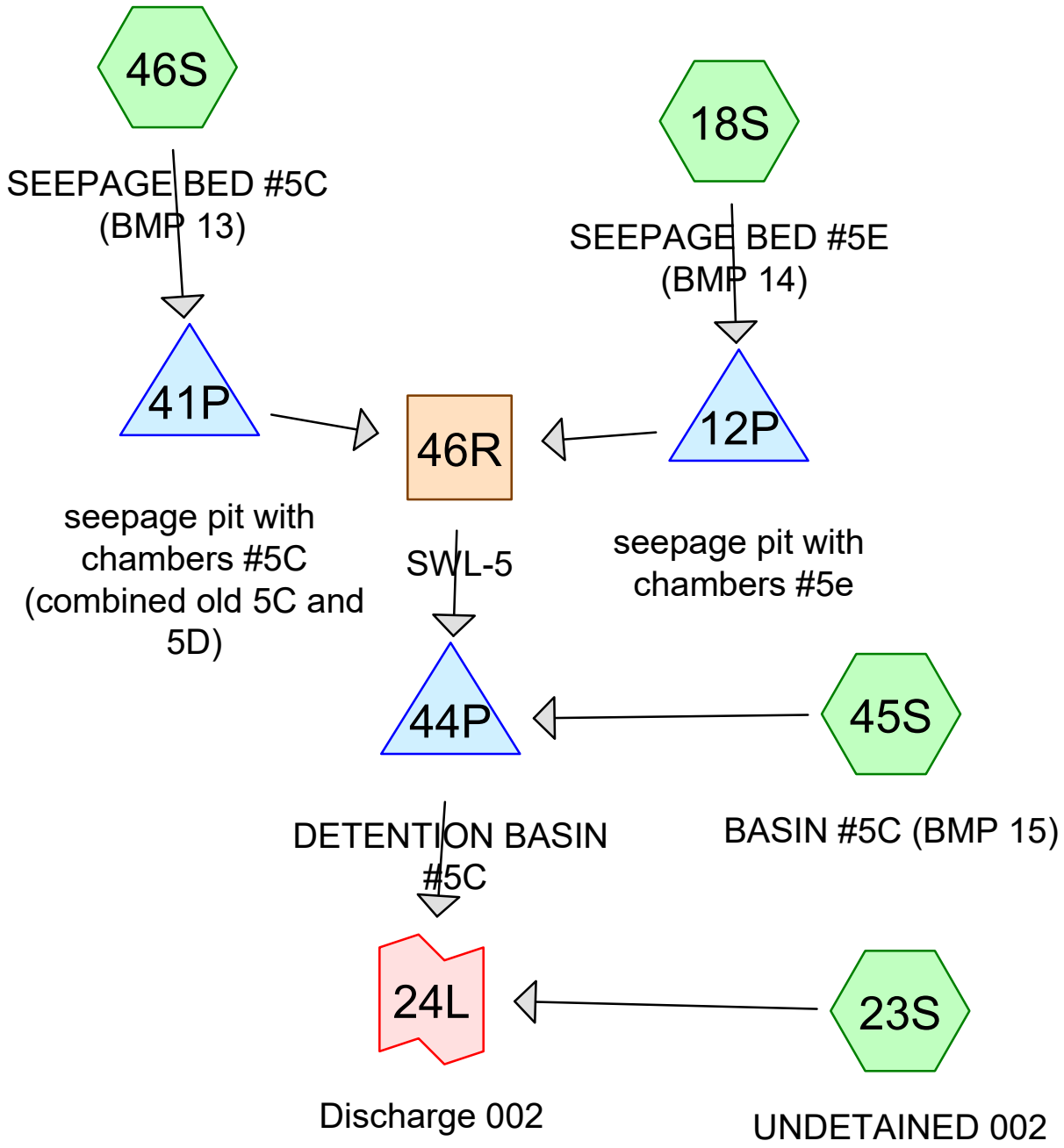
PROPOSED DISCHARGE 002



Subcat Reach Pond Link

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
7.659	61	>75% Grass cover, Good, HSG B (23S, 45S, 46S)
2.353	74	>75% Grass cover, Good, HSG C (46S)
0.493	58	Meadow, non-grazed, HSG B (23S)
26.832	98	Paved parking & roofs (18S, 45S, 46S)
0.266	60	Woods, Fair, HSG B (23S)
37.603	**88**	**TOTAL AREA**

Summary for Subcatchment 18S: SEEPAGE BED #5E (BMP 14)

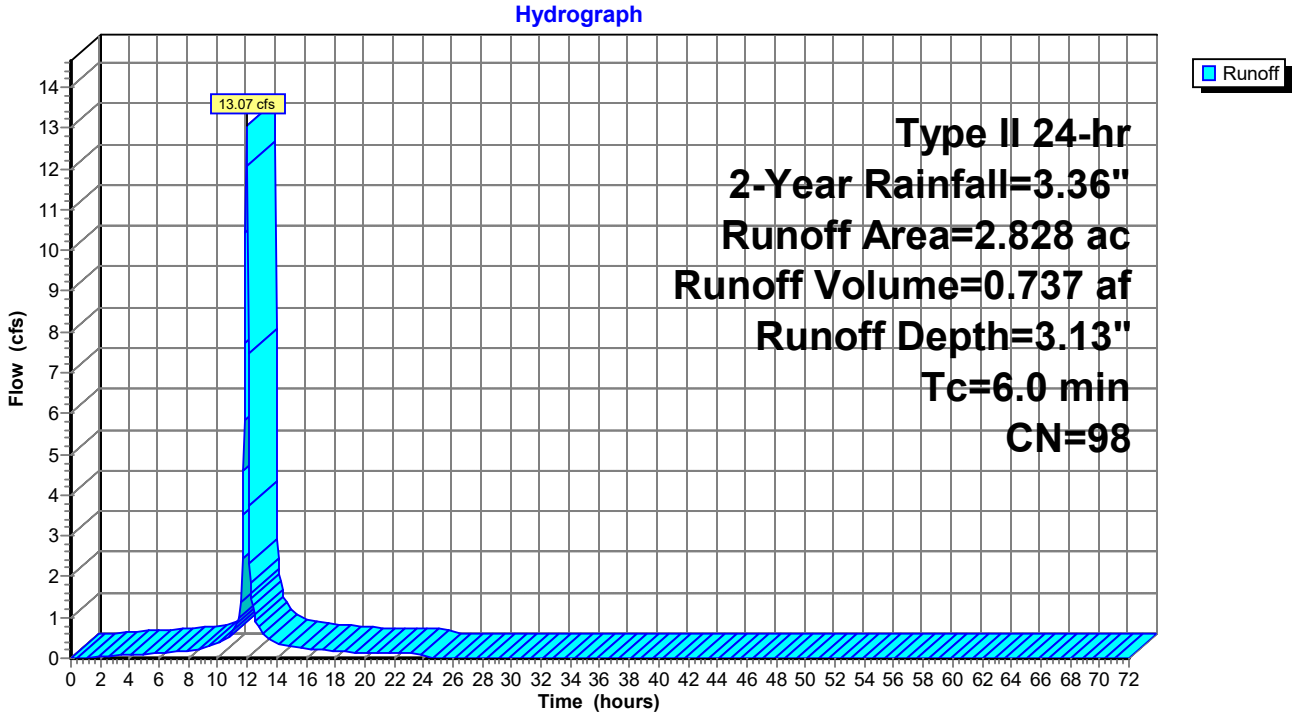
Runoff = 13.07 cfs @ 11.96 hrs, Volume= 0.737 af, Depth= 3.13"
Routed to Pond 12P : seepage pit with chambers #5e

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=3.36"

Area (ac)	CN	Description
2.828	98	Paved parking & roofs
2.828		100.00% Impervious Area

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

Subcatchment 18S: SEEPAGE BED #5E (BMP 14)



Summary for Subcatchment 23S: UNDETAINED 002

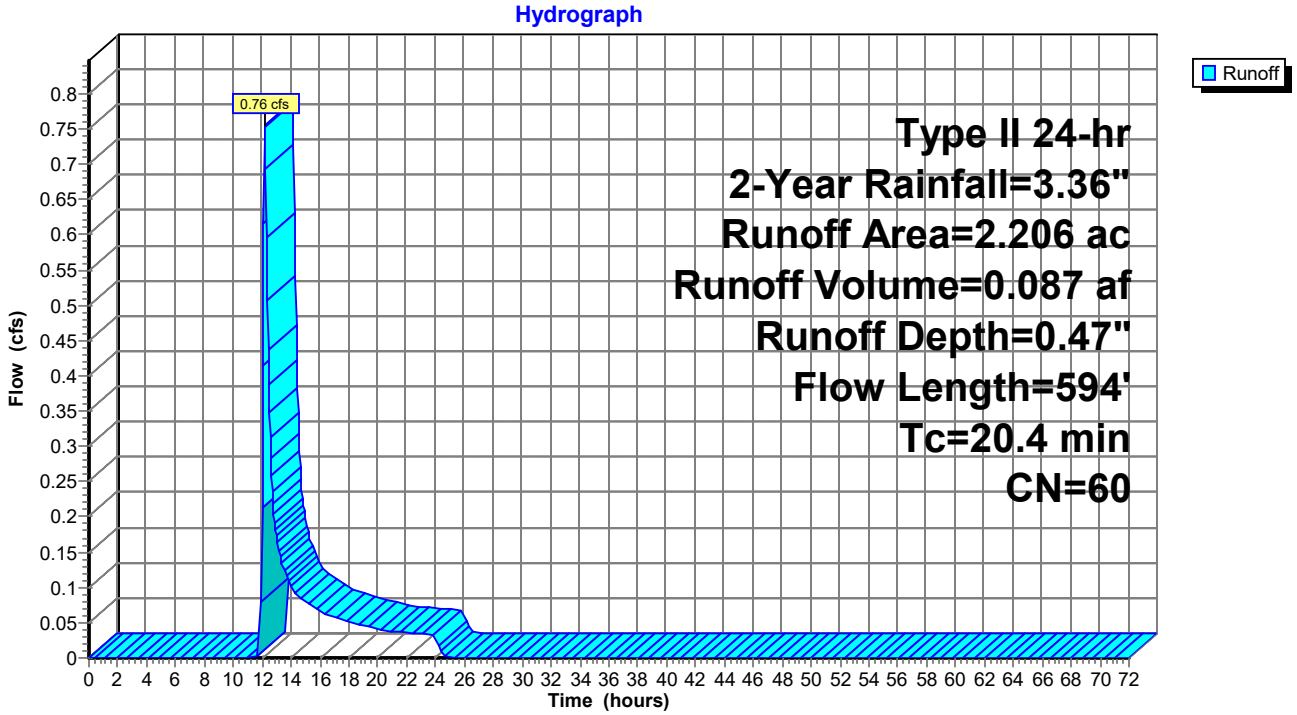
Runoff = 0.76 cfs @ 12.19 hrs, Volume= 0.087 af, Depth= 0.47"
Routed to Link 24L : Discharge 002

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=3.36"

Area (ac)	CN	Description
1.447	61	>75% Grass cover, Good, HSG B
0.266	60	Woods, Fair, HSG B
0.493	58	Meadow, non-grazed, HSG B
2.206	60	Weighted Average
2.206		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	150	0.0130	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.23"
4.4	444	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.4	594	Total			

Subcatchment 23S: UNDETAINED 002



Summary for Subcatchment 45S: BASIN #5C (BMP 15)

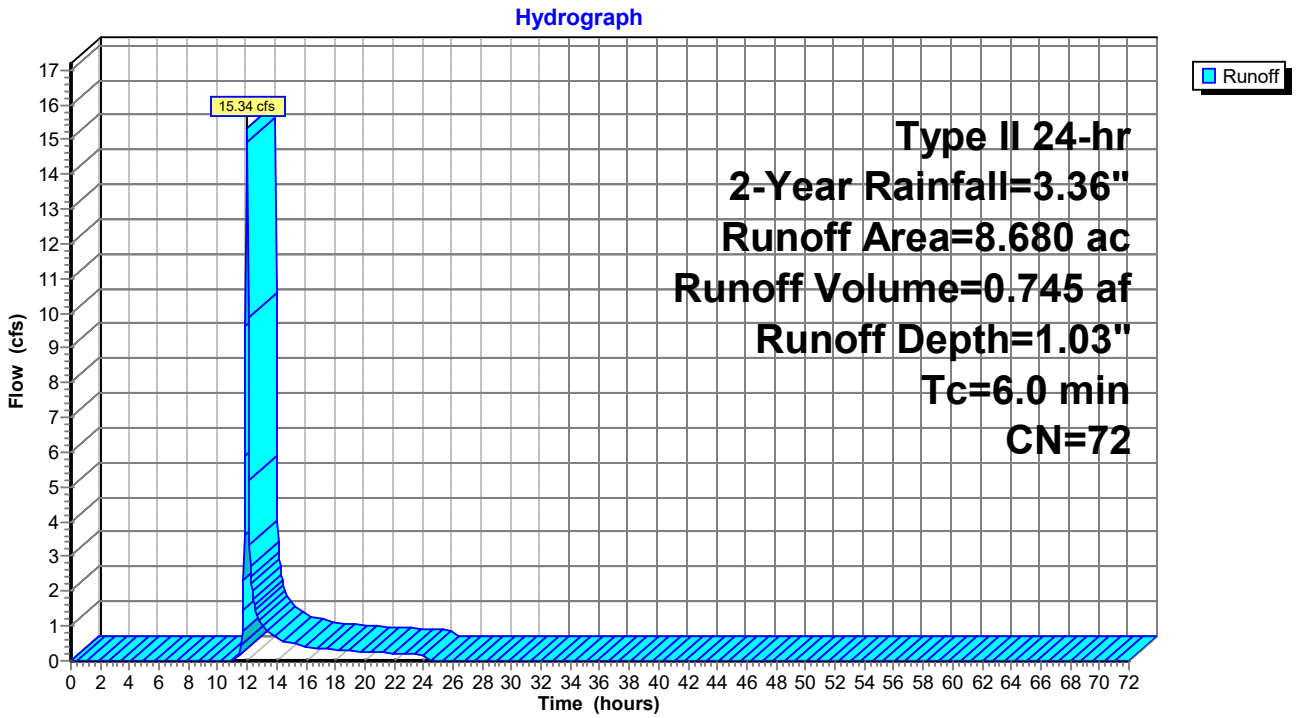
Runoff = 15.34 cfs @ 11.98 hrs, Volume= 0.745 af, Depth= 1.03"
Routed to Pond 44P : DETENTION BASIN #5C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=3.36"

Area (ac)	CN	Description
2.646	98	Paved parking & roofs
6.034	61	>75% Grass cover, Good, HSG B
8.680	72	Weighted Average
6.034		69.52% Pervious Area
2.646		30.48% Impervious Area

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

Subcatchment 45S: BASIN #5C (BMP 15)



Summary for Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

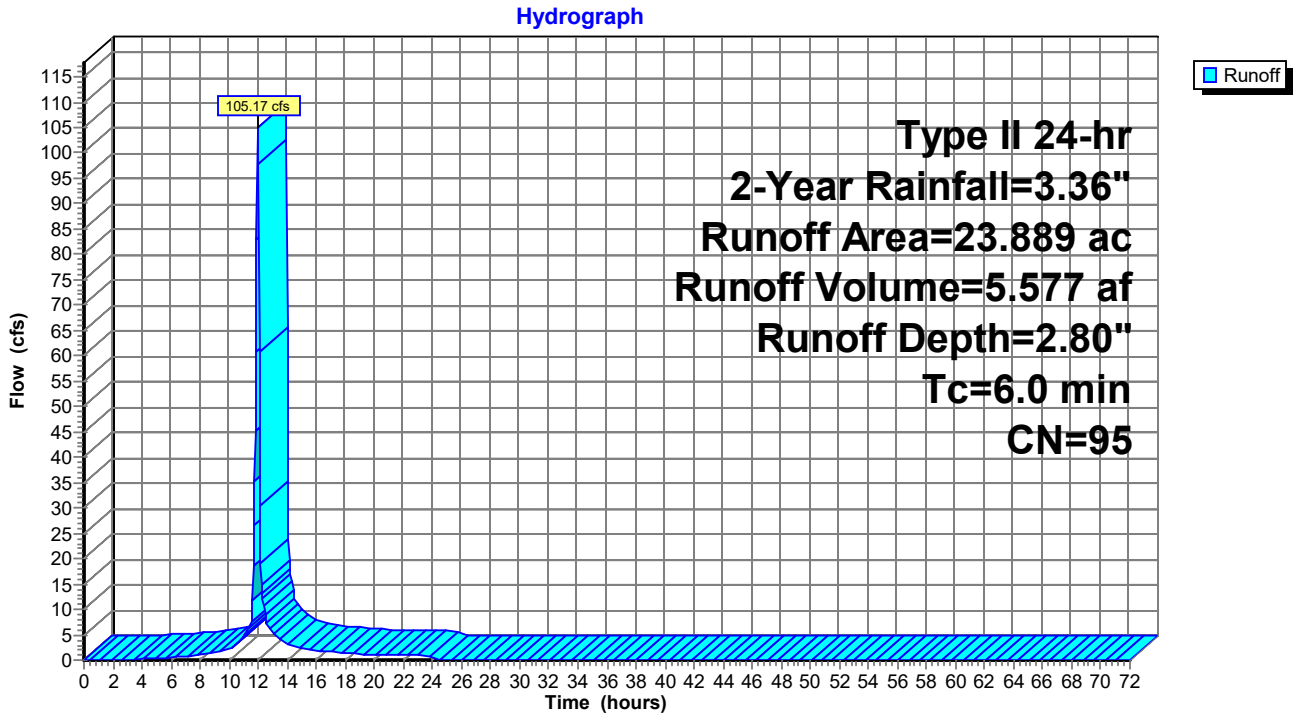
Runoff = 105.17 cfs @ 11.96 hrs, Volume= 5.577 af, Depth= 2.80"
Routed to Pond 41P : seepage pit with chambers #5C (combined old 5C and 5D)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=3.36"

