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HYDROLOGY AND HYDRAULICS ENGINEERING REPORT

103 HOUSE STREET
PREPARED FOR
103 HOUSE STREET, LLC
GLASTONBURY, CT

July, 2020

Prepared By:

Jonathan H. Sczurek, P.E.

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I. INTRODUCTION

Project Description:

This project is located at 103 House Street, on the north west corner of the intersection with Salmon Brook Drive. It will consist of the construction of 3 new multifamily town home buildings with 17 units total on 1.05 acres located in the Town Center zone. The project will be accessed via a two-way driveway connection to House Street and will utilize the existing curb cut for Colonial Village Apartments (owned by the same owners).

The majority of the site currently drains toward the northwest corner of the property where it flows toward catch basins on the Colonial Village Apartment property which drain to wetlands adjacent to Salmon Brook. The easterly and southerly portions of the site drain toward the roadway shoulders of House Street and Salmon Brook Drive. All of the stormwater drains into pipe systems that flow northerly and discharge to wetlands adjacent to Salmon Brook. Pre and Post Development drainage patterns will be maintained.

The proposed Stormwater Management System will include directing runoff from paved & roof areas to subsurface infiltration chambers. The chambers are sized to infiltrate the runoff from the impervious areas up to a 10-year return frequency storm. Overflow pipes will be connected to the storm drainage system for higher frequency events.

The water quality volume will be captured and recharged in accordance with 2004 Stormwater Quality Manual and peak flows attenuated as required by the Town of Glastonbury Master Drainage Study for the Salmon Brook Watershed.

Drainage Considerations:

The proposed drainage system is designed to treat the WQV of the collected runoff and infiltrate it into the subsurface soils. This will also satisfy the MS 4 requirements and promote groundwater recharge. This is proposed to be accomplished by incorporating the following techniques.

First, through the utilization of Subsurface Leaching Chambers designed to receive roof runoff from the townhomes. Second, by directing runoff from paved areas to Subsurface Leaching Chambers (located in the center island) encouraging infiltration. Test pits at the site confirm the subsurface conditions of the site are generally characterized by sandy and gravelly soils and are favorable to infiltrate water, groundwater monitoring through the spring confirmed that the chambers will have the required volume and will be above groundwater.

Methodology:

The stormwater models for the proposed development were calculated using TR-55 methodology even though detention is not required, being so close in proximity to the Salmon Brook. The hydrographs are included in Appendix B. The results demonstrate the peak flows for the 2, 10, 25, 50 & 100 year return frequency storms.

The storm drainage system was sized based on a 10 year return frequency storm. Sizing for the proposed Water Quality Treatment/MS 4 systems was calculated utilizing the techniques outlined in the 2004 Connecticut Stormwater Quality Manual. The Water Quality Volume was computed with the formulas presented in this manual.

Conclusions:

- The proposed drainage system will retain and infiltrate a 10 year return frequency storm in accordance with the Town of Glastonbury requirements.

- No adverse impacts from development will be created for downstream areas.

- The Water Quality Volumes from the proposed lots will be collected and infiltrated within the Subsurface Leaching Chambers proposed.

- The proposed improvements will meet the MS 4 requirements for disconnecting paved areas to the extent possible.

II. STORMWATER RUNOFF

Pre Development Runoff to Point 'A'

0.77 AC – Grass
0.19 AC - Impervious
0.96 AC – Total Area

Weighted CN = 68
Tc = 10.9 Minutes

TR-55 (NOAA ATLAS14 rainfall rates)

Flow Rate:

Q_2 = 0.84 cfs
Q_{10} = 2.49 cfs
Q_{25} = 3.68 cfs
Q_{50} = 4.65 cfs
Q_{100} = 5.65 cfs

Volume:

V_2 = 0.047 af
V_{10}= 0.130 af
V_{25}= 0.191 af
V_{50}= 0.242 af
V_{100}= 0.295 af

Pre Development Runoff to Point 'B'

0.14 AC – Grass

0.10 AC - Impervious

0.24 AC – Total Area

Weighted CN = 76

Tc = 6.9 Minutes

(NOAA ATLAS14 rainfall rates)

Flow Rate:

Q_2 = 0.43 cfs

Q_{10} = 0.99 cfs

Q_{25} = 1.36 cfs

Q_{50} = 1.66 cfs

Q_{100} = 1.96 cfs

Volume:

V_2 = 0.019 af

V_{10}= 0.045 af

V_{25}= 0.062 af

V_{50}= 0.077 af

V_{100}= 0.091 af

Pre Development Runoff to Point 'C'

0.10 AC – Grass

0.11 AC - Impervious

0.21 AC – Total Area

Weighted CN = 80

Tc = 6.6 Minutes

(NOAA ATLAS14 rainfall rates)

Flow Rate:

Q_2 = 0.47 cfs

Q_{10} = 0.99 cfs

Q_{25} = 1.33 cfs

Q_{50} = 1.59 cfs

Q_{100} = 1.85 cfs

Volume:

V_2 = 0.021 af

V_{10}= 0.045 af

V_{25}= 0.061 af

V_{50}= 0.074 af

V_{100}= 0.088 af

Post Development Runoff to Point 'A'

0.13 AC – Grass

0.16 AC - Impervious

0.29 AC – Total Area

Weighted CN = 81

Tc = 10.9 Minutes

TR-55 (NOAA ATLAS14 rainfall rates)

Flow Rate:

Q_2 = 0.58 cfs

Q_{10} = 1.22 cfs

Q_{25} = 1.62 cfs

Q_{50} = 1.94 cfs

Q_{100} = 2.26 cfs

Volume:

V_2 = 0.030 af

V_{10}= 0.064 af

V_{25}= 0.087 af

V_{50}= 0.105 af

V_{100}= 0.124 af

Post Development Runoff to Point 'B'

0.13 AC – Grass

0.41 AC - Impervious

0.54 AC – Total Area

Weighted CN = 89

Tc = 9.6 Minutes

TR-55 (NOAA ATLAS14 rainfall rates)

Flow Rate:

Q_2 = 1.61 cfs

Q_{10} = 2.90 cfs

Q_{25} = 3.70 cfs

Q_{50} = 4.32 cfs

Q_{100} = 4.94 cfs

Volume:

V_2 = 0.082 af

V_{10}= 0.154 af

V_{25}= 0.199 af

V_{50}= 0.235 af

V_{100}= 0.271 af

Post Development Runoff to Point 'C'

0.21 AC – Grass
0.37 AC - Impervious
0.21 AC – Total Area

Weighted CN = 85
Tc = 8.5 Minutes

TR-55 (NOAA ATLAS14 rainfall rates)

Flow Rate:

Q_2 = 1.53 cfs
Q_{10} = 2.95 cfs
Q_{25} = 3.85 cfs
Q_{50} = 4.54 cfs
Q_{100} = 5.24 cfs

Volume:

V_2 = 0.073 af
V_{10}= 0.146 af
V_{25}= 0.194 af
V_{50}= 0.232 af
V_{100}= 0.270 af

Pre/Post Development Comparison - 10 Year Storm (Not Including Infiltration)

Flow Rate:

	$Q_{10\ Pre}$	$Q_{10\ Post}$	$Q_{10\ \Delta}$
Point A	2.49cfs	1.22cfs	-1.27cfs
Point B	0.99cfs	2.90cfs	1.91cfs
Point C	0.99cfs	2.98cfs	1.99cfs

Volume:

	$V_{10\ Pre}$	$V_{10\ Post}$	$V_{10\ \Delta}$
Point A:	0.130af	0.064af	-0.066af
Point B:	0.045af	0.154af	0.109af
Point C:	0.045af	0.144af	0.099af

Volumes Retained w/Infiltration

Point A:	**None Required**	
Point B:	**0.109 af = 4,748 c.f. required**	**4,867 c.f. provided**
Point C:	**0.099 af = 4,312 c.f. required**	**4,274 c.f provided**

INFILTRATION RATE WAS NOT CONSIDERED AS PART OF THE VOLUME CALCULATIONS. EFFECT OF INFILTRATION RATE WILL SURPASS VOLUMETRIC INCREASES OF A 10 YEAR STORM.

III. REQUIRED WATER QUALITY VOLUMES

$WQV = \frac{(1") (R) (A)}{12}$ Where $R = 0.05 + 0.009(I)$

I= % Impervious Surface

Total Drainage Area = 1.41 AC

Impervious Area = 0.94 AC

$I = \frac{0.94 \text{ AC}}{1.41 \text{ AC}} = 66.7$

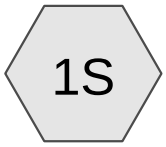
$R = 0.05 + 0.009(66.7) = 0.650$

$WQV = \frac{(1")(0.650)(1.41)}{12} = 0.0764$ AC-FT = **3,328 CF**

IV. WATER QUALITY VOLUMES PROVIDED

Total Infiltration Volume = 9,131 c.f.

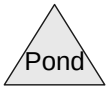
APPENDIX A
HYDROCAD REPORT



Pre Dev.-Point A

Pre Dev- Point B

Pre Dev- Point C



Routing Diagram for 93-19 Coleman Assoc Pre Dev
Prepared by Microsoft, Printed 8/4/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.010	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S)
0.400	98	Paved parking, HSG B (1S, 2S, 3S)
1.410	**71**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.410	HSG B	1S, 2S, 3S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.410		**TOTAL AREA**

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	1.010	0.000	0.000	0.000	1.010	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.400	0.000	0.000	0.000	0.400	Paved parking	1S, 2S, 3S
0.000	**1.410**	**0.000**	**0.000**	**0.000**	**1.410**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Dev.-Point A Runoff Area=0.960 ac 19.79% Impervious Runoff Depth>0.58"
Flow Length=320' Tc=10.9 min CN=68 Runoff=0.84 cfs 0.047 af

Subcatchment 2S: Pre Dev- Point B Runoff Area=0.240 ac 41.67% Impervious Runoff Depth>0.96"
Flow Length=135' Tc=4.0 min CN=76 Runoff=0.48 cfs 0.019 af

Subcatchment 3S: Pre Dev- Point C Runoff Area=0.210 ac 52.38% Impervious Runoff Depth>1.19"
Flow Length=170' Tc=3.9 min CN=80 Runoff=0.52 cfs 0.021 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.087 af Average Runoff Depth = 0.74"
71.63% Pervious = 1.010 ac 28.37% Impervious = 0.400 ac

Summary for Subcatchment 1S: Pre Dev.-Point A

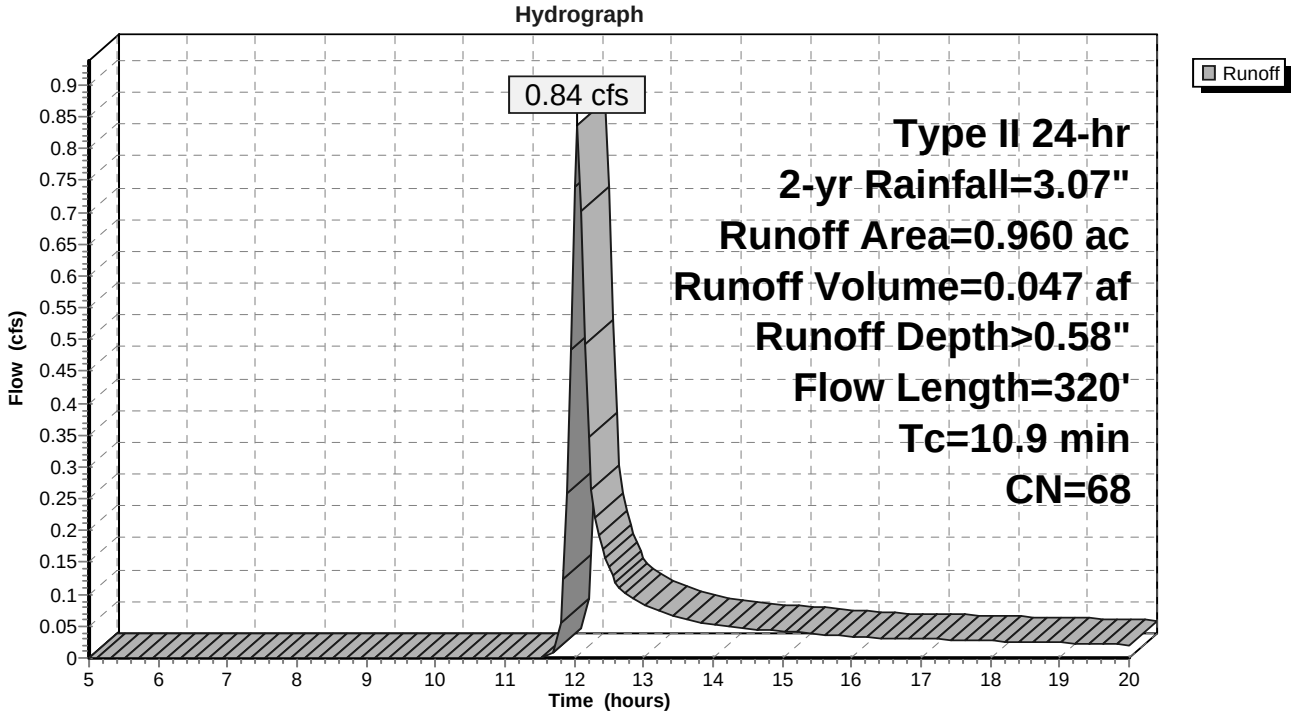
Runoff = 0.84 cfs @ 12.05 hrs, Volume= 0.047 af, Depth> 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.07"

