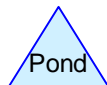
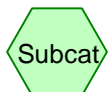


Existing Conditions



Routing Diagram for 1763Existing
Prepared by Fairfield County Engineering LLC, Printed 6/16/2021
HydroCAD® 10.00-26 s/n 06020 © 2020 HydroCAD Software Solutions LLC

1763Existing

Summary for Subcatchment 1S: Existing Conditions

Runoff = 1.29 cfs @ 12.07 hrs, Volume= 4,173 cf, Depth> 2.92"

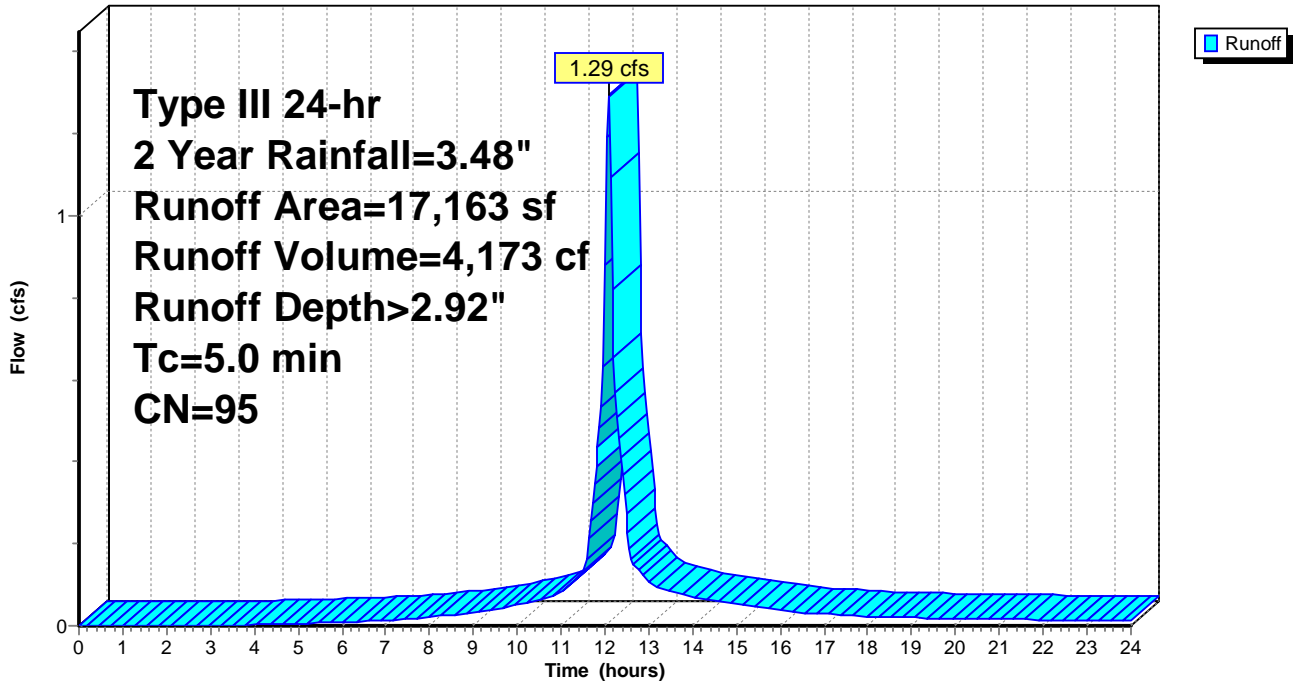
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Type III 24-hr 2 Year Rainfall=3.48"

	Area (sf)	CN	Description
*	5,156	98	Buildings
*	8,748	98	Driveway/Parking
	3,259	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,259		18.99% Pervious Area
	13,904		81.01% Impervious Area

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

Subcatchment 1S: Existing Conditions

Hydrograph



Summary for Subcatchment 1S: Existing Conditions

Runoff = 2.05 cfs @ 12.07 hrs, Volume= 6,785 cf, Depth> 4.74"

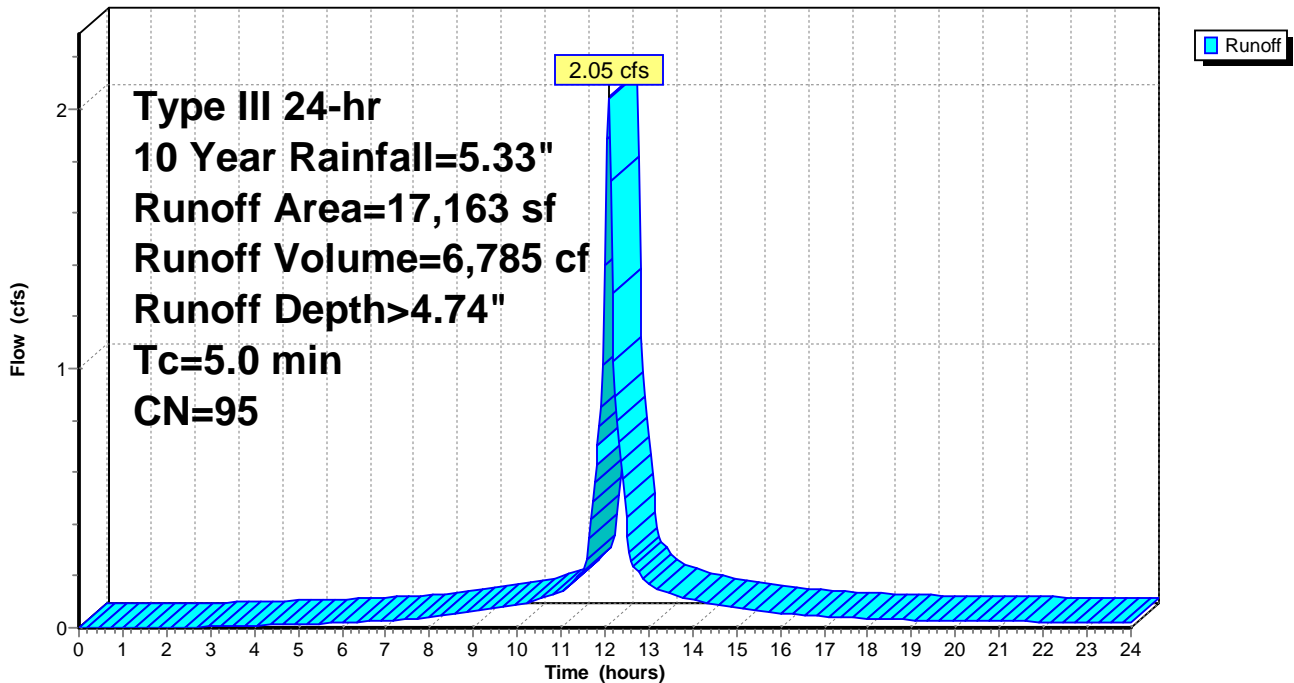
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 10 Year Rainfall=5.33"

	Area (sf)	CN	Description
*	5,156	98	Buildings
*	8,748	98	Driveway/Parking
	3,259	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,259		18.99% Pervious Area
	13,904		81.01% Impervious Area

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

Subcatchment 1S: Existing Conditions

Hydrograph



Summary for Subcatchment 1S: Existing Conditions

Runoff = 2.51 cfs @ 12.07 hrs, Volume= 8,418 cf, Depth> 5.89"

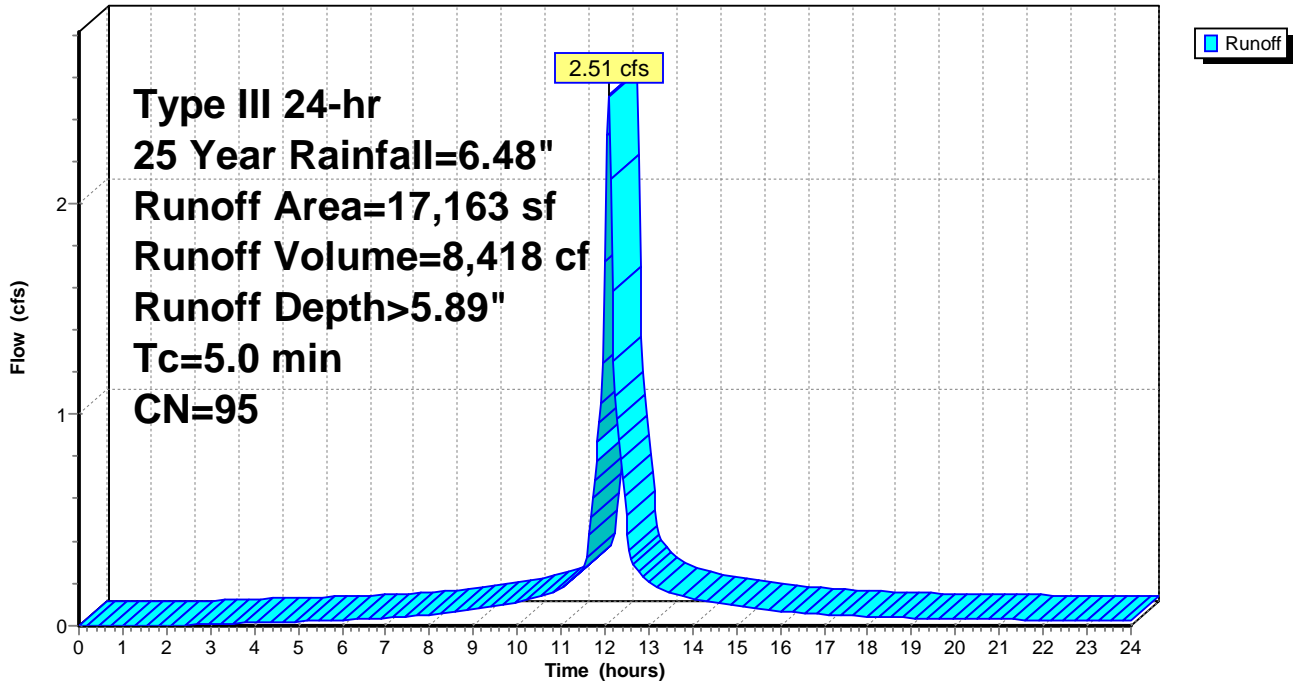
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 Year Rainfall=6.48"

	Area (sf)	CN	Description
*	5,156	98	Buildings
*	8,748	98	Driveway/Parking
	3,259	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,259		18.99% Pervious Area
	13,904		81.01% Impervious Area

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

Subcatchment 1S: Existing Conditions

Hydrograph



1763Existing

Summary for Subcatchment 1S: Existing Conditions

Runoff = 2.86 cfs @ 12.07 hrs, Volume= 9,641 cf, Depth> 6.74"

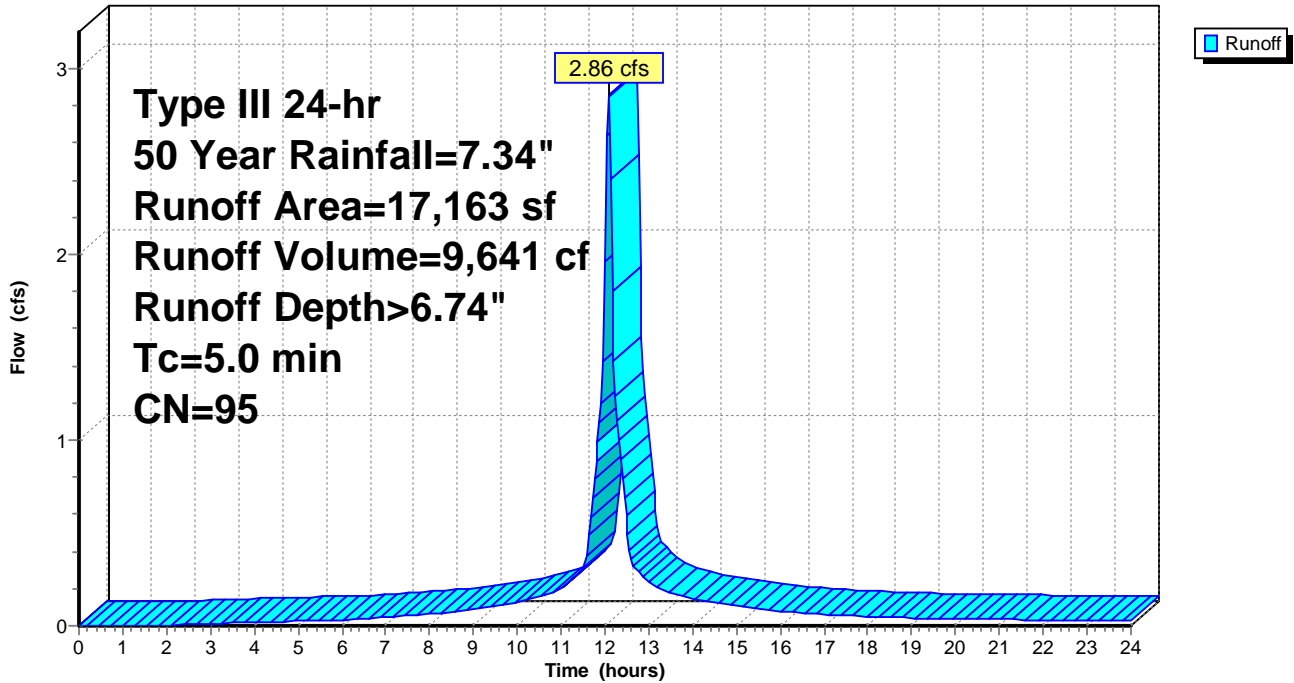
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 50 Year Rainfall=7.34"