Area (ac)	CN	Description
21.358	98	Paved parking & roofs
2.353	74	>75% Grass cover, Good, HSG C
0.178	61	>75% Grass cover, Good, HSG B
23.889	95	Weighted Average
2.531		10.59% Pervious Area
21.358		89.41% Impervious Area

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

Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

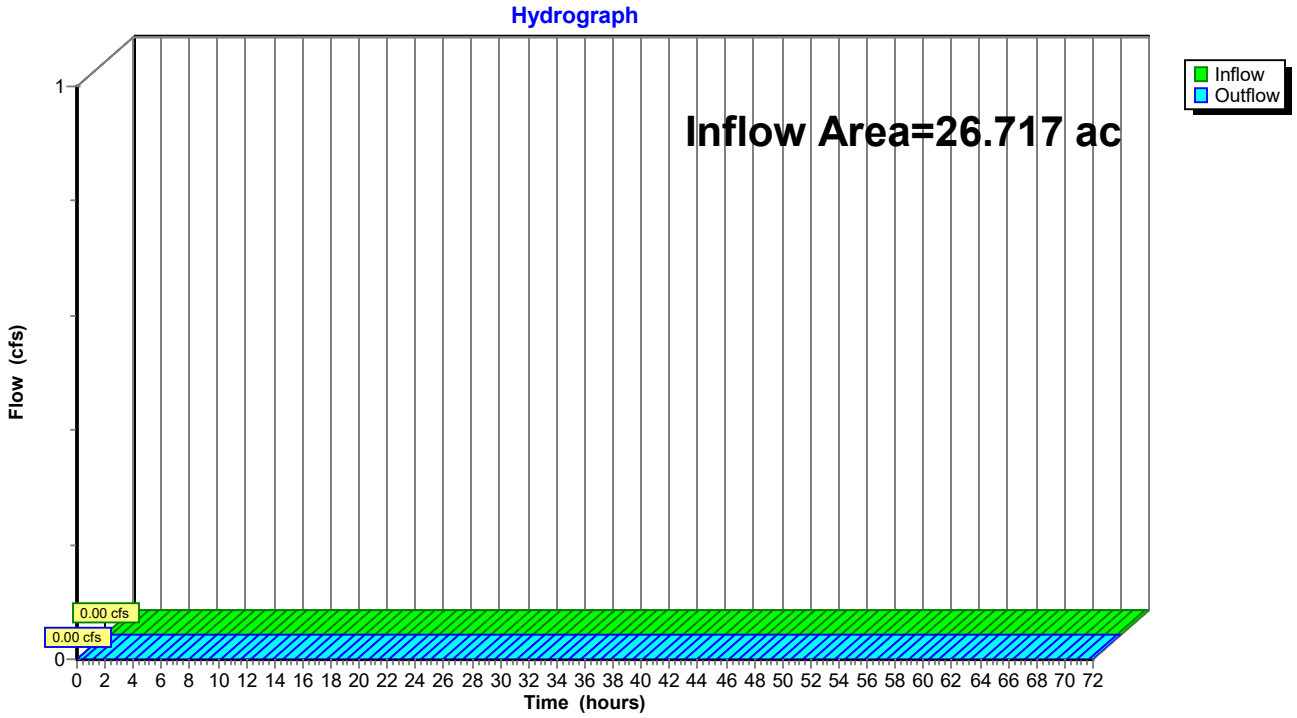


Summary for Reach 46R: SWL-5

Inflow Area = 26.717 ac, 90.53% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Pond 44P : DETENTION BASIN #5C

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 46R: SWL-5



Summary for Pond 12P: seepage pit with chambers #5e

Inflow Area = 2.828 ac,100.00% Impervious, Inflow Depth = 3.13" for 2-Year event
Inflow = 13.07 cfs @ 11.96 hrs, Volume= 0.737 af
Outflow = 0.23 cfs @ 9.05 hrs, Volume= 0.737 af, Atten= 98%, Lag= 0.0 min
Discarded = 0.23 cfs @ 9.05 hrs, Volume= 0.737 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,870.21' @ 15.93 hrs Surf.Area= 24,890 sf Storage= 19,373 cf

Plug-Flow detention time= 748.4 min calculated for 0.737 af (100% of inflow)
Center-of-Mass det. time= 748.2 min (1,499.6 - 751.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,869.00'	24,576 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 99,560 cf Overall - 38,121 cf Embedded = 61,439 cf x 40.0% Voids
#2	1,869.50'	38,121 cf	**Cultec R-360HD** x 1035 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 1035 Chambers in 15 Rows Cap Storage= 6.5 cf x 2 x 15 rows = 193.8 cf
		62,697 cf	Total Available Storage

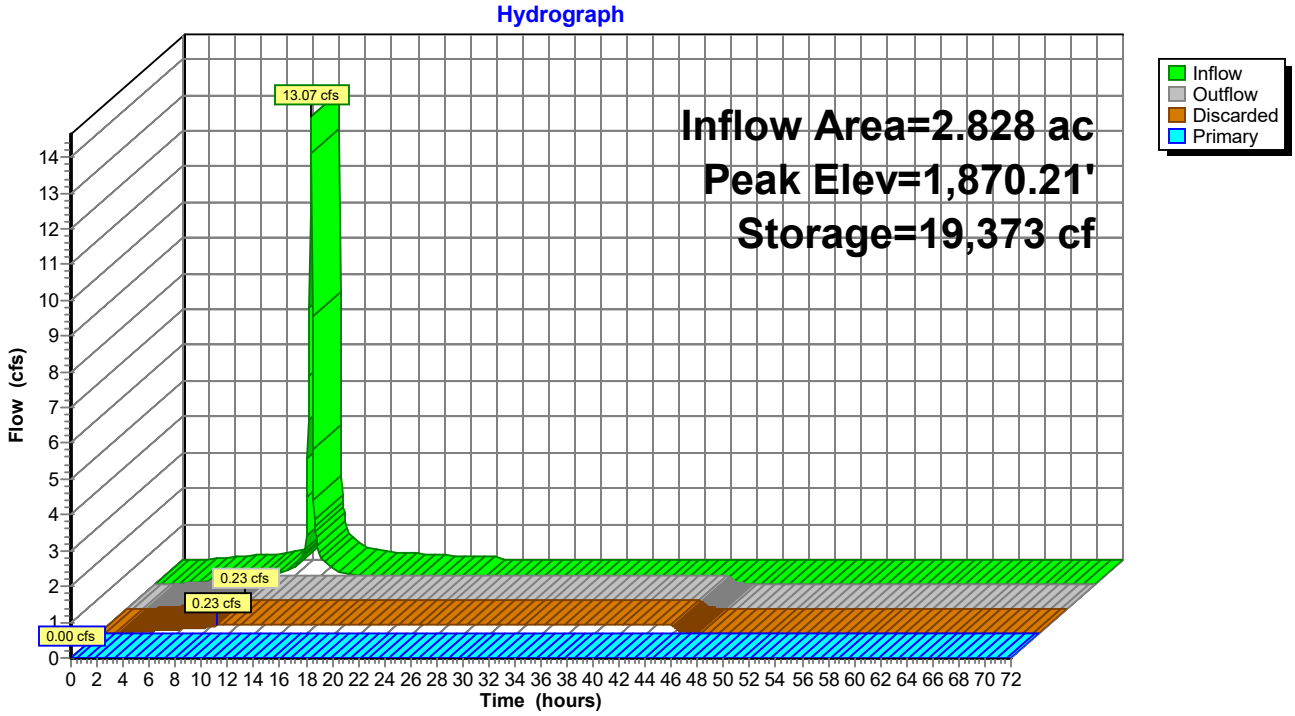
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,869.00	24,890	0	0
1,873.00	24,890	99,560	99,560

Device	Routing	Invert	Outlet Devices
#1	Primary	1,869.00'	**24.0" Round Culvert** L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,869.00' / 1,868.00' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.30'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,869.00'	**0.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.23 cfs @ 9.05 hrs HW=1,869.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,869.00' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 12P: seepage pit with chambers #5e



Summary for Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)

Inflow Area = 23.889 ac, 89.41% Impervious, Inflow Depth = 2.80" for 2-Year event
Inflow = 105.17 cfs @ 11.96 hrs, Volume= 5.577 af
Outflow = 3.09 cfs @ 10.75 hrs, Volume= 5.577 af, Atten= 97%, Lag= 0.0 min
Discarded = 3.09 cfs @ 10.75 hrs, Volume= 5.577 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,871.10' @ 13.98 hrs Surf.Area= 190,835 sf Storage= 129,250 cf

Plug-Flow detention time= 381.2 min calculated for 5.574 af (100% of inflow)
Center-of-Mass det. time= 381.2 min (1,157.3 - 776.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,870.00'	194,128 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 763,340 cf Overall - 278,021 cf Embedded = 485,319 cf x 40.0% Voids
#2	1,870.50'	201,800 cf	**Cultec R-360HD** x 5502 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 5502 Chambers in 14 Rows Cap Storage= 6.5 cf x 2 x 14 rows = 180.9 cf
#3	1,870.50'	76,221 cf	**Cultec R-360HD** x 2074 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 2074 Chambers in 17 Rows Cap Storage= 6.5 cf x 2 x 17 rows = 219.6 cf
		472,148 cf	Total Available Storage

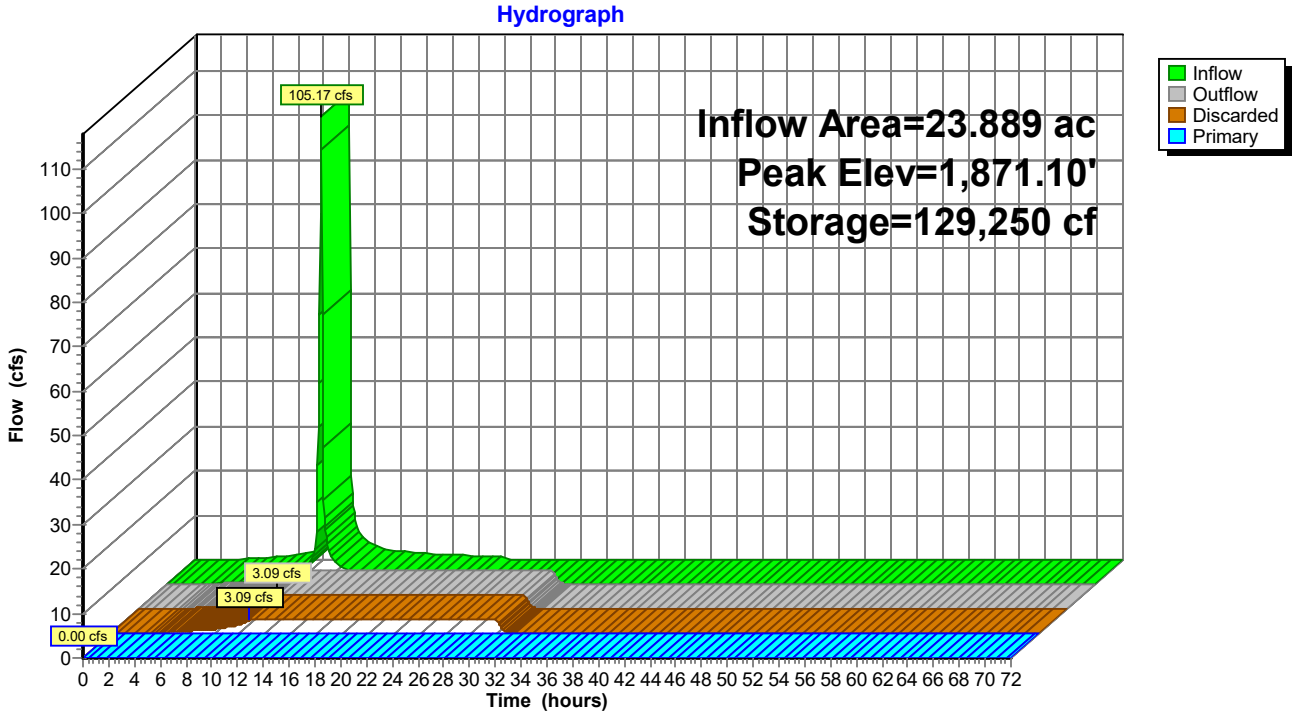
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,870.00	190,835	0	0
1,874.00	190,835	763,340	763,340

Device	Routing	Invert	Outlet Devices
#1	Primary	1,870.00'	**24.0" Round Culvert** L= 180.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,870.00' / 1,868.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.50'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,870.00'	**0.700 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=3.09 cfs @ 10.75 hrs HW=1,870.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 3.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,870.00' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)



Summary for Pond 44P: DETENTION BASIN #5C

Inflow Area = 35.397 ac, 75.80% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 15.34 cfs @ 11.98 hrs, Volume= 0.745 af
Outflow = 0.21 cfs @ 24.00 hrs, Volume= 0.668 af, Atten= 99%, Lag= 721.1 min
Primary = 0.21 cfs @ 24.00 hrs, Volume= 0.668 af
Routed to Link 24L : Discharge 002

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,866.90' @ 24.00 hrs Surf.Area= 28,699 sf Storage= 23,848 cf

Plug-Flow detention time= 1,288.8 min calculated for 0.668 af (90% of inflow)
Center-of-Mass det. time= 1,236.5 min (2,098.7 - 862.2)

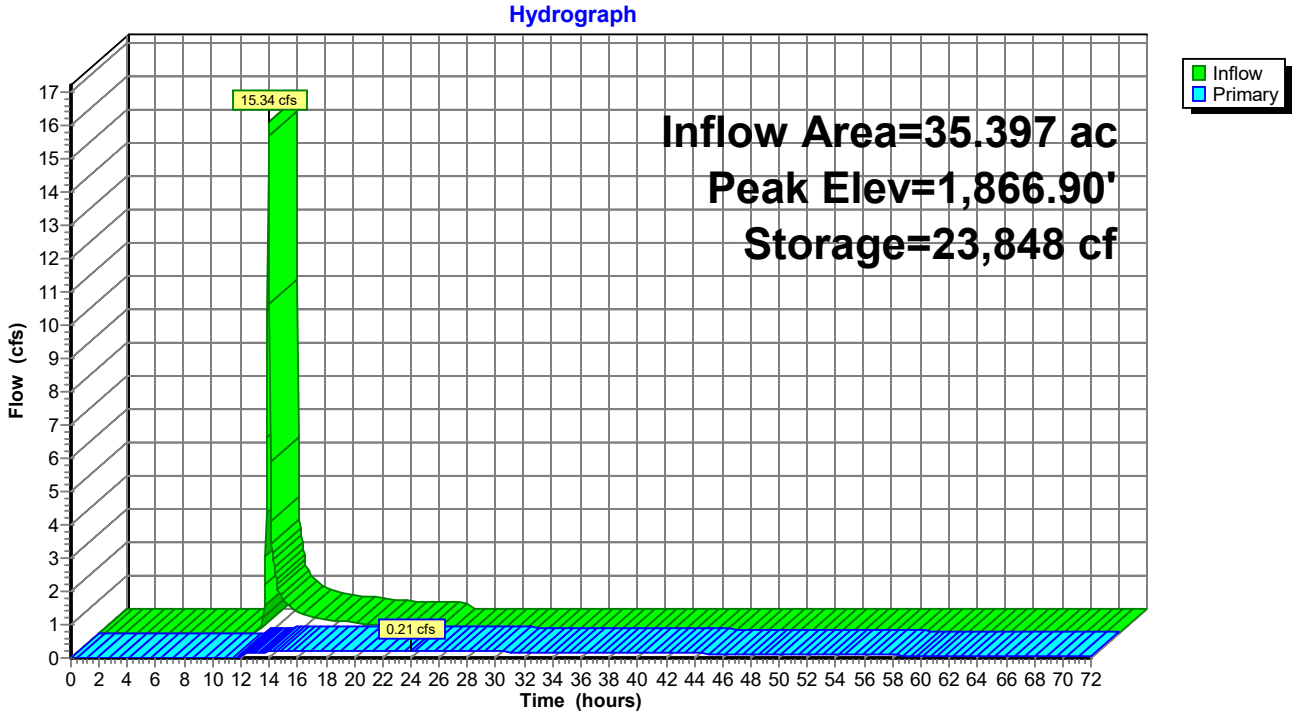
Volume	Invert	Avail.Storage	Storage Description
#1	1,866.00'	406,631 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,866.00	24,581	0	0
1,868.00	33,781	58,362	58,362
1,870.00	47,174	80,955	139,317
1,872.00	66,070	113,244	252,561
1,874.00	88,000	154,070	406,631

Device	Routing	Invert	Outlet Devices
#1	Primary	1,866.00'	**24.0" Round Culvert** L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,866.00' / 1,865.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,869.00'	**18.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,866.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,871.00'	**24.0" x 45.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 24.00 hrs HW=1,866.90' (Free Discharge)
└**1=Culvert** (Passes 0.21 cfs of 3.87 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.23 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 44P: DETENTION BASIN #5C