Area (ac)	CN	Description
0.770	61	>75% Grass cover, Good, HSG B
0.190	98	Paved parking, HSG B
0.960	68	Weighted Average
0.770		80.21% Pervious Area
0.190		19.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
1.6	190	0.0158	2.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.9	320	Total			

Subcatchment 1S: Pre Dev.-Point A



Summary for Subcatchment 2S: Pre Dev- Point B

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

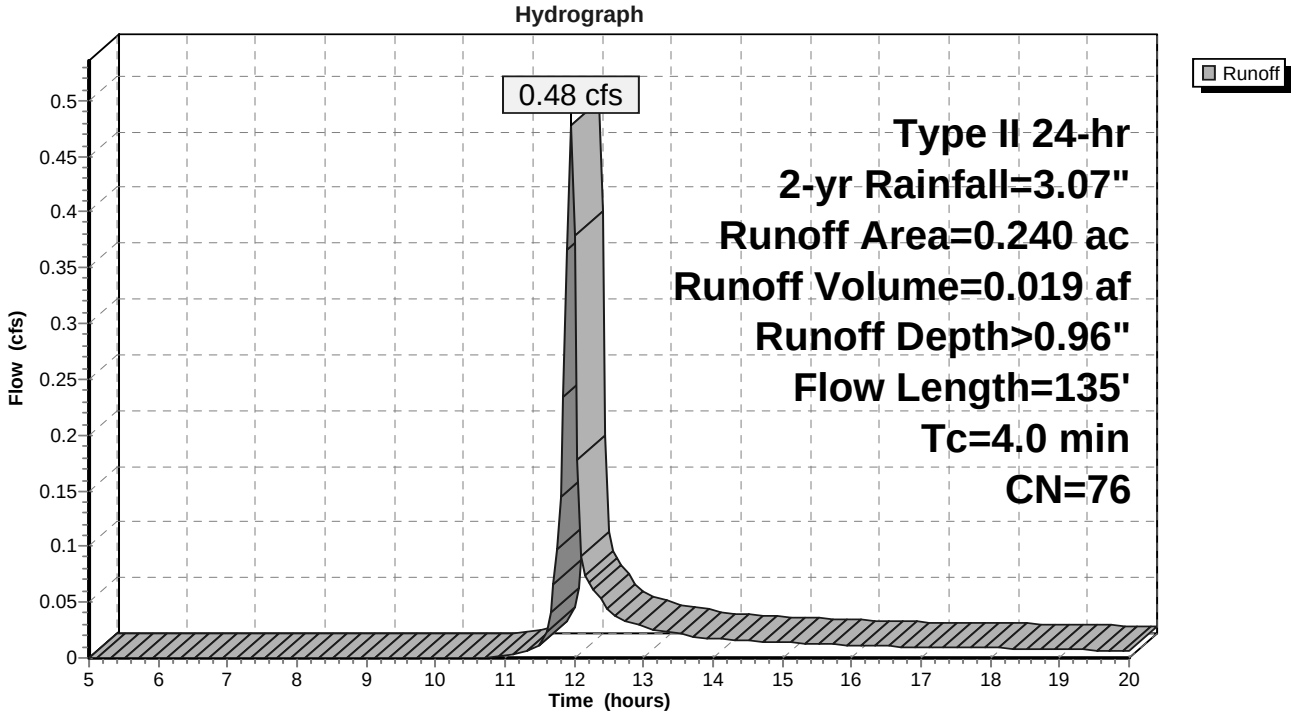
Runoff = 0.48 cfs @ 11.95 hrs, Volume= 0.019 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.07"

Area (ac)	CN	Description
0.140	61	>75% Grass cover, Good, HSG B
0.100	98	Paved parking, HSG B
0.240	76	Weighted Average
0.140		58.33% Pervious Area
0.100		41.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	25	0.0180	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.6	110	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.0	135	Total			

Subcatchment 2S: Pre Dev- Point B



Summary for Subcatchment 3S: Pre Dev- Point C

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

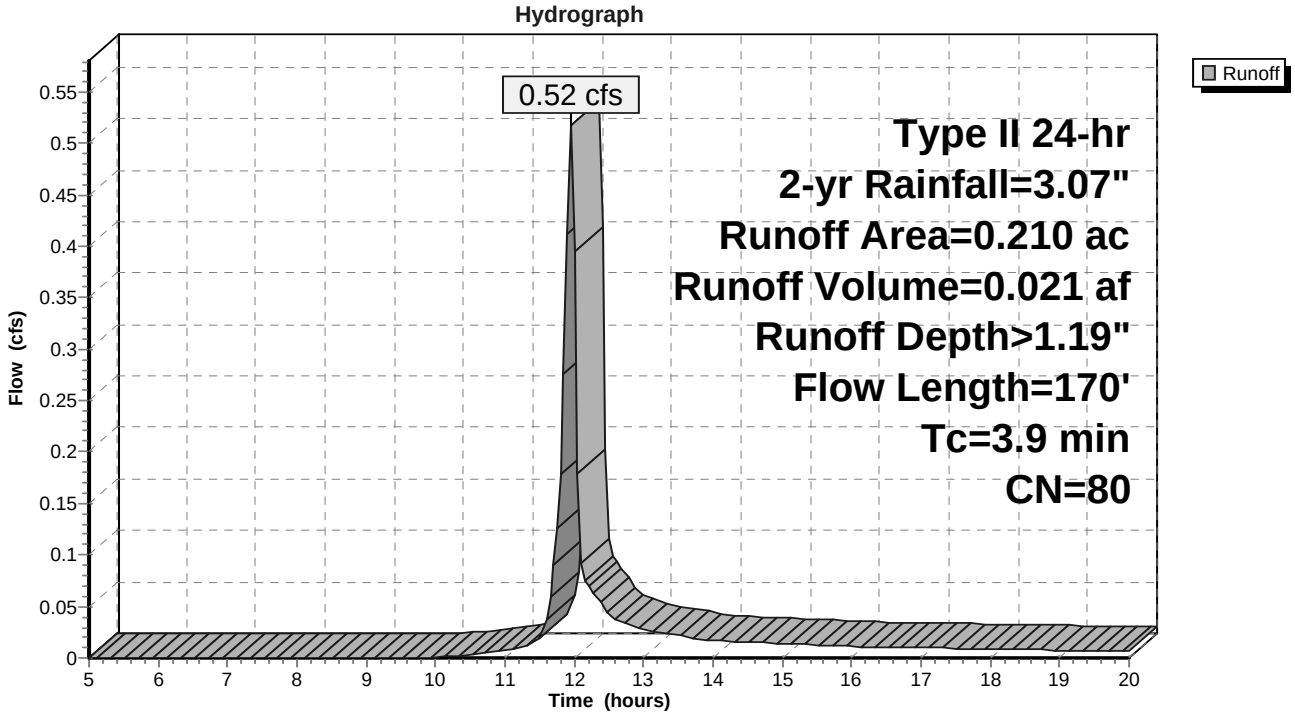
Runoff = 0.52 cfs @ 11.95 hrs, Volume= 0.021 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.07"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.110	98	Paved parking, HSG B
0.210	80	Weighted Average
0.100		47.62% Pervious Area
0.110		52.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	25	0.0250	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.9	145	0.0170	2.65		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.9	170	Total			

Subcatchment 3S: Pre Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Dev.-Point A Runoff Area=0.960 ac 19.79% Impervious Runoff Depth>1.62"
Flow Length=320' Tc=10.9 min CN=68 Runoff=2.49 cfs 0.130 af

Subcatchment 2S: Pre Dev- Point B Runoff Area=0.240 ac 41.67% Impervious Runoff Depth>2.24"
Flow Length=135' Tc=4.0 min CN=76 Runoff=1.09 cfs 0.045 af

Subcatchment 3S: Pre Dev- Point C Runoff Area=0.210 ac 52.38% Impervious Runoff Depth>2.58"
Flow Length=170' Tc=3.9 min CN=80 Runoff=1.09 cfs 0.045 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.219 af Average Runoff Depth = 1.87"
71.63% Pervious = 1.010 ac 28.37% Impervious = 0.400 ac

Summary for Subcatchment 1S: Pre Dev.-Point A

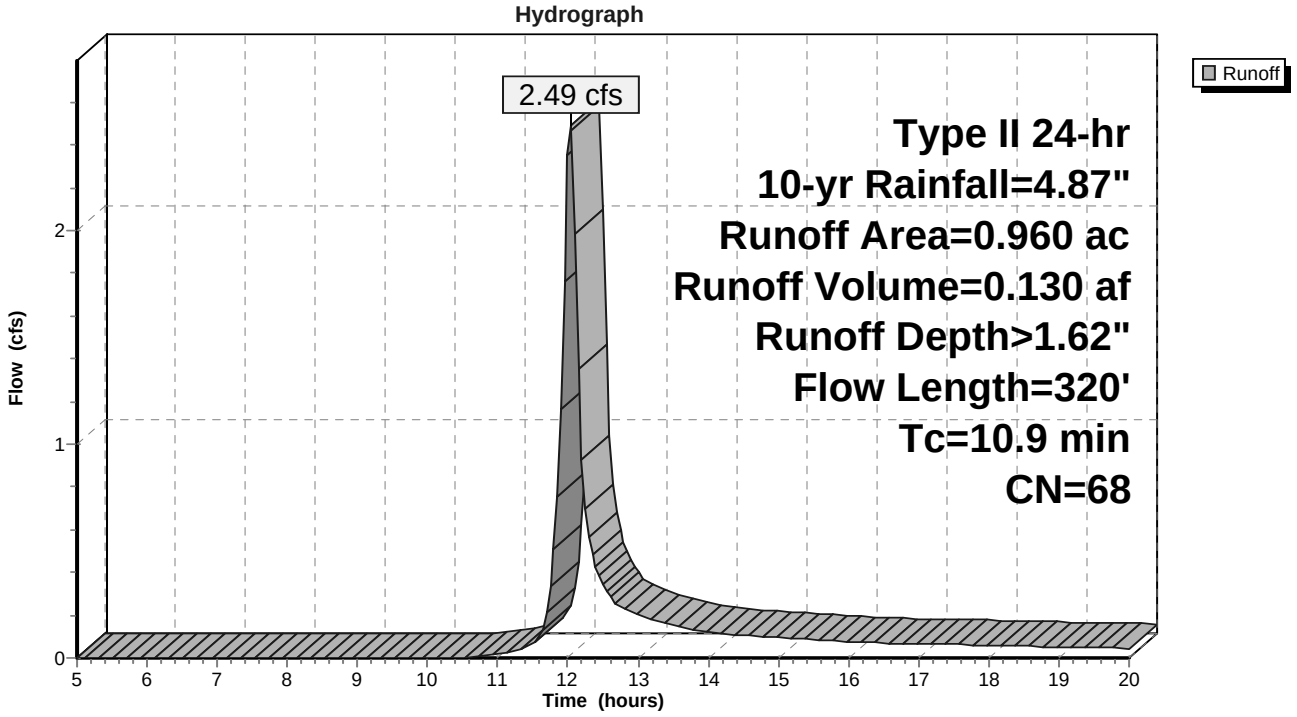
Runoff = 2.49 cfs @ 12.03 hrs, Volume= 0.130 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.87"

Area (ac)	CN	Description
0.770	61	>75% Grass cover, Good, HSG B
0.190	98	Paved parking, HSG B
0.960	68	Weighted Average
0.770		80.21% Pervious Area
0.190		19.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
1.6	190	0.0158	2.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.9	320	Total			

Subcatchment 1S: Pre Dev.-Point A



Summary for Subcatchment 2S: Pre Dev- Point B

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

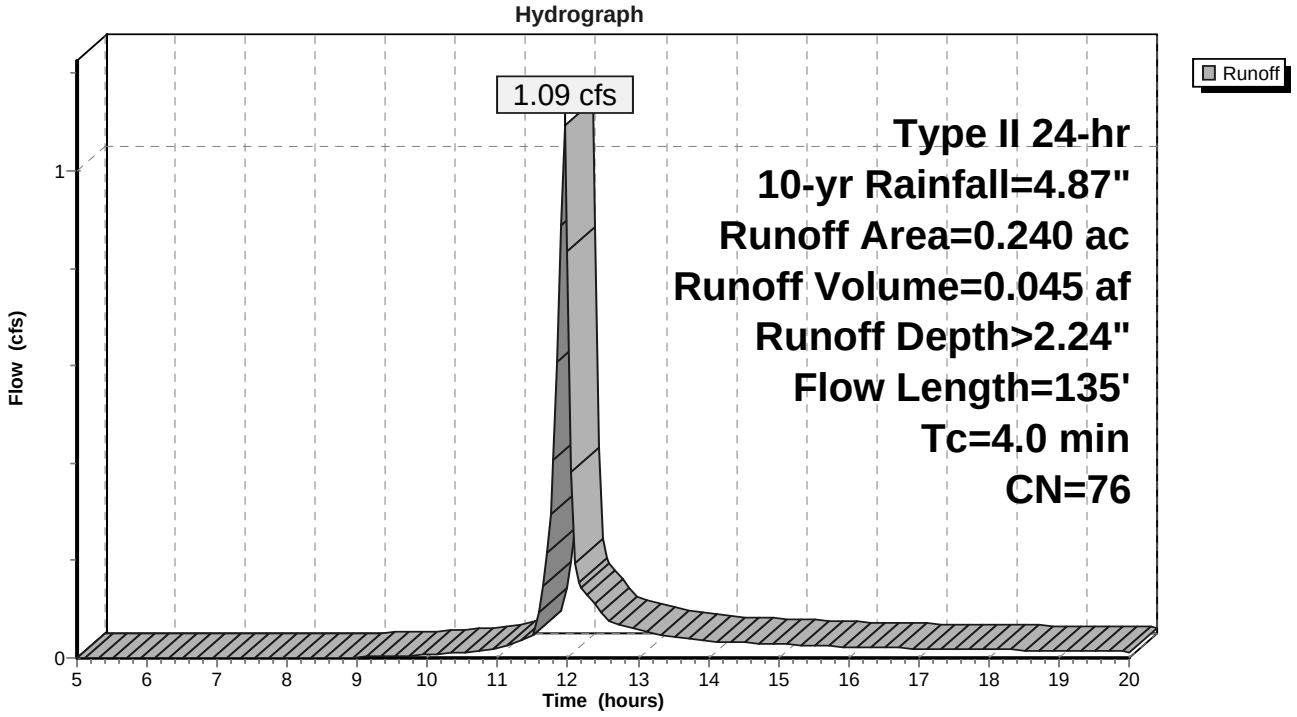
Runoff = 1.09 cfs @ 11.95 hrs, Volume= 0.045 af, Depth> 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.87"