	Area (sf)	CN	Description
*	5,156	98	Buildings
*	8,748	98	Driveway/Parking
	3,259	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,259		18.99% Pervious Area
	13,904		81.01% Impervious Area

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

Subcatchment 1S: Existing Conditions

Hydrograph



Summary for Subcatchment 1S: Existing Conditions

Runoff = 3.22 cfs @ 12.07 hrs, Volume= 10,950 cf, Depth> 7.66"

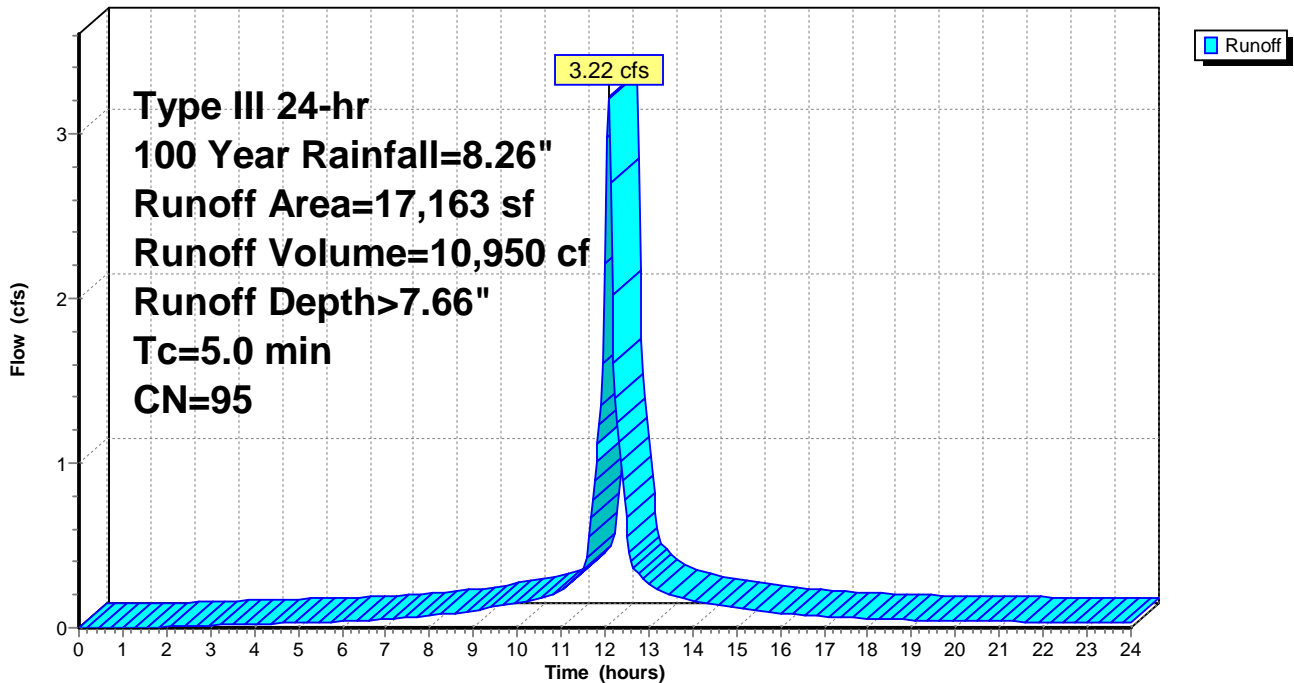
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 Year Rainfall=8.26"

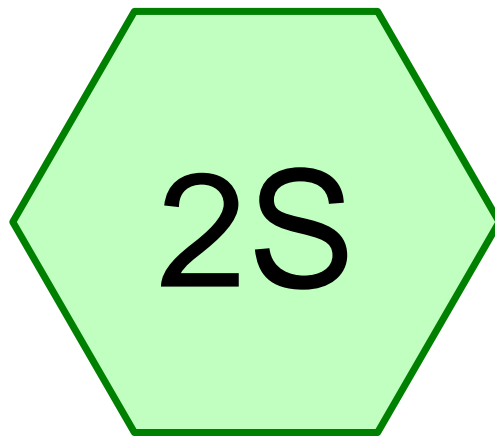
	Area (sf)	CN	Description
*	5,156	98	Buildings
*	8,748	98	Driveway/Parking
	3,259	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,259		18.99% Pervious Area
	13,904		81.01% Impervious Area

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

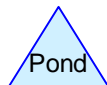
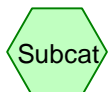
Subcatchment 1S: Existing Conditions

Hydrograph





Proposed Conditions



Routing Diagram for 1763Proposed

Prepared by Fairfield County Engineering LLC, Printed 6/16/2021
HydroCAD® 10.00-26 s/n 06020 © 2020 HydroCAD Software Solutions LLC

1763Proposed

Prepared by Fairfield County Engineering LLC
 HydroCAD® 10.00-26 s/n 06020 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 2 Year Rainfall=3.48"

Printed 6/16/2021

Page 12

Summary for Subcatchment 2S: Proposed Conditions

Runoff = 1.29 cfs @ 12.07 hrs, Volume= 4,173 cf, Depth> 2.92"

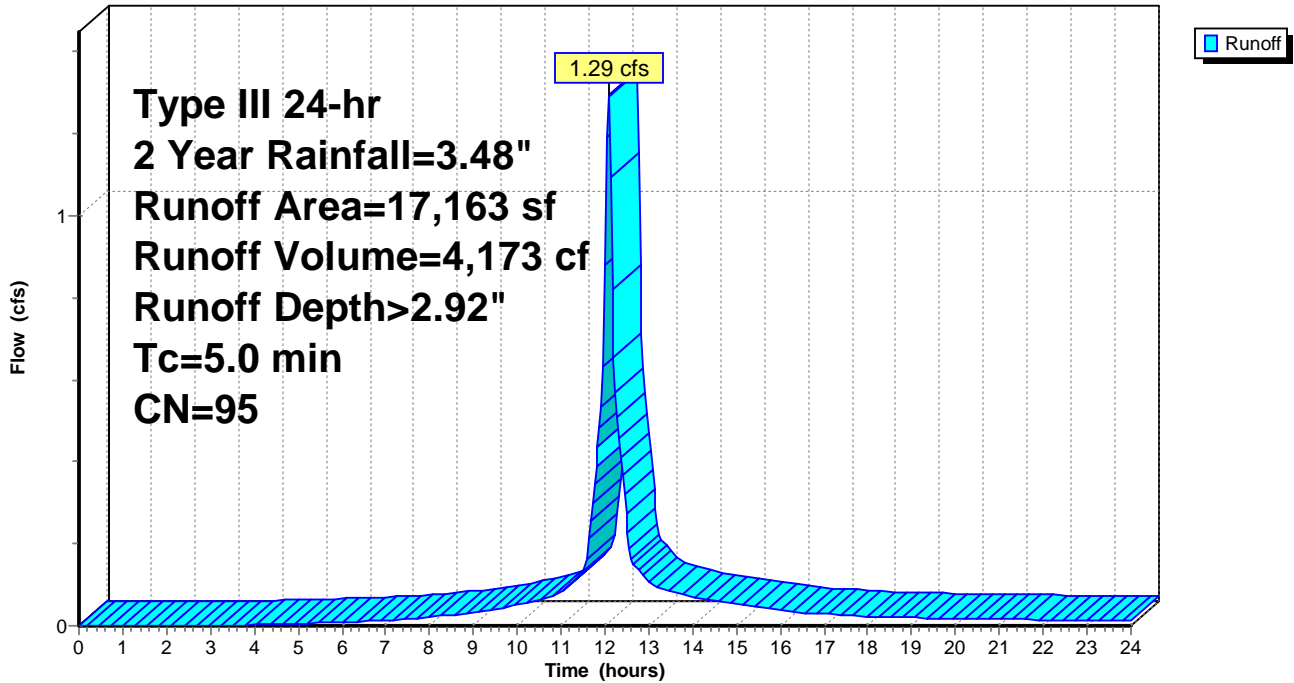
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 2 Year Rainfall=3.48"

	Area (sf)	CN	Description
*	5,568	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,444		20.07% Pervious Area
	13,719		79.93% Impervious Area

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

Subcatchment 2S: Proposed Conditions

Hydrograph



Summary for Subcatchment 2S: Proposed Conditions

Runoff = 2.05 cfs @ 12.07 hrs, Volume= 6,785 cf, Depth> 4.74"

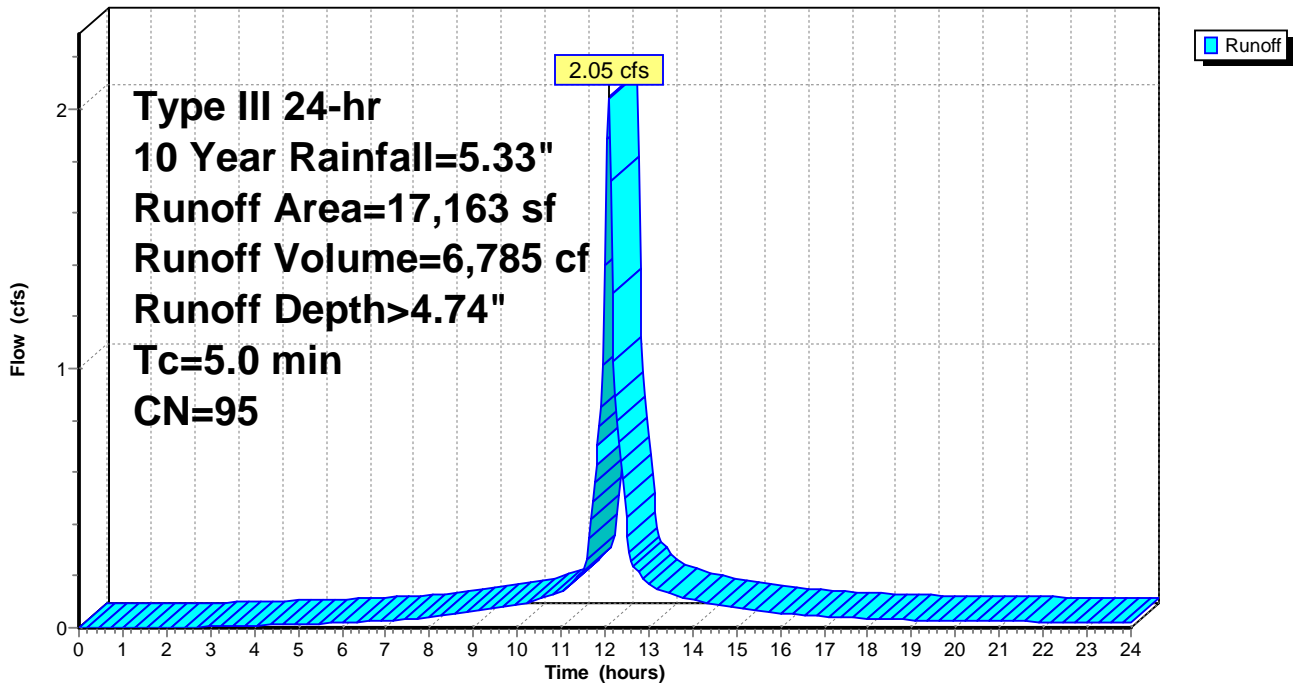
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 10 Year Rainfall=5.33"

	Area (sf)	CN	Description
*	5,568	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,444		20.07% Pervious Area
	13,719		79.93% Impervious Area

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

Subcatchment 2S: Proposed Conditions

Hydrograph



Summary for Subcatchment 2S: Proposed Conditions

Runoff = 2.51 cfs @ 12.07 hrs, Volume= 8,418 cf, Depth> 5.89"