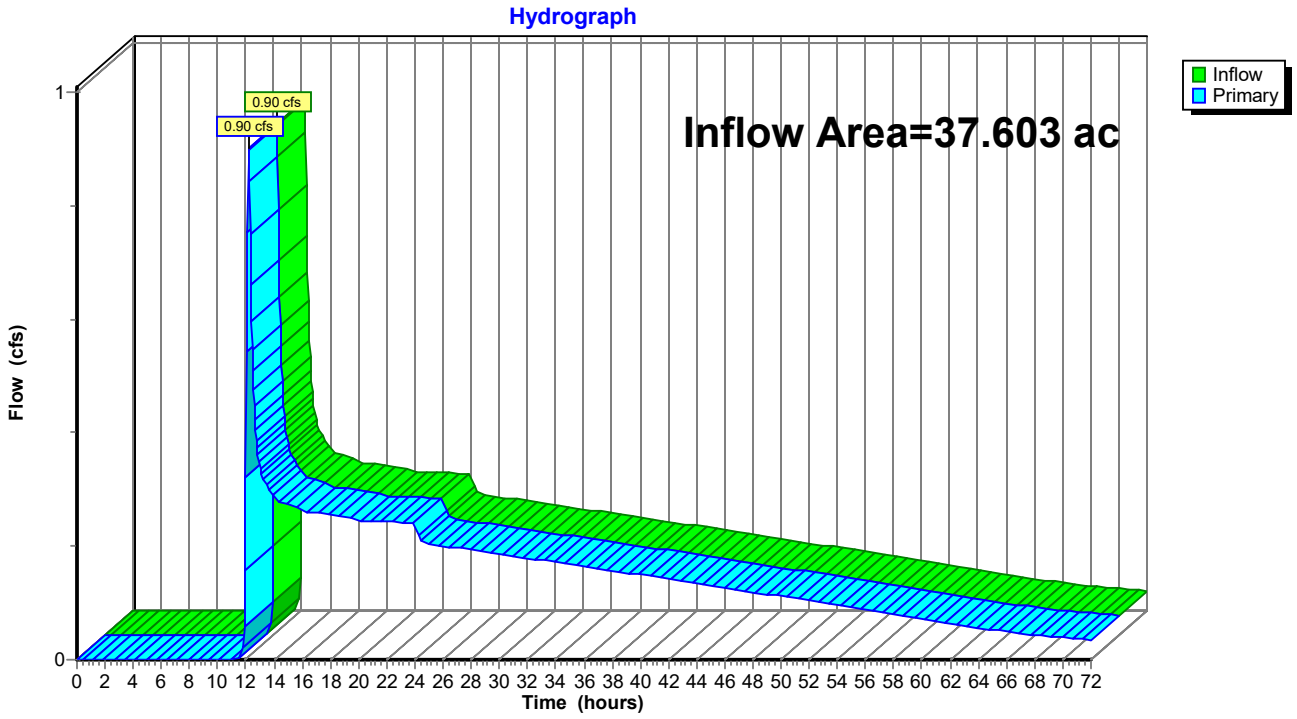


Summary for Link 24L: Discharge 002

Inflow Area = 37.603 ac, 71.36% Impervious, Inflow Depth > 0.24" for 2-Year event
Inflow = 0.90 cfs @ 12.19 hrs, Volume= 0.755 af
Primary = 0.90 cfs @ 12.19 hrs, Volume= 0.755 af, Atten= 0%, Lag= 0.0 min

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

Link 24L: Discharge 002



Summary for Subcatchment 18S: SEEPAGE BED #5E (BMP 14)

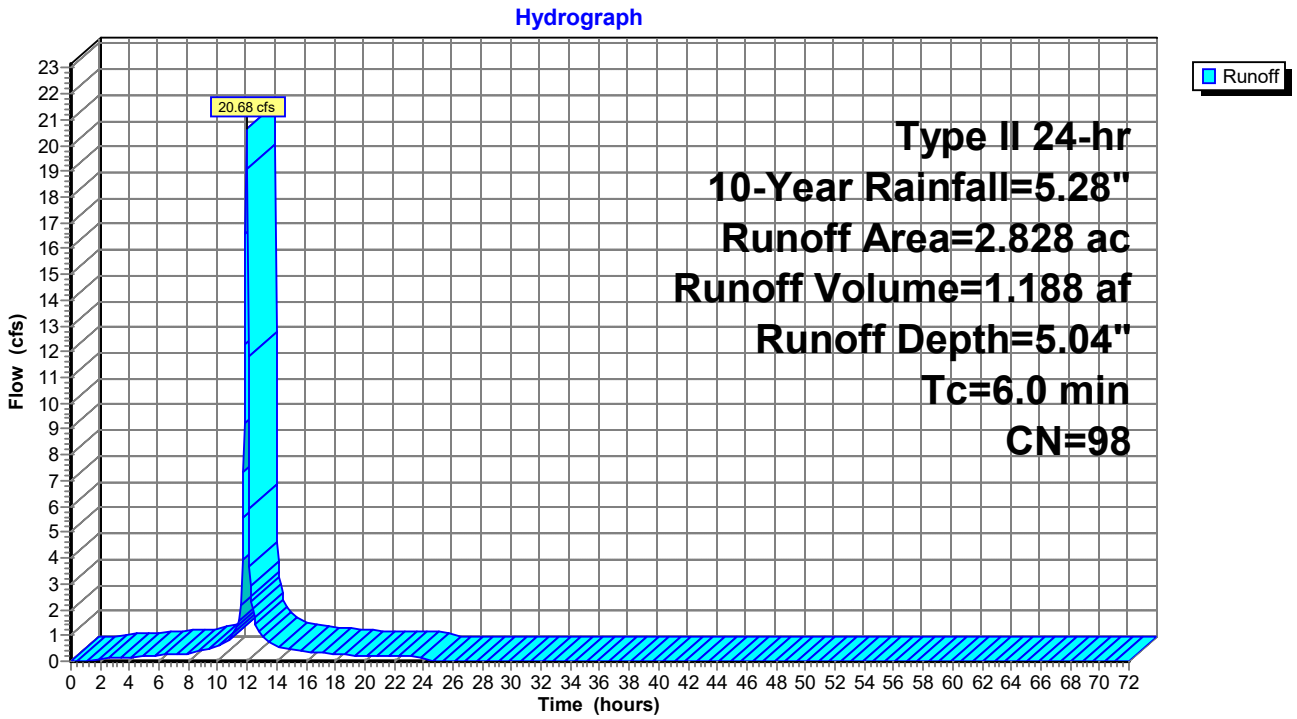
Runoff = 20.68 cfs @ 11.96 hrs, Volume= 1.188 af, Depth= 5.04"
Routed to Pond 12P : seepage pit with chambers #5e

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.28"

Area (ac)	CN	Description
2.828	98	Paved parking & roofs
2.828		100.00% Impervious Area

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

Subcatchment 18S: SEEPAGE BED #5E (BMP 14)



Summary for Subcatchment 23S: UNDETAINED 002

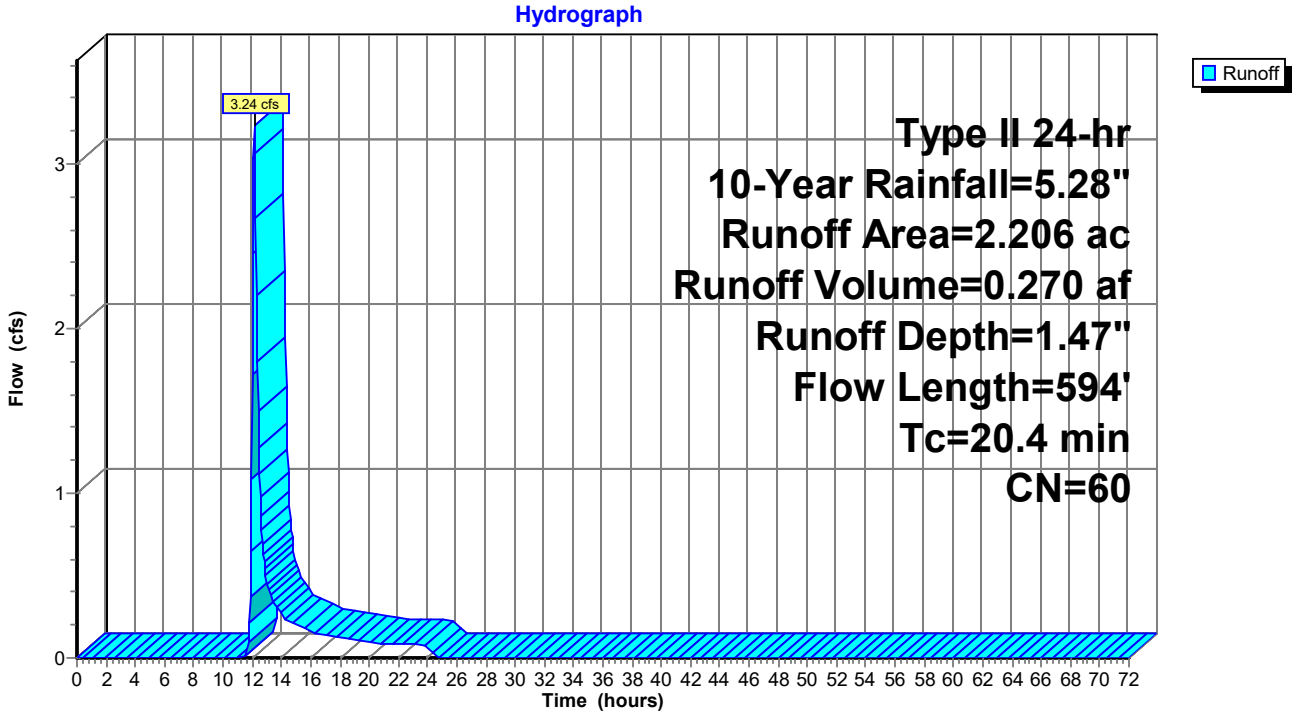
Runoff = 3.24 cfs @ 12.15 hrs, Volume= 0.270 af, Depth= 1.47"
Routed to Link 24L : Discharge 002

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.28"

Area (ac)	CN	Description
1.447	61	>75% Grass cover, Good, HSG B
0.266	60	Woods, Fair, HSG B
0.493	58	Meadow, non-grazed, HSG B
2.206	60	Weighted Average
2.206		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	150	0.0130	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.23"
4.4	444	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.4	594	Total			

Subcatchment 23S: UNDETAINED 002



Summary for Subcatchment 45S: BASIN #5C (BMP 15)

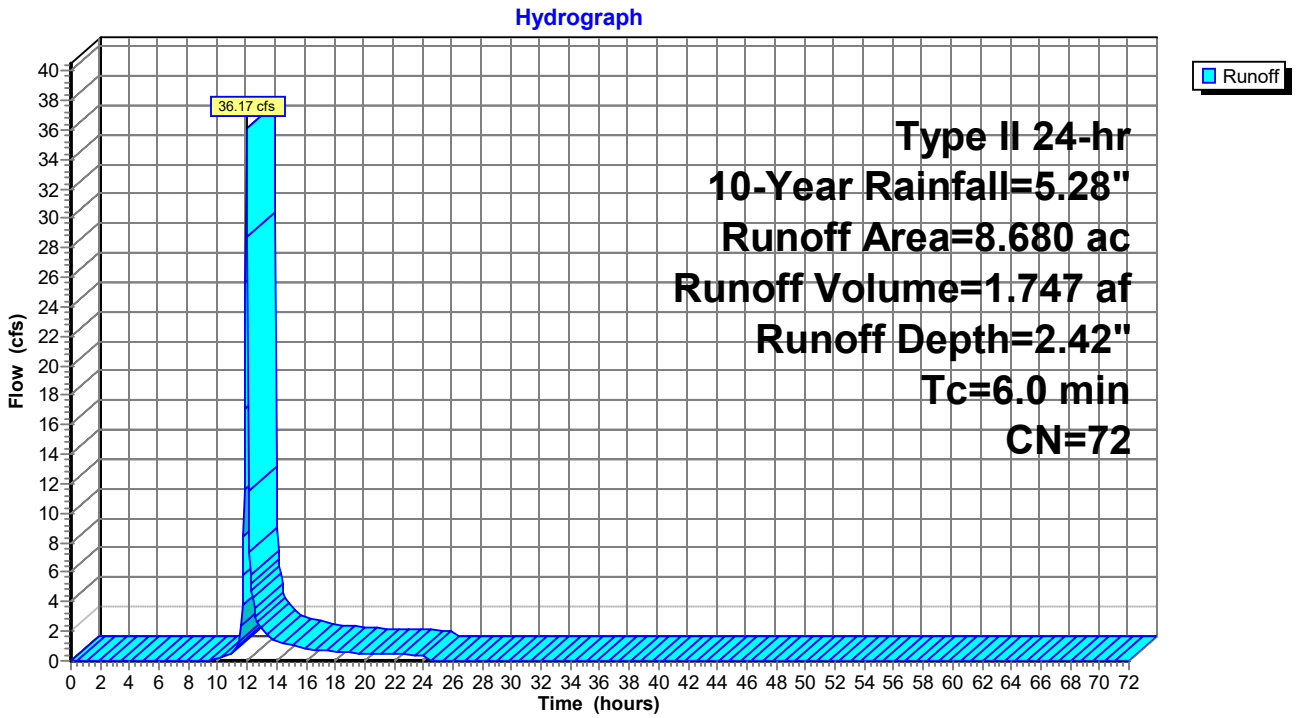
Runoff = 36.17 cfs @ 11.97 hrs, Volume= 1.747 af, Depth= 2.42"
Routed to Pond 44P : DETENTION BASIN #5C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.28"

Area (ac)	CN	Description
2.646	98	Paved parking & roofs
6.034	61	>75% Grass cover, Good, HSG B
8.680	72	Weighted Average
6.034		69.52% Pervious Area
2.646		30.48% Impervious Area

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

Subcatchment 45S: BASIN #5C (BMP 15)



Summary for Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

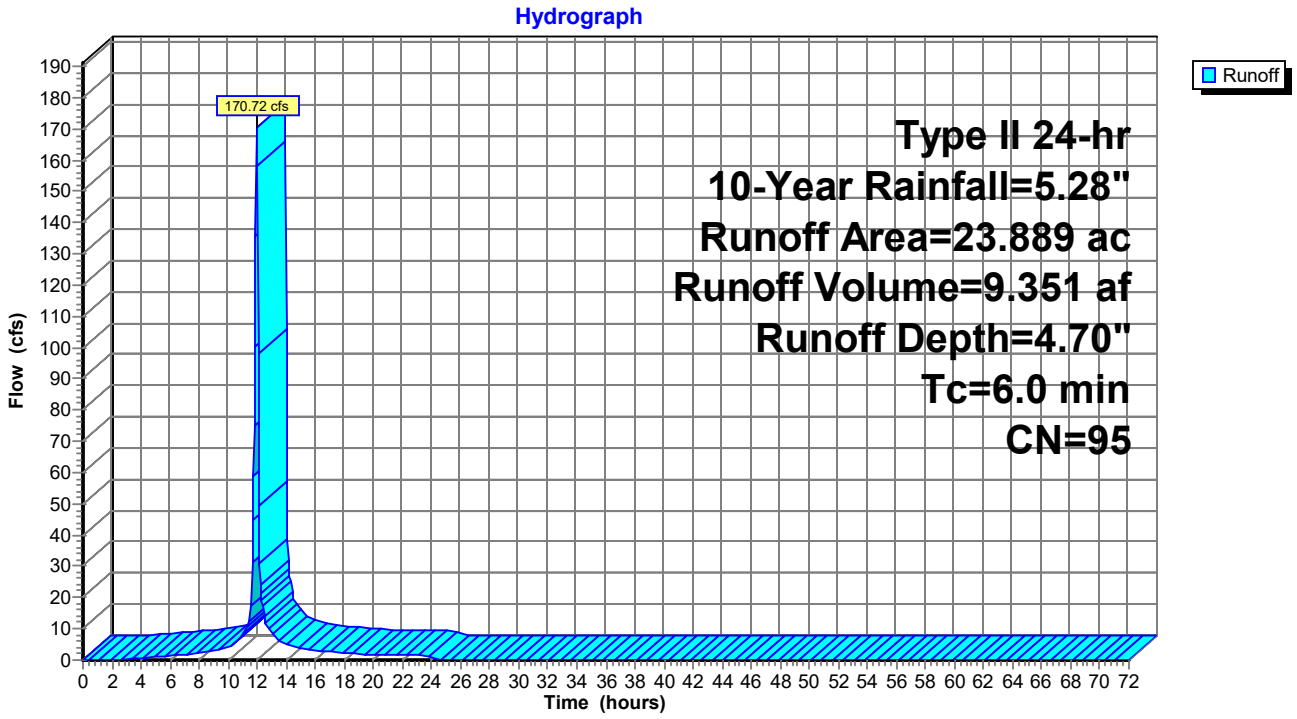
Runoff = 170.72 cfs @ 11.96 hrs, Volume= 9.351 af, Depth= 4.70"
Routed to Pond 41P : seepage pit with chambers #5C (combined old 5C and 5D)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=5.28"

Area (ac)	CN	Description
21.358	98	Paved parking & roofs
2.353	74	>75% Grass cover, Good, HSG C
0.178	61	>75% Grass cover, Good, HSG B
23.889	95	Weighted Average
2.531		10.59% Pervious Area
21.358		89.41% Impervious Area