Area (ac)	CN	Description
0.140	61	>75% Grass cover, Good, HSG B
0.100	98	Paved parking, HSG B
0.240	76	Weighted Average
0.140		58.33% Pervious Area
0.100		41.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	25	0.0180	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.6	110	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.0	135	Total			

Subcatchment 2S: Pre Dev- Point B



Summary for Subcatchment 3S: Pre Dev- Point C

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

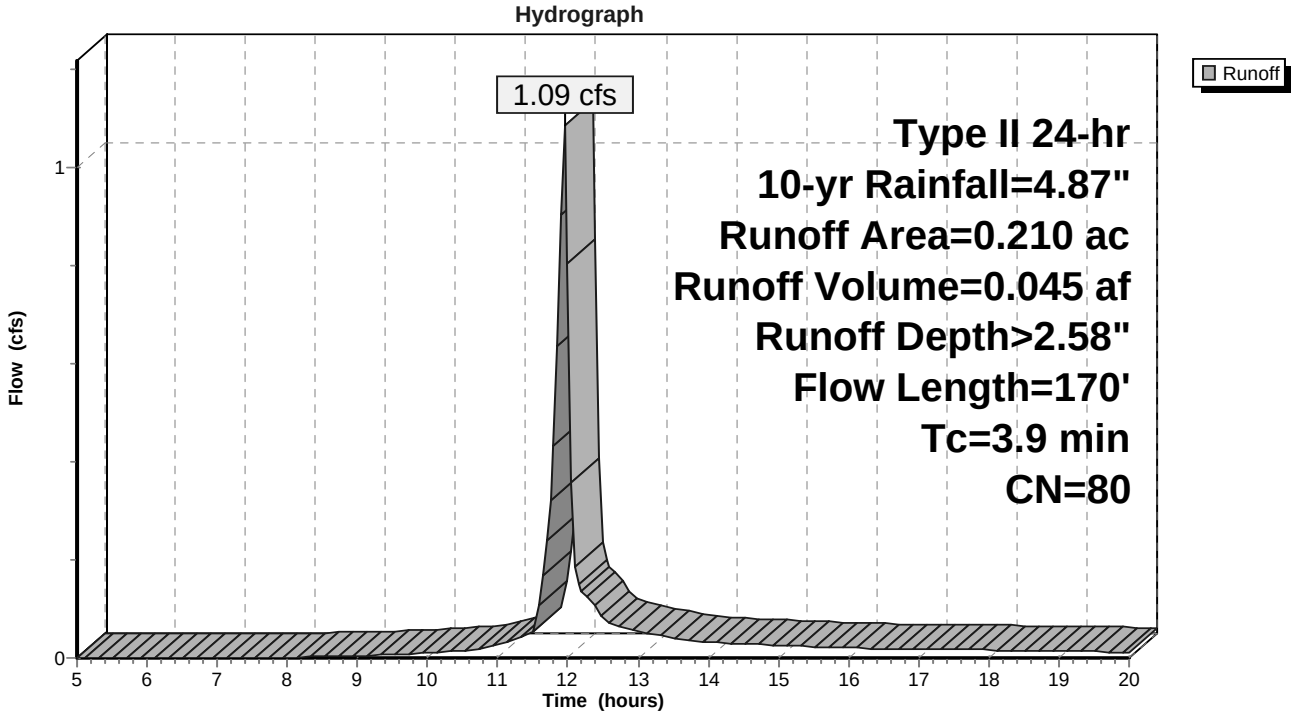
Runoff = 1.09 cfs @ 11.94 hrs, Volume= 0.045 af, Depth> 2.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.87"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.110	98	Paved parking, HSG B
0.210	80	Weighted Average
0.100		47.62% Pervious Area
0.110		52.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	25	0.0250	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.9	145	0.0170	2.65		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.9	170	Total			

Subcatchment 3S: Pre Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Dev.-Point A Runoff Area=0.960 ac 19.79% Impervious Runoff Depth>2.39"
Flow Length=320' Tc=10.9 min CN=68 Runoff=3.68 cfs 0.191 af

Subcatchment 2S: Pre Dev- Point B Runoff Area=0.240 ac 41.67% Impervious Runoff Depth>3.12"
Flow Length=135' Tc=4.0 min CN=76 Runoff=1.50 cfs 0.062 af

Subcatchment 3S: Pre Dev- Point C Runoff Area=0.210 ac 52.38% Impervious Runoff Depth>3.51"
Flow Length=170' Tc=3.9 min CN=80 Runoff=1.46 cfs 0.061 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.315 af Average Runoff Depth = 2.68"
71.63% Pervious = 1.010 ac 28.37% Impervious = 0.400 ac

Summary for Subcatchment 1S: Pre Dev.-Point A

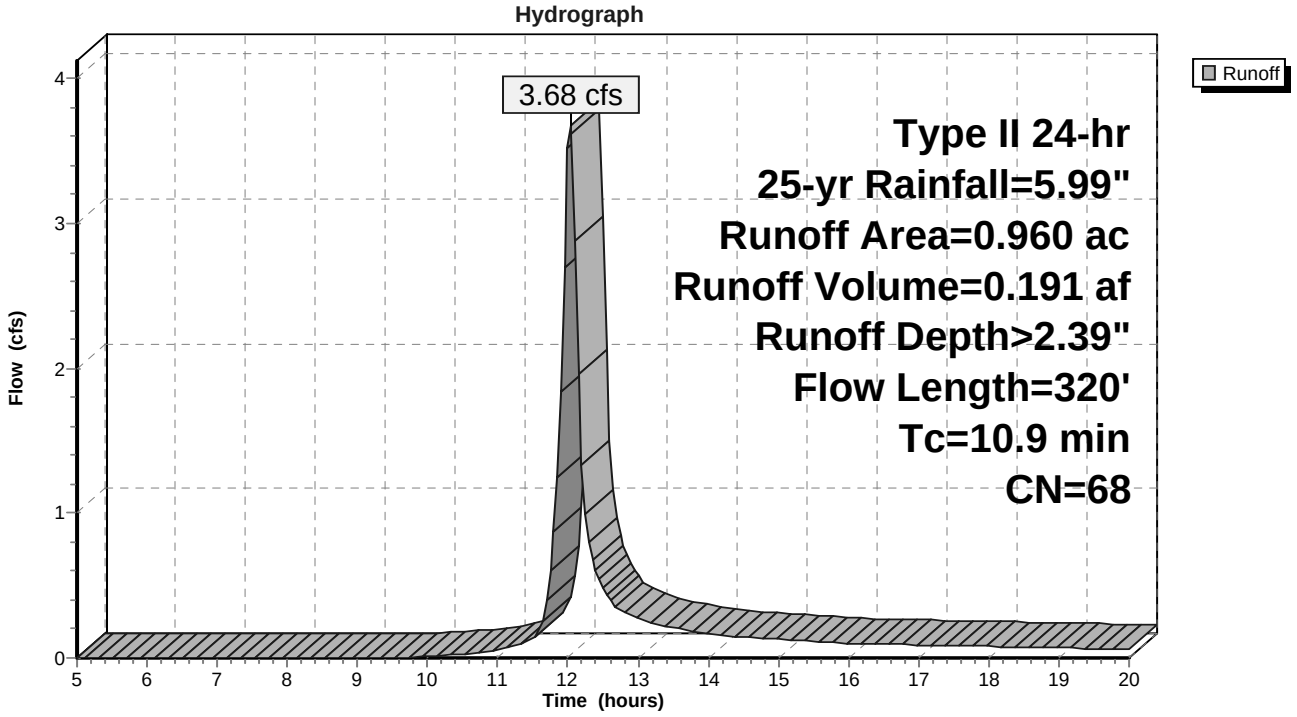
Runoff = 3.68 cfs @ 12.03 hrs, Volume= 0.191 af, Depth> 2.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.99"

Area (ac)	CN	Description
0.770	61	>75% Grass cover, Good, HSG B
0.190	98	Paved parking, HSG B
0.960	68	Weighted Average
0.770		80.21% Pervious Area
0.190		19.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
1.6	190	0.0158	2.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.9	320	Total			

Subcatchment 1S: Pre Dev.-Point A



Summary for Subcatchment 2S: Pre Dev- Point B

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

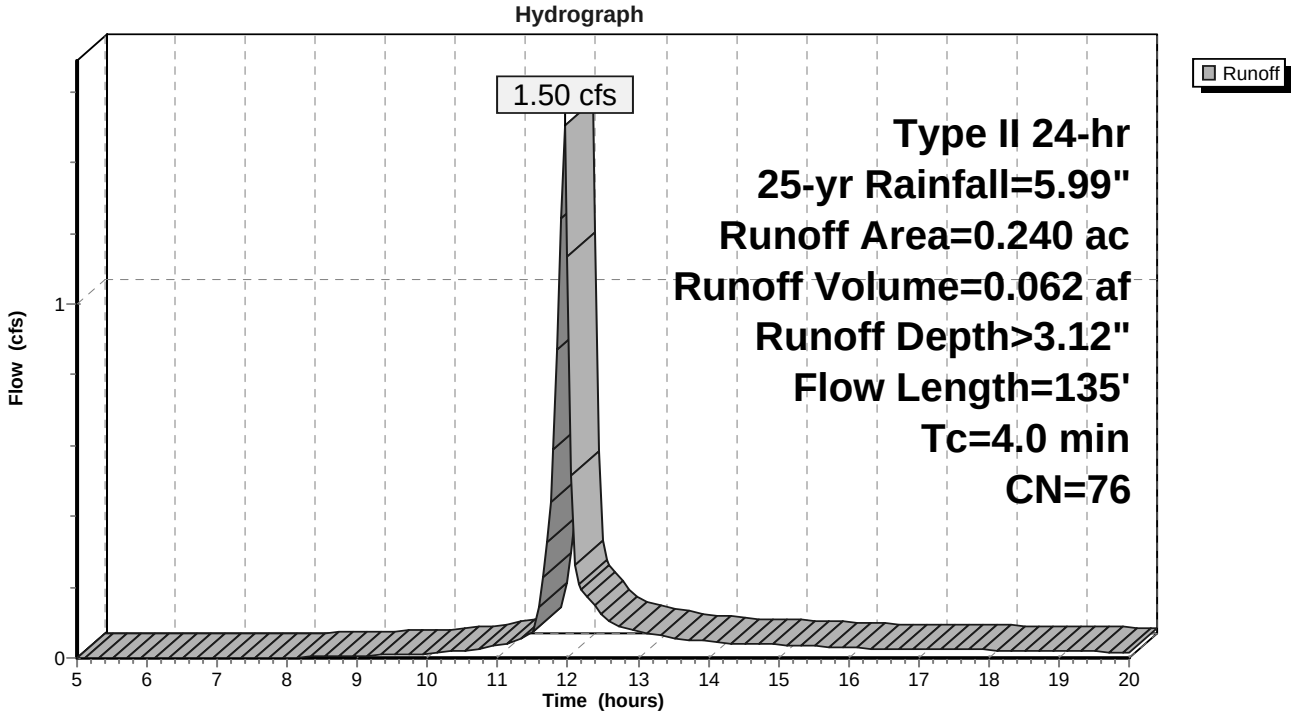
Runoff = 1.50 cfs @ 11.95 hrs, Volume= 0.062 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.99"

Area (ac)	CN	Description
0.140	61	>75% Grass cover, Good, HSG B
0.100	98	Paved parking, HSG B
0.240	76	Weighted Average
0.140		58.33% Pervious Area
0.100		41.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	25	0.0180	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.6	110	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.0	135	Total			