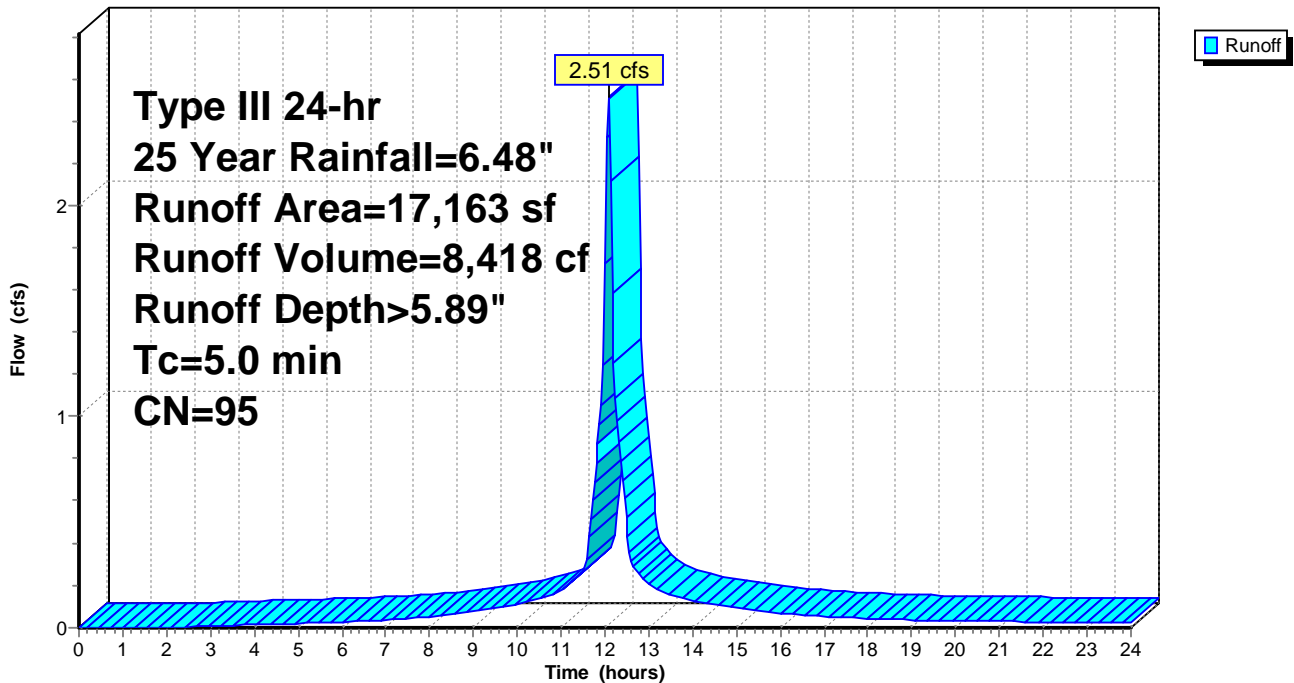
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 Year Rainfall=6.48"

	Area (sf)	CN	Description
*	5,568	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,444		20.07% Pervious Area
	13,719		79.93% Impervious Area

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

Subcatchment 2S: Proposed Conditions

Hydrograph



Summary for Subcatchment 2S: Proposed Conditions

Runoff = 2.86 cfs @ 12.07 hrs, Volume= 9,641 cf, Depth> 6.74"

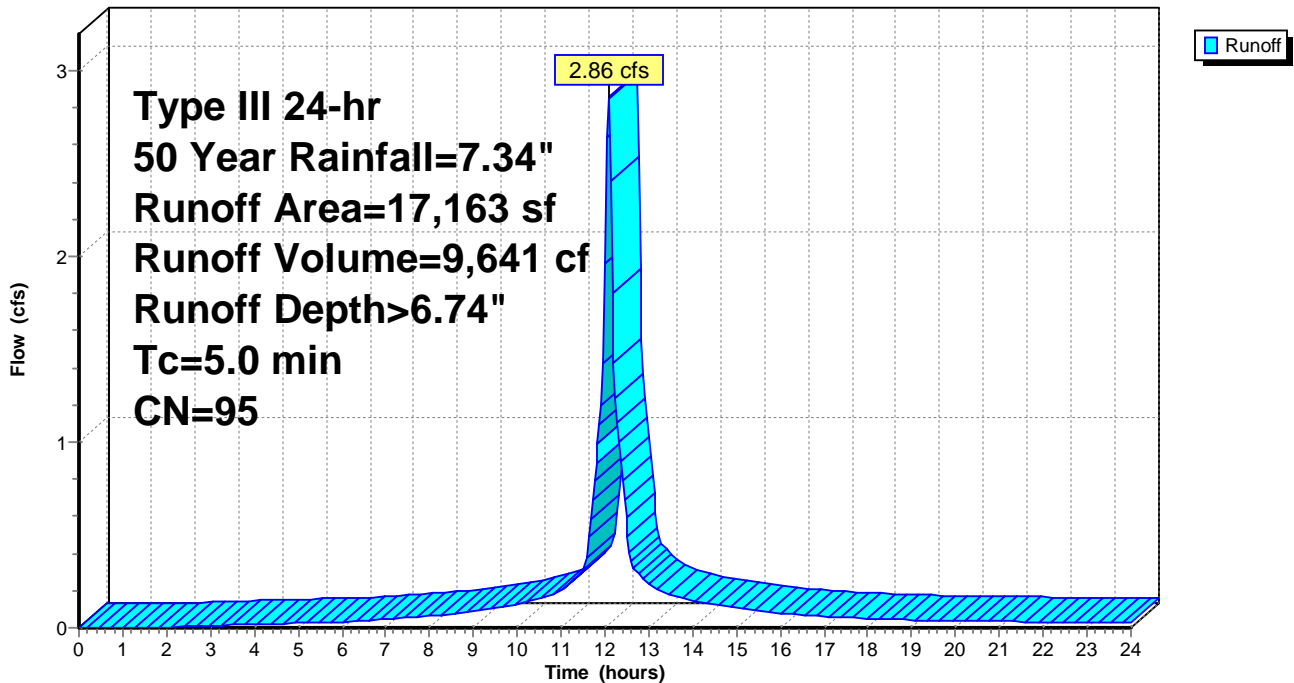
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 50 Year Rainfall=7.34"

	Area (sf)	CN	Description
*	5,568	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,444		20.07% Pervious Area
	13,719		79.93% Impervious Area

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

Subcatchment 2S: Proposed Conditions

Hydrograph



Summary for Subcatchment 2S: Proposed Conditions

Runoff = 3.22 cfs @ 12.07 hrs, Volume= 10,950 cf, Depth> 7.66"

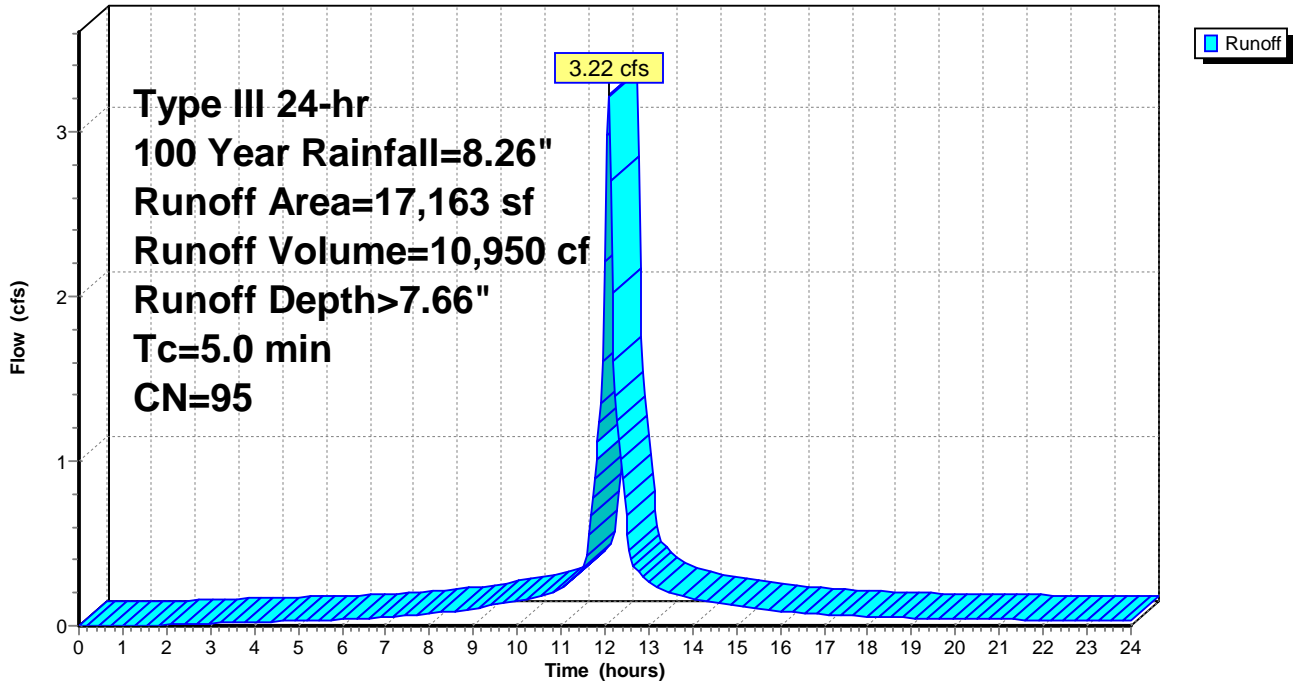
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 Year Rainfall=8.26"

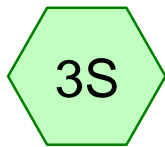
	Area (sf)	CN	Description
*	5,568	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	17,163	95	Weighted Average
	3,444		20.07% Pervious Area
	13,719		79.93% Impervious Area

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

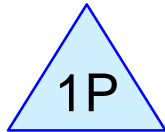
Subcatchment 2S: Proposed Conditions

Hydrograph

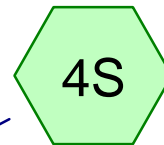




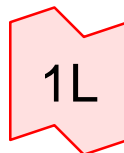
Areas Routed to Retention



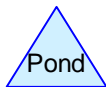
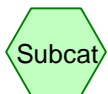
Cultec R-330XLHD



Proposed Conditions



Combined Hydrograph



Routing Diagram for 1763Combined
Prepared by Fairfield County Engineering LLC, Printed 6/16/2021
HydroCAD® 10.00-26 s/n 06020 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 3S: Areas Routed to Retention

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 374 cf, Depth> 3.24"

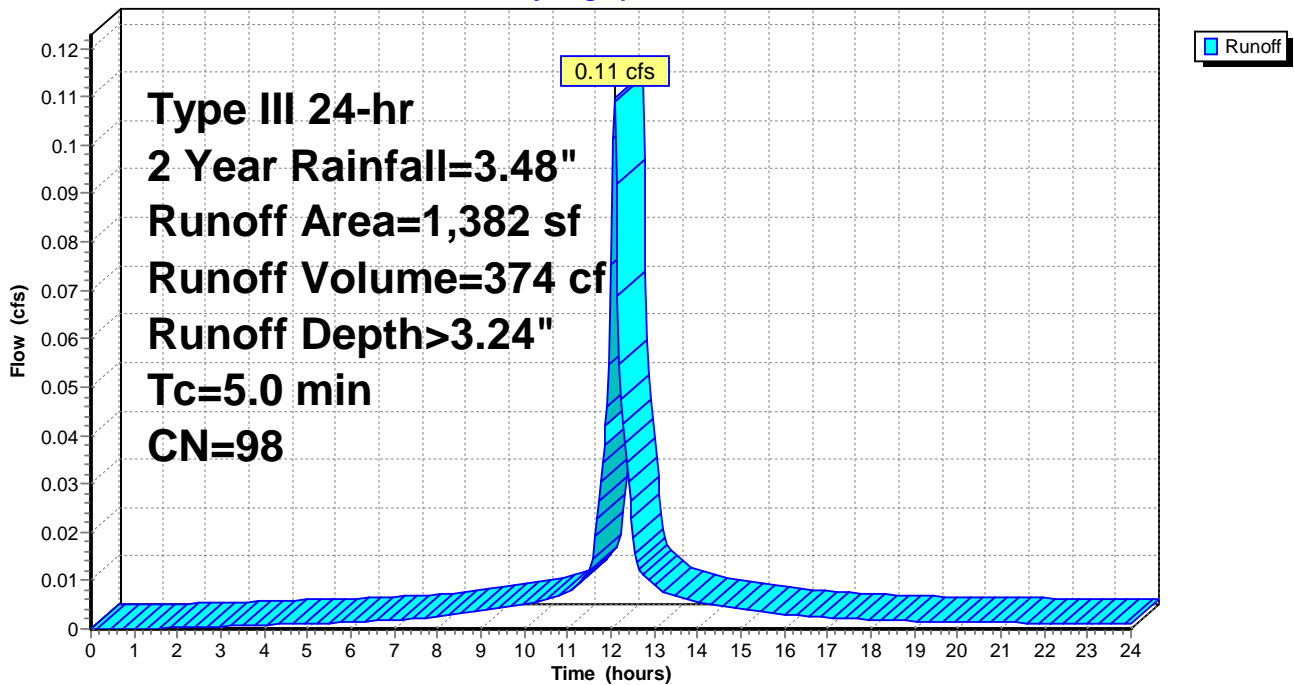
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 2 Year Rainfall=3.48"