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

Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

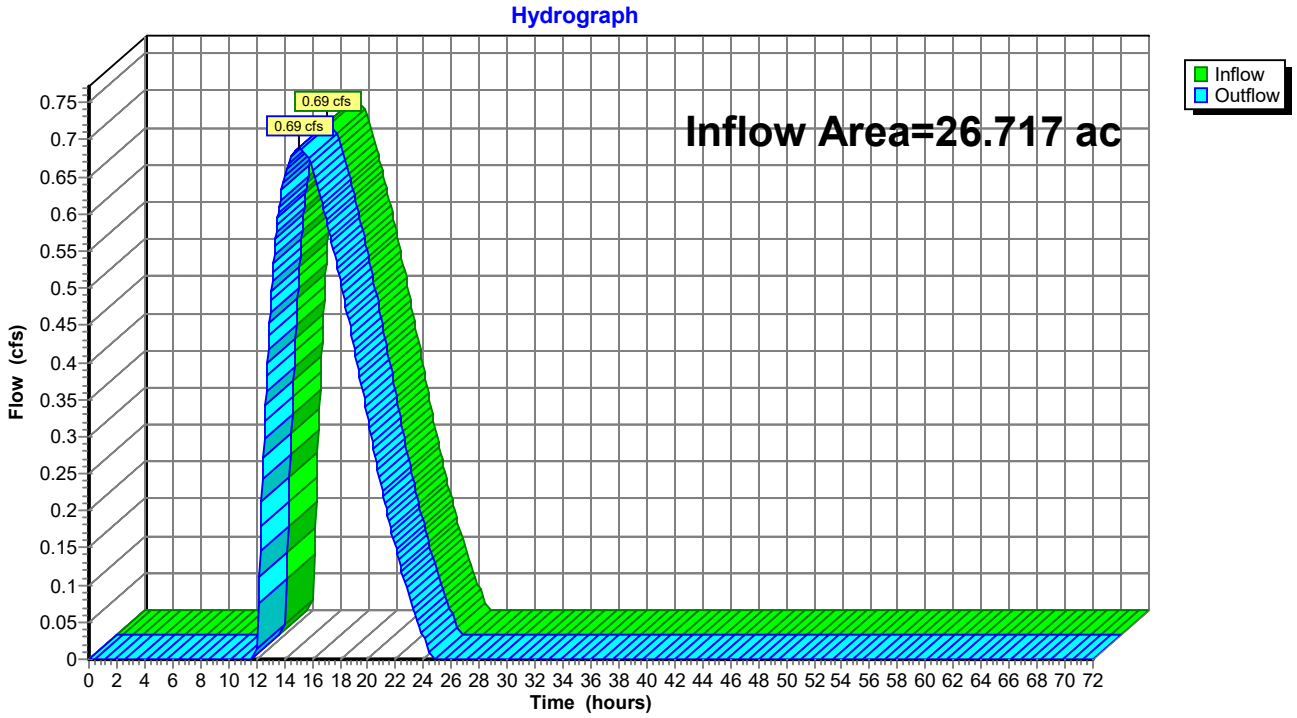


Summary for Reach 46R: SWL-5

Inflow Area = 26.717 ac, 90.53% Impervious, Inflow Depth = 0.18" for 10-Year event
Inflow = 0.69 cfs @ 15.08 hrs, Volume= 0.400 af
Outflow = 0.69 cfs @ 15.08 hrs, Volume= 0.400 af, Atten= 0%, Lag= 0.0 min
Routed to Pond 44P : DETENTION BASIN #5C

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 46R: SWL-5



Summary for Pond 12P: seepage pit with chambers #5e

Inflow Area = 2.828 ac,100.00% Impervious, Inflow Depth = 5.04" for 10-Year event
Inflow = 20.68 cfs @ 11.96 hrs, Volume= 1.188 af
Outflow = 0.23 cfs @ 6.40 hrs, Volume= 1.188 af, Atten= 99%, Lag= 0.0 min
Discarded = 0.23 cfs @ 6.40 hrs, Volume= 1.188 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,871.05' @ 19.16 hrs Surf.Area= 24,890 sf Storage= 35,446 cf

Plug-Flow detention time= 1,335.7 min calculated for 1.188 af (100% of inflow)
Center-of-Mass det. time= 1,336.6 min (2,079.6 - 743.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,869.00'	24,576 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 99,560 cf Overall - 38,121 cf Embedded = 61,439 cf x 40.0% Voids
#2	1,869.50'	38,121 cf	**Cultec R-360HD** x 1035 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 1035 Chambers in 15 Rows Cap Storage= 6.5 cf x 2 x 15 rows = 193.8 cf
		62,697 cf	Total Available Storage

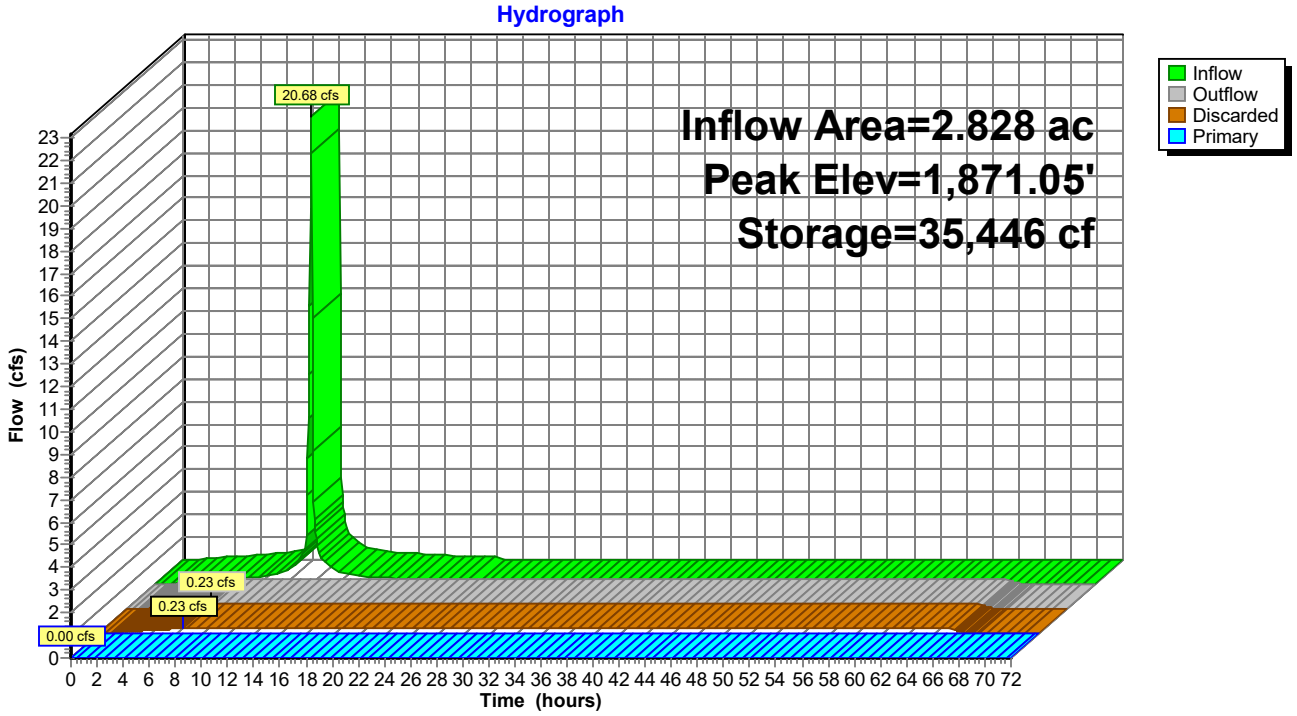
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,869.00	24,890	0	0
1,873.00	24,890	99,560	99,560

Device	Routing	Invert	Outlet Devices
#1	Primary	1,869.00'	**24.0" Round Culvert** L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,869.00' / 1,868.00' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.30'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,869.00'	**0.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.23 cfs @ 6.40 hrs HW=1,869.04' (Free Discharge)
↑—**3=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,869.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 12P: seepage pit with chambers #5e



Summary for Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)

Inflow Area = 23.889 ac, 89.41% Impervious, Inflow Depth = 4.70" for 10-Year event
Inflow = 170.72 cfs @ 11.96 hrs, Volume= 9.351 af
Outflow = 3.78 cfs @ 15.08 hrs, Volume= 9.351 af, Atten= 98%, Lag= 187.2 min
Discarded = 3.09 cfs @ 9.25 hrs, Volume= 8.950 af
Primary = 0.69 cfs @ 15.08 hrs, Volume= 0.400 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,871.86' @ 15.08 hrs Surf.Area= 190,835 sf Storage= 238,825 cf

Plug-Flow detention time= 650.5 min calculated for 9.344 af (100% of inflow)
Center-of-Mass det. time= 650.8 min (1,414.0 - 763.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,870.00'	194,128 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 763,340 cf Overall - 278,021 cf Embedded = 485,319 cf x 40.0% Voids
#2	1,870.50'	201,800 cf	**Cultec R-360HD** x 5502 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 5502 Chambers in 14 Rows Cap Storage= 6.5 cf x 2 x 14 rows = 180.9 cf
#3	1,870.50'	76,221 cf	**Cultec R-360HD** x 2074 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 2074 Chambers in 17 Rows Cap Storage= 6.5 cf x 2 x 17 rows = 219.6 cf
		472,148 cf	Total Available Storage

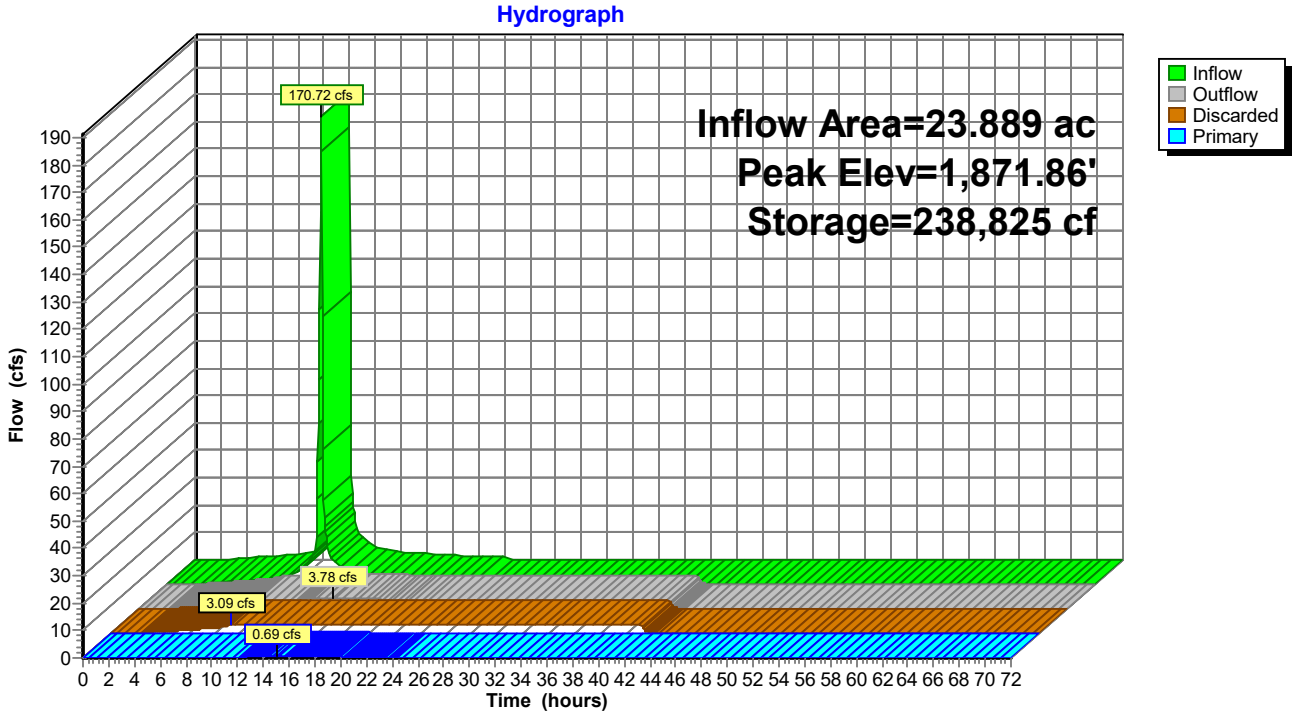
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,870.00	190,835	0	0
1,874.00	190,835	763,340	763,340

Device	Routing	Invert	Outlet Devices
#1	Primary	1,870.00'	**24.0" Round Culvert** L= 180.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,870.00' / 1,868.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.50'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,870.00'	**0.700 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=3.09 cfs @ 9.25 hrs HW=1,870.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 3.09 cfs)

Primary OutFlow Max=0.69 cfs @ 15.08 hrs HW=1,871.86' (Free Discharge)
└**1=Culvert** (Passes 0.69 cfs of 12.46 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.69 cfs @ 1.92 fps)

Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)



Summary for Pond 44P: DETENTION BASIN #5C

Inflow Area = 35.397 ac, 75.80% Impervious, Inflow Depth = 0.73" for 10-Year event
Inflow = 36.17 cfs @ 11.97 hrs, Volume= 2.148 af
Outflow = 0.37 cfs @ 24.04 hrs, Volume= 1.528 af, Atten= 99%, Lag= 723.7 min
Primary = 0.37 cfs @ 24.04 hrs, Volume= 1.528 af
Routed to Link 24L : Discharge 002

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,868.56' @ 24.04 hrs Surf.Area= 37,548 sf Storage= 78,426 cf

Plug-Flow detention time= 1,628.0 min calculated for 1.528 af (71% of inflow)
Center-of-Mass det. time= 1,518.3 min (2,385.9 - 867.5)

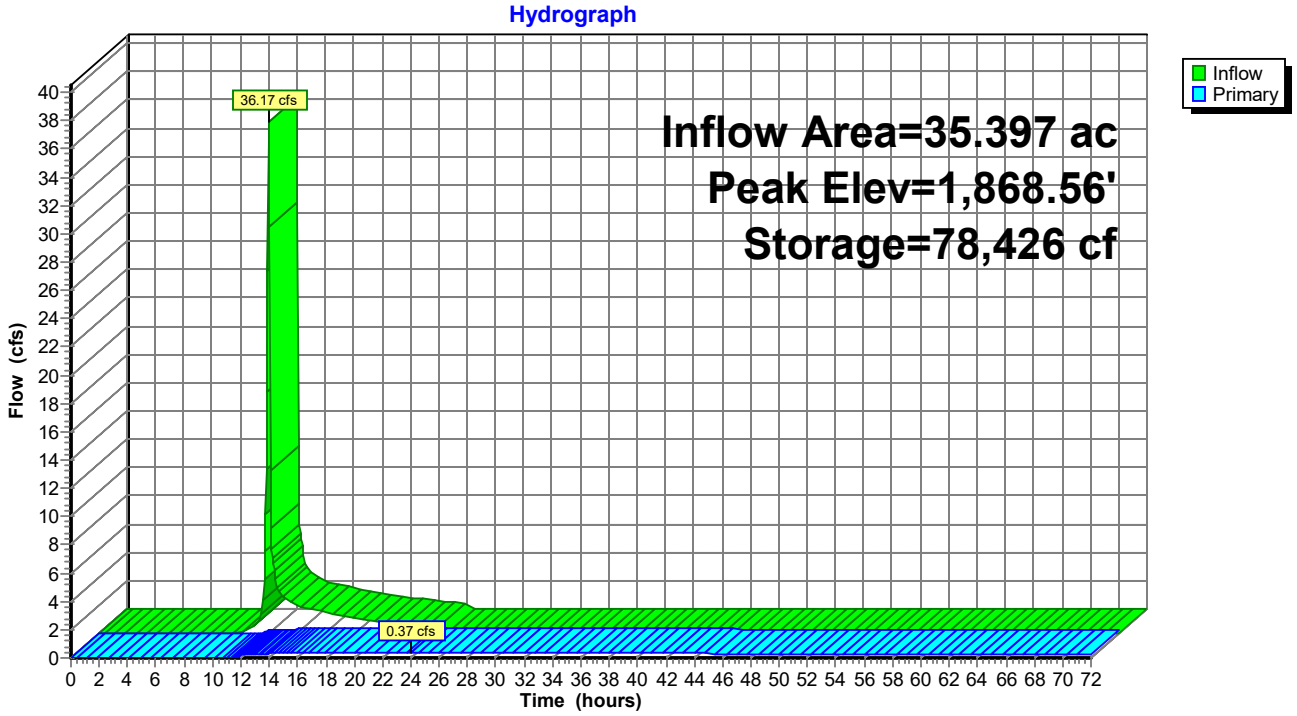
Volume	Invert	Avail.Storage	Storage Description
#1	1,866.00'	406,631 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,866.00	24,581	0	0
1,868.00	33,781	58,362	58,362
1,870.00	47,174	80,955	139,317
1,872.00	66,070	113,244	252,561
1,874.00	88,000	154,070	406,631

Device	Routing	Invert	Outlet Devices
#1	Primary	1,866.00'	**24.0" Round Culvert** L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,866.00' / 1,865.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,869.00'	**18.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,866.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,871.00'	**24.0" x 45.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.37 cfs @ 24.04 hrs HW=1,868.56' (Free Discharge)
1=Culvert (Passes 0.37 cfs of 16.68 cfs potential flow)
2=Orifice/Grate (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.37 cfs @ 7.52 fps)
4=Orifice/Grate (Controls 0.00 cfs)

