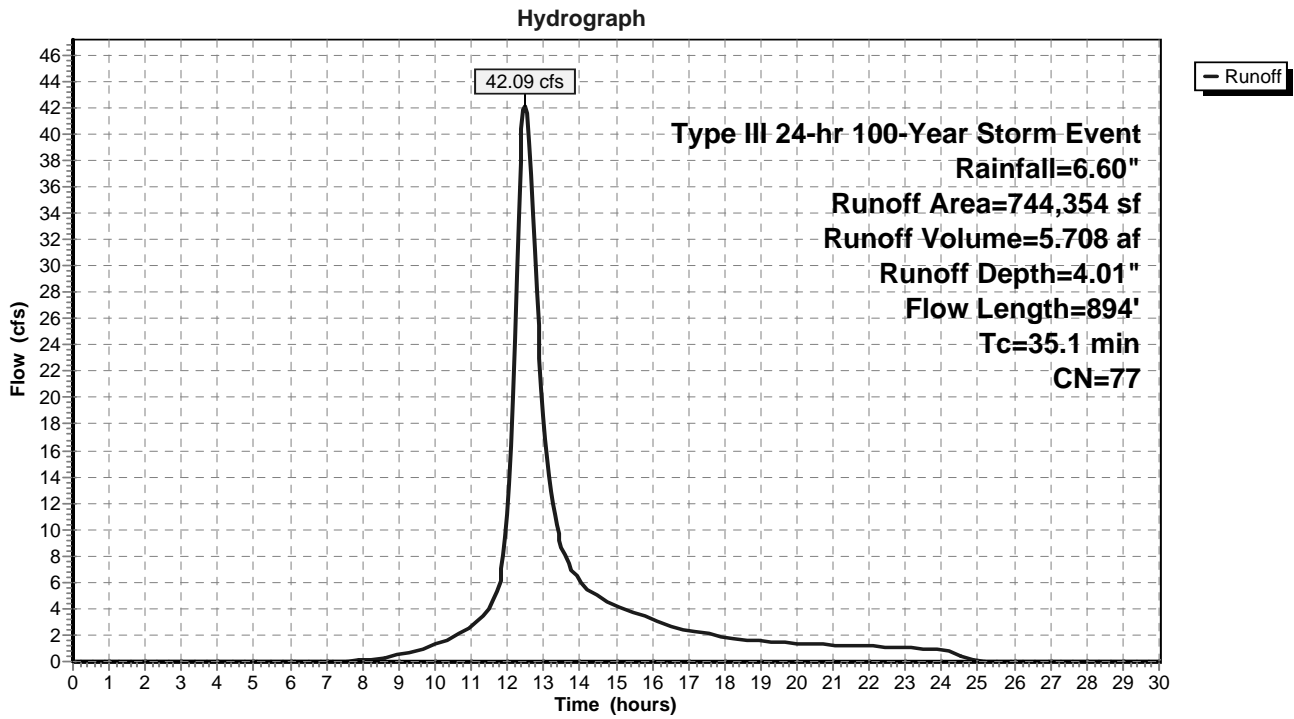
Runoff = 42.09 cfs @ 12.48 hrs, Volume= 5.708 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-Year Storm Event Rainfall=6.60"

Area (sf)	CN	Description
9,353	98	Paved parking & roofs
690,223	77	Woods, Good, HSG D
44,778	78	Meadow, non-grazed, HSG D
744,354	77	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	50	0.0100	0.0		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
12.1	363	0.0100	0.5		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	66	0.0383	1.0		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.3	191	0.0383	1.4		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.1	89	0.0787	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.7	135	0.0741	1.4		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
35.1	894	Total			

Subcatchment 1S Pre: Area Trib. to Ex. Drainage Swale/Wetlands (Pre)



Park Ave Solar - Blandford

Type III 24-hr 100-Year Storm Event Rainfall=6.60"

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Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Runoff = 8.63 cfs @ 12.17 hrs, Volume= 0.761 af, Depth= 4.11"

