

MEMORANDUM

DATE: March 23, 2022
BY: Craig Harris, PE
SUBJECT: Stormwater Memo
PROJECT: Avery Industrial – 10700 SW Tualatin-Sherwood Road, Tualatin, OR
PROJECT NO.: A21195.10

This memorandum is to outline the utility requirements and existing conditions for the proposed Avery Industrial project in Tualatin, OR. The total site area is 330,846 SF, and the development will combine two adjoining parcels. The existing parcels are undeveloped with one parcel being mostly a gravel area with shrubs scattered throughout, and the other parcel being densely wooded. This project develops both parcels, and as a result of these improvements the proposed site will have 250,144 SF of new impervious area.

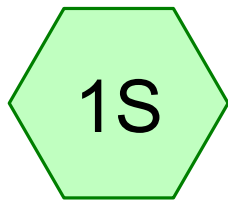
The project is within the CWS jurisdiction for stormwater management. Storm runoff from the proposed impervious area will be directed via sheet flow to new treatment boxes and a detention basin onsite. Detained runoff will be released at a controlled rate to reduce the peak flow from the 2-year storm to half the existing peak to meet the hydromodification criteria, and to match the existing peak flow during the 5-, 10-, and 25-year storms. The facility will provide water quality through Contech's StormFilter treatment cartridges.

The flow from the detention basin will flow to an existing stormwater stub leading from the inside of the project site to the stormwater conveyance system running along SW Tualatin-Sherwood Road. Since the onsite stormwater runoff is treated and the peak flows greatly reduced, the proposed design should not have any adverse effect on the facility.

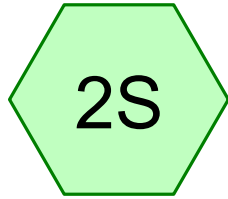
Please refer to the accompanying preliminary stormwater calculations and plans for additional details.



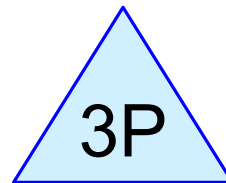
EXPIRES: 6/30/2023



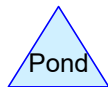
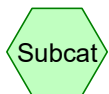
Predevelopment



Developed



Detention System



Avery Industrial

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.743	98	(2S)
1.558	79	50-75% Grass cover, Fair, HSG C (1S)
2.369	79	<50% Grass cover, Poor, HSG B (1S)
1.816	86	Woods/grass comb., Poor, HSG D (1S)
11.485	90	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.369	HSG B	1S
1.558	HSG C	1S
1.816	HSG D	1S
5.743	Other	2S
11.485		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	5.743	5.743		2S
0.000	0.000	1.558	0.000	0.000	1.558	50-75% Grass cover, Fair	1S
0.000	2.369	0.000	0.000	0.000	2.369	<50% Grass cover, Poor	1S
0.000	0.000	0.000	1.816	0.000	1.816	Woods/grass comb., Poor	1S
0.000	2.369	1.558	1.816	5.743	11.485	TOTAL AREA	

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Type IA 24-hr 2-YR Rainfall=2.50"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Predevelopment

Runoff Area=250,144 sf 0.00% Impervious Runoff Depth=0.94"
Tc=30.0 min CN=81 Runoff=0.92 cfs 0.451 af

Subcatchment2S: Developed

Runoff Area=250,144 sf 100.00% Impervious Runoff Depth=2.27"
Tc=5.0 min CN=98 Runoff=3.36 cfs 1.087 af

Pond 3P: Detention System

Peak Elev=4.56' Storage=0.530 af Inflow=3.36 cfs 1.087 af
Outflow=0.38 cfs 1.087 af

Total Runoff Area = 11.485 ac Runoff Volume = 1.538 af Average Runoff Depth = 1.61"
50.00% Pervious = 5.743 ac 50.00% Impervious = 5.743 ac

Summary for Subcatchment 1S: Predevelopment

Runoff = 0.92 cfs @ 8.27 hrs, Volume= 0.451 af, Depth= 0.94"

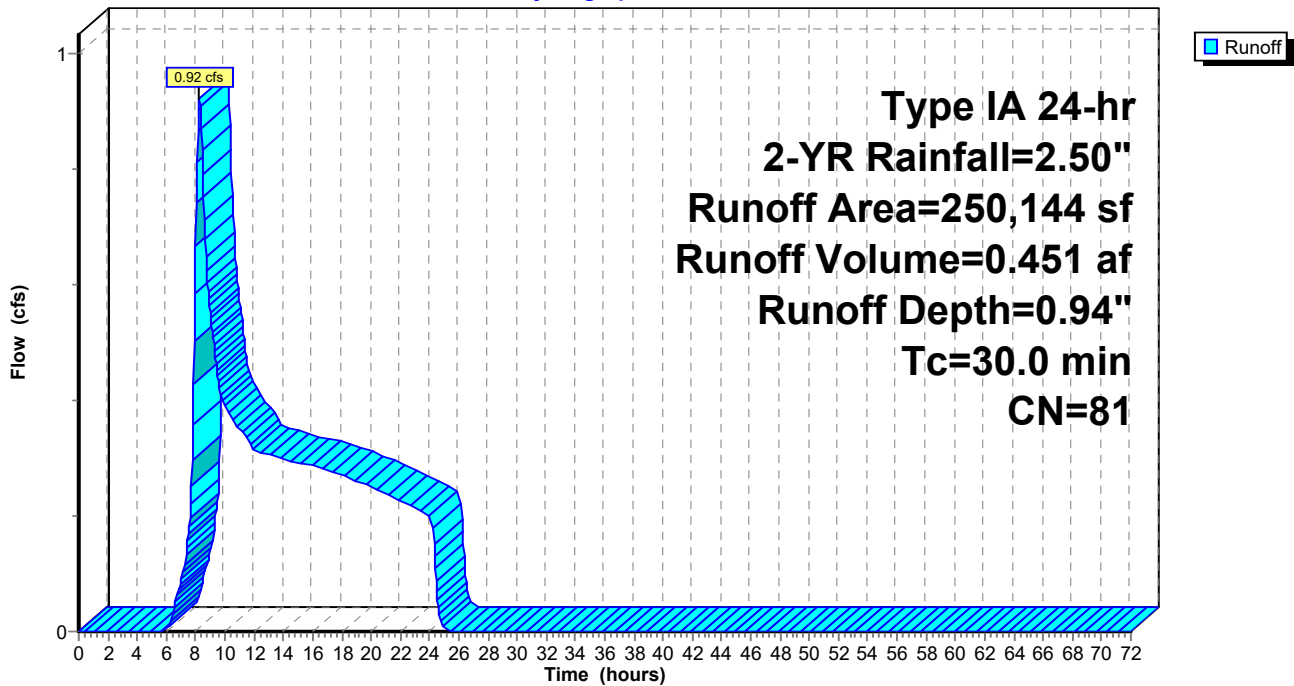
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
103,194	79	<50% Grass cover, Poor, HSG B
67,852	79	50-75% Grass cover, Fair, HSG C
79,098	86	Woods/grass comb., Poor, HSG D
250,144	81	Weighted Average
250,144		100.00% Pervious Area

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

Subcatchment 1S: Predevelopment

Hydrograph



Summary for Subcatchment 2S: Developed

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.36 cfs @ 7.86 hrs, Volume= 1.087 af, Depth= 2.27"