Pond 44P: DETENTION BASIN #5C

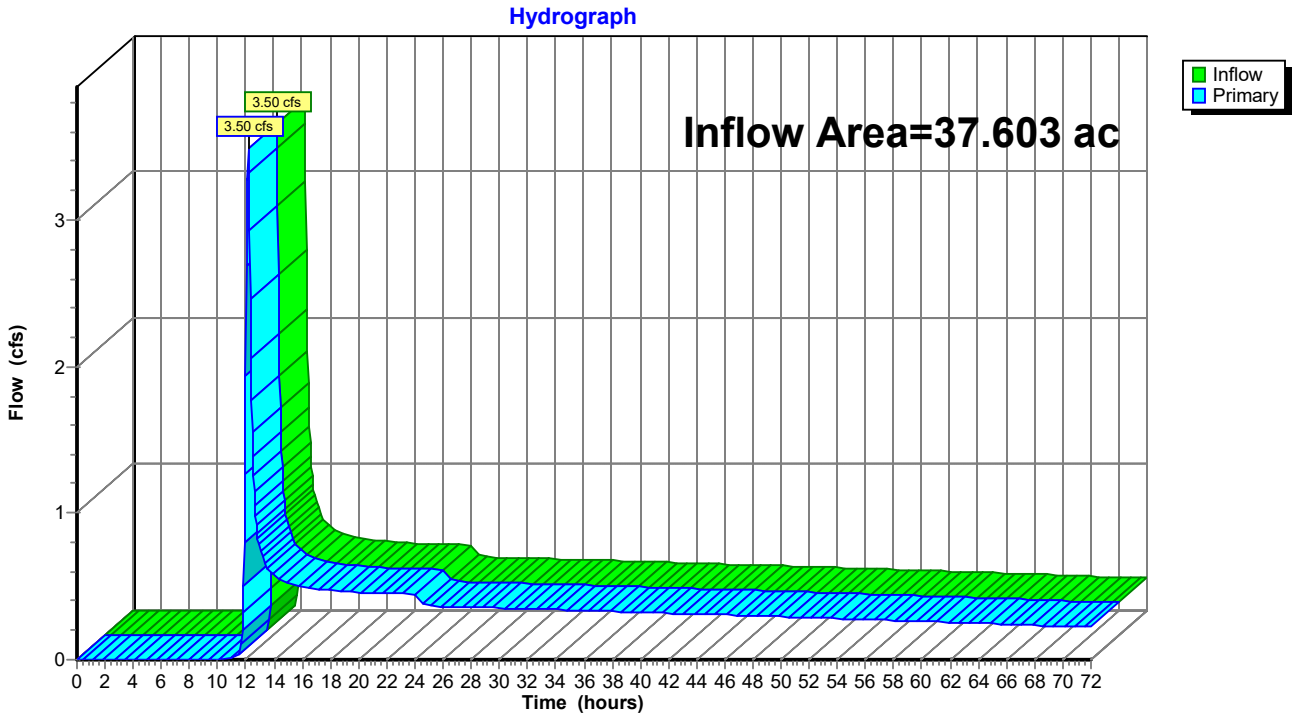


Summary for Link 24L: Discharge 002

Inflow Area = 37.603 ac, 71.36% Impervious, Inflow Depth > 0.57" for 10-Year event
Inflow = 3.50 cfs @ 12.15 hrs, Volume= 1.798 af
Primary = 3.50 cfs @ 12.15 hrs, Volume= 1.798 af, Atten= 0%, Lag= 0.0 min

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

Link 24L: Discharge 002



Summary for Subcatchment 18S: SEEPAGE BED #5E (BMP 14)

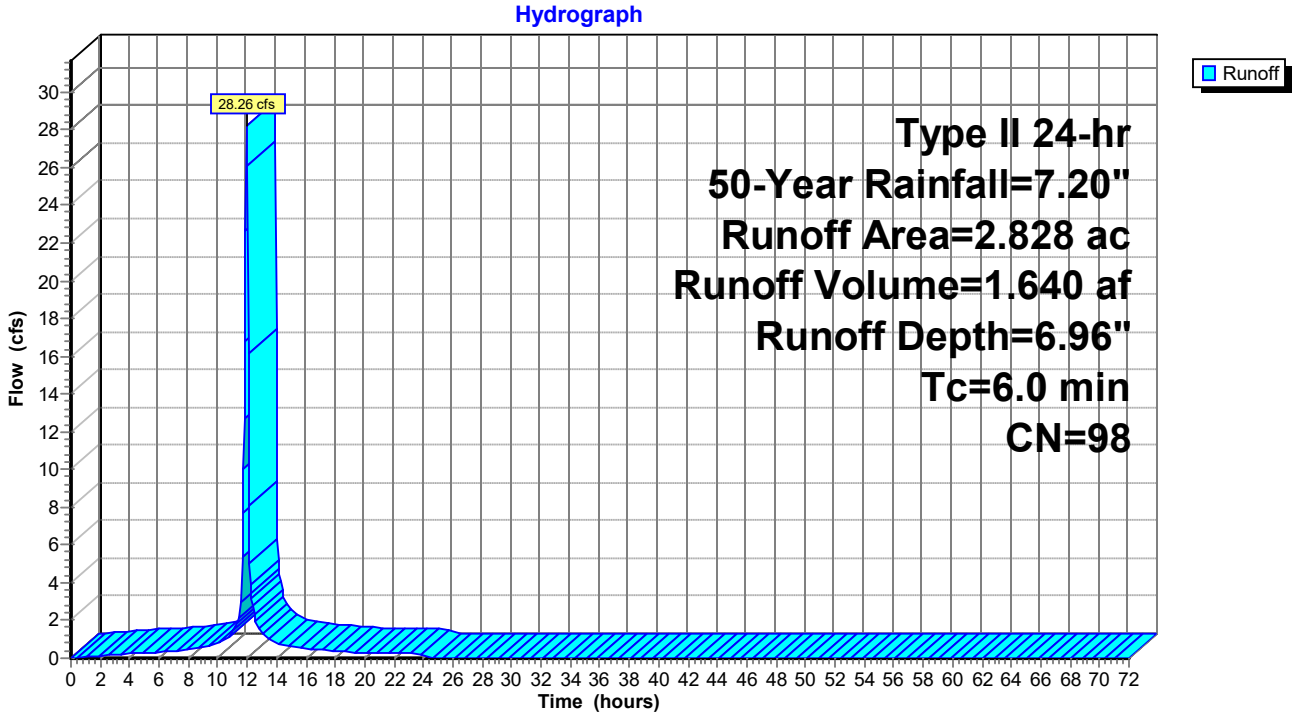
Runoff = 28.26 cfs @ 11.96 hrs, Volume= 1.640 af, Depth= 6.96"
Routed to Pond 12P : seepage pit with chambers #5e

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-Year Rainfall=7.20"

Area (ac)	CN	Description
2.828	98	Paved parking & roofs
2.828		100.00% Impervious Area

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

Subcatchment 18S: SEEPAGE BED #5E (BMP 14)



Summary for Subcatchment 23S: UNDETAINED 002

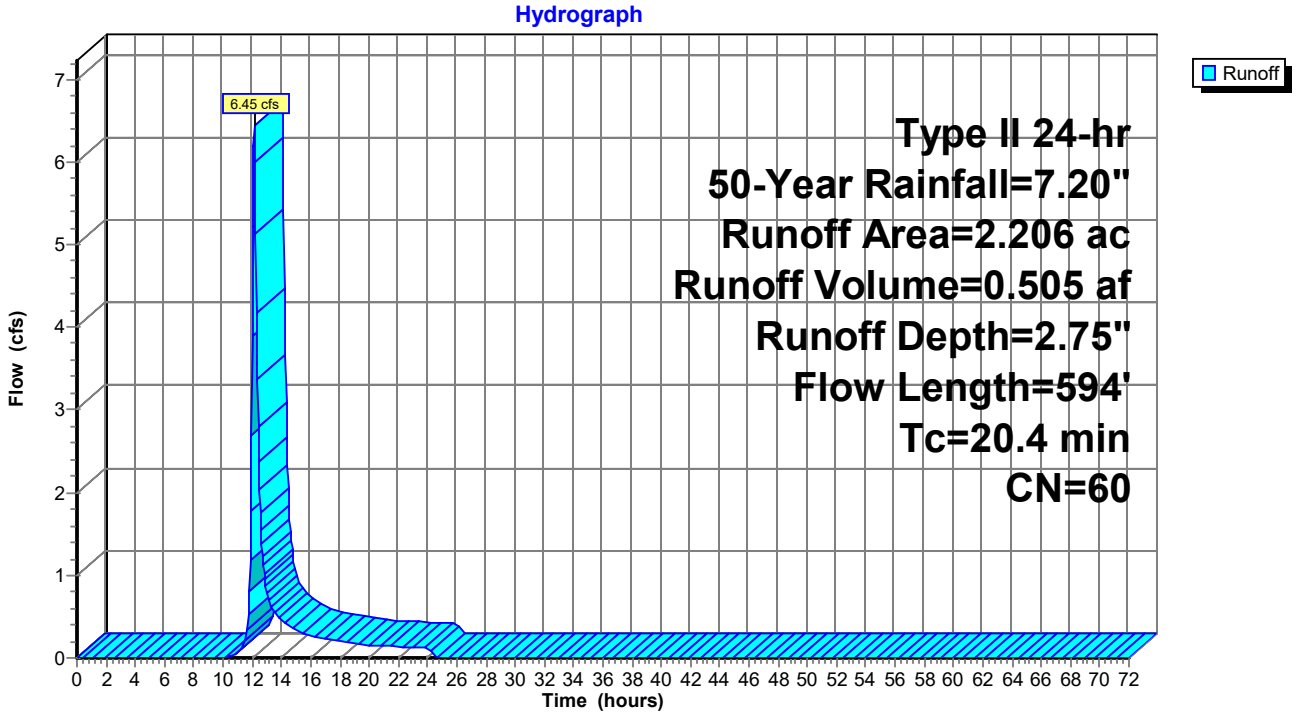
Runoff = 6.45 cfs @ 12.14 hrs, Volume= 0.505 af, Depth= 2.75"
Routed to Link 24L : Discharge 002

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-Year Rainfall=7.20"

Area (ac)	CN	Description
1.447	61	>75% Grass cover, Good, HSG B
0.266	60	Woods, Fair, HSG B
0.493	58	Meadow, non-grazed, HSG B
2.206	60	Weighted Average
2.206		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	150	0.0130	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.23"
4.4	444	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.4	594	Total			

Subcatchment 23S: UNDETAINED 002



Summary for Subcatchment 45S: BASIN #5C (BMP 15)

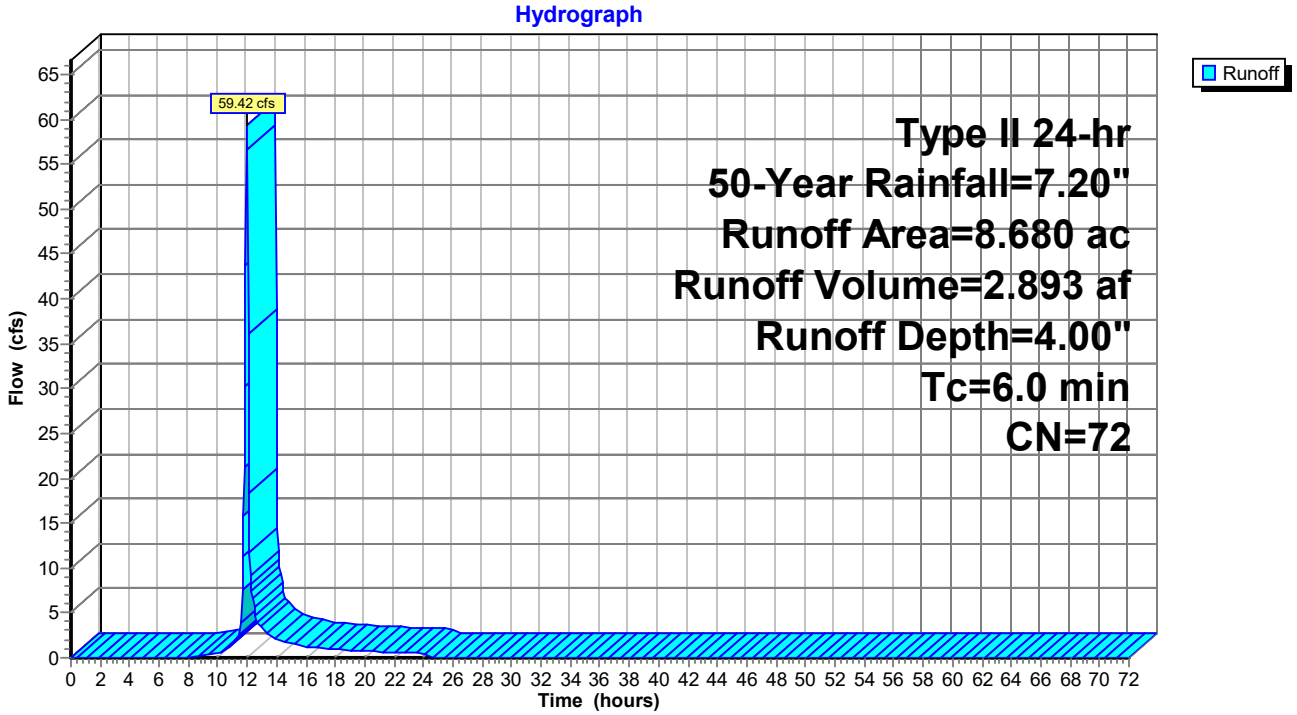
Runoff = 59.42 cfs @ 11.97 hrs, Volume= 2.893 af, Depth= 4.00"
Routed to Pond 44P : DETENTION BASIN #5C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-Year Rainfall=7.20"

Area (ac)	CN	Description
2.646	98	Paved parking & roofs
6.034	61	>75% Grass cover, Good, HSG B
8.680	72	Weighted Average
6.034		69.52% Pervious Area
2.646		30.48% Impervious Area

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

Subcatchment 45S: BASIN #5C (BMP 15)



Summary for Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

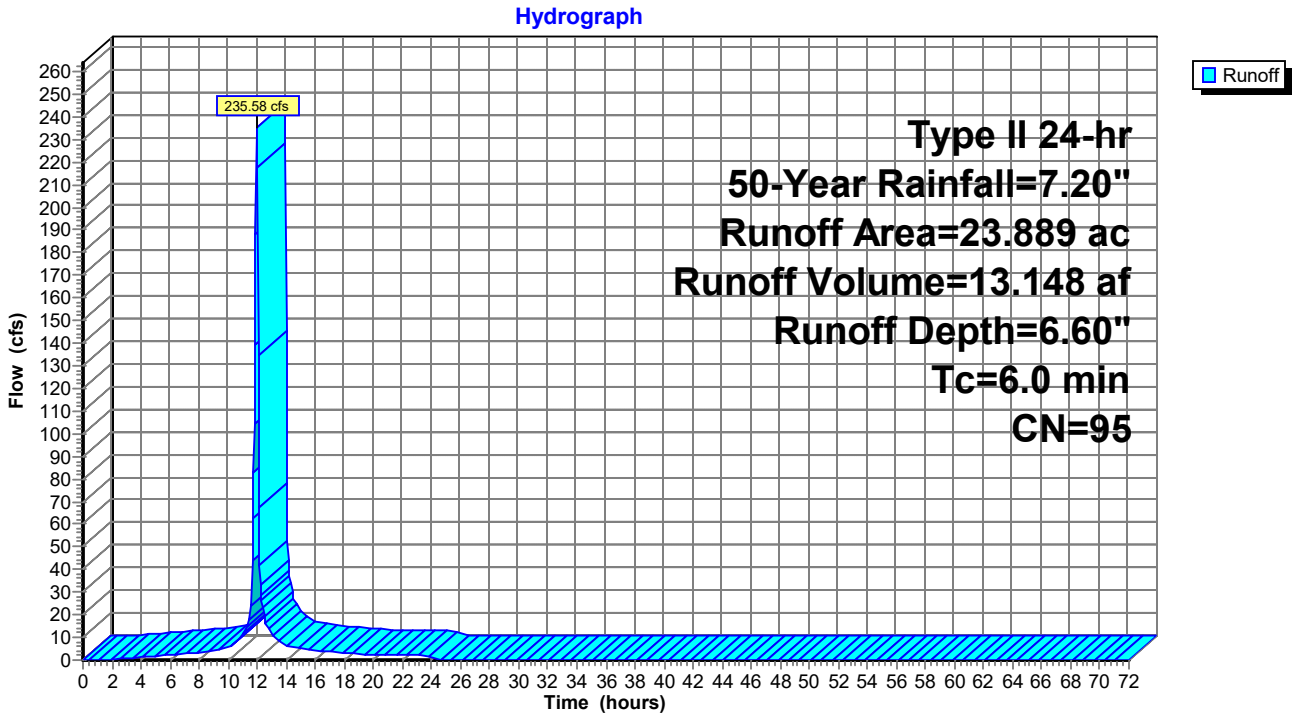
Runoff = 235.58 cfs @ 11.96 hrs, Volume= 13.148 af, Depth= 6.60"
Routed to Pond 41P : seepage pit with chambers #5C (combined old 5C and 5D)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-Year Rainfall=7.20"

Area (ac)	CN	Description
21.358	98	Paved parking & roofs
2.353	74	>75% Grass cover, Good, HSG C
0.178	61	>75% Grass cover, Good, HSG B
23.889	95	Weighted Average
2.531		10.59% Pervious Area
21.358		89.41% Impervious Area