Area (sf)	CN	Description
* 1,382	98	Portion of Building roof
1,382		100.00% Impervious Area

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

Subcatchment 3S: Areas Routed to Retention

Hydrograph



Summary for Subcatchment 4S: Proposed Conditions

Runoff = 1.19 cfs @ 12.07 hrs, Volume= 3,837 cf, Depth> 2.92"

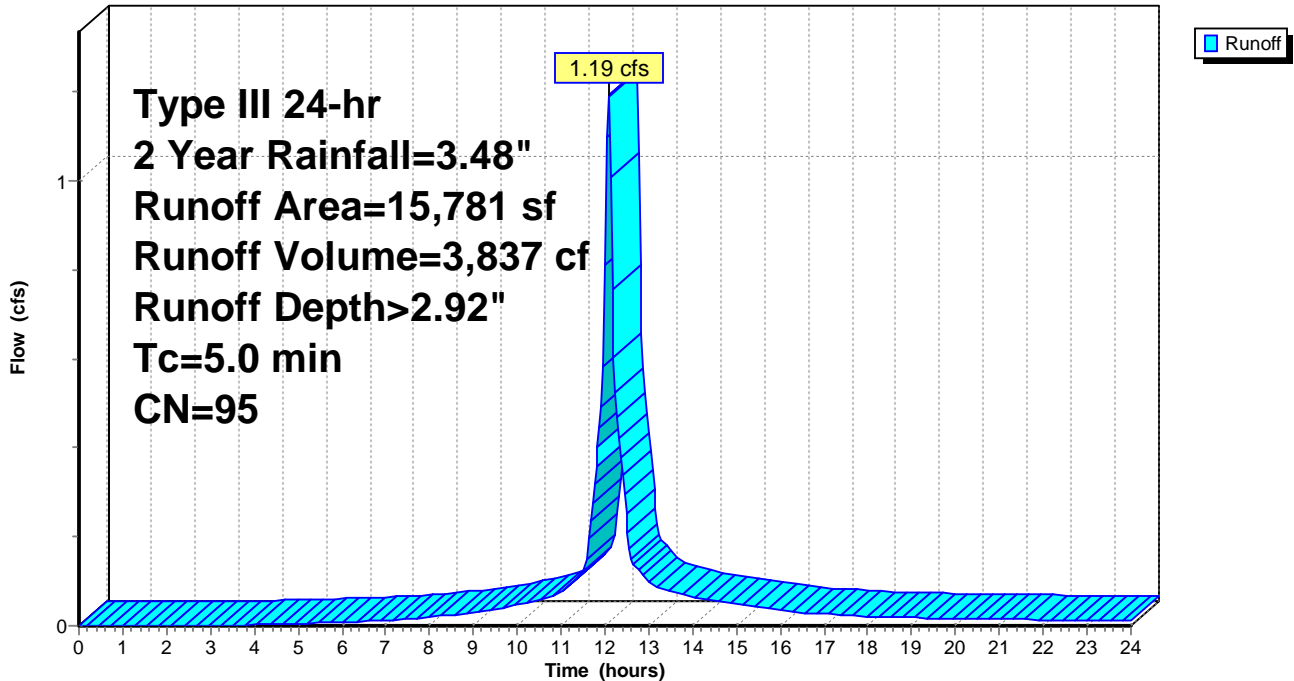
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 2 Year Rainfall=3.48"

	Area (sf)	CN	Description
*	4,186	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	15,781	95	Weighted Average
	3,444		21.82% Pervious Area
	12,337		78.18% Impervious Area

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

Subcatchment 4S: Proposed Conditions

Hydrograph



Summary for Pond 1P: Cultec R-330XLHD

Inflow Area = 1,382 sf, 100.00% Impervious, Inflow Depth > 3.24" for 2 Year event
 Inflow = 0.11 cfs @ 12.07 hrs, Volume= 374 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 91.80' @ 24.00 hrs Surf.Area= 288 sf Storage= 374 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1A	90.00'	221 cf	6.33'W x 45.50'L x 3.04'H Field A 877 cf Overall - 324 cf Embedded = 552 cf x 40.0% Voids
#2A	90.00'	324 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
		545 cf	Total Available Storage

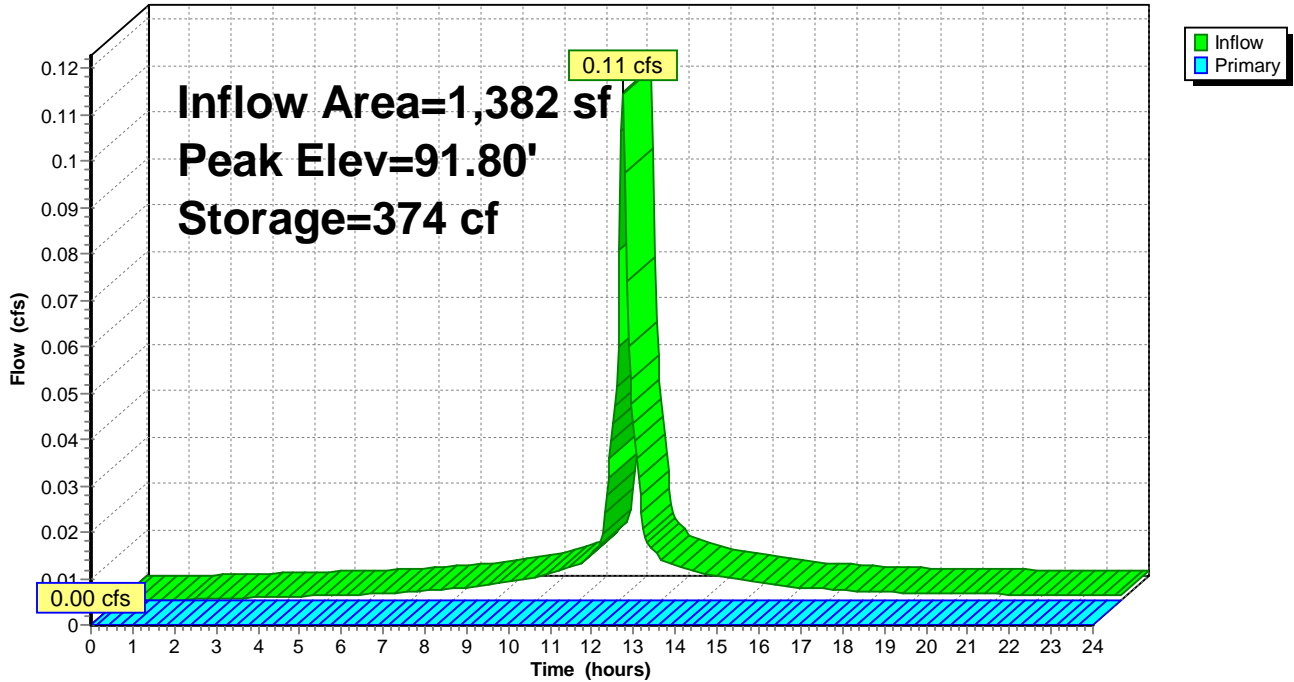
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	92.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=90.00' (Free Discharge)
 ↑ **1=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Cultec R-330XLHD

Hydrograph

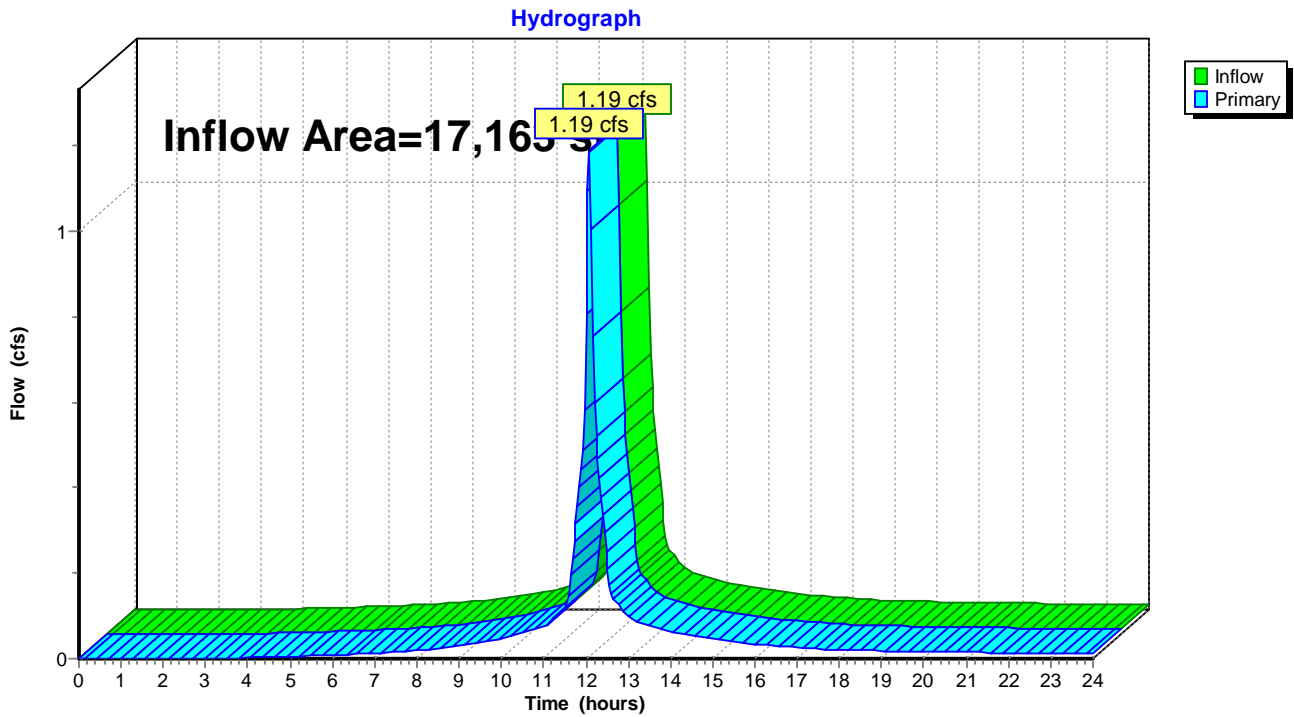


Summary for Link 1L: Combined Hydrograph

Inflow Area = 17,163 sf, 79.93% Impervious, Inflow Depth > 2.68" for 2 Year event
Inflow = 1.19 cfs @ 12.07 hrs, Volume= 3,837 cf
Primary = 1.19 cfs @ 12.07 hrs, Volume= 3,837 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 1L: Combined Hydrograph



Summary for Subcatchment 3S: Areas Routed to Retention

Runoff = 0.17 cfs @ 12.07 hrs, Volume= 586 cf, Depth> 5.09"

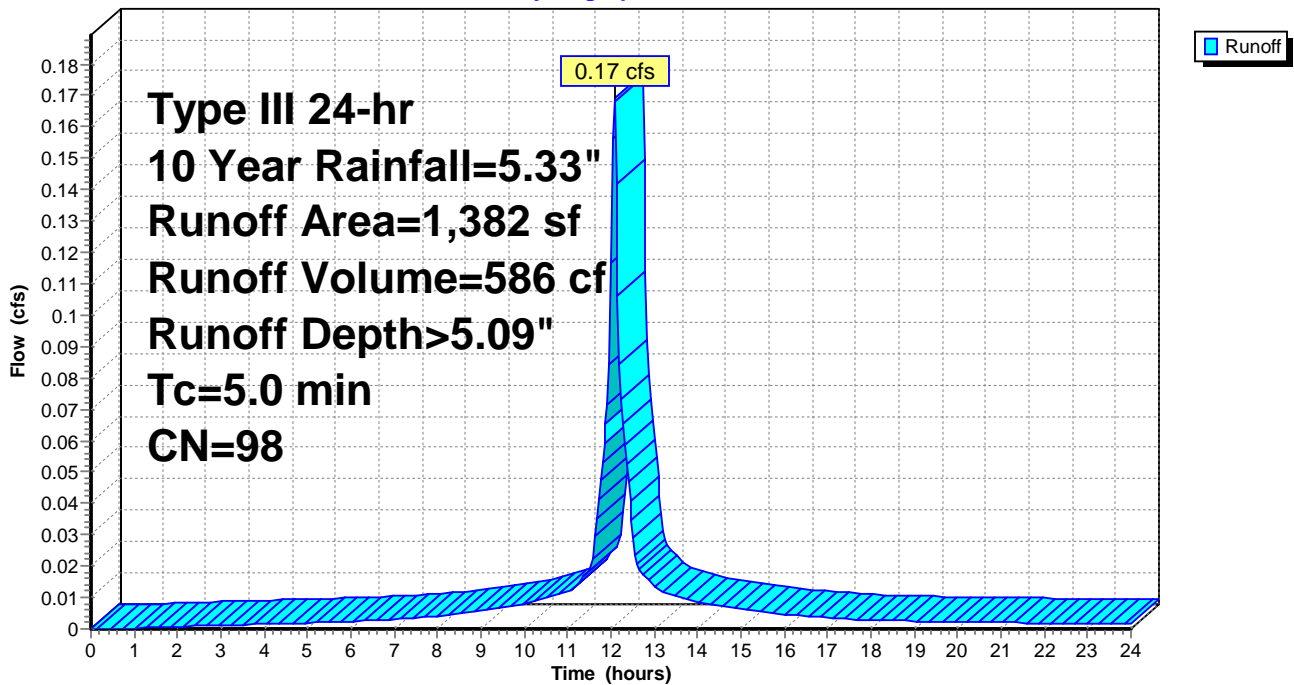
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 10 Year Rainfall=5.33"