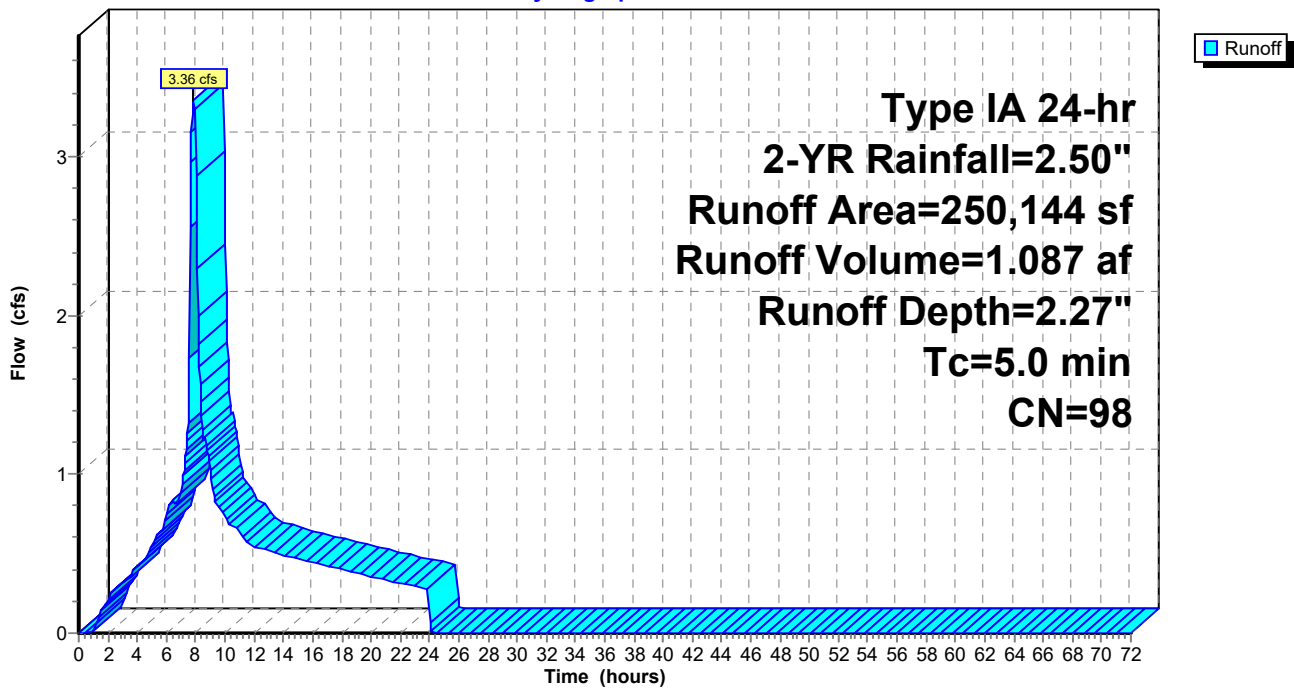
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
* 250,144	98	
250,144		100.00% Impervious Area

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

Subcatchment 2S: Developed

Hydrograph



Summary for Pond 3P: Detention System

Inflow Area = 5.743 ac, 100.00% Impervious, Inflow Depth = 2.27" for 2-YR event
 Inflow = 3.36 cfs @ 7.86 hrs, Volume= 1.087 af
 Outflow = 0.38 cfs @ 19.08 hrs, Volume= 1.087 af, Atten= 89%, Lag= 673.2 min
 Primary = 0.38 cfs @ 19.08 hrs, Volume= 1.087 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 4.56' @ 19.08 hrs Surf.Area= 0.118 ac Storage= 0.530 af

Plug-Flow detention time= 756.7 min calculated for 1.086 af (100% of inflow)
 Center-of-Mass det. time= 757.2 min (1,429.2 - 671.9)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.649 af	72.0" Round Pipe Storage L= 1,000.0'

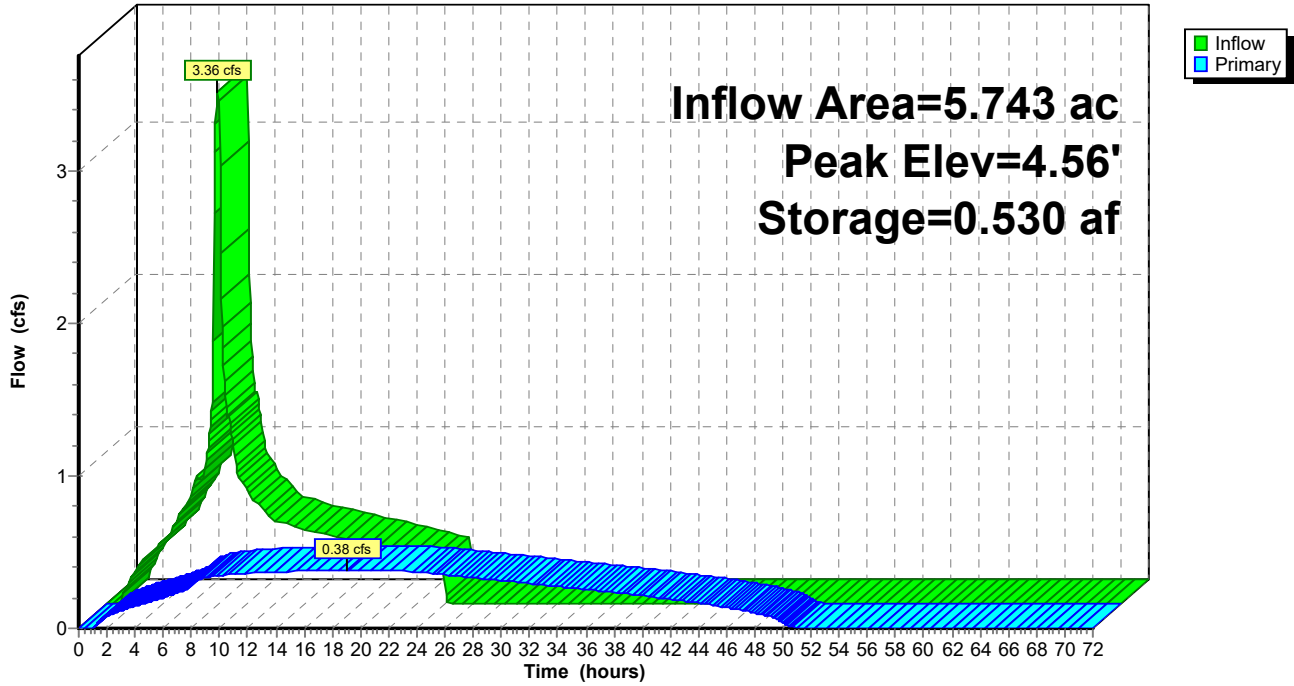
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	2.6" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	4.85'	10.0" W x 8.0" H Vert. Orifice/Grate C= 0.600
#3	Primary	5.52'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.38 cfs @ 19.08 hrs HW=4.56' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 0.38 cfs @ 10.29 fps)
- 2=Orifice/Grate (Controls 0.00 cfs)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Detention System