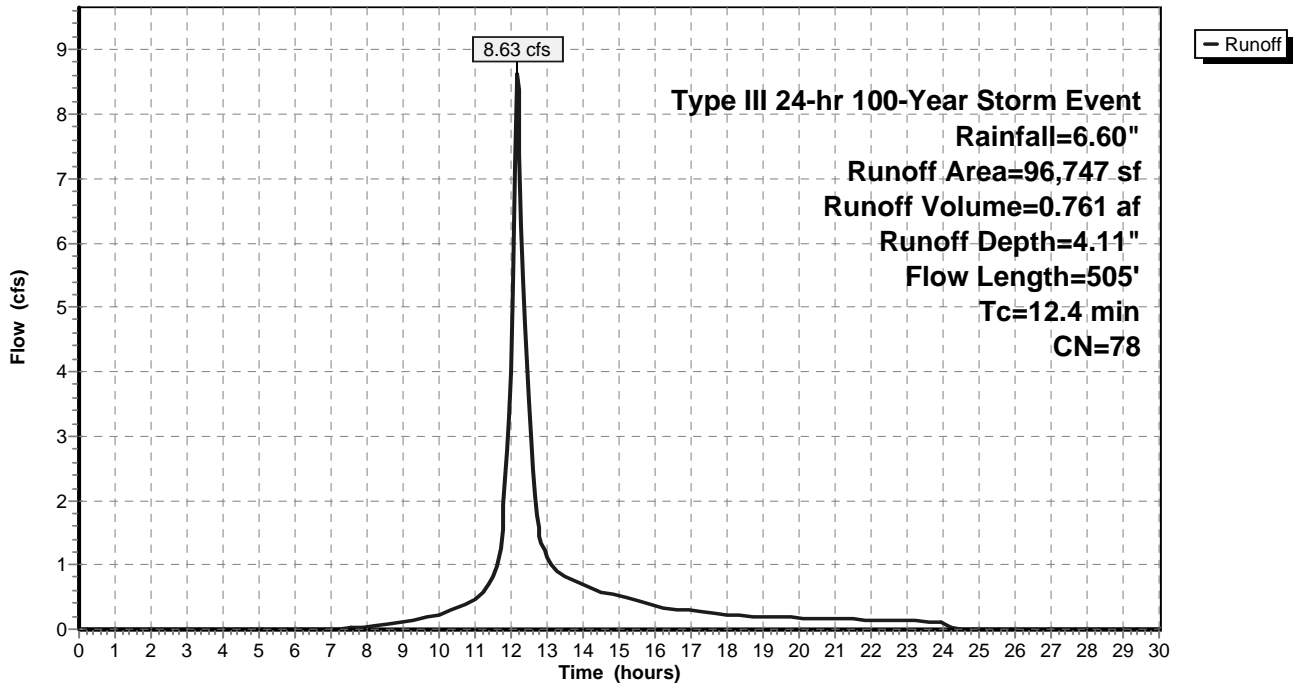
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-Year Storm Event Rainfall=6.60"

Area (sf)	CN	Description
70,354	78	Meadow, non-grazed, HSG D
26,393	77	Woods, Good, HSG D
96,747	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0222	0.1		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
0.9	59	0.0222	1.0		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.4	396	0.0757	1.9		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	505	Total			

Subcatchment 11S: Area Trib. to Prop. Stormwater Basin

Hydrograph



Pond 11P: Prop. Stormwater Basin

Inflow Area = 2.221 ac, Inflow Depth = 4.11" for 100-Year Storm Event event
 Inflow = 8.63 cfs @ 12.17 hrs, Volume= 0.761 af
 Outflow = 6.59 cfs @ 12.30 hrs, Volume= 0.762 af, Atten= 24%, Lag= 7.9 min
 Primary = 0.51 cfs @ 11.30 hrs, Volume= 0.530 af
 Secondary = 6.08 cfs @ 12.30 hrs, Volume= 0.233 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,331.19' @ 12.30 hrs Surf.Area= 3,703 sf Storage= 7,741 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 83.9 min (905.0 - 821.1)