Subcatchment 2S: Pre Dev- Point B



Summary for Subcatchment 3S: Pre Dev- Point C

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

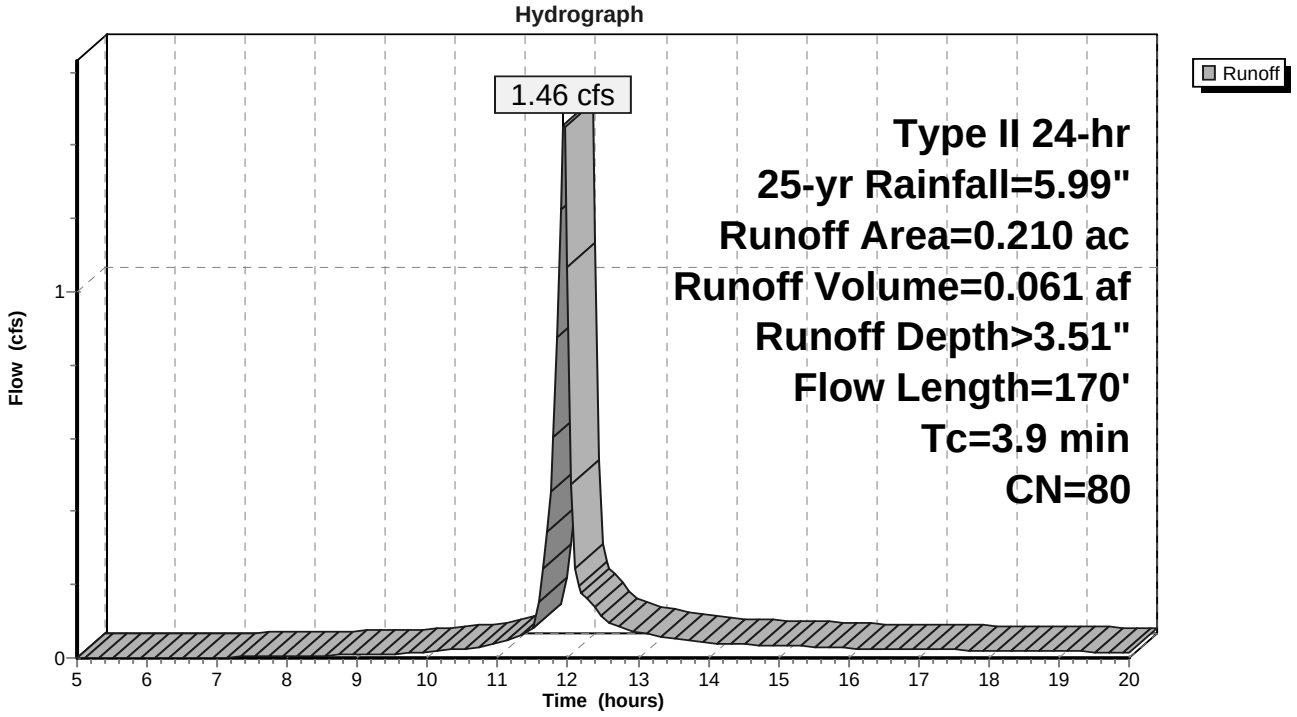
Runoff = 1.46 cfs @ 11.94 hrs, Volume= 0.061 af, Depth> 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.99"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.110	98	Paved parking, HSG B
0.210	80	Weighted Average
0.100		47.62% Pervious Area
0.110		52.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	25	0.0250	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.9	145	0.0170	2.65		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.9	170	Total			

Subcatchment 3S: Pre Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Dev.-Point A Runoff Area=0.960 ac 19.79% Impervious Runoff Depth>3.02"
Flow Length=320' Tc=10.9 min CN=68 Runoff=4.65 cfs 0.242 af

Subcatchment 2S: Pre Dev- Point B Runoff Area=0.240 ac 41.67% Impervious Runoff Depth>3.84"
Flow Length=135' Tc=4.0 min CN=76 Runoff=1.83 cfs 0.077 af

Subcatchment 3S: Pre Dev- Point C Runoff Area=0.210 ac 52.38% Impervious Runoff Depth>4.26"
Flow Length=170' Tc=3.9 min CN=80 Runoff=1.75 cfs 0.075 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.393 af Average Runoff Depth = 3.35"
71.63% Pervious = 1.010 ac 28.37% Impervious = 0.400 ac

Summary for Subcatchment 1S: Pre Dev.-Point A

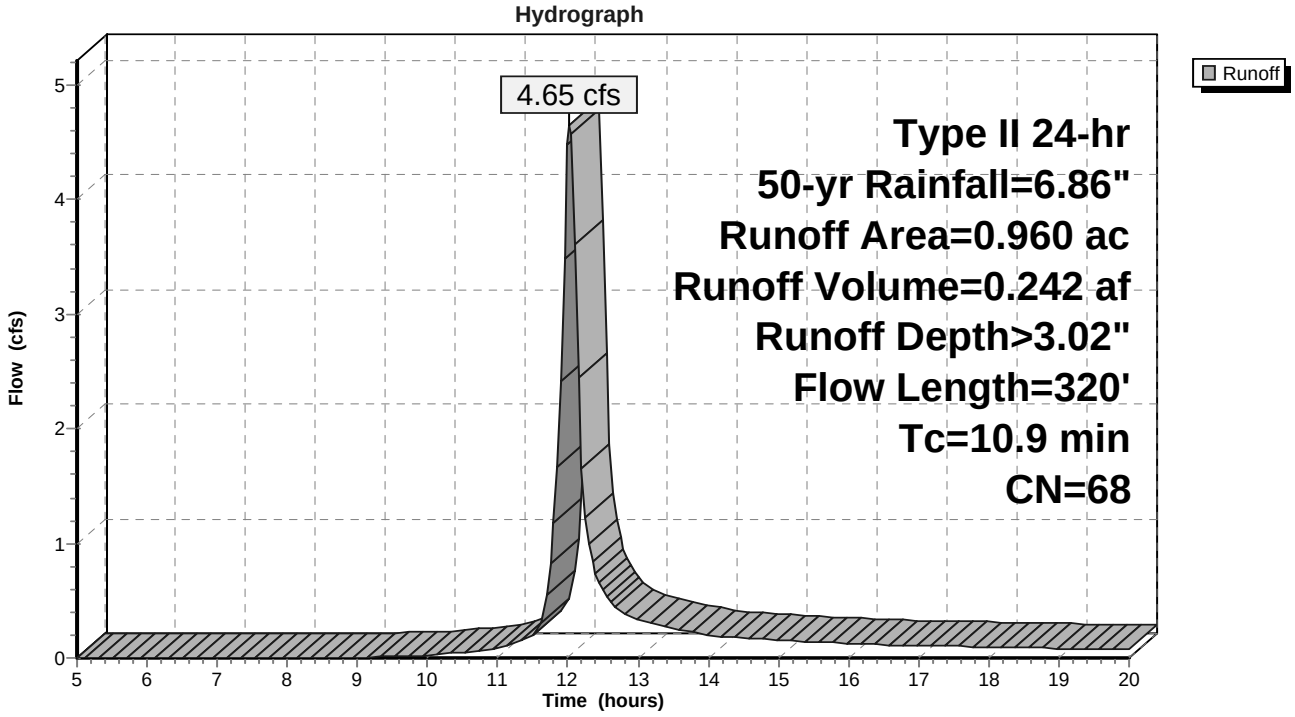
Runoff = 4.65 cfs @ 12.03 hrs, Volume= 0.242 af, Depth> 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=6.86"

Area (ac)	CN	Description
0.770	61	>75% Grass cover, Good, HSG B
0.190	98	Paved parking, HSG B
0.960	68	Weighted Average
0.770		80.21% Pervious Area
0.190		19.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
1.6	190	0.0158	2.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.9	320	Total			

Subcatchment 1S: Pre Dev.-Point A



Summary for Subcatchment 2S: Pre Dev- Point B

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

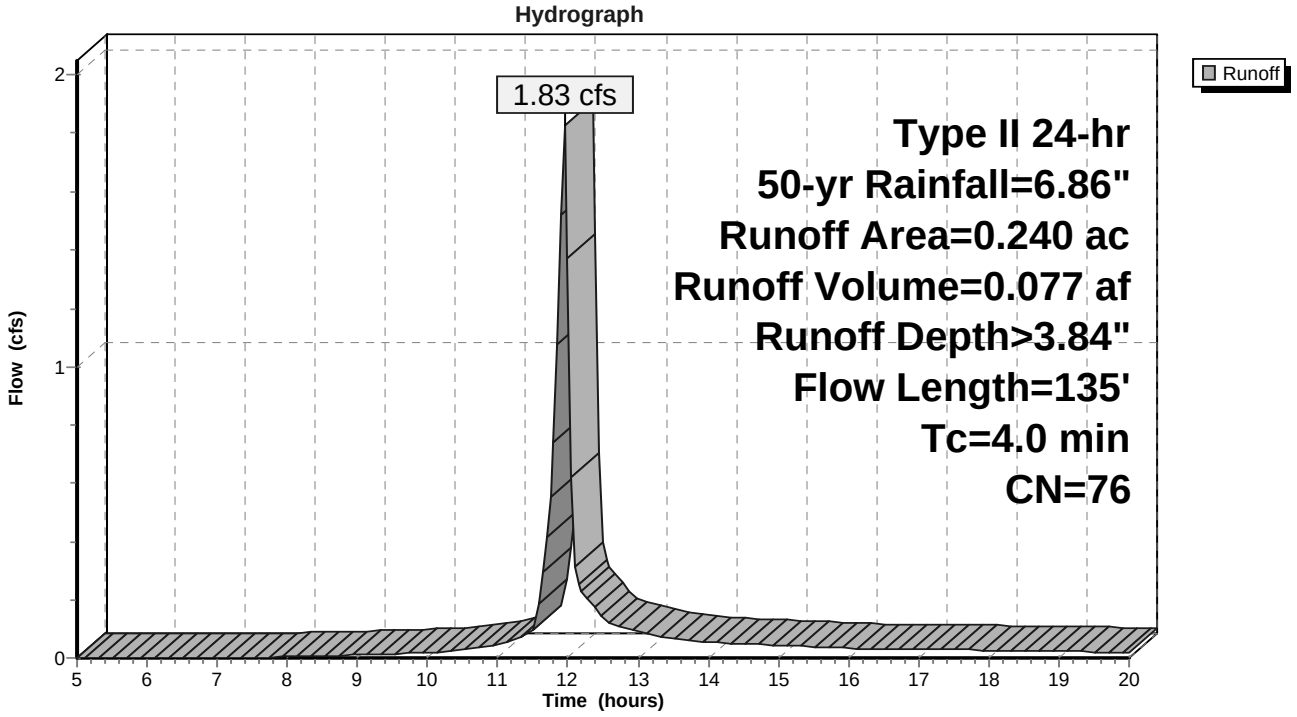
Runoff = 1.83 cfs @ 11.95 hrs, Volume= 0.077 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=6.86"

Area (ac)	CN	Description
0.140	61	>75% Grass cover, Good, HSG B
0.100	98	Paved parking, HSG B
0.240	76	Weighted Average
0.140		58.33% Pervious Area
0.100		41.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	25	0.0180	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.6	110	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.0	135	Total			

Subcatchment 2S: Pre Dev- Point B



Summary for Subcatchment 3S: Pre Dev- Point C

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

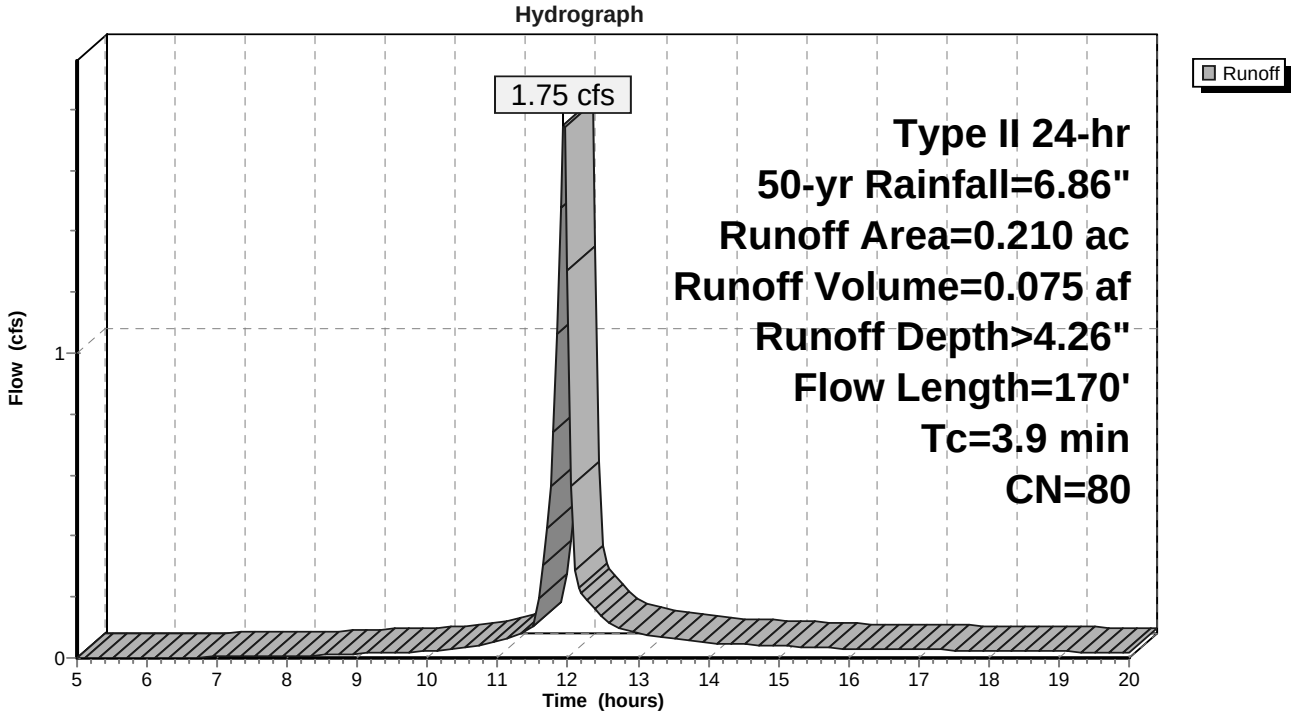
Runoff = 1.75 cfs @ 11.94 hrs, Volume= 0.075 af, Depth> 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=6.86"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.110	98	Paved parking, HSG B
0.210	80	Weighted Average
0.100		47.62% Pervious Area
0.110		52.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	25	0.0250	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.9	145	0.0170	2.65		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.9	170	Total			