Hydrograph



Avery Industrial

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Type IA 24-hr 5-YR Rainfall=3.10"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Predevelopment

Runoff Area=250,144 sf 0.00% Impervious Runoff Depth=1.39"
Tc=30.0 min CN=81 Runoff=1.51 cfs 0.666 af

Subcatchment2S: Developed

Runoff Area=250,144 sf 100.00% Impervious Runoff Depth=2.87"
Tc=5.0 min CN=98 Runoff=4.22 cfs 1.372 af

Pond 3P: Detention System

Peak Elev=5.12' Storage=0.590 af Inflow=4.22 cfs 1.372 af
Outflow=0.77 cfs 1.372 af

Total Runoff Area = 11.485 ac Runoff Volume = 2.038 af Average Runoff Depth = 2.13"
50.00% Pervious = 5.743 ac 50.00% Impervious = 5.743 ac

Summary for Subcatchment 1S: Predevelopment

Runoff = 1.51 cfs @ 8.25 hrs, Volume= 0.666 af, Depth= 1.39"

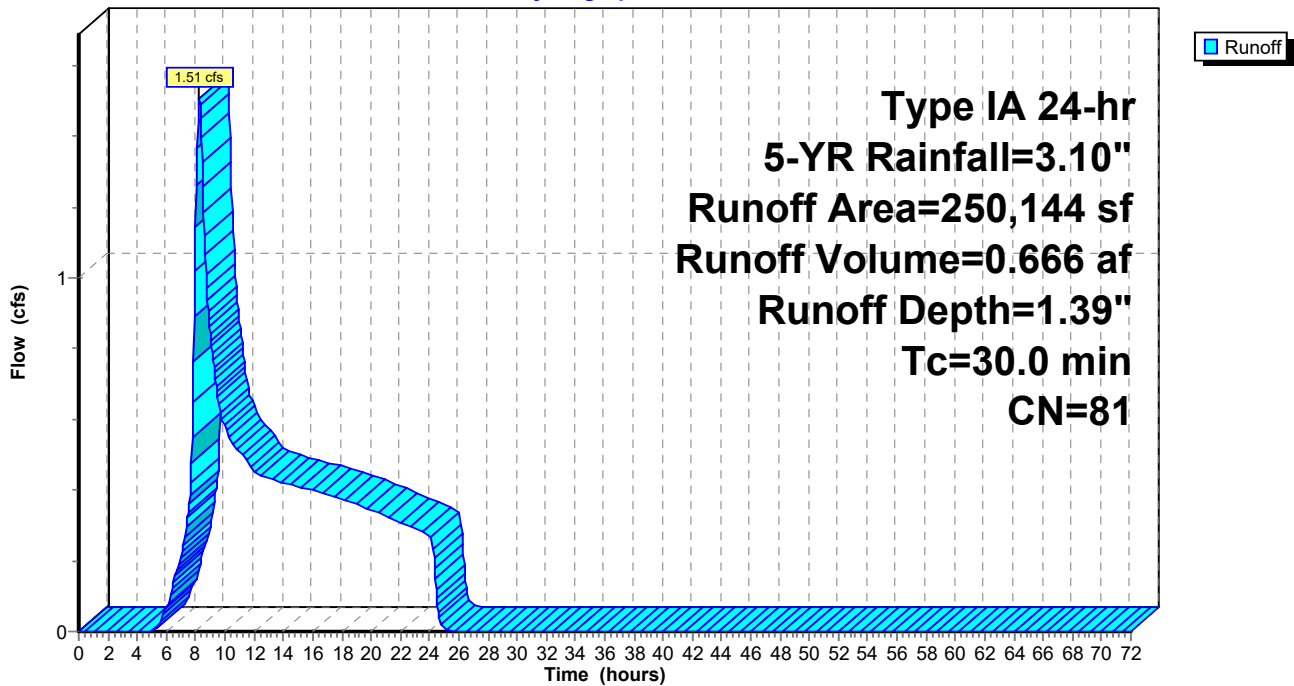
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 5-YR Rainfall=3.10"

Area (sf)	CN	Description
103,194	79	<50% Grass cover, Poor, HSG B
67,852	79	50-75% Grass cover, Fair, HSG C
79,098	86	Woods/grass comb., Poor, HSG D
250,144	81	Weighted Average
250,144		100.00% Pervious Area

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

Subcatchment 1S: Predevelopment

Hydrograph



Summary for Subcatchment 2S: Developed

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 4.22 cfs @ 7.86 hrs, Volume= 1.372 af, Depth= 2.87"

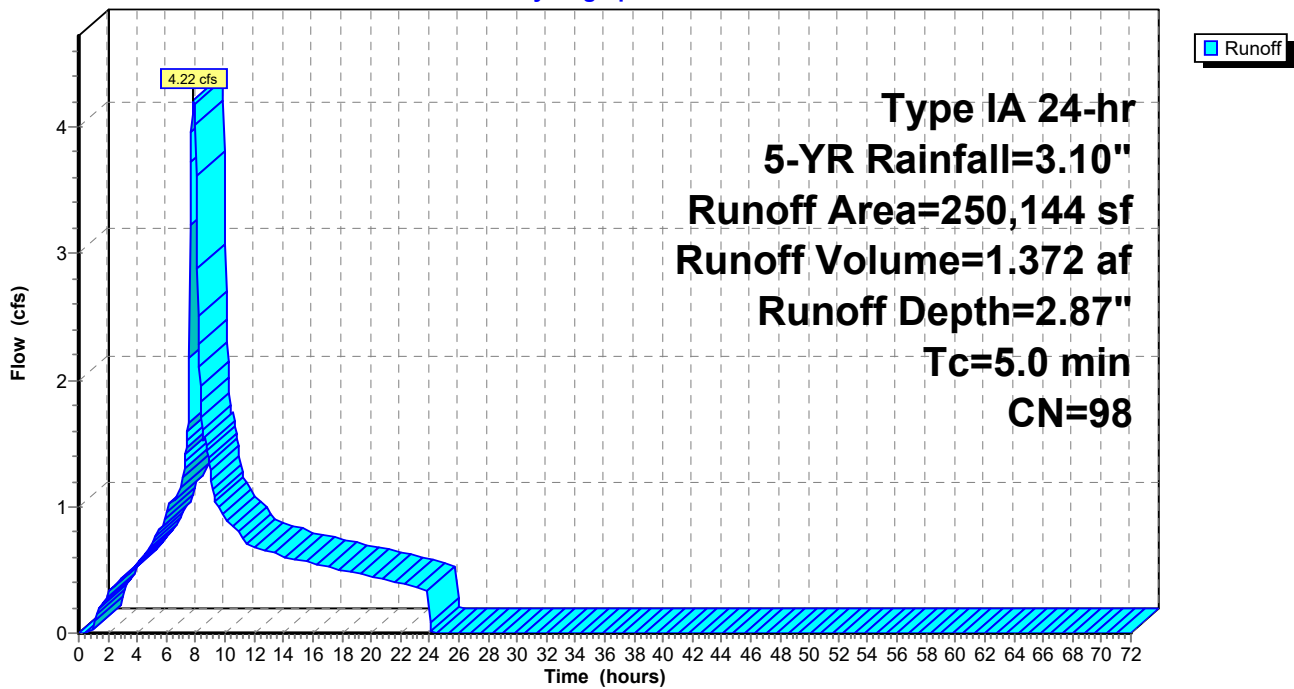
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 5-YR Rainfall=3.10"