Volume #1	Invert 1,327.00'	Avail.Storage 11,054 cf	Storage Description Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
1,327.00	302	78.3	0	0	302	
1,328.00	864	137.9	559	559	1,333	
1,329.00	1,706	194.2	1,261	1,820	2,830	
1,330.00	2,642	223.2	2,157	3,977	3,816	
1,331.00	3,528	246.6	3,074	7,052	4,722	
1,332.00	4,496	271.1	4,002	11,054	5,764	

Device #1	Routing Primary	Invert 0.00'	Outlet Devices Special & User-Defined													
			Elev. (feet) 0.00 0.01 6.00													
			Disch. (cfs) 0.000 0.510 0.510													
#2	Secondary	1,330.80'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir													
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00													
			3.50 4.00 4.50 5.00 5.50													
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66													
			2.68 2.70 2.74 2.79 2.88													

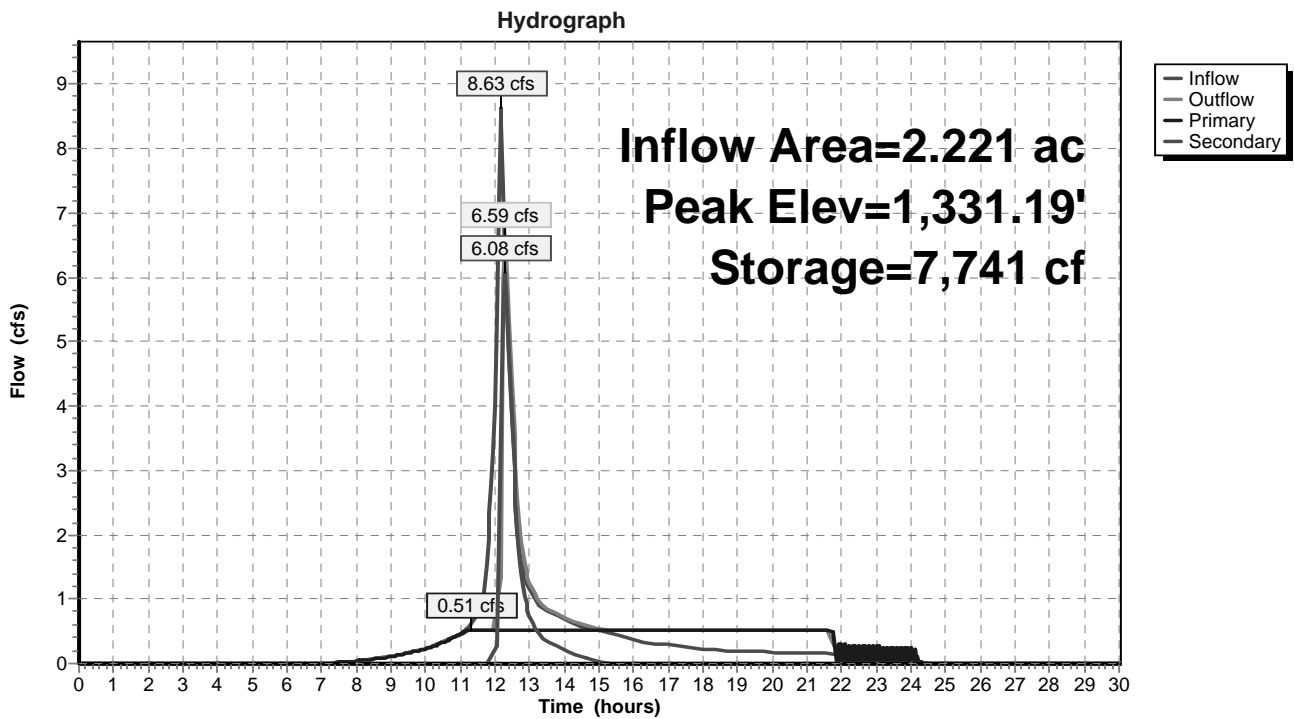
Primary OutFlow Max=0.51 cfs @ 11.30 hrs HW=1,327.09' TW=0.00' (Dynamic Tailwater)

↑1=Special & User-Defined (Custom Controls 0.51 cfs)