Area (sf)	CN	Description
* 1,382	98	Portion of Building roof
1,382		100.00% Impervious Area

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

Subcatchment 3S: Areas Routed to Retention

Hydrograph



Summary for Subcatchment 4S: Proposed Conditions

Runoff = 1.88 cfs @ 12.07 hrs, Volume= 6,239 cf, Depth> 4.74"

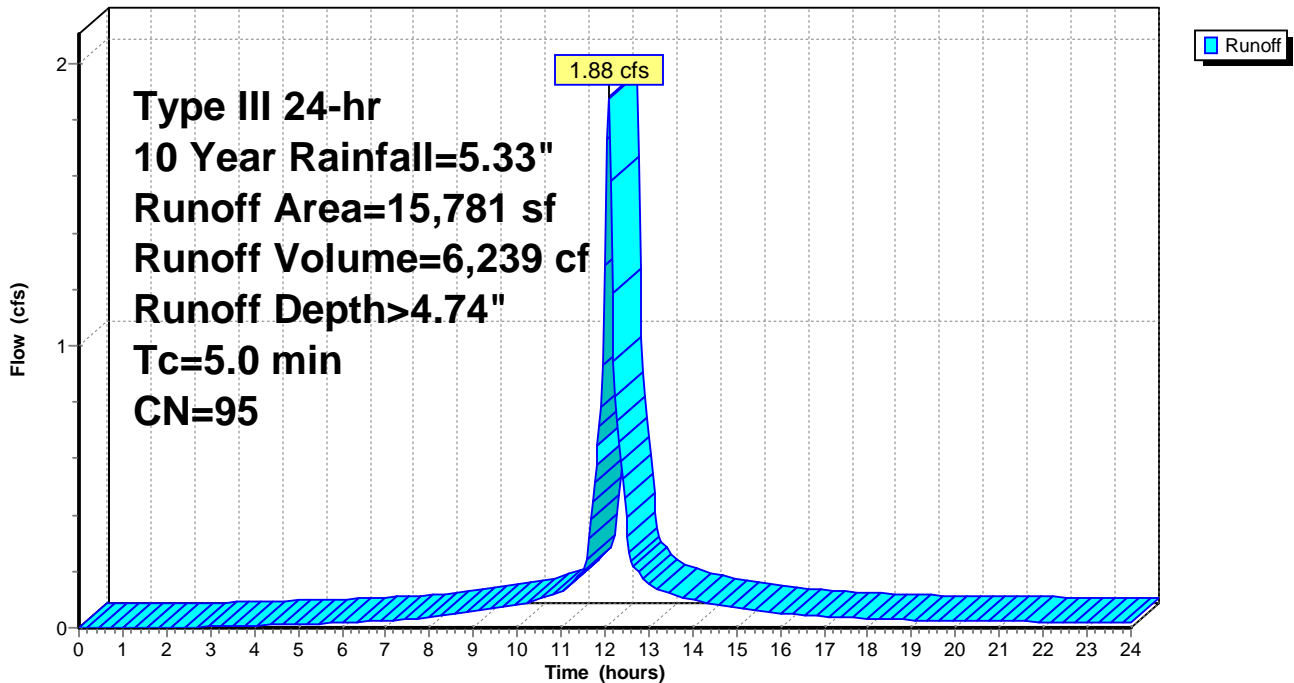
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 10 Year Rainfall=5.33"

	Area (sf)	CN	Description
*	4,186	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	15,781	95	Weighted Average
	3,444		21.82% Pervious Area
	12,337		78.18% Impervious Area

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

Subcatchment 4S: Proposed Conditions

Hydrograph



Summary for Pond 1P: Cultec R-330XLHD

Inflow Area = 1,382 sf, 100.00% Impervious, Inflow Depth > 5.09" for 10 Year event
 Inflow = 0.17 cfs @ 12.07 hrs, Volume= 586 cf
 Outflow = 0.01 cfs @ 14.89 hrs, Volume= 99 cf, Atten= 96%, Lag= 168.9 min
 Primary = 0.01 cfs @ 14.89 hrs, Volume= 99 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 92.55' @ 14.89 hrs Surf.Area= 288 sf Storage= 488 cf

Plug-Flow detention time= 639.2 min calculated for 99 cf (17% of inflow)
 Center-of-Mass det. time= 346.1 min (1,091.7 - 745.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	90.00'	221 cf	6.33'W x 45.50'L x 3.04'H Field A 877 cf Overall - 324 cf Embedded = 552 cf x 40.0% Voids
#2A	90.00'	324 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
		545 cf	Total Available Storage

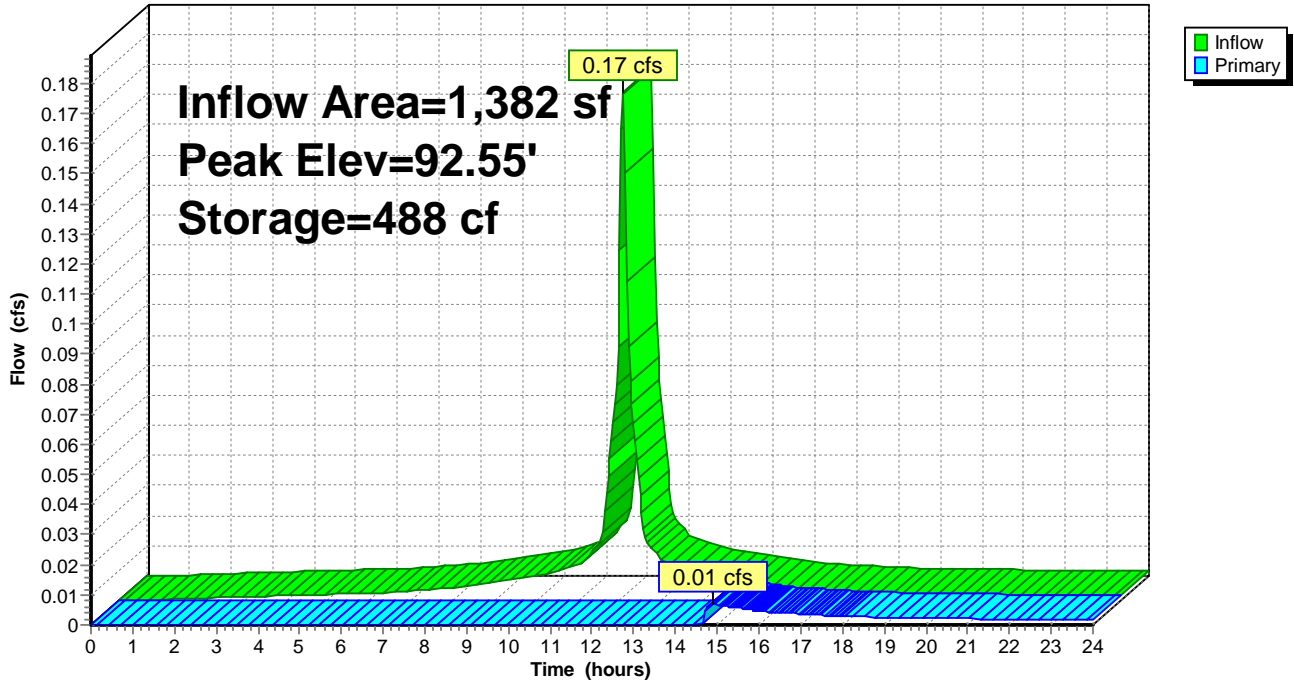
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	92.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 14.89 hrs HW=92.55' (Free Discharge)
 ↑ **1=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.34 fps)

Pond 1P: Cultec R-330XLHD

Hydrograph

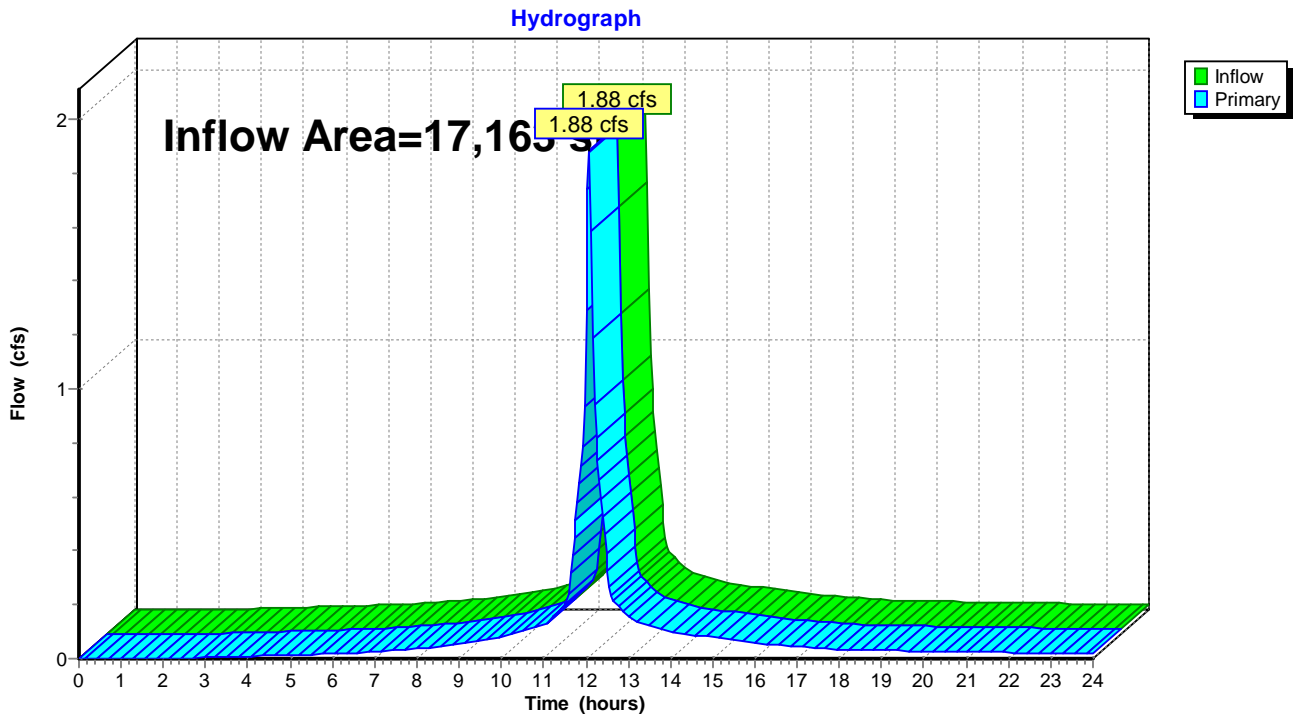


Summary for Link 1L: Combined Hydrograph

Inflow Area = 17,163 sf, 79.93% Impervious, Inflow Depth > 4.43" for 10 Year event
Inflow = 1.88 cfs @ 12.07 hrs, Volume= 6,337 cf
Primary = 1.88 cfs @ 12.07 hrs, Volume= 6,337 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 1L: Combined Hydrograph



Summary for Subcatchment 3S: Areas Routed to Retention

Runoff = 0.21 cfs @ 12.07 hrs, Volume= 718 cf, Depth> 6.24"