Area (sf)	CN	Description
* 250,144	98	
250,144		100.00% Impervious Area

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

Subcatchment 2S: Developed

Hydrograph



Summary for Pond 3P: Detention System

Inflow Area = 5.743 ac, 100.00% Impervious, Inflow Depth = 2.87" for 5-YR event
 Inflow = 4.22 cfs @ 7.86 hrs, Volume= 1.372 af
 Outflow = 0.77 cfs @ 11.17 hrs, Volume= 1.372 af, Atten= 82%, Lag= 198.8 min
 Primary = 0.77 cfs @ 11.17 hrs, Volume= 1.372 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 5.12' @ 11.17 hrs Surf.Area= 0.098 ac Storage= 0.590 af

Plug-Flow detention time= 699.4 min calculated for 1.371 af (100% of inflow)
 Center-of-Mass det. time= 700.1 min (1,365.5 - 665.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.649 af	72.0" Round Pipe Storage L= 1,000.0'

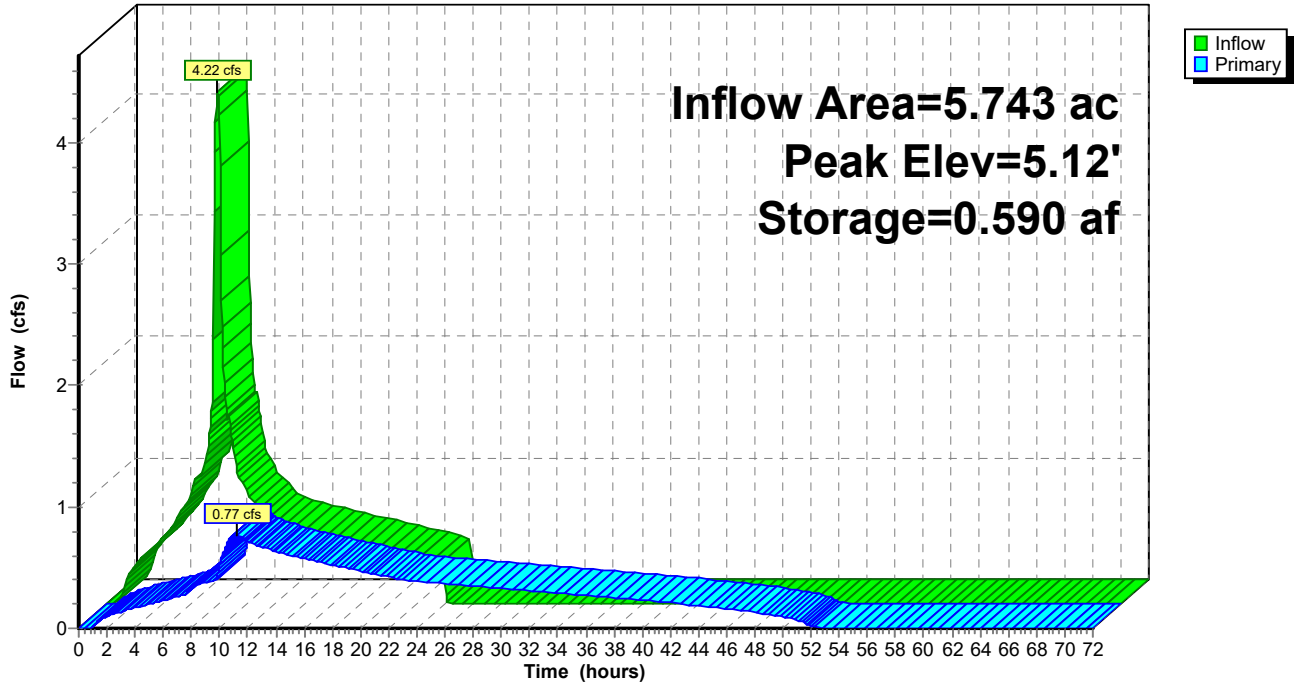
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	2.6" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	4.85'	10.0" W x 8.0" H Vert. Orifice/Grate C= 0.600
#3	Primary	5.52'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.77 cfs @ 11.17 hrs HW=5.12' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 0.40 cfs @ 10.89 fps)
- 2=Orifice/Grate (Orifice Controls 0.37 cfs @ 1.65 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Detention System

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.45"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Predevelopment

Runoff Area=250,144 sf 0.00% Impervious Runoff Depth=1.67"
Tc=30.0 min CN=81 Runoff=1.88 cfs 0.798 af

Subcatchment2S: Developed

Runoff Area=250,144 sf 100.00% Impervious Runoff Depth=3.22"
Tc=5.0 min CN=98 Runoff=4.71 cfs 1.539 af

Pond 3P: Detention System

Peak Elev=5.25' Storage=0.602 af Inflow=4.71 cfs 1.539 af
Outflow=1.09 cfs 1.539 af

Total Runoff Area = 11.485 ac Runoff Volume = 2.338 af Average Runoff Depth = 2.44"
50.00% Pervious = 5.743 ac 50.00% Impervious = 5.743 ac

Summary for Subcatchment 1S: Predevelopment

Runoff = 1.88 cfs @ 8.24 hrs, Volume= 0.798 af, Depth= 1.67"

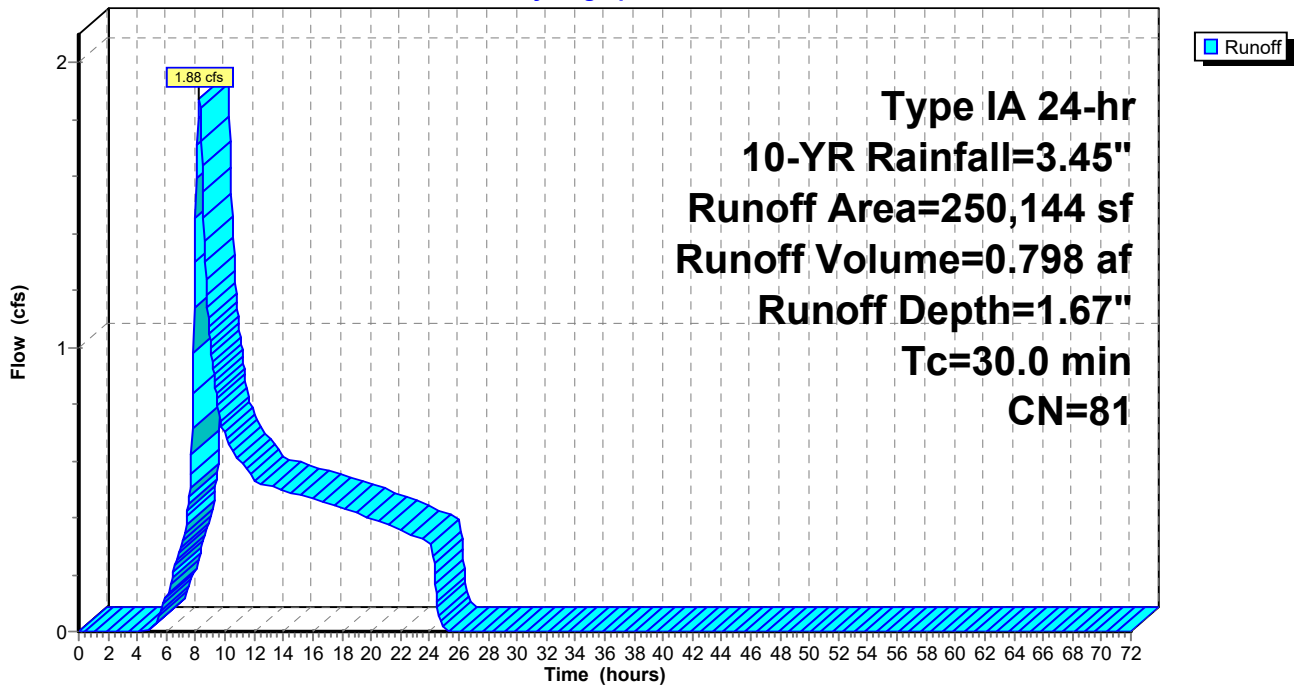
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 10-YR Rainfall=3.45"