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

Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

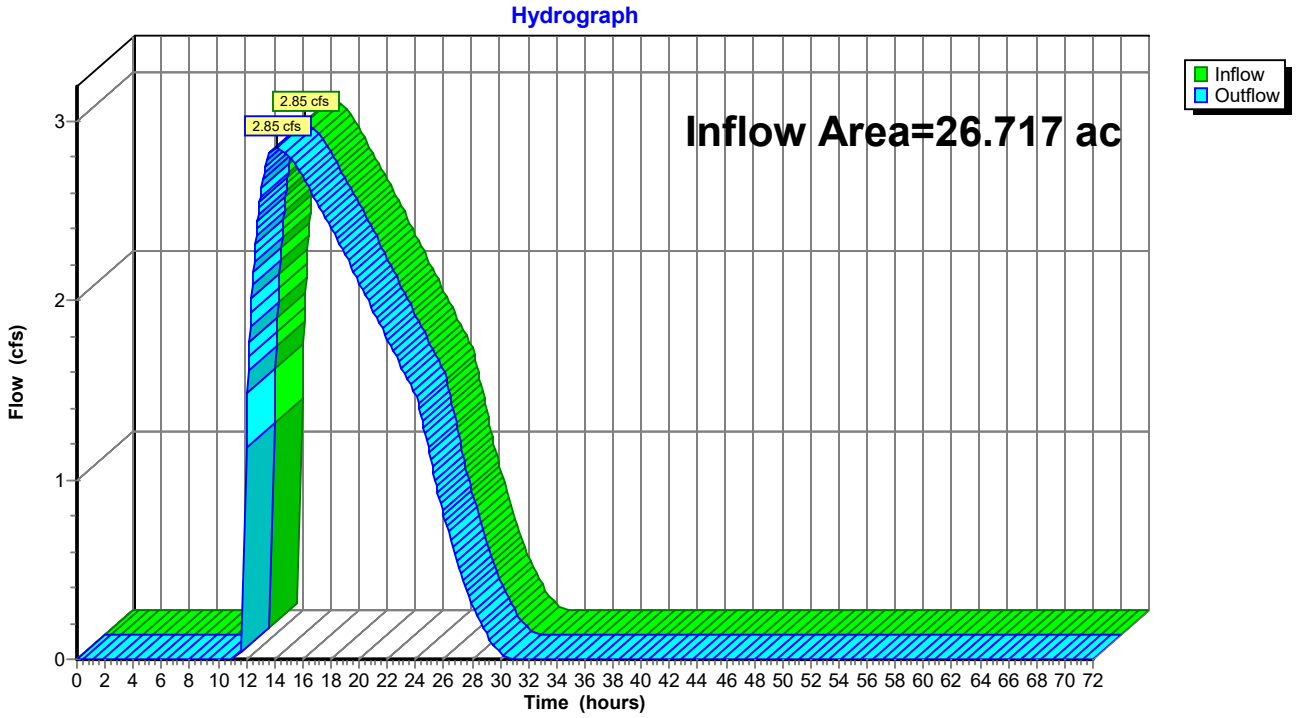


Summary for Reach 46R: SWL-5

Inflow Area = 26.717 ac, 90.53% Impervious, Inflow Depth = 1.14" for 50-Year event
Inflow = 2.85 cfs @ 14.12 hrs, Volume= 2.549 af
Outflow = 2.85 cfs @ 14.12 hrs, Volume= 2.549 af, Atten= 0%, Lag= 0.0 min
Routed to Pond 44P : DETENTION BASIN #5C

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 46R: SWL-5



Summary for Pond 12P: seepage pit with chambers #5e

Inflow Area = 2.828 ac,100.00% Impervious, Inflow Depth = 6.96" for 50-Year event
Inflow = 28.26 cfs @ 11.96 hrs, Volume= 1.640 af
Outflow = 0.83 cfs @ 13.93 hrs, Volume= 1.613 af, Atten= 97%, Lag= 117.9 min
Discarded = 0.23 cfs @ 4.30 hrs, Volume= 1.328 af
Primary = 0.60 cfs @ 13.93 hrs, Volume= 0.285 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,871.63' @ 13.93 hrs Surf.Area= 24,890 sf Storage= 45,483 cf

Plug-Flow detention time= 1,281.5 min calculated for 1.612 af (98% of inflow)
Center-of-Mass det. time= 1,271.4 min (2,009.8 - 738.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,869.00'	24,576 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 99,560 cf Overall - 38,121 cf Embedded = 61,439 cf x 40.0% Voids
#2	1,869.50'	38,121 cf	**Cultec R-360HD** x 1035 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 1035 Chambers in 15 Rows Cap Storage= 6.5 cf x 2 x 15 rows = 193.8 cf
		62,697 cf	Total Available Storage

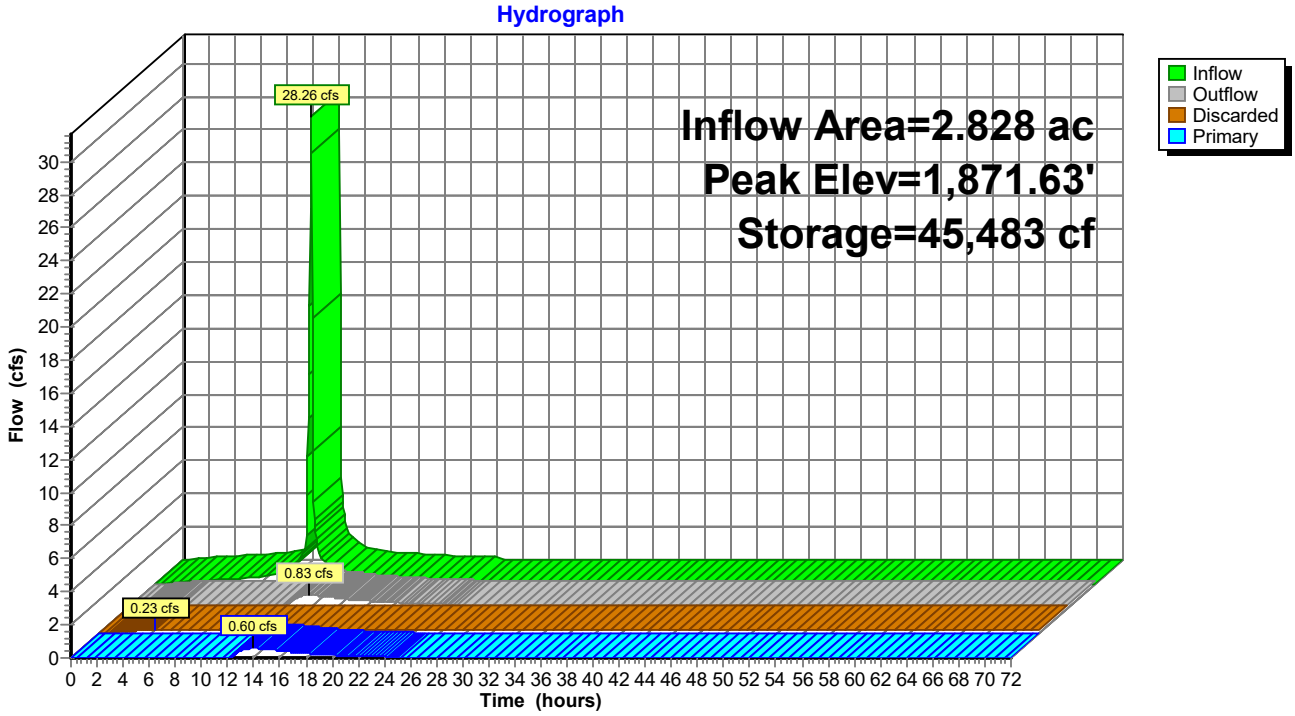
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,869.00	24,890	0	0
1,873.00	24,890	99,560	99,560

Device	Routing	Invert	Outlet Devices
#1	Primary	1,869.00'	**24.0" Round Culvert** L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,869.00' / 1,868.00' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.30'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,869.00'	**0.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.23 cfs @ 4.30 hrs HW=1,869.04' (Free Discharge)
↑—**3=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.60 cfs @ 13.93 hrs HW=1,871.63' (Free Discharge)
↑—**1=Culvert** (Passes 0.60 cfs of 17.02 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 0.60 cfs @ 1.83 fps)

Pond 12P: seepage pit with chambers #5e



Summary for Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)

Inflow Area = 23.889 ac, 89.41% Impervious, Inflow Depth = 6.60" for 50-Year event
Inflow = 235.58 cfs @ 11.96 hrs, Volume= 13.148 af
Outflow = 5.37 cfs @ 14.93 hrs, Volume= 13.148 af, Atten= 98%, Lag= 178.0 min
Discarded = 3.09 cfs @ 8.20 hrs, Volume= 10.885 af
Primary = 2.28 cfs @ 14.93 hrs, Volume= 2.264 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,872.65' @ 14.93 hrs Surf.Area= 190,835 sf Storage= 344,513 cf

Plug-Flow detention time= 736.0 min calculated for 13.148 af (100% of inflow)
Center-of-Mass det. time= 735.9 min (1,491.4 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,870.00'	194,128 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 763,340 cf Overall - 278,021 cf Embedded = 485,319 cf x 40.0% Voids
#2	1,870.50'	201,800 cf	**Cultec R-360HD** x 5502 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 5502 Chambers in 14 Rows Cap Storage= 6.5 cf x 2 x 14 rows = 180.9 cf
#3	1,870.50'	76,221 cf	**Cultec R-360HD** x 2074 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 2074 Chambers in 17 Rows Cap Storage= 6.5 cf x 2 x 17 rows = 219.6 cf
		472,148 cf	Total Available Storage

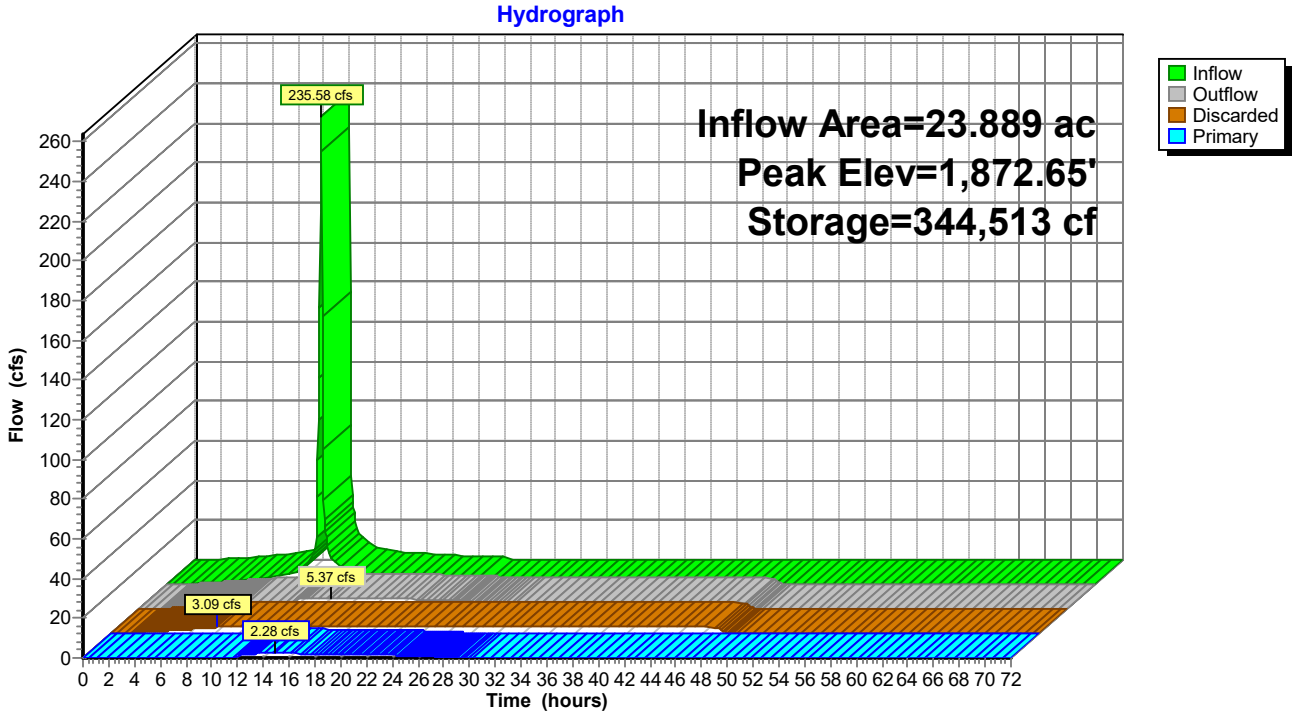
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,870.00	190,835	0	0
1,874.00	190,835	763,340	763,340

Device	Routing	Invert	Outlet Devices
#1	Primary	1,870.00'	**24.0" Round Culvert** L= 180.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,870.00' / 1,868.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.50'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,870.00'	**0.700 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=3.09 cfs @ 8.20 hrs HW=1,870.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 3.09 cfs)

Primary OutFlow Max=2.28 cfs @ 14.93 hrs HW=1,872.65' (Free Discharge)
└**1=Culvert** (Passes 2.28 cfs of 17.14 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 2.28 cfs @ 4.55 fps)

Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)



Summary for Pond 44P: DETENTION BASIN #5C

Inflow Area = 35.397 ac, 75.80% Impervious, Inflow Depth = 1.84" for 50-Year event
Inflow = 59.58 cfs @ 11.97 hrs, Volume= 5.442 af
Outflow = 3.30 cfs @ 18.26 hrs, Volume= 4.366 af, Atten= 94%, Lag= 377.2 min
Primary = 3.30 cfs @ 18.26 hrs, Volume= 4.366 af
Routed to Link 24L : Discharge 002

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,869.71' @ 18.26 hrs Surf.Area= 45,199 sf Storage= 125,696 cf

Plug-Flow detention time= 882.2 min calculated for 4.363 af (80% of inflow)
Center-of-Mass det. time= 778.4 min (1,735.0 - 956.6)

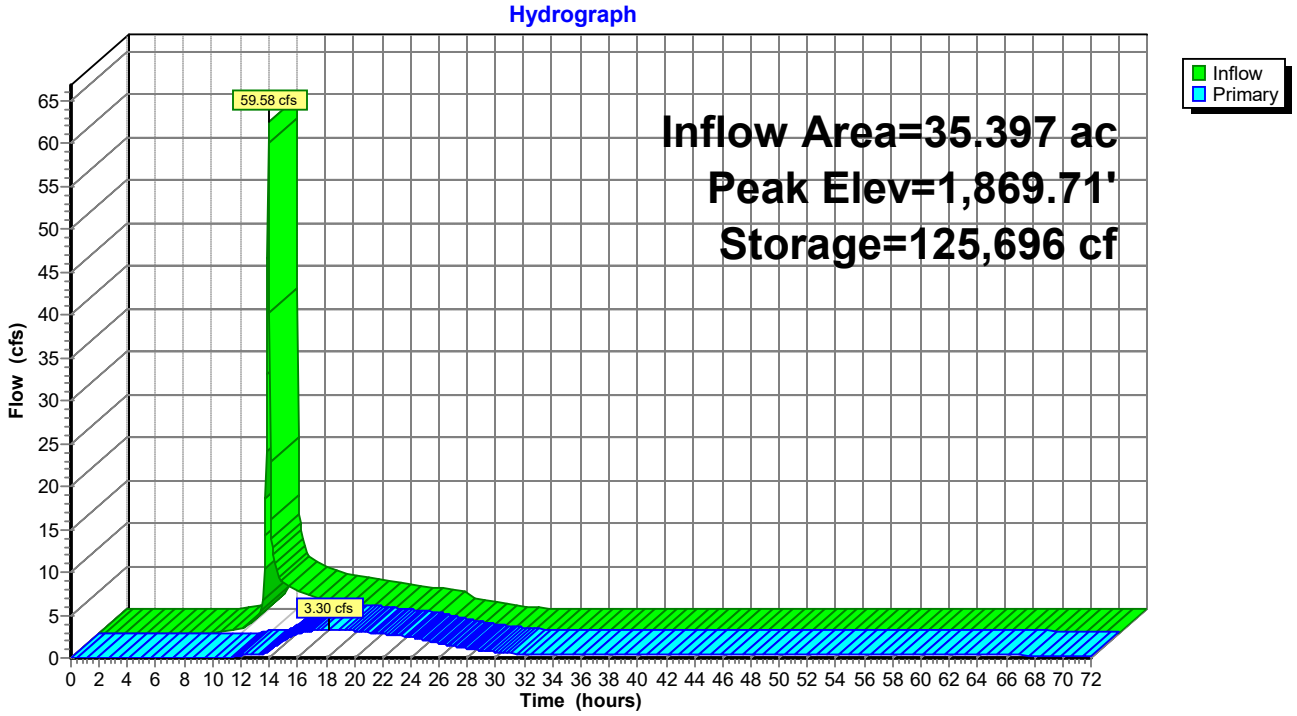
Volume	Invert	Avail.Storage	Storage Description
#1	1,866.00'	406,631 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,866.00	24,581	0	0
1,868.00	33,781	58,362	58,362
1,870.00	47,174	80,955	139,317
1,872.00	66,070	113,244	252,561
1,874.00	88,000	154,070	406,631

Device	Routing	Invert	Outlet Devices
#1	Primary	1,866.00'	**24.0" Round Culvert** L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,866.00' / 1,865.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,869.00'	**18.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,866.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,871.00'	**24.0" x 45.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.30 cfs @ 18.26 hrs HW=1,869.71' (Free Discharge)
└**1=Culvert** (Passes 3.30 cfs of 21.95 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 2.85 cfs @ 2.70 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.45 cfs @ 9.11 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 44P: DETENTION BASIN #5C