Secondary OutFlow Max=6.05 cfs @ 12.30 hrs HW=1,331.19' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 6.05 cfs @ 1.6 fps)

Pond 11P: Prop. Stormwater Basin

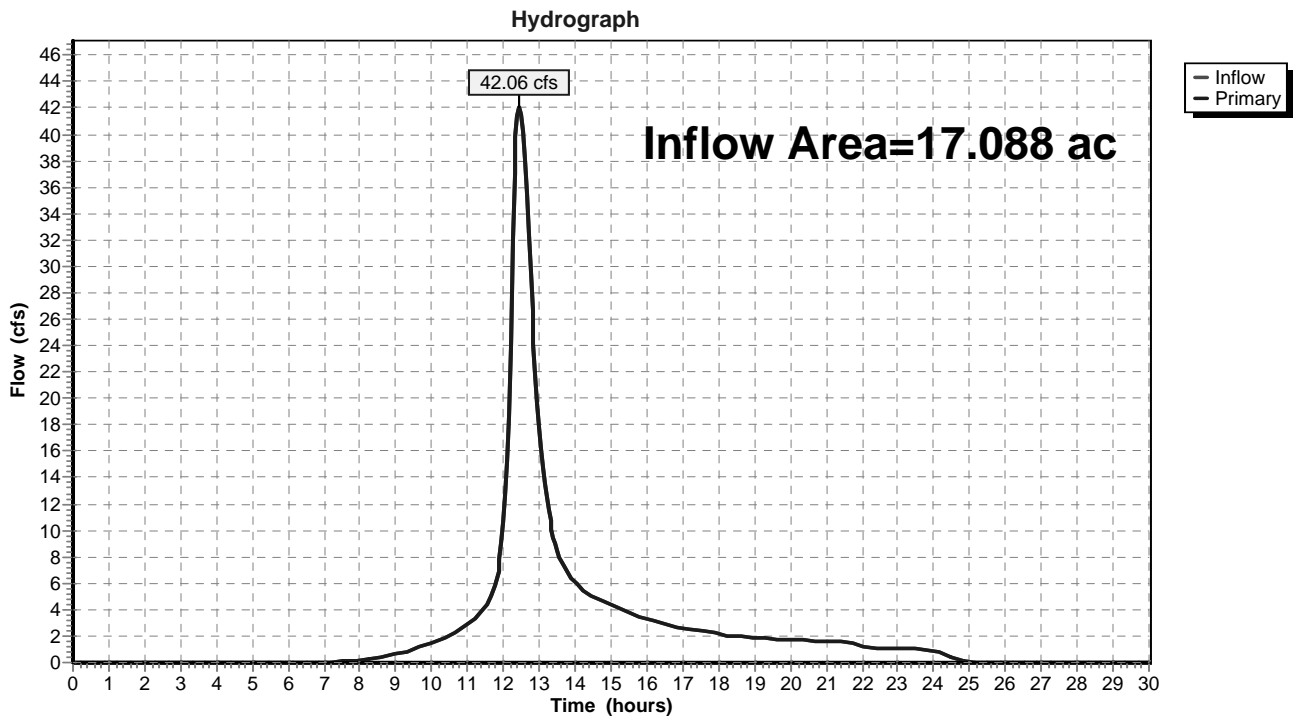


Pond DP #99 Post: Design Point #99 (Post)

Inflow Area = 17.088 ac, Inflow Depth = 4.11" for 100-Year Storm Event event
Inflow = 42.06 cfs @ 12.45 hrs, Volume= 5.859 af
Primary = 42.06 cfs @ 12.45 hrs, Volume= 5.859 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Post: Design Point #99 (Post)



Pond DP #99 Pre: Design Point #99 (Pre)

Inflow Area = 17.088 ac, Inflow Depth = 4.01" for 100-Year Storm Event event
Inflow = 42.09 cfs @ 12.48 hrs, Volume= 5.708 af
Primary = 42.09 cfs @ 12.48 hrs, Volume= 5.708 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Pond DP #99 Pre: Design Point #99 (Pre)

Hydrograph