Area (sf)	CN	Description
103,194	79	<50% Grass cover, Poor, HSG B
67,852	79	50-75% Grass cover, Fair, HSG C
79,098	86	Woods/grass comb., Poor, HSG D
250,144	81	Weighted Average
250,144		100.00% Pervious Area

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

Subcatchment 1S: Predevelopment

Hydrograph



Summary for Subcatchment 2S: Developed

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 4.71 cfs @ 7.86 hrs, Volume= 1.539 af, Depth= 3.22"

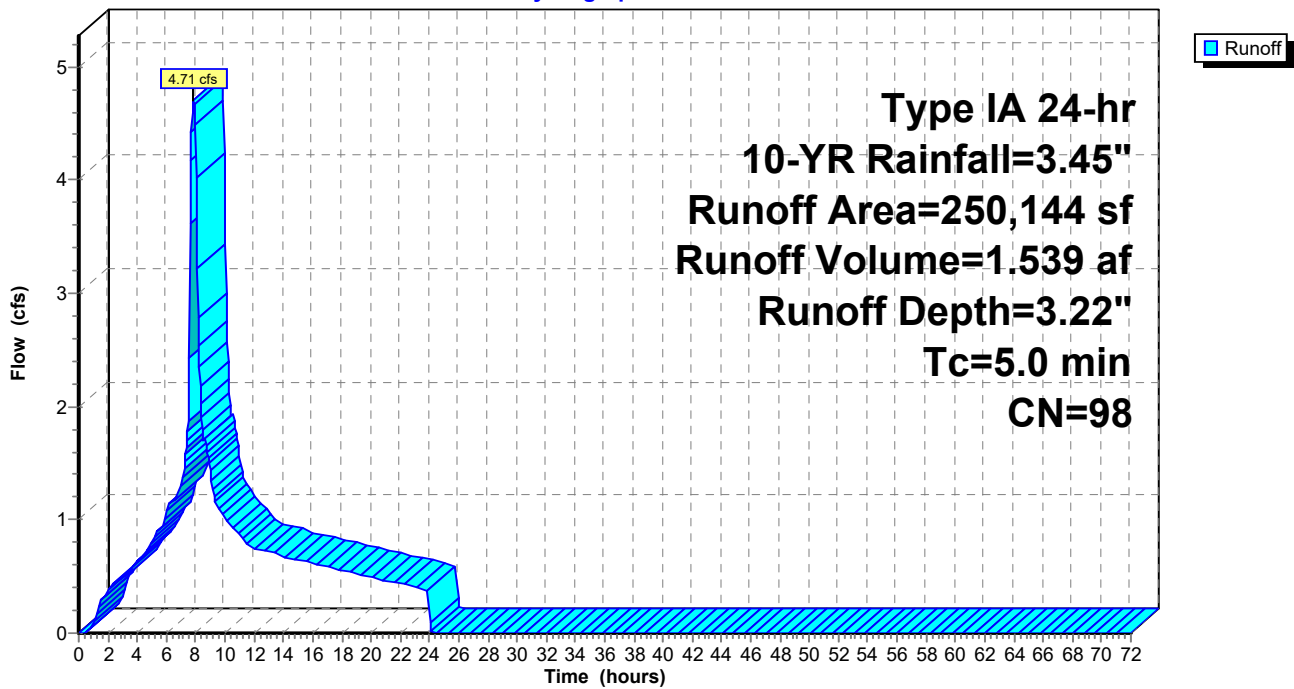
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 10-YR Rainfall=3.45"

Area (sf)	CN	Description
* 250,144	98	
250,144		100.00% Impervious Area

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

Subcatchment 2S: Developed

Hydrograph



Summary for Pond 3P: Detention System

Inflow Area = 5.743 ac, 100.00% Impervious, Inflow Depth = 3.22" for 10-YR event
 Inflow = 4.71 cfs @ 7.86 hrs, Volume= 1.539 af
 Outflow = 1.09 cfs @ 9.74 hrs, Volume= 1.539 af, Atten= 77%, Lag= 113.1 min
 Primary = 1.09 cfs @ 9.74 hrs, Volume= 1.539 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 5.25' @ 9.74 hrs Surf.Area= 0.091 ac Storage= 0.602 af

Plug-Flow detention time= 639.4 min calculated for 1.538 af (100% of inflow)
 Center-of-Mass det. time= 640.1 min (1,302.7 - 662.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.649 af	72.0" Round Pipe Storage L= 1,000.0'

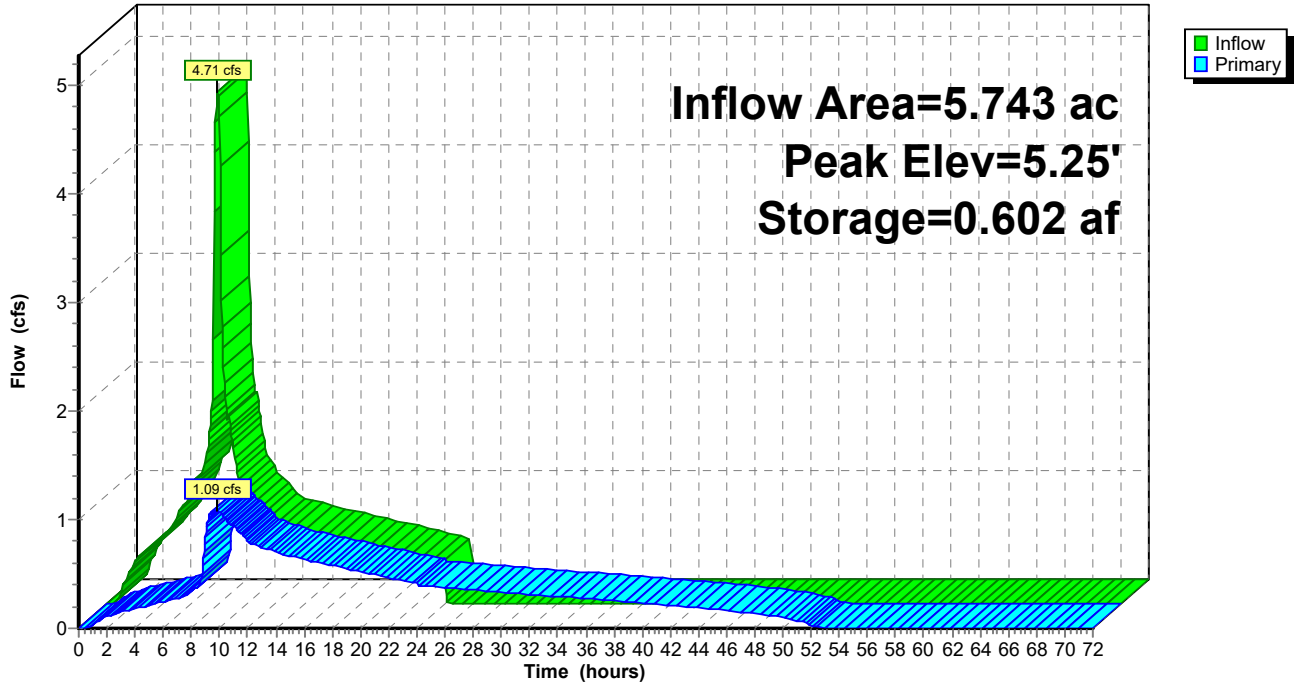
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	2.6" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	4.85'	10.0" W x 8.0" H Vert. Orifice/Grate C= 0.600
#3	Primary	5.52'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.09 cfs @ 9.74 hrs HW=5.25' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 0.41 cfs @ 11.03 fps)
- 2=Orifice/Grate (Orifice Controls 0.68 cfs @ 2.03 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Detention System