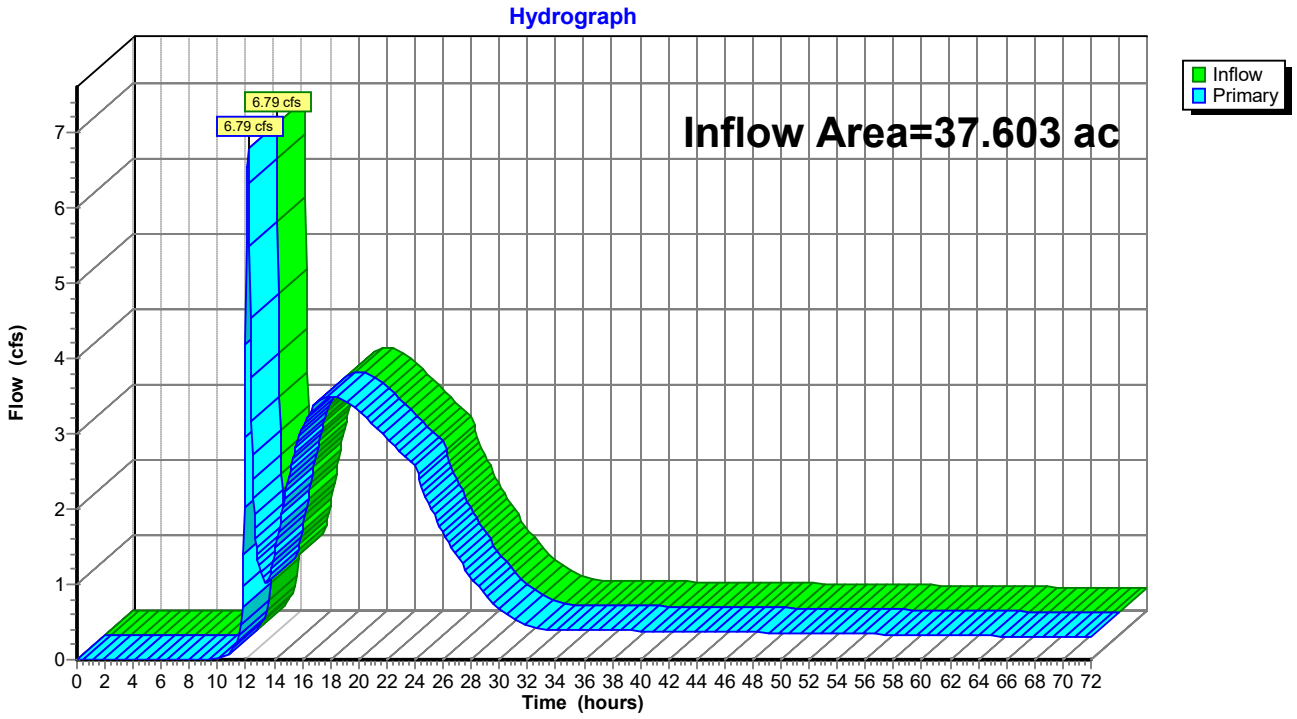


Summary for Link 24L: Discharge 002

Inflow Area = 37.603 ac, 71.36% Impervious, Inflow Depth > 1.55" for 50-Year event
Inflow = 6.79 cfs @ 12.14 hrs, Volume= 4.871 af
Primary = 6.79 cfs @ 12.14 hrs, Volume= 4.871 af, Atten= 0%, Lag= 0.0 min

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

Link 24L: Discharge 002



Summary for Subcatchment 18S: SEEPAGE BED #5E (BMP 14)

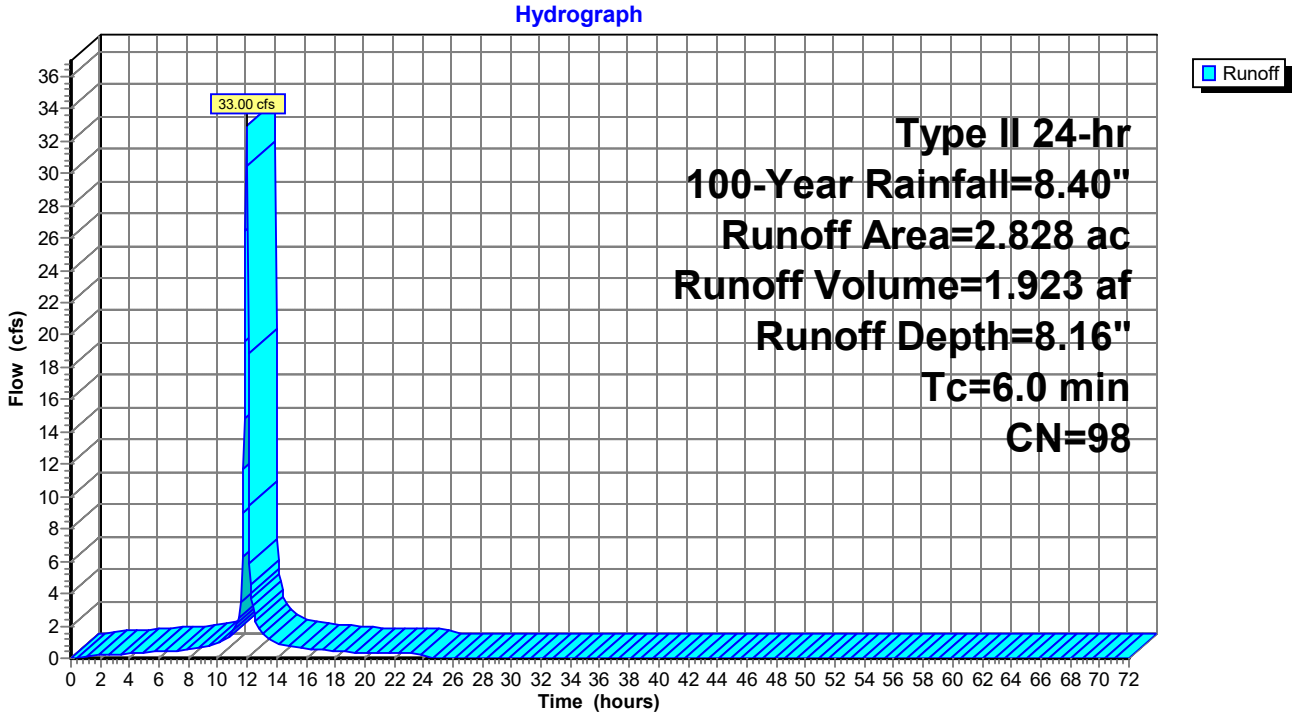
Runoff = 33.00 cfs @ 11.96 hrs, Volume= 1.923 af, Depth= 8.16"
Routed to Pond 12P : seepage pit with chambers #5e

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=8.40"

Area (ac)	CN	Description
2.828	98	Paved parking & roofs
2.828		100.00% Impervious Area

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

Subcatchment 18S: SEEPAGE BED #5E (BMP 14)



Summary for Subcatchment 23S: UNDETAINED 002

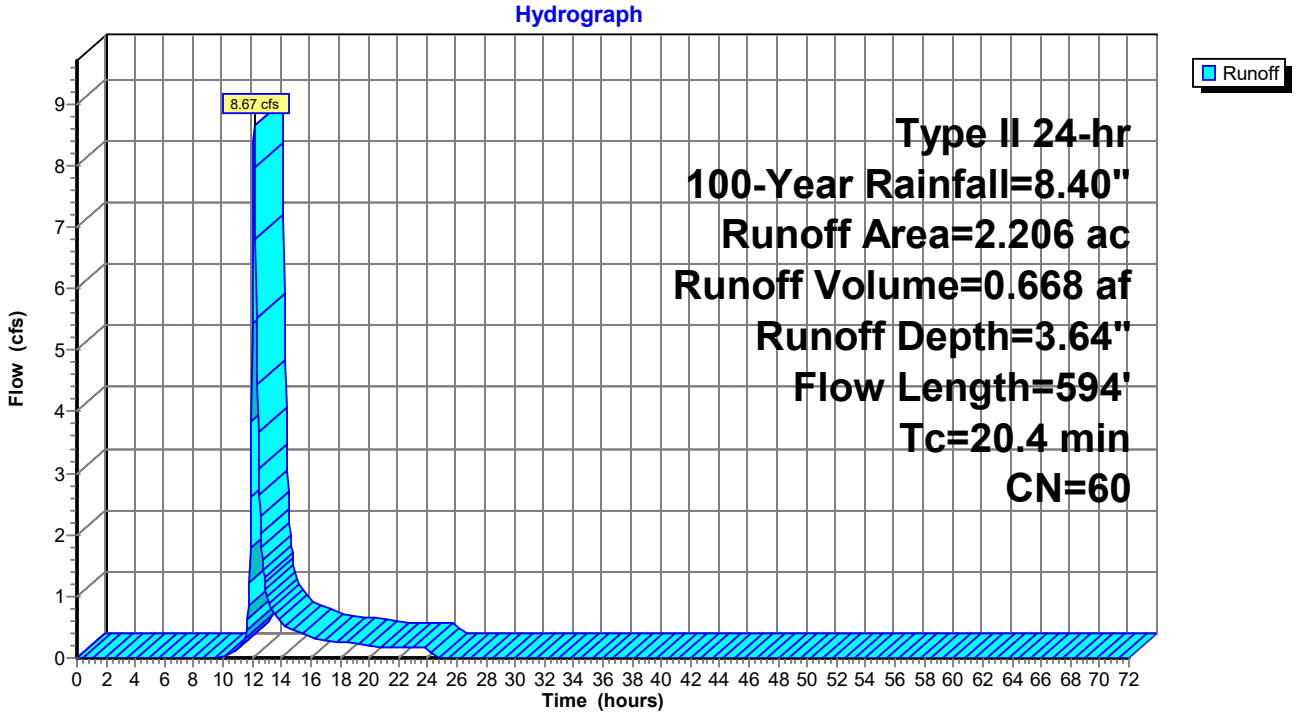
Runoff = 8.67 cfs @ 12.14 hrs, Volume= 0.668 af, Depth= 3.64"
Routed to Link 24L : Discharge 002

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=8.40"

Area (ac)	CN	Description
1.447	61	>75% Grass cover, Good, HSG B
0.266	60	Woods, Fair, HSG B
0.493	58	Meadow, non-grazed, HSG B
2.206	60	Weighted Average
2.206		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	150	0.0130	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.23"
4.4	444	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.4	594	Total			

Subcatchment 23S: UNDETAINED 002



Summary for Subcatchment 45S: BASIN #5C (BMP 15)

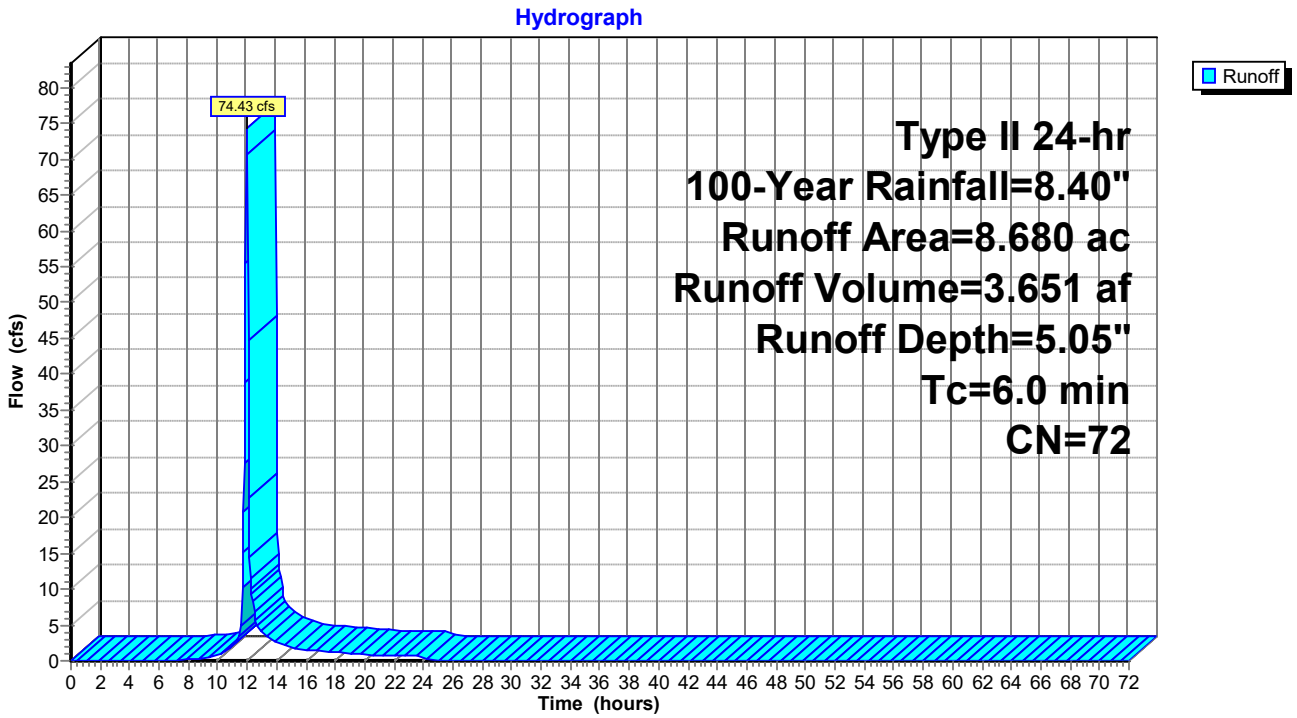
Runoff = 74.43 cfs @ 11.97 hrs, Volume= 3.651 af, Depth= 5.05"
Routed to Pond 44P : DETENTION BASIN #5C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=8.40"

Area (ac)	CN	Description
2.646	98	Paved parking & roofs
6.034	61	>75% Grass cover, Good, HSG B
8.680	72	Weighted Average
6.034		69.52% Pervious Area
2.646		30.48% Impervious Area

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

Subcatchment 45S: BASIN #5C (BMP 15)



Summary for Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

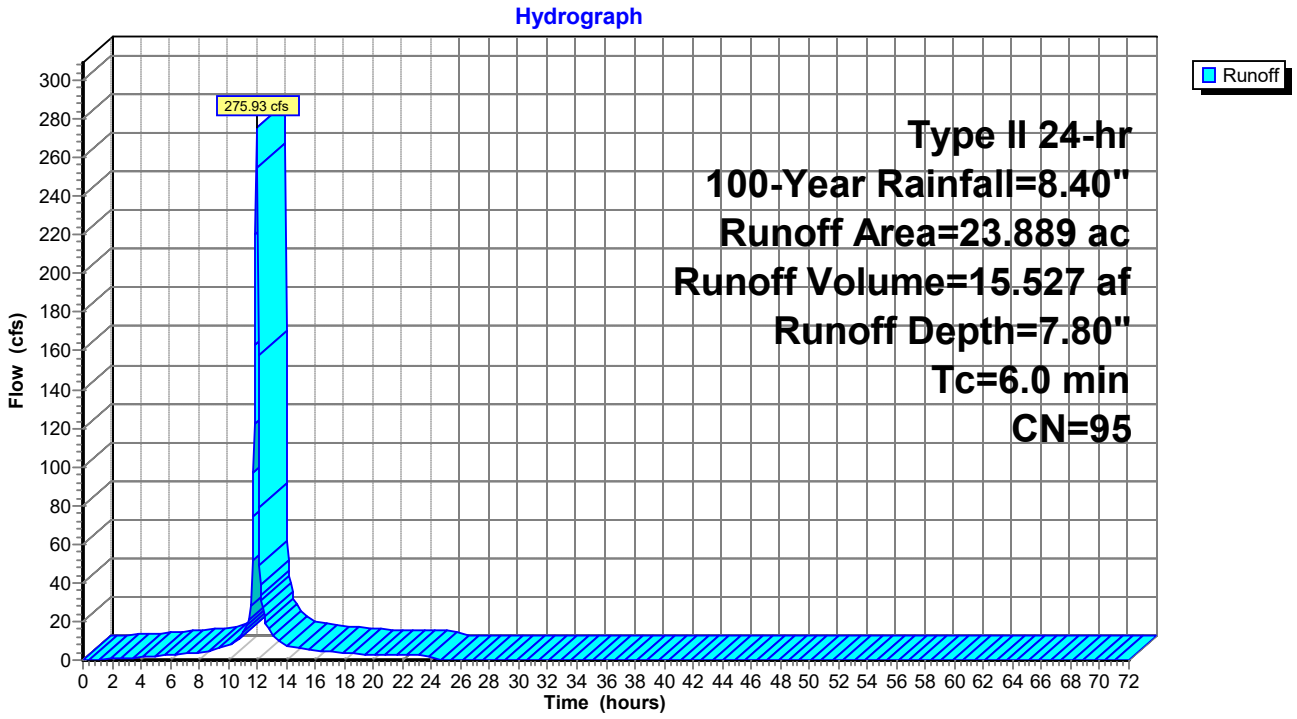
Runoff = 275.93 cfs @ 11.96 hrs, Volume= 15.527 af, Depth= 7.80"
Routed to Pond 41P : seepage pit with chambers #5C (combined old 5C and 5D)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=8.40"

Area (ac)	CN	Description
21.358	98	Paved parking & roofs
2.353	74	>75% Grass cover, Good, HSG C
0.178	61	>75% Grass cover, Good, HSG B
23.889	95	Weighted Average
2.531		10.59% Pervious Area
21.358		89.41% Impervious Area

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

Subcatchment 46S: SEEPAGE BED #5C (BMP 13)