Subcatchment 3S: Pre Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Dev.-Point A Runoff Area=0.960 ac 19.79% Impervious Runoff Depth>3.69"
Flow Length=320' Tc=10.9 min CN=68 Runoff=5.65 cfs 0.295 af

Subcatchment 2S: Pre Dev- Point B Runoff Area=0.240 ac 41.67% Impervious Runoff Depth>4.57"
Flow Length=135' Tc=4.0 min CN=76 Runoff=2.16 cfs 0.091 af

Subcatchment 3S: Pre Dev- Point C Runoff Area=0.210 ac 52.38% Impervious Runoff Depth>5.02"
Flow Length=170' Tc=3.9 min CN=80 Runoff=2.03 cfs 0.088 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.475 af Average Runoff Depth = 4.04"
71.63% Pervious = 1.010 ac 28.37% Impervious = 0.400 ac

Summary for Subcatchment 1S: Pre Dev.-Point A

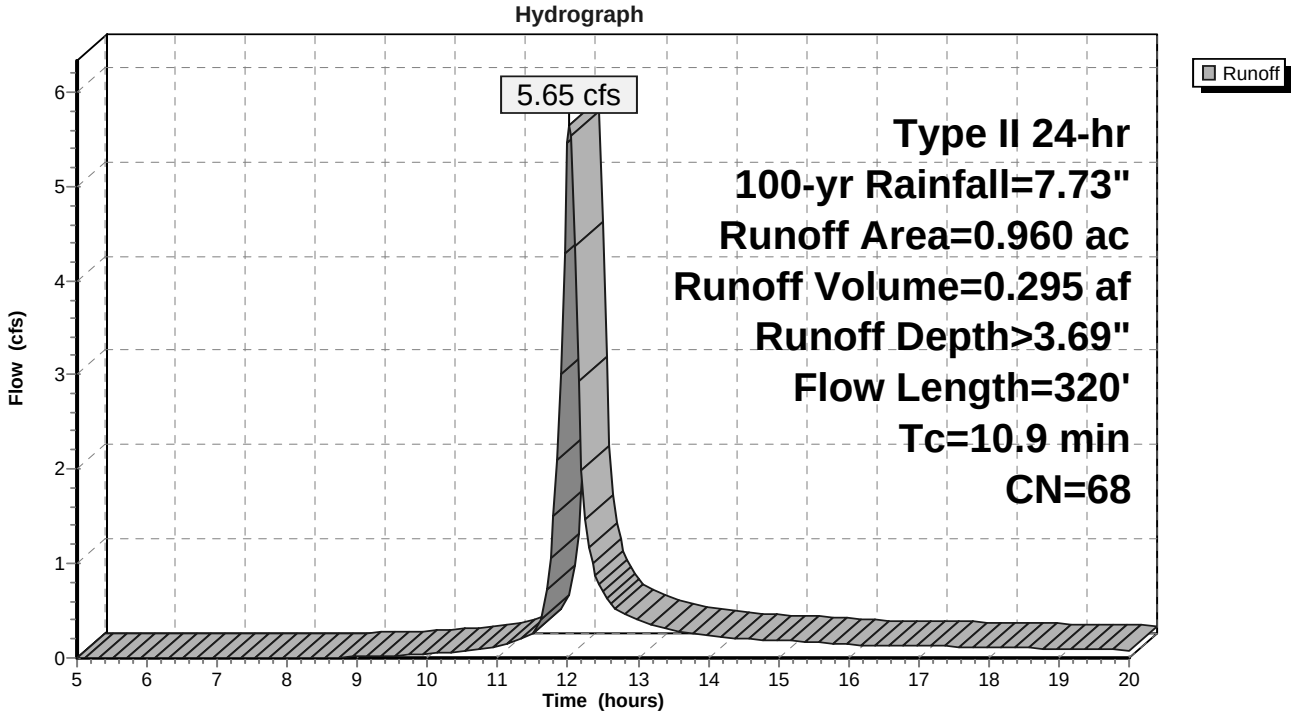
Runoff = 5.65 cfs @ 12.03 hrs, Volume= 0.295 af, Depth> 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.73"

Area (ac)	CN	Description
0.770	61	>75% Grass cover, Good, HSG B
0.190	98	Paved parking, HSG B
0.960	68	Weighted Average
0.770		80.21% Pervious Area
0.190		19.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
1.6	190	0.0158	2.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.9	320	Total			

Subcatchment 1S: Pre Dev.-Point A



Summary for Subcatchment 2S: Pre Dev- Point B

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

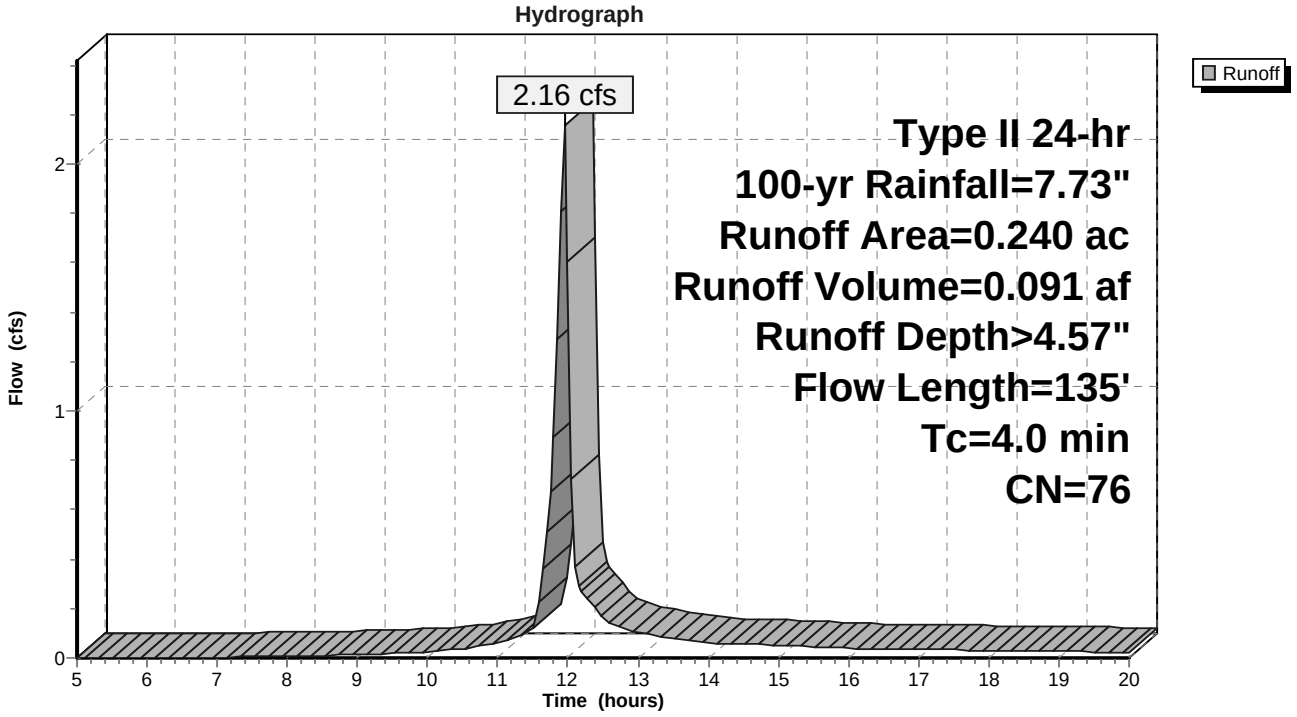
Runoff = 2.16 cfs @ 11.94 hrs, Volume= 0.091 af, Depth> 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.73"

Area (ac)	CN	Description
0.140	61	>75% Grass cover, Good, HSG B
0.100	98	Paved parking, HSG B
0.240	76	Weighted Average
0.140		58.33% Pervious Area
0.100		41.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	25	0.0180	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.6	110	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.0	135	Total			

Subcatchment 2S: Pre Dev- Point B



Summary for Subcatchment 3S: Pre Dev- Point C

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

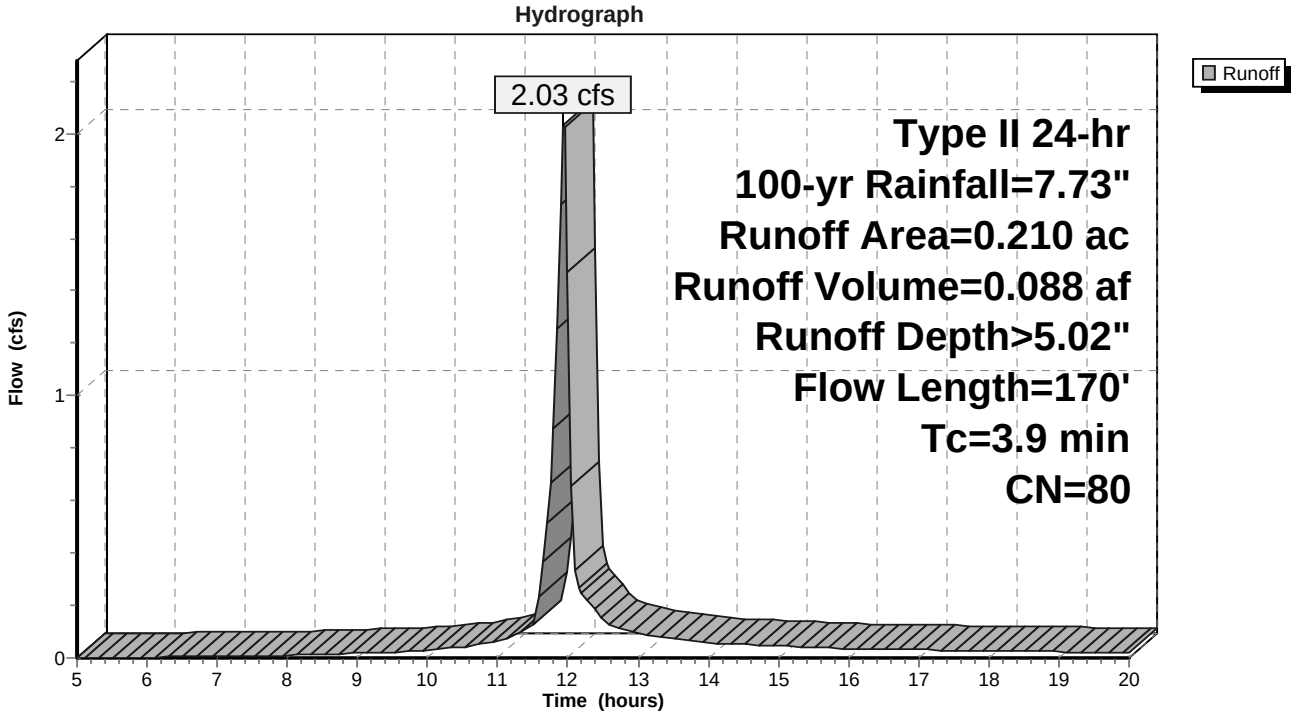
Runoff = 2.03 cfs @ 11.94 hrs, Volume= 0.088 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.73"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.110	98	Paved parking, HSG B
0.210	80	Weighted Average
0.100		47.62% Pervious Area
0.110		52.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	25	0.0250	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.09"
0.9	145	0.0170	2.65		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.9	170	Total			

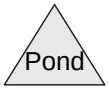
Subcatchment 3S: Pre Dev- Point C



Post Dev- Point A

Post Dev- Point B

Post Dev- Point C



Routing Diagram for 93-19 Coleman - Post Dev rev
Prepared by Microsoft, Printed 8/4/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.470	61	>75% Grass cover, Good, HSG B (2S, 3S, 6S)
0.940	98	Paved parking, HSG B (2S, 3S, 6S)
1.410	**86**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.410	HSG B	2S, 3S, 6S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.410		**TOTAL AREA**

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	0.470	0.000	0.000	0.000	0.470	>75% Grass cover, Good	2S, 3S, 6S
0.000	0.940	0.000	0.000	0.000	0.940	Paved parking	2S, 3S, 6S
0.000	**1.410**	**0.000**	**0.000**	**0.000**	**1.410**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Post Dev- Point A Runoff Area=0.290 ac 55.17% Impervious Runoff Depth>1.25"
Flow Length=195' Tc=10.9 min CN=81 Runoff=0.58 cfs 0.030 af

Subcatchment 3S: Post Dev- Point B Runoff Area=0.540 ac 75.93% Impervious Runoff Depth>1.83"
Flow Length=145' Tc=9.6 min CN=89 Runoff=1.61 cfs 0.082 af