Hydrograph



Avery Industrial

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Type IA 24-hr 25-YR Rainfall=3.90"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Predevelopment

Runoff Area=250,144 sf 0.00% Impervious Runoff Depth=2.04"
Tc=30.0 min CN=81 Runoff=2.37 cfs 0.975 af

Subcatchment2S: Developed

Runoff Area=250,144 sf 100.00% Impervious Runoff Depth=3.67"
Tc=5.0 min CN=98 Runoff=5.35 cfs 1.754 af

Pond 3P: Detention System

Peak Elev=5.49' Storage=0.622 af Inflow=5.35 cfs 1.754 af
Outflow=1.78 cfs 1.754 af

Total Runoff Area = 11.485 ac Runoff Volume = 2.729 af Average Runoff Depth = 2.85"
50.00% Pervious = 5.743 ac 50.00% Impervious = 5.743 ac

Summary for Subcatchment 1S: Predevelopment

Runoff = 2.37 cfs @ 8.24 hrs, Volume= 0.975 af, Depth= 2.04"

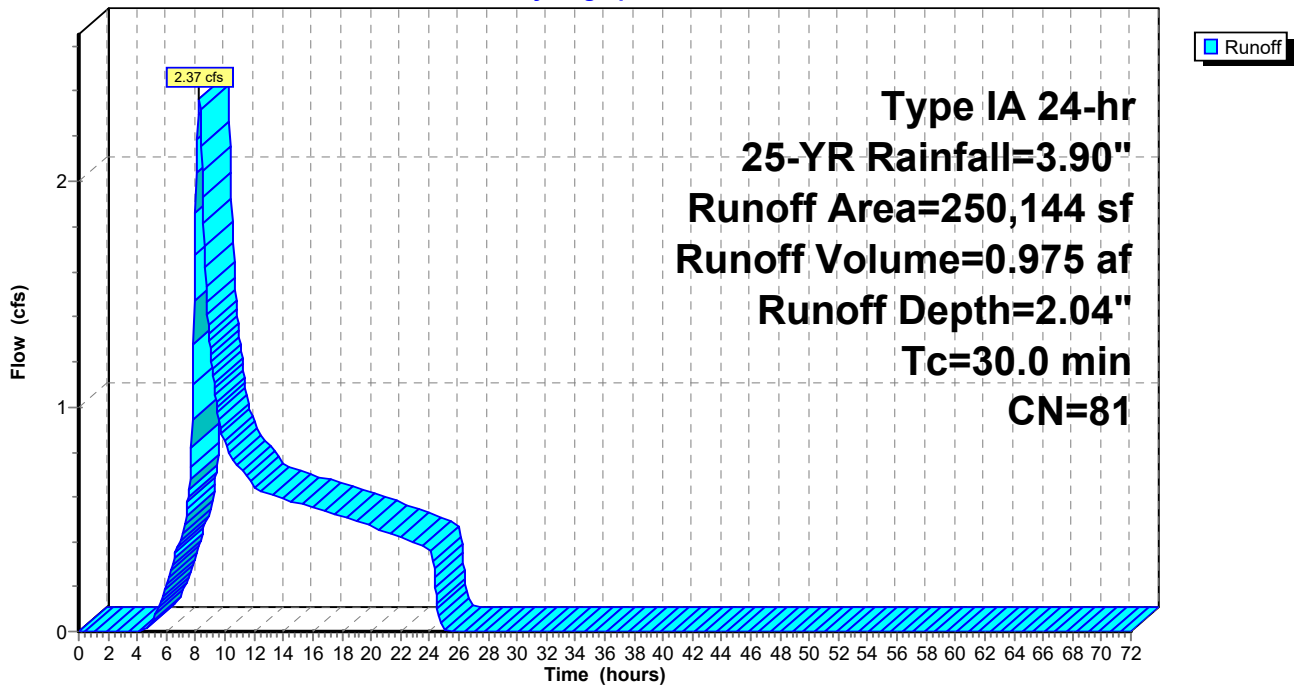
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 25-YR Rainfall=3.90"

Area (sf)	CN	Description
103,194	79	<50% Grass cover, Poor, HSG B
67,852	79	50-75% Grass cover, Fair, HSG C
79,098	86	Woods/grass comb., Poor, HSG D
250,144	81	Weighted Average
250,144		100.00% Pervious Area

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

Subcatchment 1S: Predevelopment

Hydrograph



Summary for Subcatchment 2S: Developed

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.35 cfs @ 7.86 hrs, Volume= 1.754 af, Depth= 3.67"