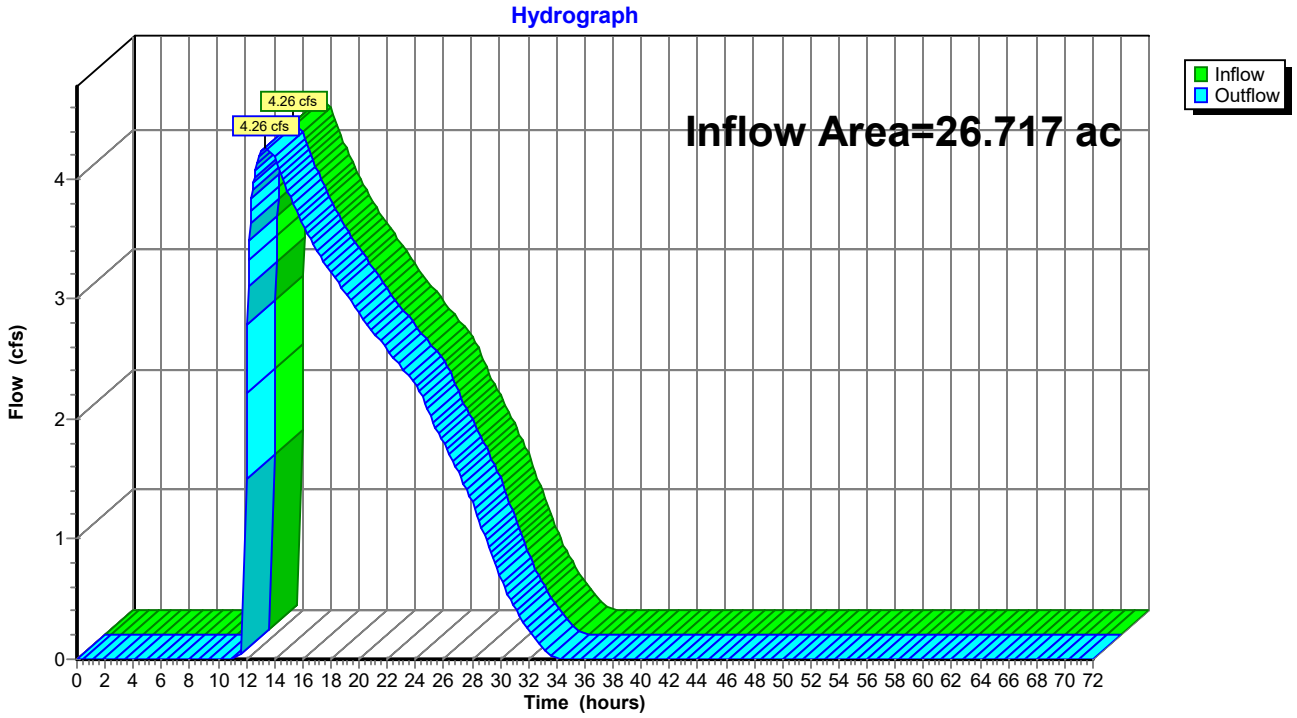


Summary for Reach 46R: SWL-5

Inflow Area = 26.717 ac, 90.53% Impervious, Inflow Depth = 1.83" for 100-Year event
Inflow = 4.26 cfs @ 13.36 hrs, Volume= 4.075 af
Outflow = 4.26 cfs @ 13.36 hrs, Volume= 4.075 af, Atten= 0%, Lag= 0.0 min
Routed to Pond 44P : DETENTION BASIN #5C

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 46R: SWL-5



Summary for Pond 12P: seepage pit with chambers #5e

Inflow Area = 2.828 ac,100.00% Impervious, Inflow Depth = 8.16" for 100-Year event
Inflow = 33.00 cfs @ 11.96 hrs, Volume= 1.923 af
Outflow = 1.66 cfs @ 12.93 hrs, Volume= 1.887 af, Atten= 95%, Lag= 58.4 min
Discarded = 0.23 cfs @ 3.30 hrs, Volume= 1.336 af
Primary = 1.43 cfs @ 12.93 hrs, Volume= 0.551 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,871.92' @ 12.93 hrs Surf.Area= 24,890 sf Storage= 50,168 cf

Plug-Flow detention time= 1,117.9 min calculated for 1.886 af (98% of inflow)
Center-of-Mass det. time= 1,106.6 min (1,843.0 - 736.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,869.00'	24,576 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 99,560 cf Overall - 38,121 cf Embedded = 61,439 cf x 40.0% Voids
#2	1,869.50'	38,121 cf	**Cultec R-360HD** x 1035 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 1035 Chambers in 15 Rows Cap Storage= 6.5 cf x 2 x 15 rows = 193.8 cf
		62,697 cf	Total Available Storage

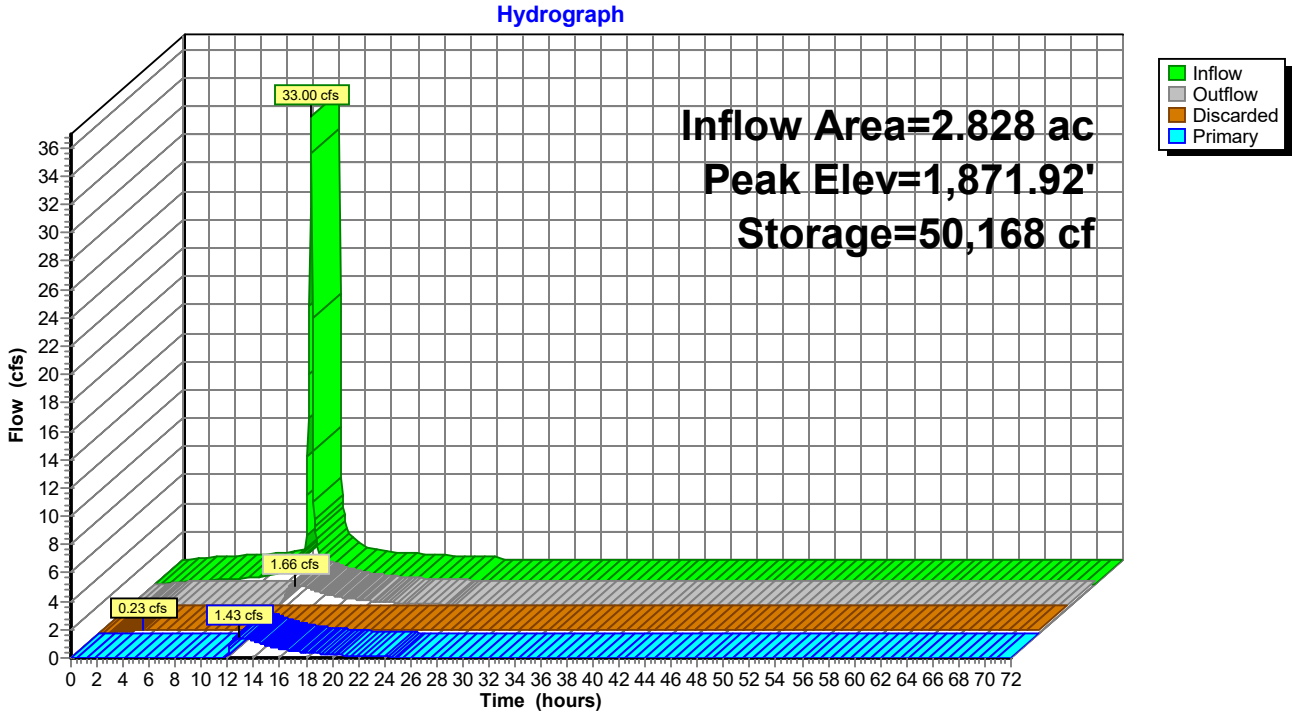
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,869.00	24,890	0	0
1,873.00	24,890	99,560	99,560

Device	Routing	Invert	Outlet Devices
#1	Primary	1,869.00'	**24.0" Round Culvert** L= 60.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,869.00' / 1,868.00' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.30'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,869.00'	**0.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.23 cfs @ 3.30 hrs HW=1,869.04' (Free Discharge)
↑**3=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=1.43 cfs @ 12.93 hrs HW=1,871.92' (Free Discharge)
↑**1=Culvert** (Passes 1.43 cfs of 18.48 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.43 cfs @ 2.85 fps)

Pond 12P: seepage pit with chambers #5e



Summary for Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)

Inflow Area = 23.889 ac, 89.41% Impervious, Inflow Depth = 7.80" for 100-Year event
Inflow = 275.93 cfs @ 11.96 hrs, Volume= 15.527 af
Outflow = 6.08 cfs @ 15.07 hrs, Volume= 15.527 af, Atten= 98%, Lag= 186.3 min
Discarded = 3.09 cfs @ 6.95 hrs, Volume= 12.003 af
Primary = 2.98 cfs @ 15.07 hrs, Volume= 3.525 af
Routed to Reach 46R : SWL-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,873.29' @ 15.07 hrs Surf.Area= 190,835 sf Storage= 416,227 cf

Plug-Flow detention time= 797.4 min calculated for 15.517 af (100% of inflow)
Center-of-Mass det. time= 798.0 min (1,550.2 - 752.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,870.00'	194,128 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 763,340 cf Overall - 278,021 cf Embedded = 485,319 cf x 40.0% Voids
#2	1,870.50'	201,800 cf	**Cultec R-360HD** x 5502 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 5502 Chambers in 14 Rows Cap Storage= 6.5 cf x 2 x 14 rows = 180.9 cf
#3	1,870.50'	76,221 cf	**Cultec R-360HD** x 2074 Inside #1 Effective Size= 54.9"W x 36.0"H => 9.99 sf x 3.67'L = 36.6 cf Overall Size= 60.0"W x 36.0"H x 4.17'L with 0.50' Overlap 2074 Chambers in 17 Rows Cap Storage= 6.5 cf x 2 x 17 rows = 219.6 cf
		472,148 cf	Total Available Storage

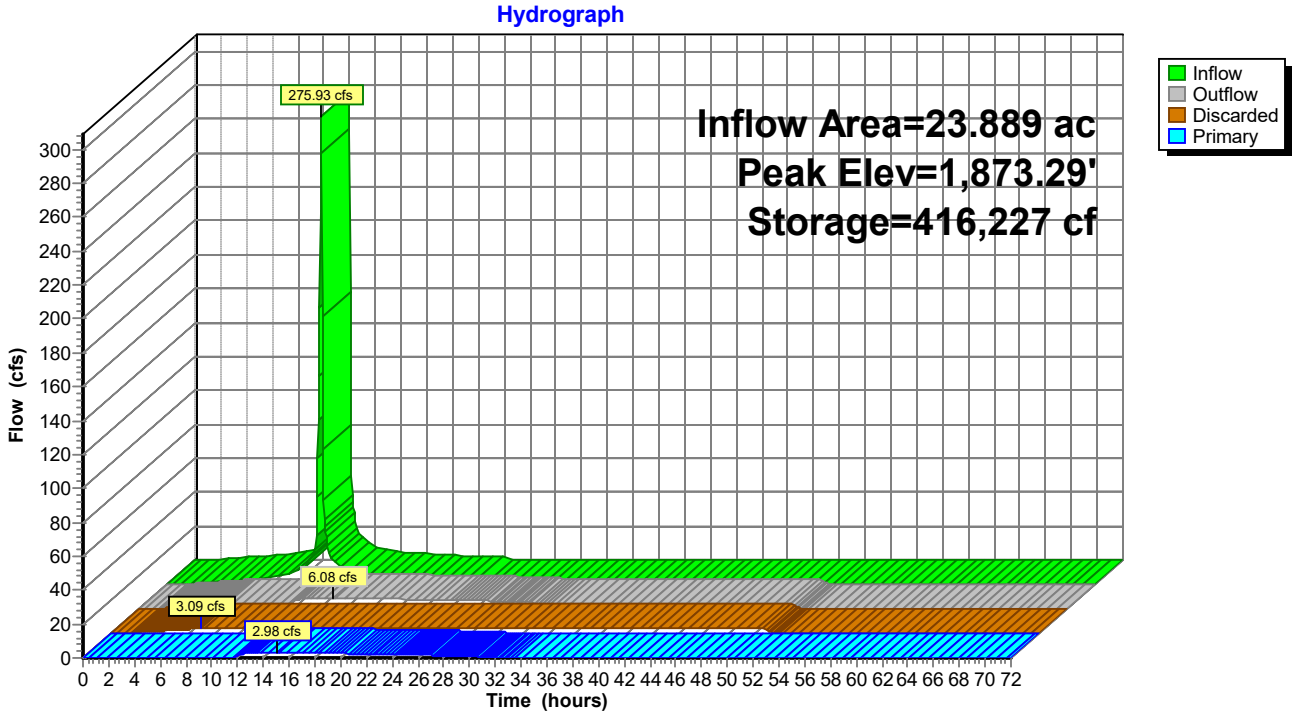
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,870.00	190,835	0	0
1,874.00	190,835	763,340	763,340

Device	Routing	Invert	Outlet Devices
#1	Primary	1,870.00'	**24.0" Round Culvert** L= 180.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,870.00' / 1,868.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,871.50'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	1,870.00'	**0.700 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=3.09 cfs @ 6.95 hrs HW=1,870.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 3.09 cfs)

Primary OutFlow Max=2.98 cfs @ 15.07 hrs HW=1,873.29' (Free Discharge)
└**1=Culvert** (Passes 2.98 cfs of 20.20 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 2.98 cfs @ 5.97 fps)

Pond 41P: seepage pit with chambers #5C (combined old 5C and 5D)



Summary for Pond 44P: DETENTION BASIN #5C

Inflow Area = 35.397 ac, 75.80% Impervious, Inflow Depth = 2.62" for 100-Year event
Inflow = 75.34 cfs @ 11.97 hrs, Volume= 7.726 af
Outflow = 5.11 cfs @ 16.03 hrs, Volume= 6.566 af, Atten= 93%, Lag= 243.3 min
Primary = 5.11 cfs @ 16.03 hrs, Volume= 6.566 af
Routed to Link 24L : Discharge 002

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 1,869.98' @ 16.03 hrs Surf.Area= 47,011 sf Storage= 138,169 cf

Plug-Flow detention time= 669.2 min calculated for 6.566 af (85% of inflow)
Center-of-Mass det. time= 569.8 min (1,568.9 - 999.1)

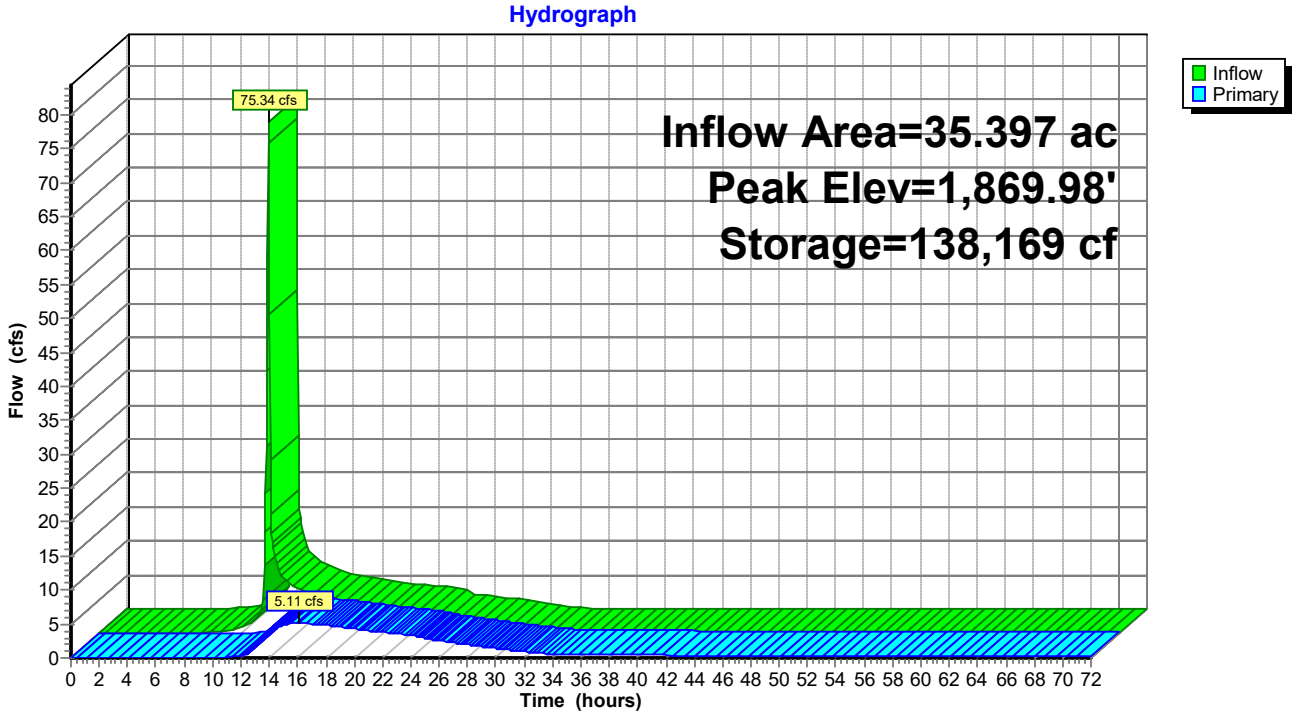
Volume	Invert	Avail.Storage	Storage Description
#1	1,866.00'	406,631 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,866.00	24,581	0	0
1,868.00	33,781	58,362	58,362
1,870.00	47,174	80,955	139,317
1,872.00	66,070	113,244	252,561
1,874.00	88,000	154,070	406,631

Device	Routing	Invert	Outlet Devices
#1	Primary	1,866.00'	**24.0" Round Culvert** L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,866.00' / 1,865.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	1,869.00'	**18.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,866.00'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,871.00'	**24.0" x 45.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.10 cfs @ 16.03 hrs HW=1,869.98' (Free Discharge)
↑**1=Culvert** (Passes 5.10 cfs of 23.02 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 4.64 cfs @ 3.17 fps)
3=Orifice/Grate (Orifice Controls 0.46 cfs @ 9.45 fps)
4=Orifice/Grate (Controls 0.00 cfs)

Pond 44P: DETENTION BASIN #5C



Summary for Link 24L: Discharge 002

Inflow Area = 37.603 ac, 71.36% Impervious, Inflow Depth > 2.31" for 100-Year event
Inflow = 9.05 cfs @ 12.14 hrs, Volume= 7.234 af
Primary = 9.05 cfs @ 12.14 hrs, Volume= 7.234 af, Atten= 0%, Lag= 0.0 min

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

Link 24L: Discharge 002