Subcatchment 6S: Post Dev- Point C Runoff Area=0.580 ac 63.79% Impervious Runoff Depth>1.52"
Flow Length=215' Tc=8.5 min CN=85 Runoff=1.53 cfs 0.073 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.186 af Average Runoff Depth = 1.58"
33.33% Pervious = 0.470 ac 66.67% Impervious = 0.940 ac

Summary for Subcatchment 2S: Post Dev- Point A

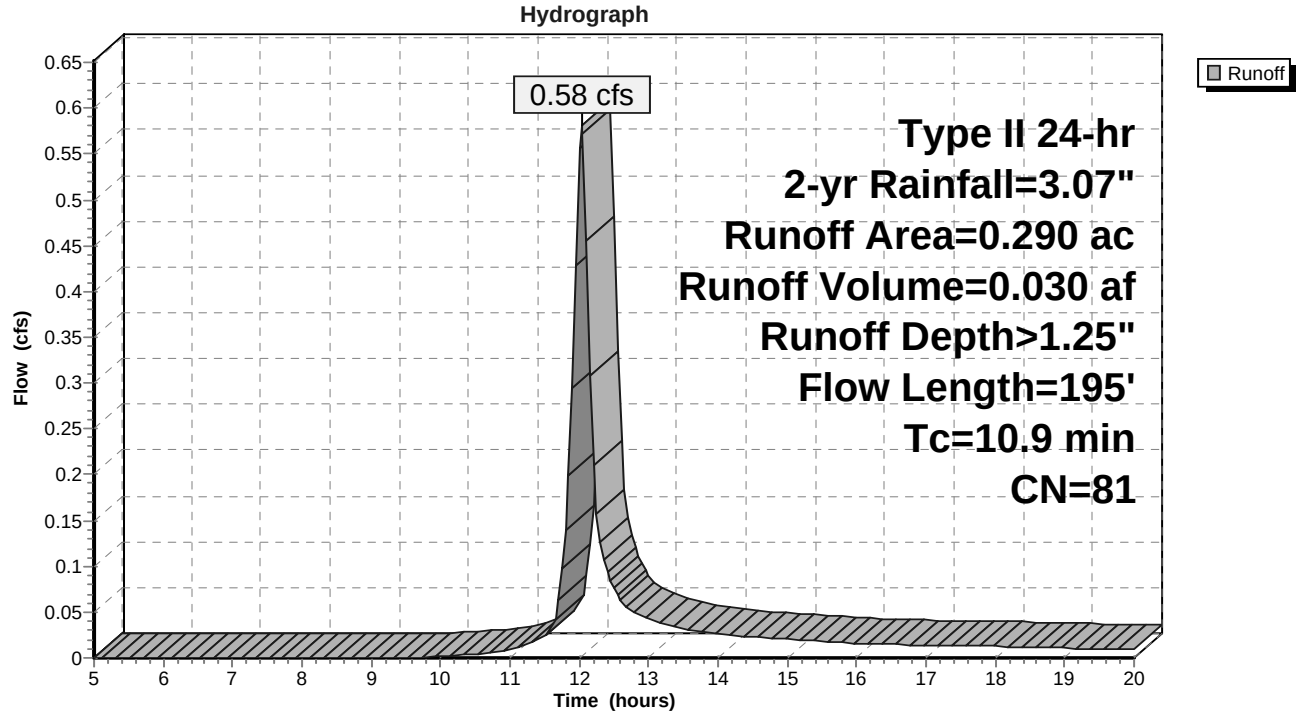
Runoff = 0.58 cfs @ 12.03 hrs, Volume= 0.030 af, Depth> 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.07"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.160	98	Paved parking, HSG B
0.290	81	Weighted Average
0.130		44.83% Pervious Area
0.160		55.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	50	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	145	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.9	195	Total			

Subcatchment 2S: Post Dev- Point A



Summary for Subcatchment 3S: Post Dev- Point B

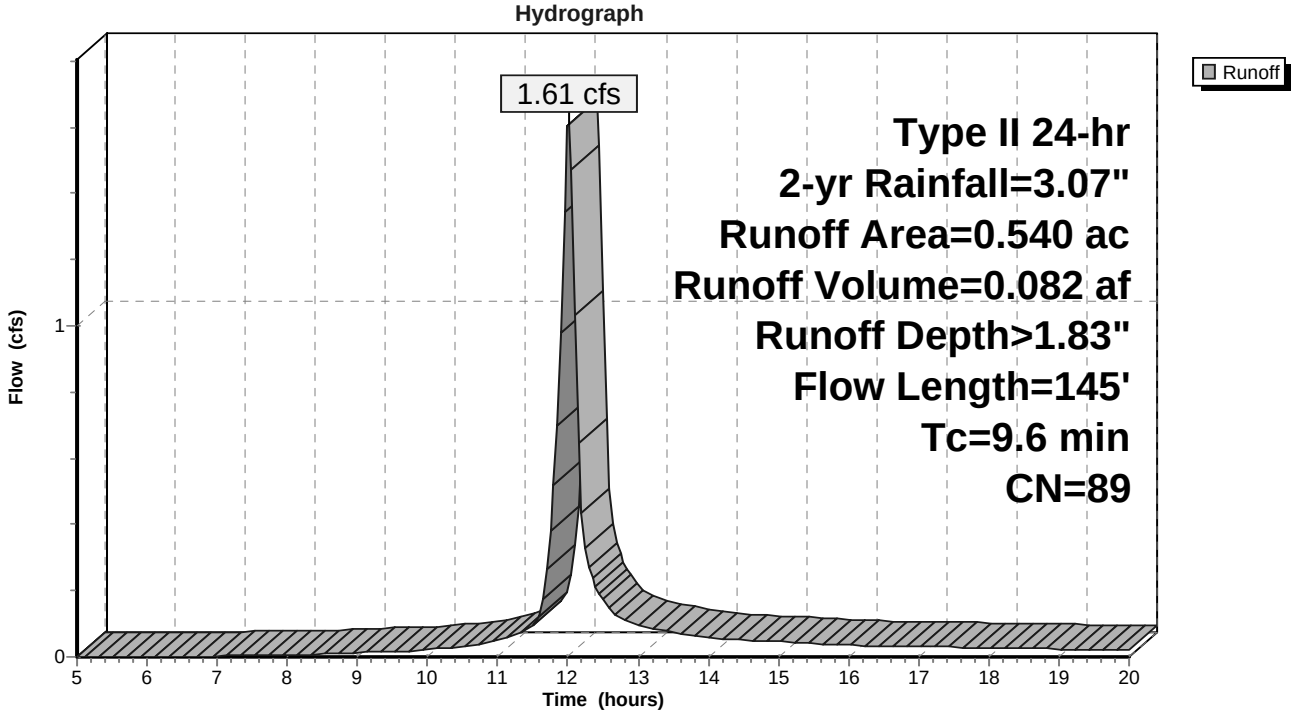
Runoff = 1.61 cfs @ 12.01 hrs, Volume= 0.082 af, Depth> 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.07"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.410	98	Paved parking, HSG B
0.540	89	Weighted Average
0.130		24.07% Pervious Area
0.410		75.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	45	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.0	100	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	145	Total			

Subcatchment 3S: Post Dev- Point B



Summary for Subcatchment 6S: Post Dev- Point C

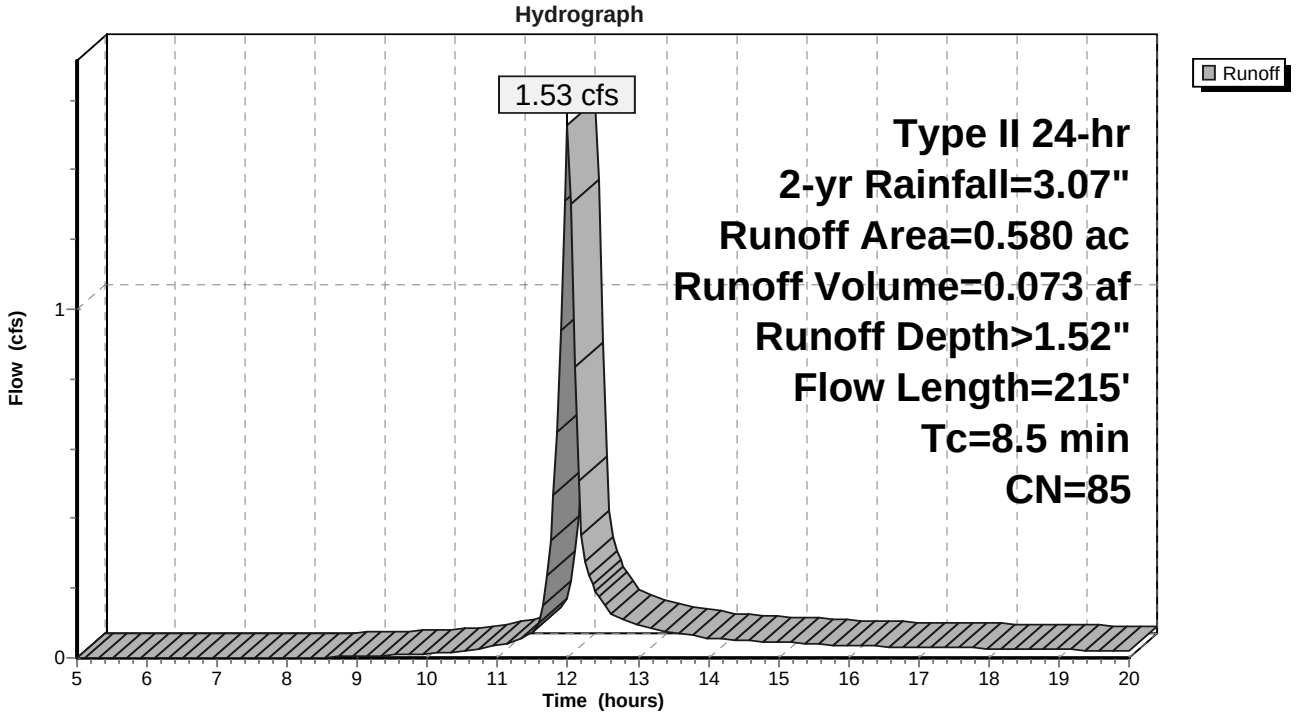
Runoff = 1.53 cfs @ 12.00 hrs, Volume= 0.073 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.07"

Area (ac)	CN	Description
0.210	61	>75% Grass cover, Good, HSG B
0.370	98	Paved parking, HSG B
0.580	85	Weighted Average
0.210		36.21% Pervious Area
0.370		63.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	35	0.0150	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	180	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	215	Total			

Subcatchment 6S: Post Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Post Dev- Point A Runoff Area=0.290 ac 55.17% Impervious Runoff Depth>2.66"
Flow Length=195' Tc=10.9 min CN=81 Runoff=1.22 cfs 0.064 af

Subcatchment 3S: Post Dev- Point B Runoff Area=0.540 ac 75.93% Impervious Runoff Depth>3.42"
Flow Length=145' Tc=9.6 min CN=89 Runoff=2.90 cfs 0.154 af

Subcatchment 6S: Post Dev- Point C Runoff Area=0.580 ac 63.79% Impervious Runoff Depth>3.03"
Flow Length=215' Tc=8.5 min CN=85 Runoff=2.95 cfs 0.146 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.364 af Average Runoff Depth = 3.10"
33.33% Pervious = 0.470 ac 66.67% Impervious = 0.940 ac

Summary for Subcatchment 2S: Post Dev- Point A

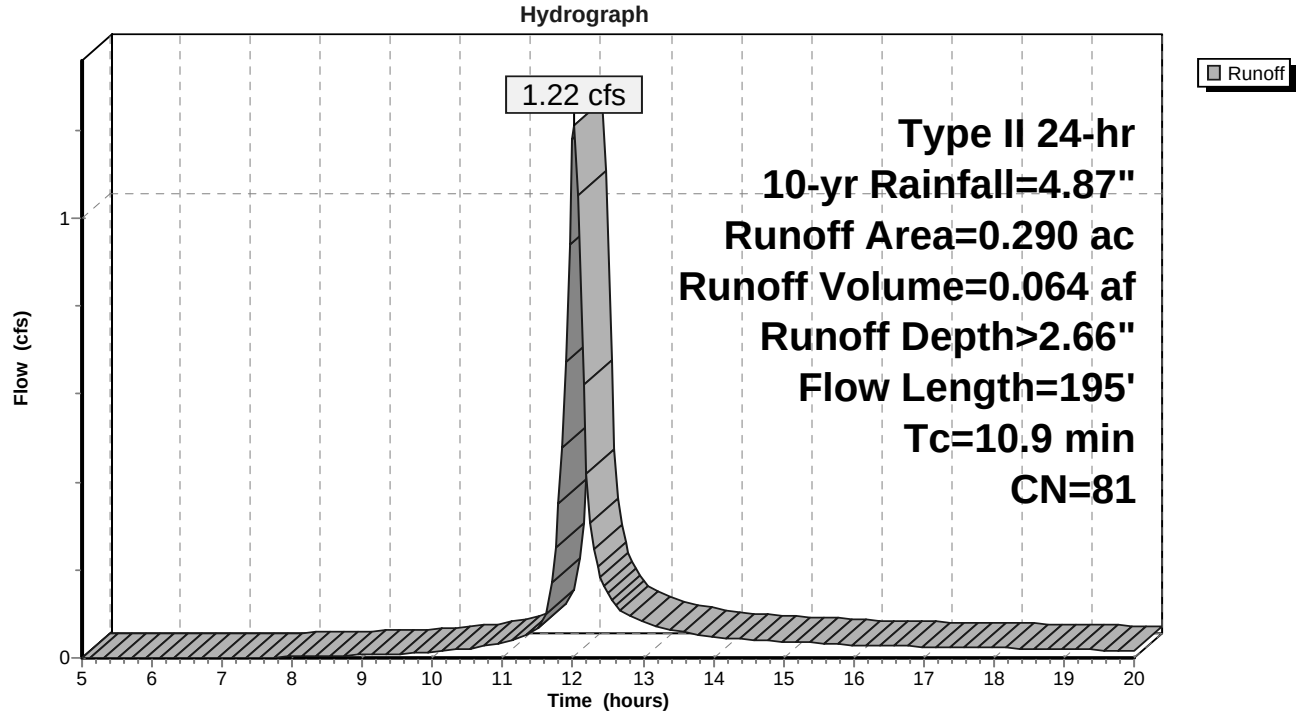
Runoff = 1.22 cfs @ 12.03 hrs, Volume= 0.064 af, Depth> 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.87"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.160	98	Paved parking, HSG B
0.290	81	Weighted Average
0.130		44.83% Pervious Area
0.160		55.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	50	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	145	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.9	195	Total			