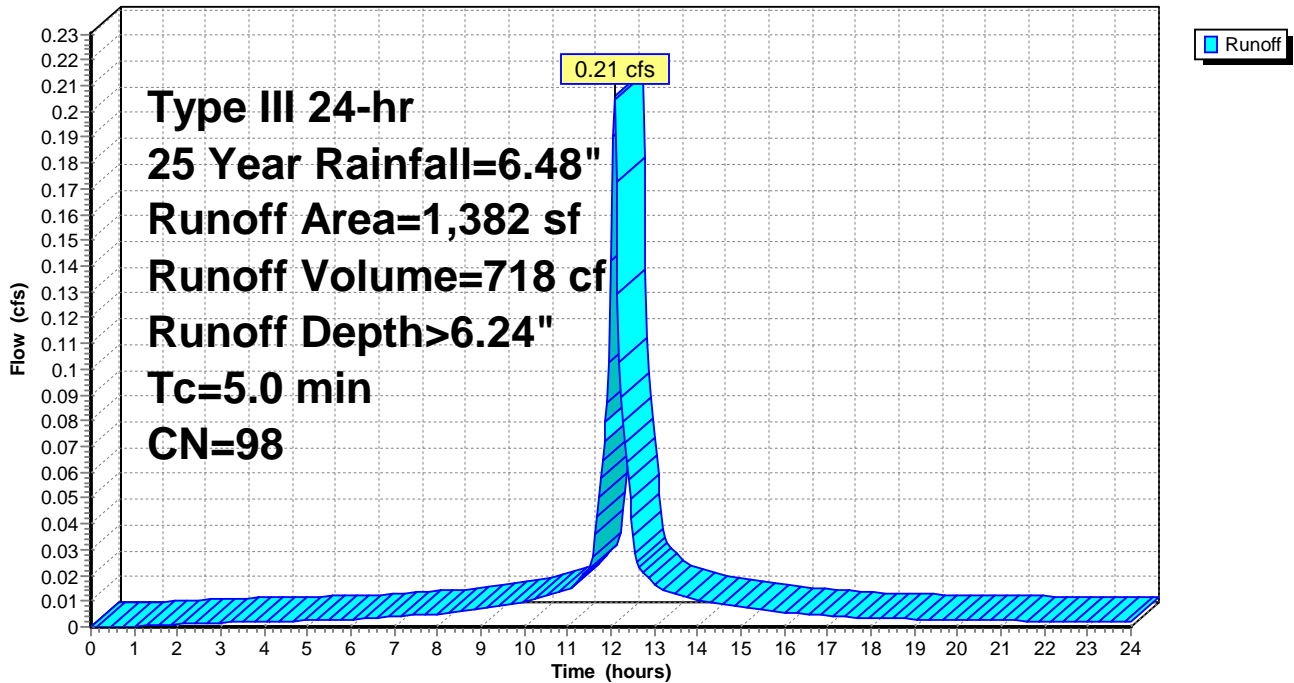
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 Year Rainfall=6.48"

Area (sf)	CN	Description
* 1,382	98	Portion of Building roof
1,382		100.00% Impervious Area

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

Subcatchment 3S: Areas Routed to Retention

Hydrograph



Summary for Subcatchment 4S: Proposed Conditions

Runoff = 2.31 cfs @ 12.07 hrs, Volume= 7,740 cf, Depth> 5.89"

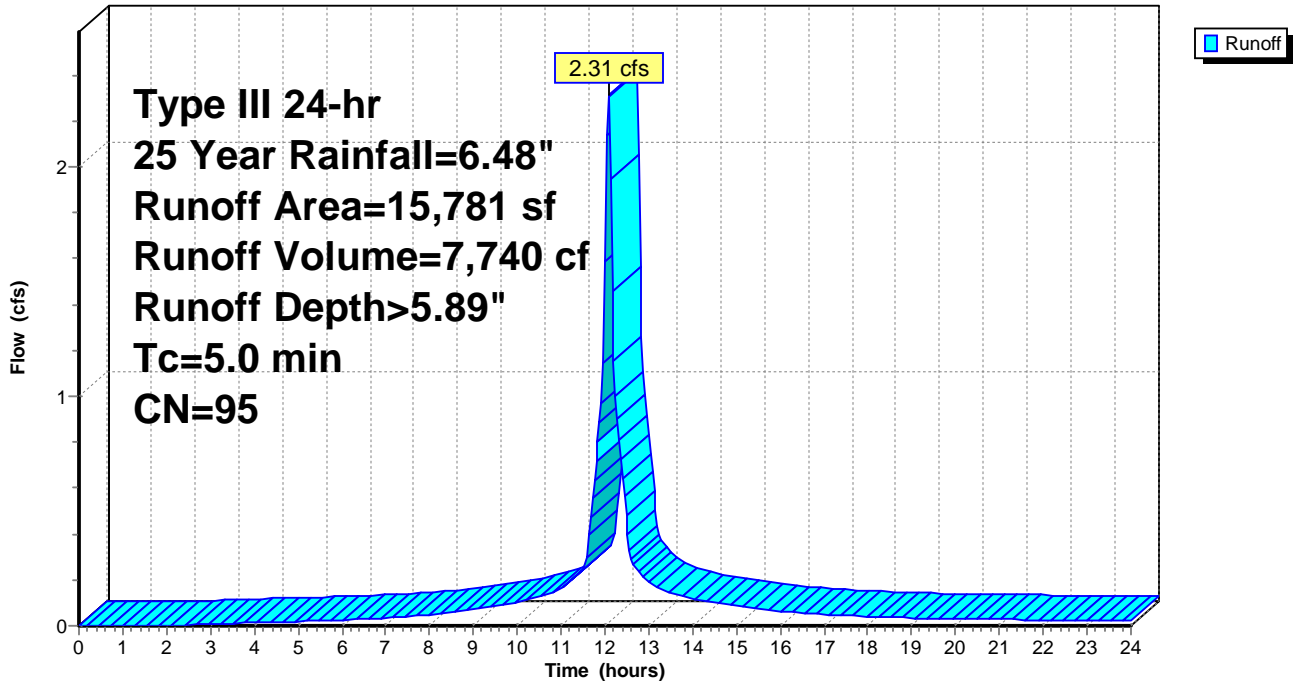
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 25 Year Rainfall=6.48"

	Area (sf)	CN	Description
*	4,186	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	15,781	95	Weighted Average
	3,444		21.82% Pervious Area
	12,337		78.18% Impervious Area

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

Subcatchment 4S: Proposed Conditions

Hydrograph



Summary for Pond 1P: Cultec R-330XLHD

Inflow Area = 1,382 sf, 100.00% Impervious, Inflow Depth > 6.24" for 25 Year event
 Inflow = 0.21 cfs @ 12.07 hrs, Volume= 718 cf
 Outflow = 0.03 cfs @ 12.58 hrs, Volume= 231 cf, Atten= 85%, Lag= 30.2 min
 Primary = 0.03 cfs @ 12.58 hrs, Volume= 231 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 92.57' @ 12.58 hrs Surf.Area= 288 sf Storage= 491 cf

Plug-Flow detention time= 402.3 min calculated for 231 cf (32% of inflow)
 Center-of-Mass det. time= 211.3 min (954.0 - 742.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	90.00'	221 cf	6.33'W x 45.50'L x 3.04'H Field A 877 cf Overall - 324 cf Embedded = 552 cf x 40.0% Voids
#2A	90.00'	324 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
		545 cf	Total Available Storage

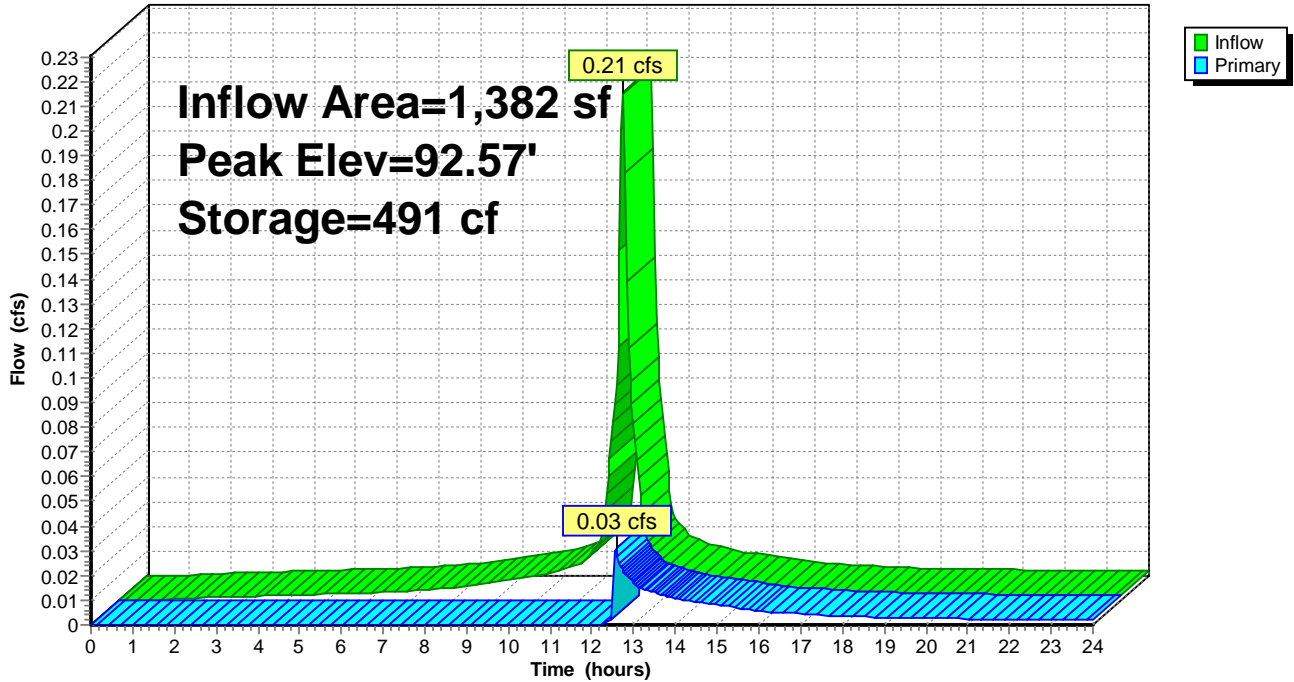
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	92.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 12.58 hrs HW=92.57' (Free Discharge)
 ↑ **1=Orifice/Grate** (Weir Controls 0.03 cfs @ 0.56 fps)

Pond 1P: Cultec R-330XLHD

Hydrograph

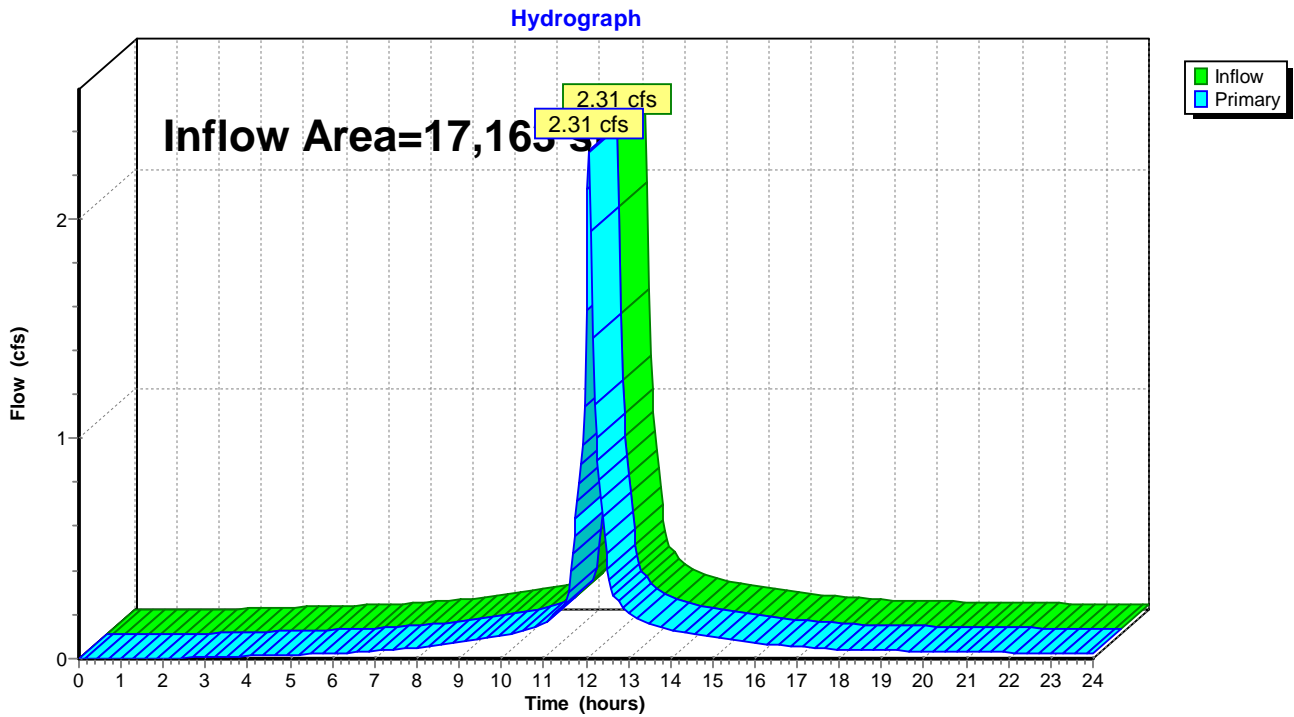


Summary for Link 1L: Combined Hydrograph

Inflow Area = 17,163 sf, 79.93% Impervious, Inflow Depth > 5.57" for 25 Year event
Inflow = 2.31 cfs @ 12.07 hrs, Volume= 7,971 cf
Primary = 2.31 cfs @ 12.07 hrs, Volume= 7,971 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 1L: Combined Hydrograph