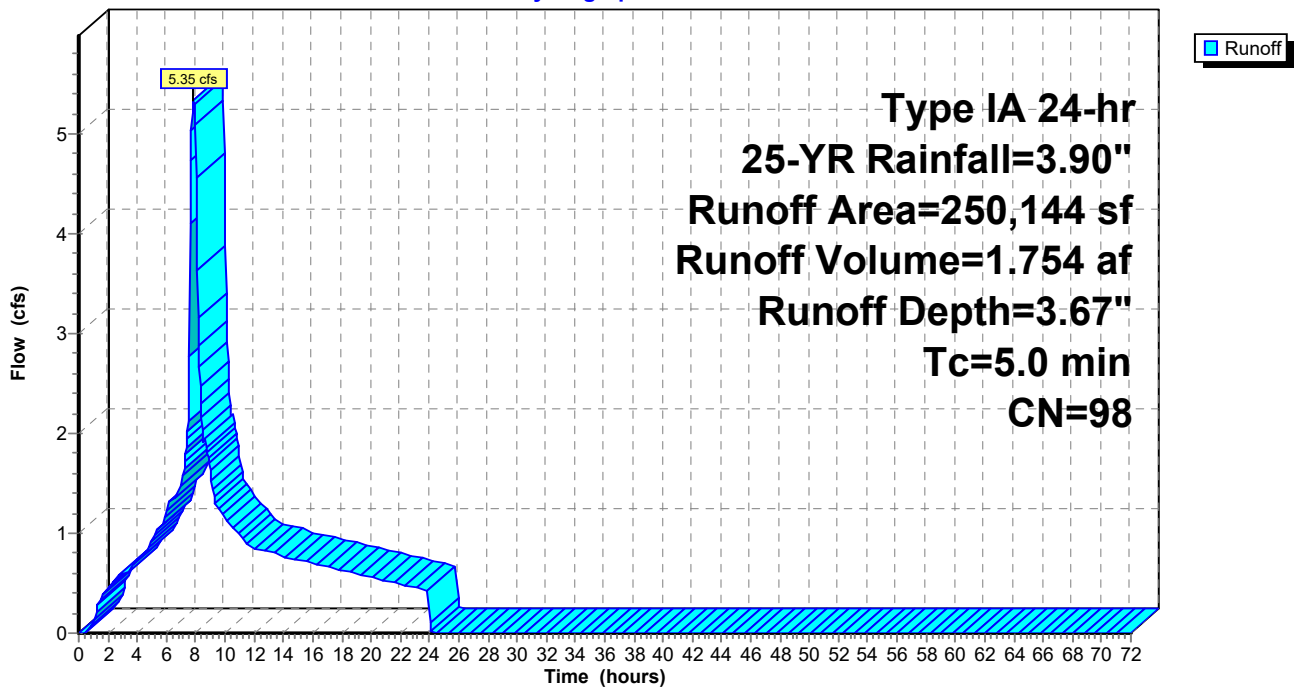
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 25-YR Rainfall=3.90"

Area (sf)	CN	Description
* 250,144	98	
250,144		100.00% Impervious Area

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

Subcatchment 2S: Developed

Hydrograph



Summary for Pond 3P: Detention System

Inflow Area = 5.743 ac, 100.00% Impervious, Inflow Depth = 3.67" for 25-YR event
 Inflow = 5.35 cfs @ 7.86 hrs, Volume= 1.754 af
 Outflow = 1.78 cfs @ 8.83 hrs, Volume= 1.754 af, Atten= 67%, Lag= 58.3 min
 Primary = 1.78 cfs @ 8.83 hrs, Volume= 1.754 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 5.49' @ 8.83 hrs Surf.Area= 0.077 ac Storage= 0.622 af

Plug-Flow detention time= 574.4 min calculated for 1.753 af (100% of inflow)
 Center-of-Mass det. time= 575.2 min (1,234.7 - 659.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.649 af	72.0" Round Pipe Storage L= 1,000.0'

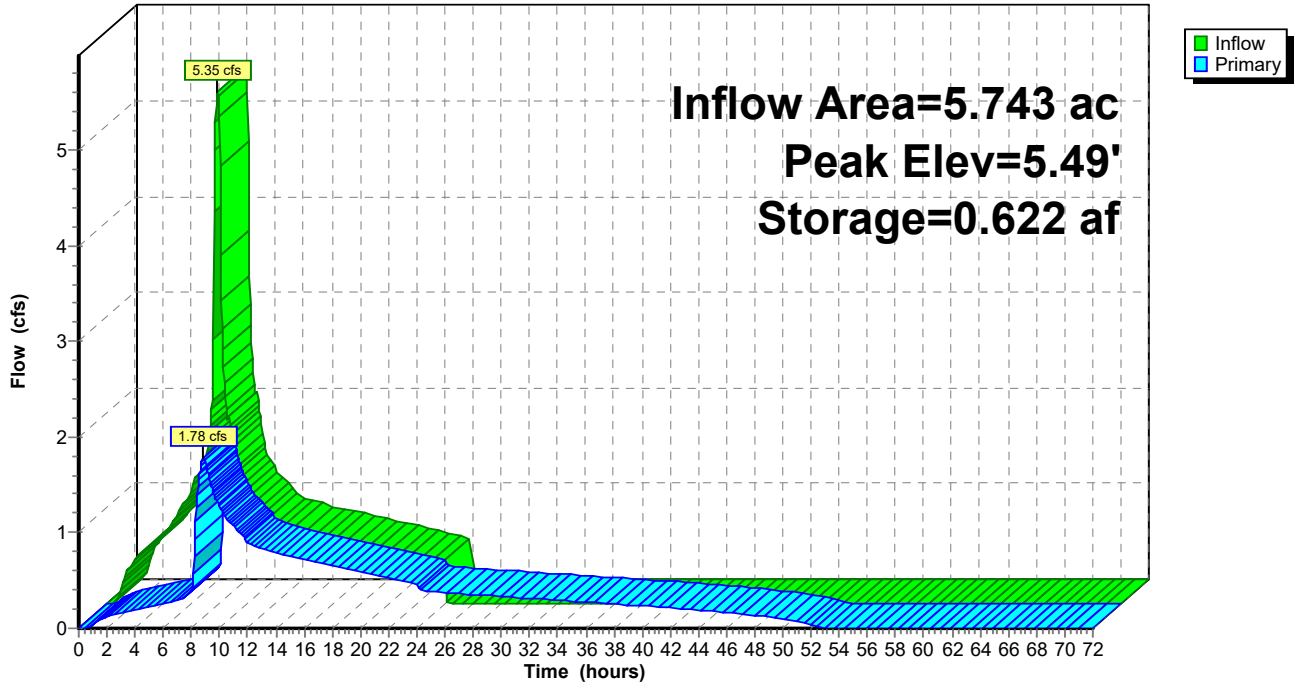
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	2.6" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	4.85'	10.0" W x 8.0" H Vert. Orifice/Grate C= 0.600
#3	Primary	5.52'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 8.83 hrs HW=5.49' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 0.42 cfs @ 11.28 fps)
- 2=Orifice/Grate (Orifice Controls 1.36 cfs @ 2.56 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Detention System

Hydrograph



Avery Industrial

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Type IA 24-hr WQ Rainfall=0.36"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Predevelopment

Runoff Area=250,144 sf 0.00% Impervious Runoff Depth=0.00"
Tc=30.0 min CN=81 Runoff=0.00 cfs 0.000 af

Subcatchment2S: Developed

Runoff Area=250,144 sf 100.00% Impervious Runoff Depth=0.19"
Tc=5.0 min CN=98 Runoff=0.27 cfs 0.093 af

Pond 3P: Detention System

Peak Elev=0.30' Storage=0.012 af Inflow=0.27 cfs 0.093 af
Outflow=0.10 cfs 0.093 af

Total Runoff Area = 11.485 ac Runoff Volume = 0.093 af Average Runoff Depth = 0.10"
50.00% Pervious = 5.743 ac 50.00% Impervious = 5.743 ac