Subcatchment 2S: Post Dev- Point A



Summary for Subcatchment 3S: Post Dev- Point B

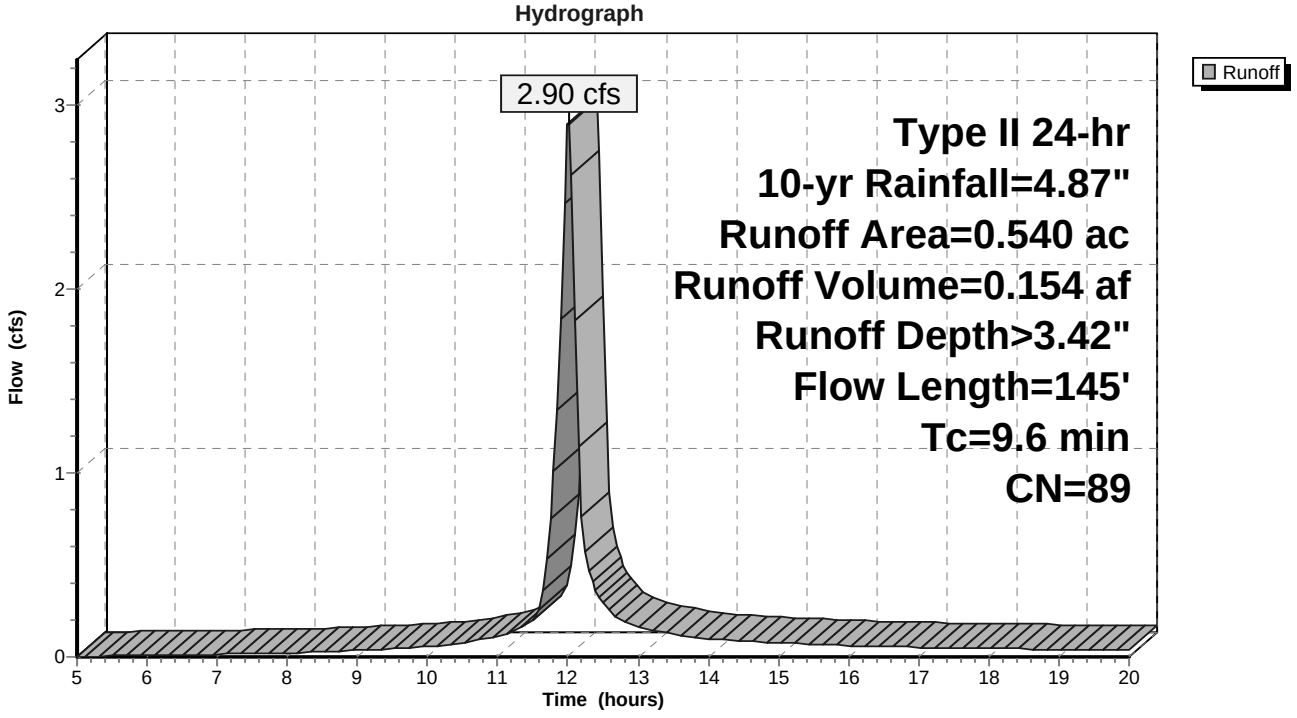
Runoff = 2.90 cfs @ 12.01 hrs, Volume= 0.154 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.87"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.410	98	Paved parking, HSG B
0.540	89	Weighted Average
0.130		24.07% Pervious Area
0.410		75.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	45	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.0	100	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	145	Total			

Subcatchment 3S: Post Dev- Point B



Summary for Subcatchment 6S: Post Dev- Point C

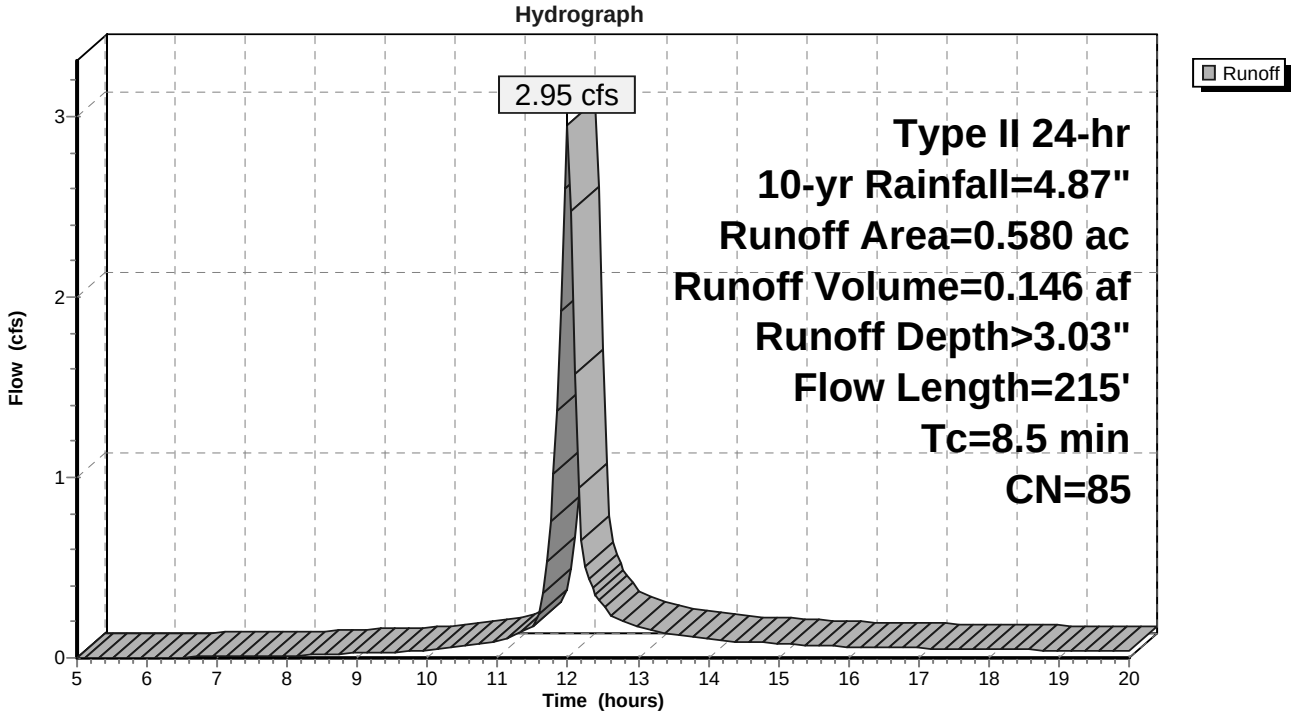
Runoff = 2.95 cfs @ 12.00 hrs, Volume= 0.146 af, Depth> 3.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.87"

Area (ac)	CN	Description
0.210	61	>75% Grass cover, Good, HSG B
0.370	98	Paved parking, HSG B
0.580	85	Weighted Average
0.210		36.21% Pervious Area
0.370		63.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	35	0.0150	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	180	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	215	Total			

Subcatchment 6S: Post Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Post Dev- Point A Runoff Area=0.290 ac 55.17% Impervious Runoff Depth>3.60"
Flow Length=195' Tc=10.9 min CN=81 Runoff=1.62 cfs 0.087 af

Subcatchment 3S: Post Dev- Point B Runoff Area=0.540 ac 75.93% Impervious Runoff Depth>4.43"
Flow Length=145' Tc=9.6 min CN=89 Runoff=3.70 cfs 0.199 af

Subcatchment 6S: Post Dev- Point C Runoff Area=0.580 ac 63.79% Impervious Runoff Depth>4.01"
Flow Length=215' Tc=8.5 min CN=85 Runoff=3.85 cfs 0.194 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.480 af Average Runoff Depth = 4.09"
33.33% Pervious = 0.470 ac 66.67% Impervious = 0.940 ac

Summary for Subcatchment 2S: Post Dev- Point A

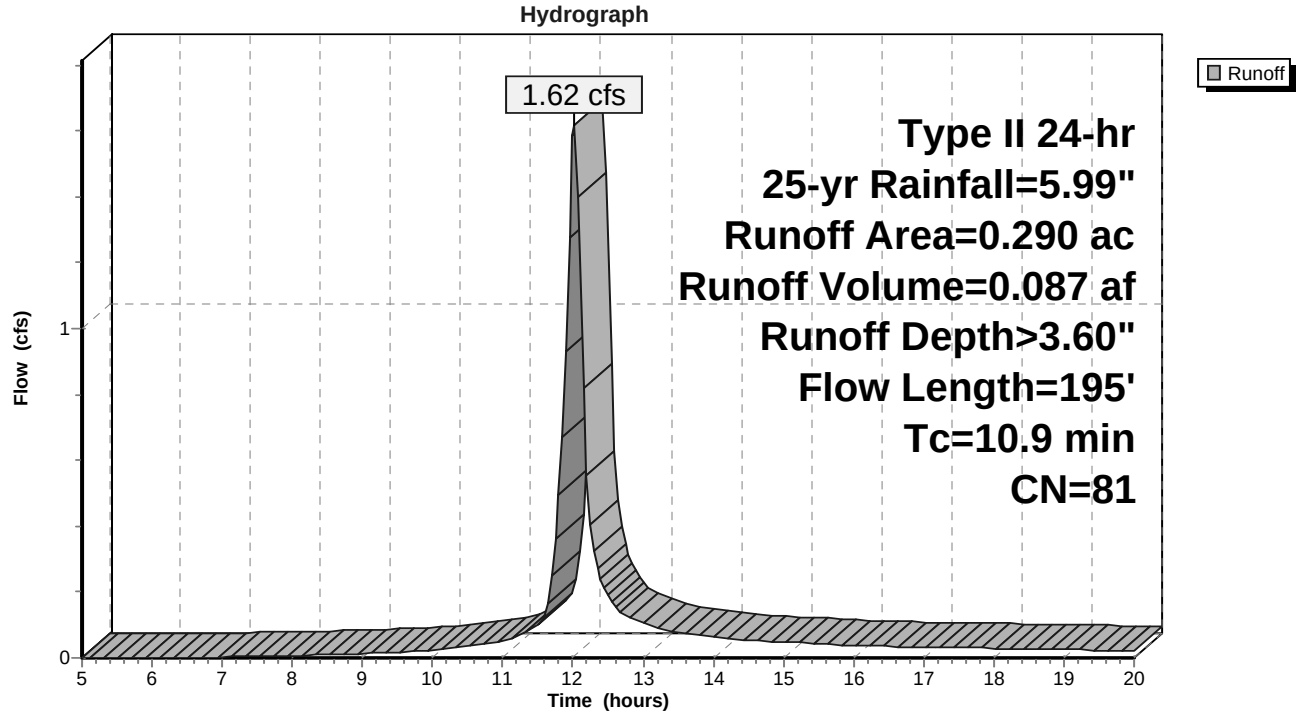
Runoff = 1.62 cfs @ 12.02 hrs, Volume= 0.087 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.99"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.160	98	Paved parking, HSG B
0.290	81	Weighted Average
0.130		44.83% Pervious Area
0.160		55.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	50	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	145	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.9	195	Total			