Summary for Subcatchment 3S: Areas Routed to Retention

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 817 cf, Depth> 7.10"

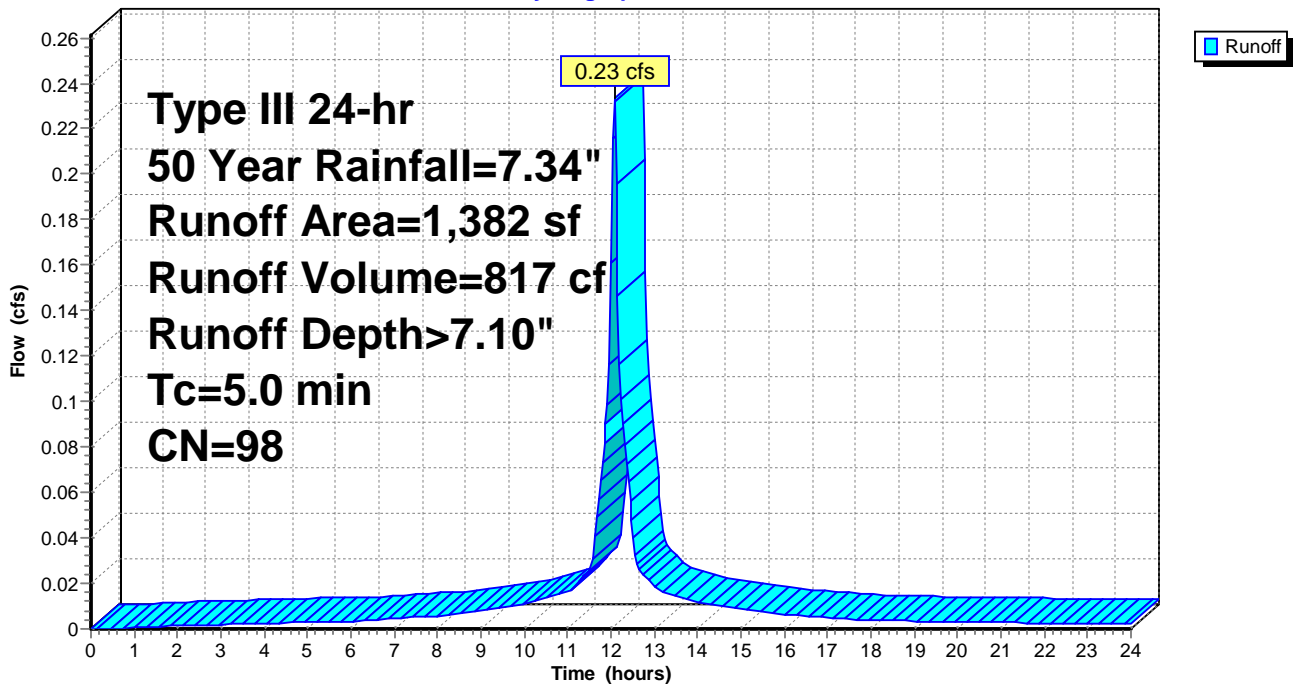
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Type III 24-hr 50 Year Rainfall=7.34"

Area (sf)	CN	Description
* 1,382	98	Portion of Building roof
1,382		100.00% Impervious Area

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

Subcatchment 3S: Areas Routed to Retention

Hydrograph



Summary for Subcatchment 4S: Proposed Conditions

Runoff = 2.63 cfs @ 12.07 hrs, Volume= 8,864 cf, Depth> 6.74"

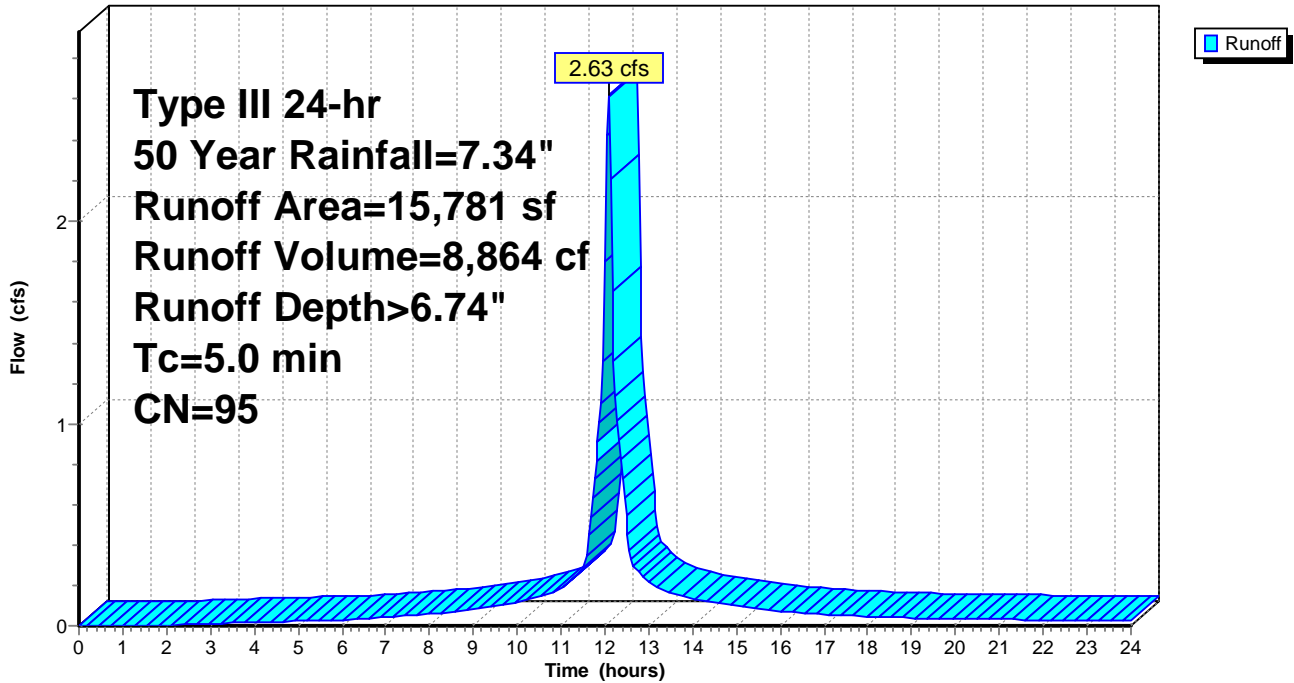
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 50 Year Rainfall=7.34"

	Area (sf)	CN	Description
*	4,186	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	15,781	95	Weighted Average
	3,444		21.82% Pervious Area
	12,337		78.18% Impervious Area

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

Subcatchment 4S: Proposed Conditions

Hydrograph



Summary for Pond 1P: Cultec R-330XLHD

Inflow Area = 1,382 sf, 100.00% Impervious, Inflow Depth > 7.10" for 50 Year event
 Inflow = 0.23 cfs @ 12.07 hrs, Volume= 817 cf
 Outflow = 0.10 cfs @ 12.30 hrs, Volume= 330 cf, Atten= 57%, Lag= 13.5 min
 Primary = 0.10 cfs @ 12.30 hrs, Volume= 330 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 92.61' @ 12.28 hrs Surf.Area= 288 sf Storage= 495 cf

Plug-Flow detention time= 328.9 min calculated for 330 cf (40% of inflow)
 Center-of-Mass det. time= 169.2 min (910.2 - 741.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	90.00'	221 cf	6.33'W x 45.50'L x 3.04'H Field A 877 cf Overall - 324 cf Embedded = 552 cf x 40.0% Voids
#2A	90.00'	324 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
		545 cf	Total Available Storage

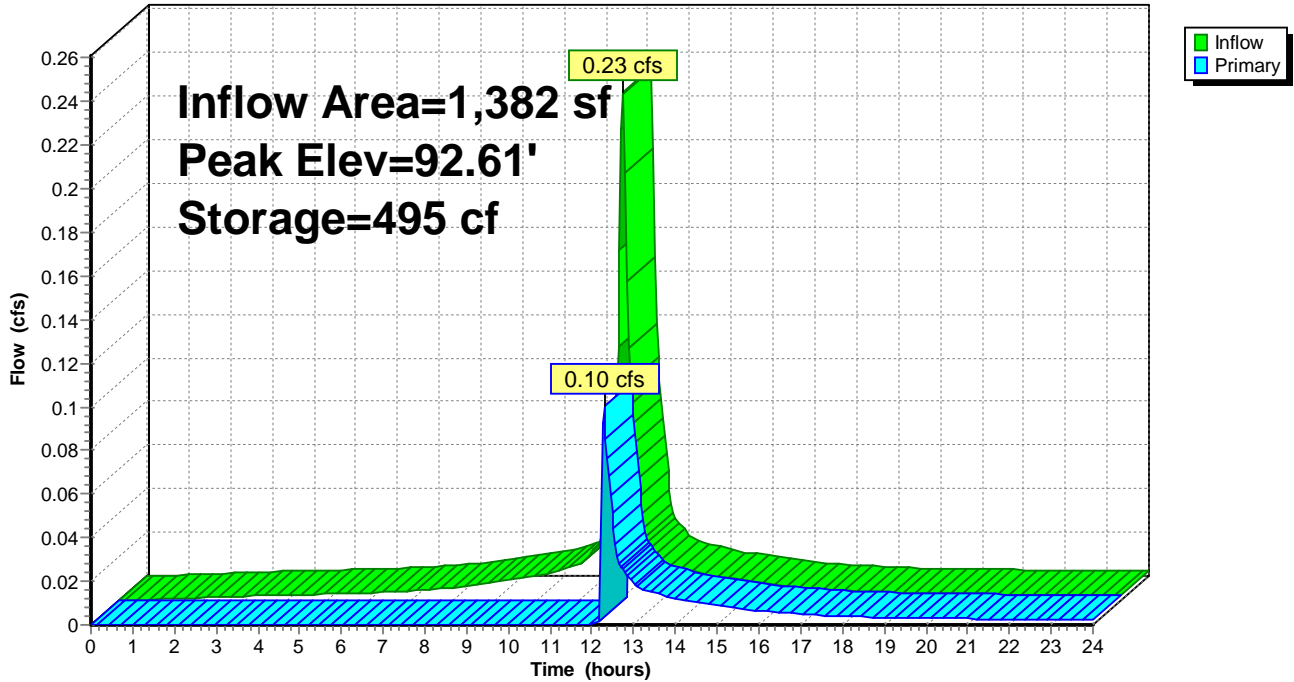
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	92.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 12.30 hrs HW=92.61' (Free Discharge)
 ↑ **1=Orifice/Grate** (Weir Controls 0.09 cfs @ 0.84 fps)

Pond 1P: Cultec R-330XLHD

Hydrograph

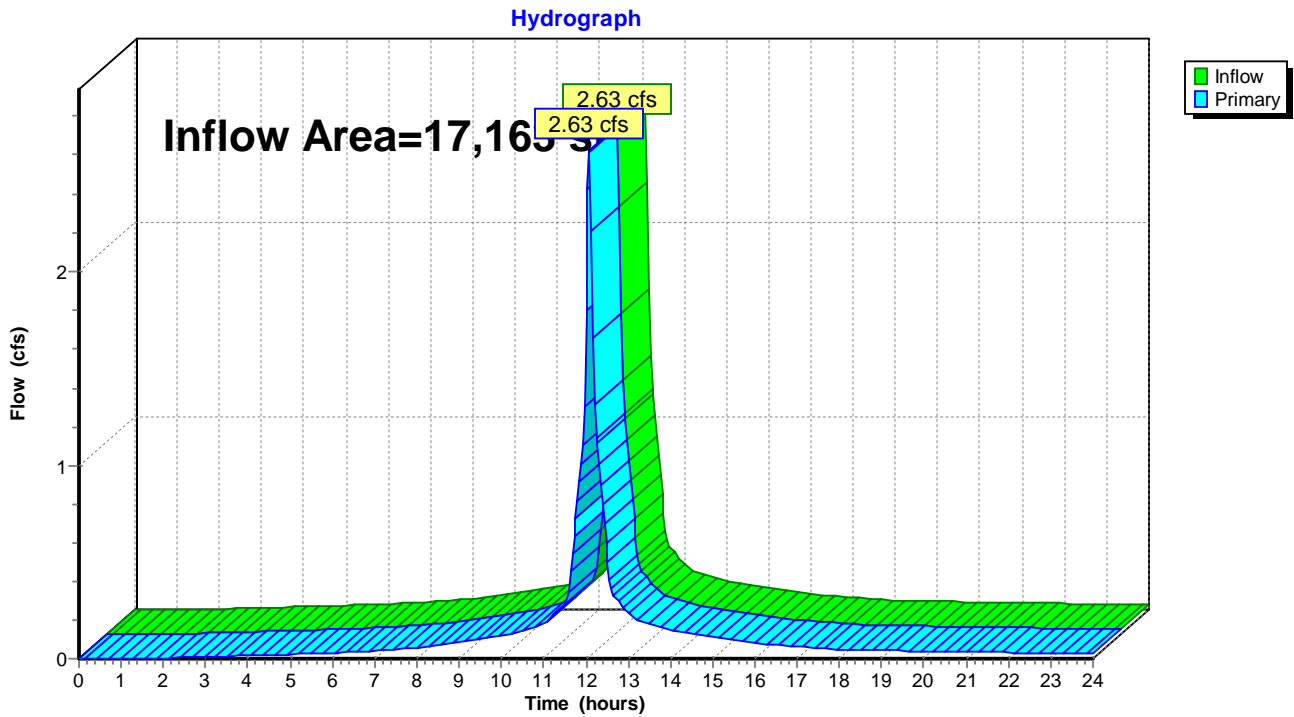


Summary for Link 1L: Combined Hydrograph

Inflow Area = 17,163 sf, 79.93% Impervious, Inflow Depth > 6.43" for 50 Year event
 Inflow = 2.63 cfs @ 12.07 hrs, Volume= 9,194 cf
 Primary = 2.63 cfs @ 12.07 hrs, Volume= 9,194 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 1L: Combined Hydrograph