Summary for Subcatchment 1S: Predevelopment

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

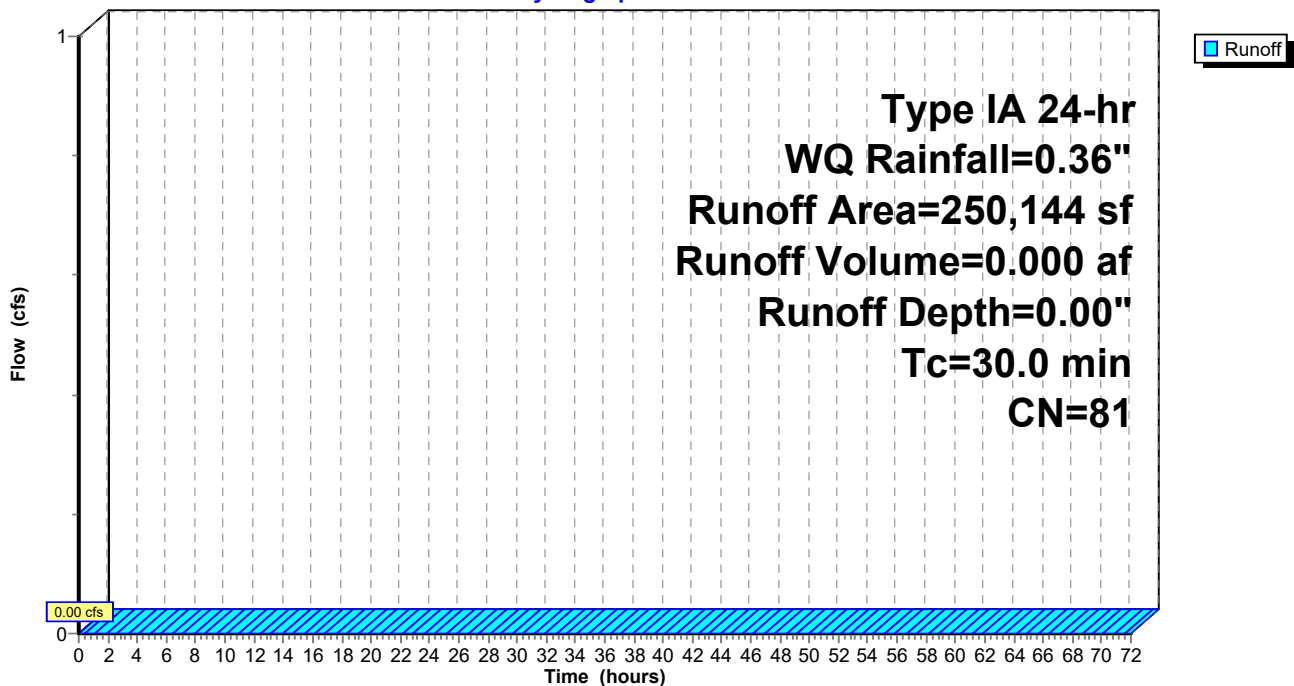
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type IA 24-hr WQ Rainfall=0.36"

Area (sf)	CN	Description
103,194	79	<50% Grass cover, Poor, HSG B
67,852	79	50-75% Grass cover, Fair, HSG C
79,098	86	Woods/grass comb., Poor, HSG D
250,144	81	Weighted Average
250,144		100.00% Pervious Area

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

Subcatchment 1S: Predevelopment

Hydrograph



Summary for Subcatchment 2S: Developed

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.27 cfs @ 7.95 hrs, Volume= 0.093 af, Depth= 0.19"

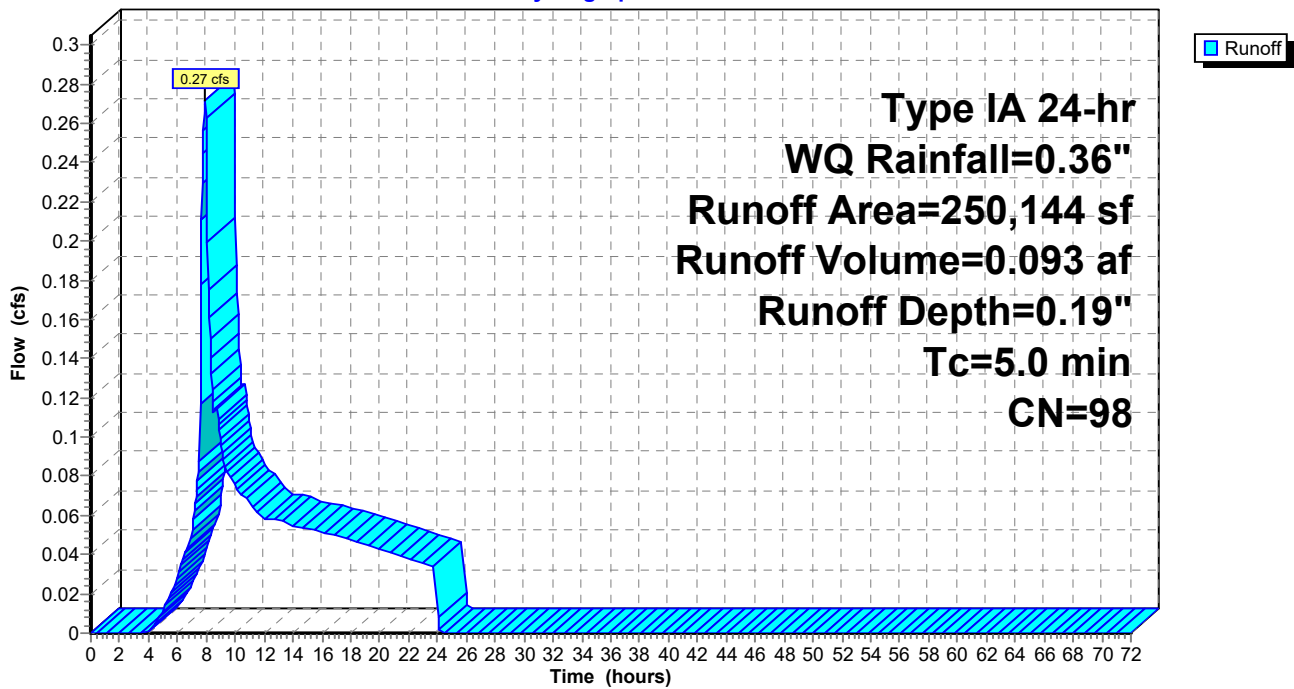
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, $dt= 0.05$ hrs
 Type IA 24-hr WQ Rainfall=0.36"

Area (sf)	CN	Description
* 250,144	98	
250,144		100.00% Impervious Area

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

Subcatchment 2S: Developed

Hydrograph



Summary for Pond 3P: Detention System

Inflow Area = 5.743 ac, 100.00% Impervious, Inflow Depth = 0.19" for WQ event
 Inflow = 0.27 cfs @ 7.95 hrs, Volume= 0.093 af
 Outflow = 0.10 cfs @ 9.01 hrs, Volume= 0.093 af, Atten= 64%, Lag= 63.8 min
 Primary = 0.10 cfs @ 9.01 hrs, Volume= 0.093 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 0.30' @ 9.01 hrs Surf.Area= 0.060 ac Storage= 0.012 af

Plug-Flow detention time= 52.6 min calculated for 0.093 af (100% of inflow)
 Center-of-Mass det. time= 52.4 min (839.7 - 787.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.649 af	72.0" Round Pipe Storage L= 1,000.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	2.6" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	4.85'	10.0" W x 8.0" H Vert. Orifice/Grate C= 0.600
#3	Primary	5.52'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 9.01 hrs HW=0.30' (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 0.10 cfs @ 2.64 fps)
- 2=Orifice/Grate (Controls 0.00 cfs)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Detention System

Hydrograph