Summary for Subcatchment 3S: Areas Routed to Retention

Runoff = 0.26 cfs @ 12.07 hrs, Volume= 923 cf, Depth> 8.02"

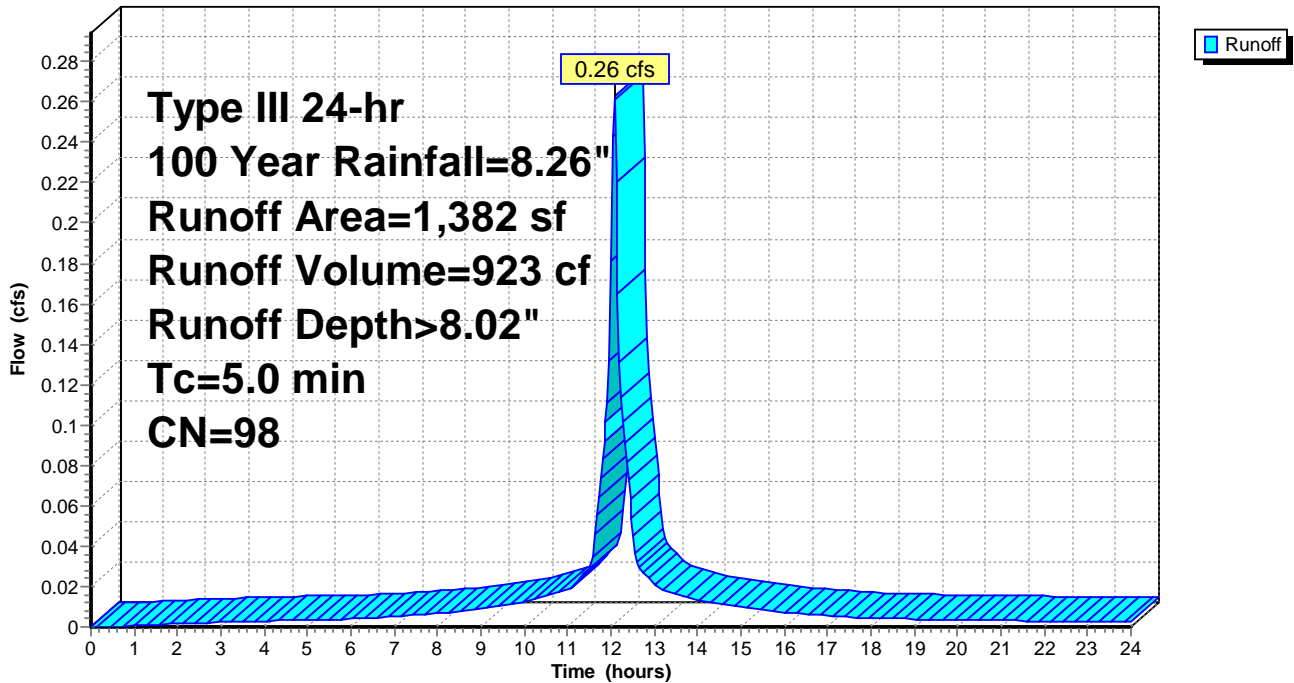
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 Year Rainfall=8.26"

Area (sf)	CN	Description
* 1,382	98	Portion of Building roof
1,382		100.00% Impervious Area

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

Subcatchment 3S: Areas Routed to Retention

Hydrograph



Summary for Subcatchment 4S: Proposed Conditions

Runoff = 2.96 cfs @ 12.07 hrs, Volume= 10,069 cf, Depth> 7.66"

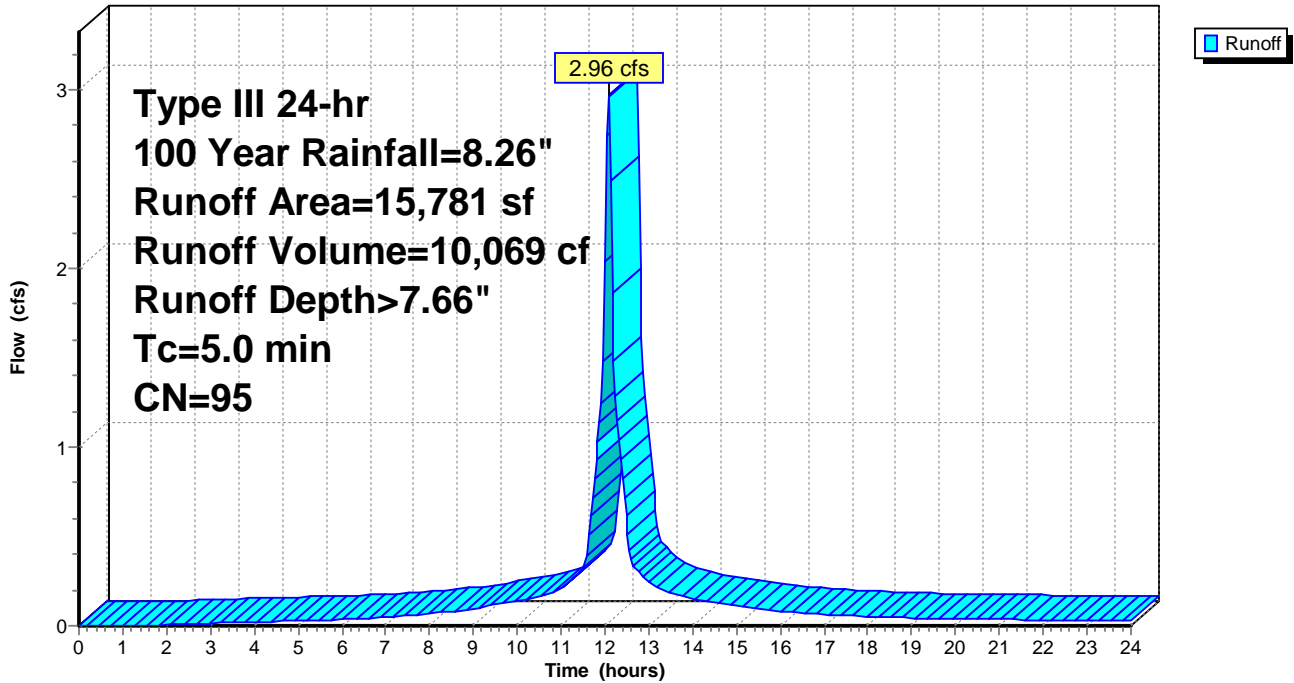
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Type III 24-hr 100 Year Rainfall=8.26"

	Area (sf)	CN	Description
*	4,186	98	Buildings
*	8,151	98	Driveway/Parking
	3,444	84	50-75% Grass cover, Fair, HSG D
	15,781	95	Weighted Average
	3,444		21.82% Pervious Area
	12,337		78.18% Impervious Area

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

Subcatchment 4S: Proposed Conditions

Hydrograph



Summary for Pond 1P: Cultec R-330XLHD

Inflow Area = 1,382 sf, 100.00% Impervious, Inflow Depth > 8.02" for 100 Year event
 Inflow = 0.26 cfs @ 12.07 hrs, Volume= 923 cf
 Outflow = 0.21 cfs @ 12.17 hrs, Volume= 436 cf, Atten= 21%, Lag= 5.9 min
 Primary = 0.21 cfs @ 12.17 hrs, Volume= 436 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
 Peak Elev= 92.66' @ 12.17 hrs Surf.Area= 288 sf Storage= 501 cf

Plug-Flow detention time= 283.9 min calculated for 435 cf (47% of inflow)
 Center-of-Mass det. time= 144.2 min (883.8 - 739.5)

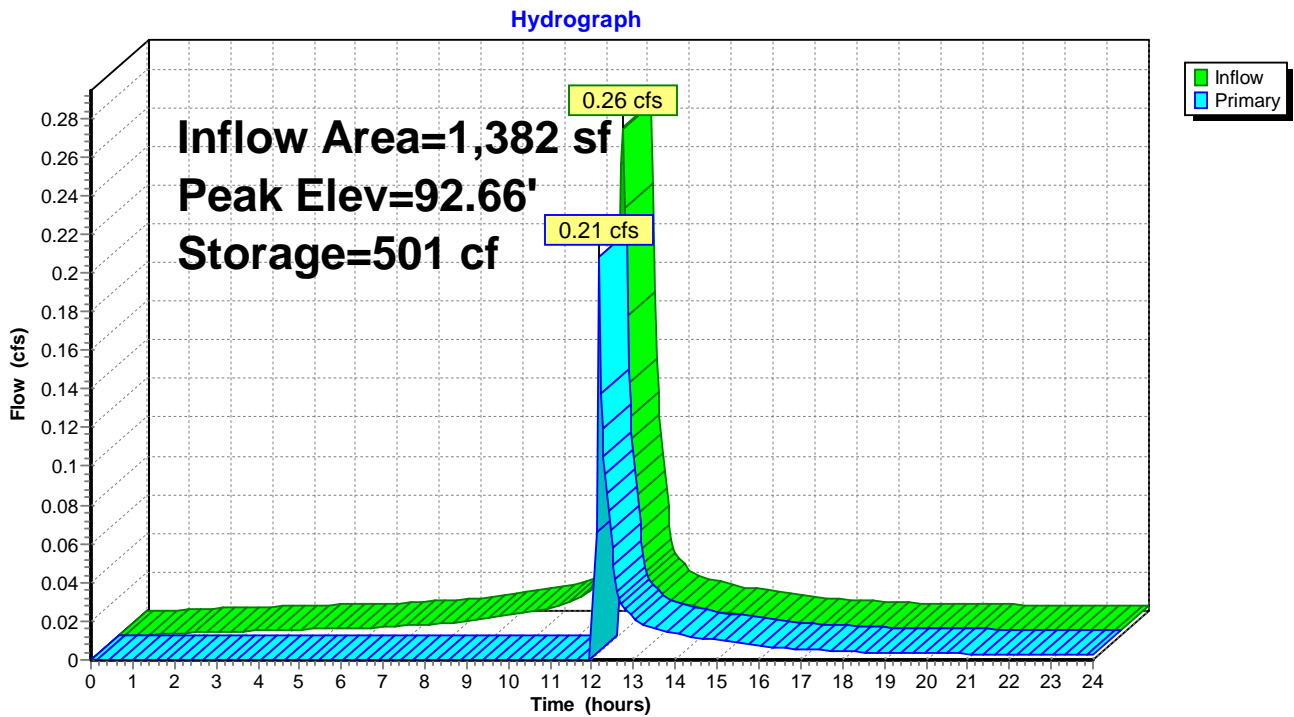
Volume	Invert	Avail.Storage	Storage Description
#1A	90.00'	221 cf	6.33'W x 45.50'L x 3.04'H Field A 877 cf Overall - 324 cf Embedded = 552 cf x 40.0% Voids
#2A	90.00'	324 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
		545 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	92.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 12.17 hrs HW=92.65' (Free Discharge)
 ↑ **1=Orifice/Grate** (Weir Controls 0.18 cfs @ 1.07 fps)

Pond 1P: Cultec R-330XLHD



Summary for Link 1L: Combined Hydrograph

Inflow Area = 17,163 sf, 79.93% Impervious, Inflow Depth > 7.34" for 100 Year event
Inflow = 2.96 cfs @ 12.07 hrs, Volume= 10,504 cf
Primary = 2.96 cfs @ 12.07 hrs, Volume= 10,504 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 1L: Combined Hydrograph