Subcatchment 2S: Post Dev- Point A



Summary for Subcatchment 3S: Post Dev- Point B

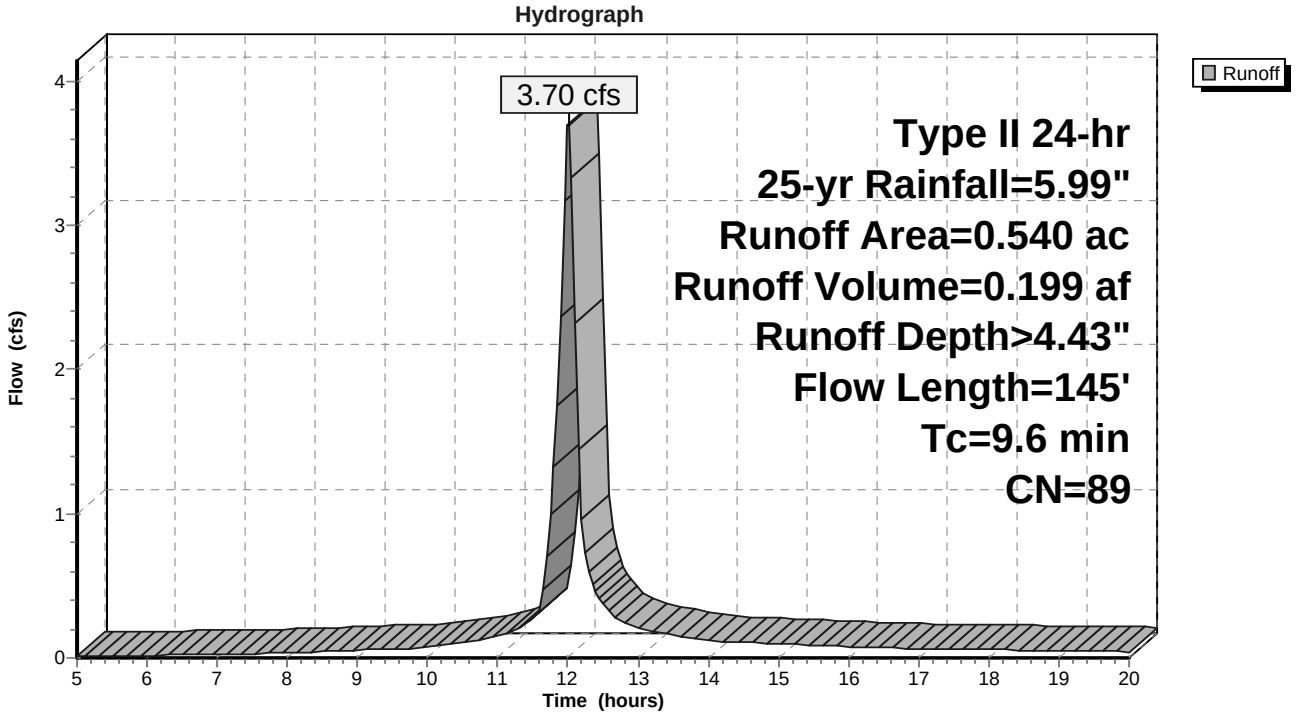
Runoff = 3.70 cfs @ 12.00 hrs, Volume= 0.199 af, Depth> 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.99"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.410	98	Paved parking, HSG B
0.540	89	Weighted Average
0.130		24.07% Pervious Area
0.410		75.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	45	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.0	100	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	145	Total			

Subcatchment 3S: Post Dev- Point B



Summary for Subcatchment 6S: Post Dev- Point C

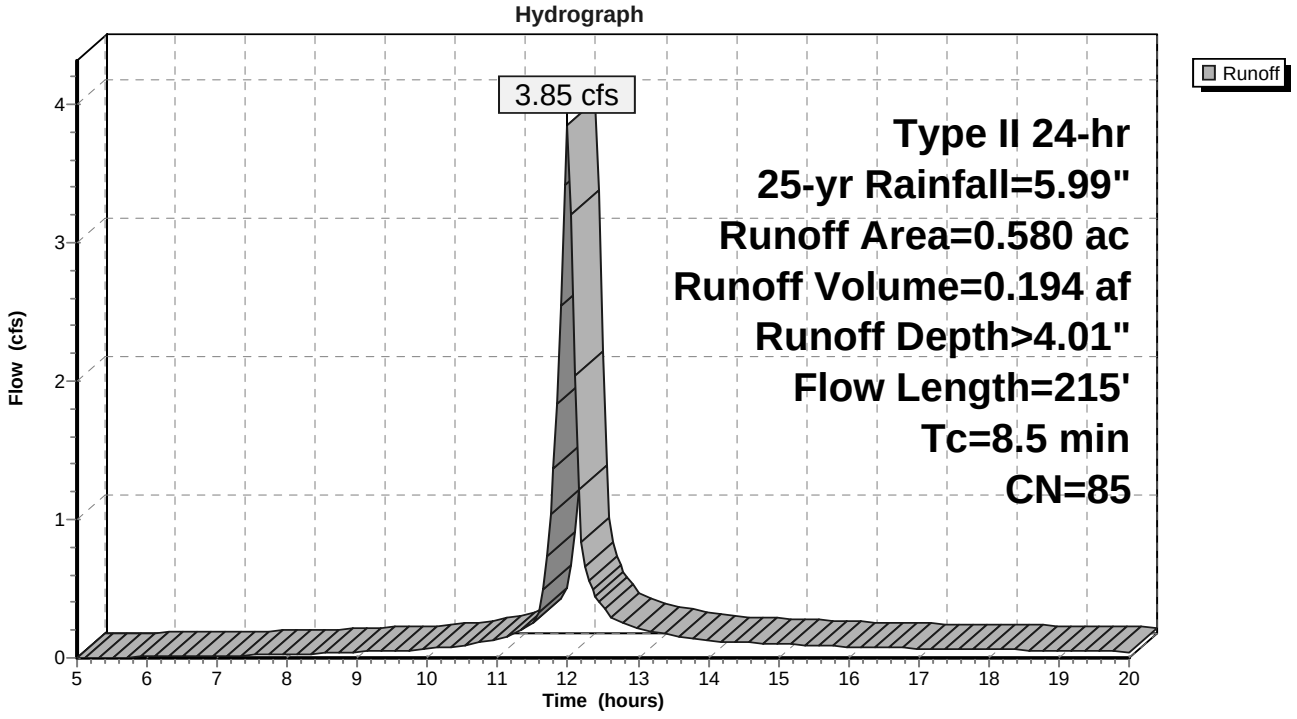
Runoff = 3.85 cfs @ 12.00 hrs, Volume= 0.194 af, Depth> 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.99"

Area (ac)	CN	Description
0.210	61	>75% Grass cover, Good, HSG B
0.370	98	Paved parking, HSG B
0.580	85	Weighted Average
0.210		36.21% Pervious Area
0.370		63.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	35	0.0150	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	180	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	215	Total			

Subcatchment 6S: Post Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Post Dev- Point A Runoff Area=0.290 ac 55.17% Impervious Runoff Depth>4.36"
Flow Length=195' Tc=10.9 min CN=81 Runoff=1.94 cfs 0.105 af

Subcatchment 3S: Post Dev- Point B Runoff Area=0.540 ac 75.93% Impervious Runoff Depth>5.22"
Flow Length=145' Tc=9.6 min CN=89 Runoff=4.32 cfs 0.235 af

Subcatchment 6S: Post Dev- Point C Runoff Area=0.580 ac 63.79% Impervious Runoff Depth>4.79"
Flow Length=215' Tc=8.5 min CN=85 Runoff=4.54 cfs 0.232 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.572 af Average Runoff Depth = 4.87"
33.33% Pervious = 0.470 ac 66.67% Impervious = 0.940 ac

Summary for Subcatchment 2S: Post Dev- Point A

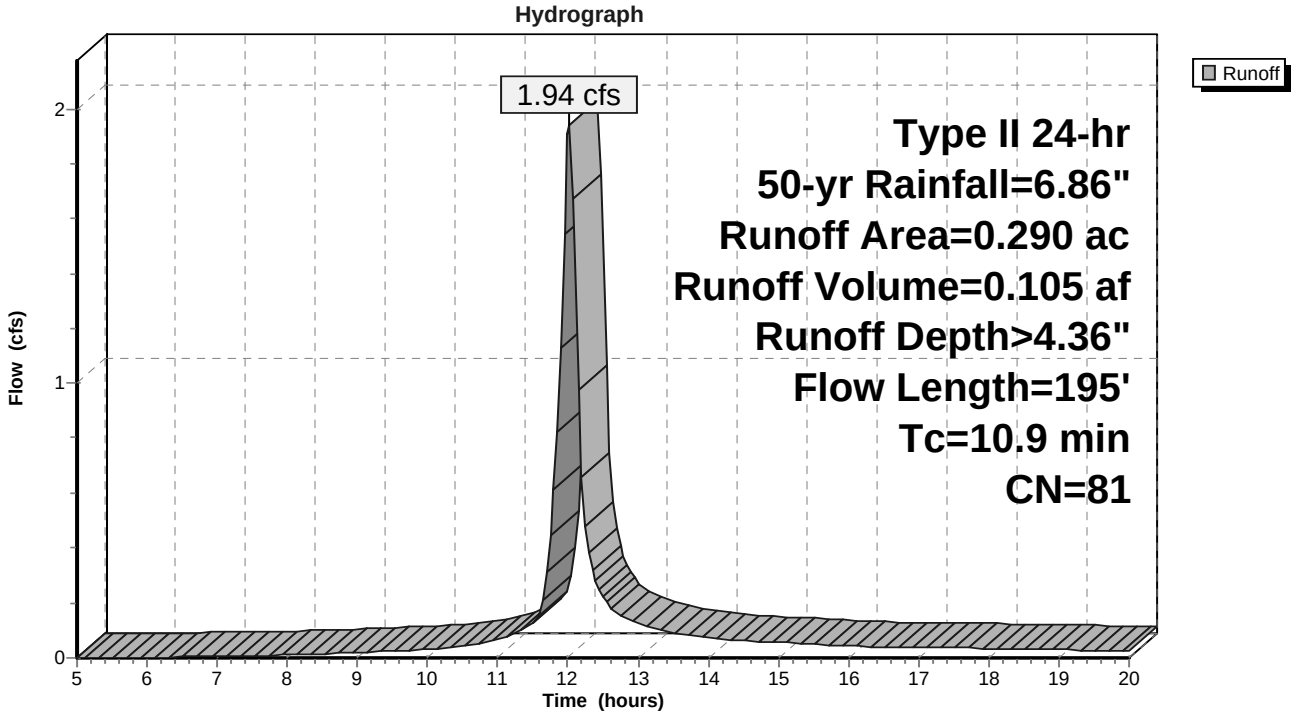
Runoff = 1.94 cfs @ 12.02 hrs, Volume= 0.105 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=6.86"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.160	98	Paved parking, HSG B
0.290	81	Weighted Average
0.130		44.83% Pervious Area
0.160		55.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	50	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	145	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.9	195	Total			

Subcatchment 2S: Post Dev- Point A



Summary for Subcatchment 3S: Post Dev- Point B

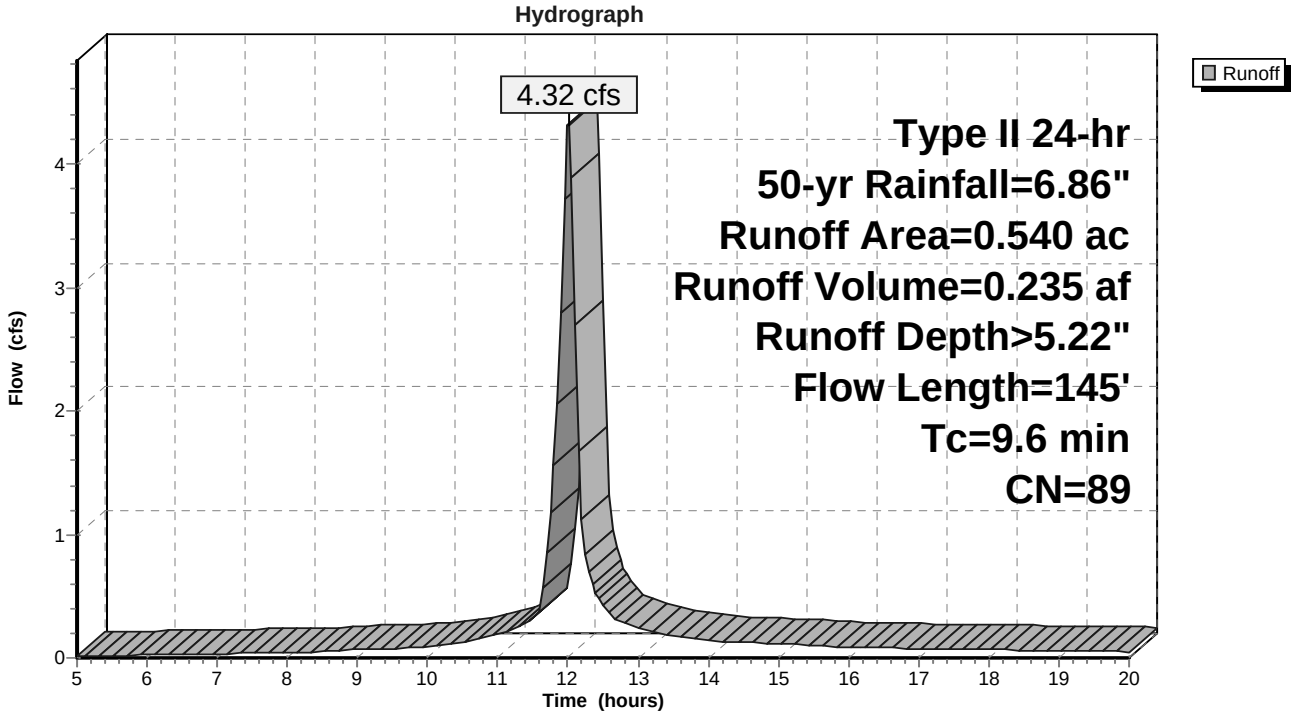
Runoff = 4.32 cfs @ 12.00 hrs, Volume= 0.235 af, Depth> 5.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=6.86"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.410	98	Paved parking, HSG B
0.540	89	Weighted Average
0.130		24.07% Pervious Area
0.410		75.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	45	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.0	100	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	145	Total			

Subcatchment 3S: Post Dev- Point B



Summary for Subcatchment 6S: Post Dev- Point C

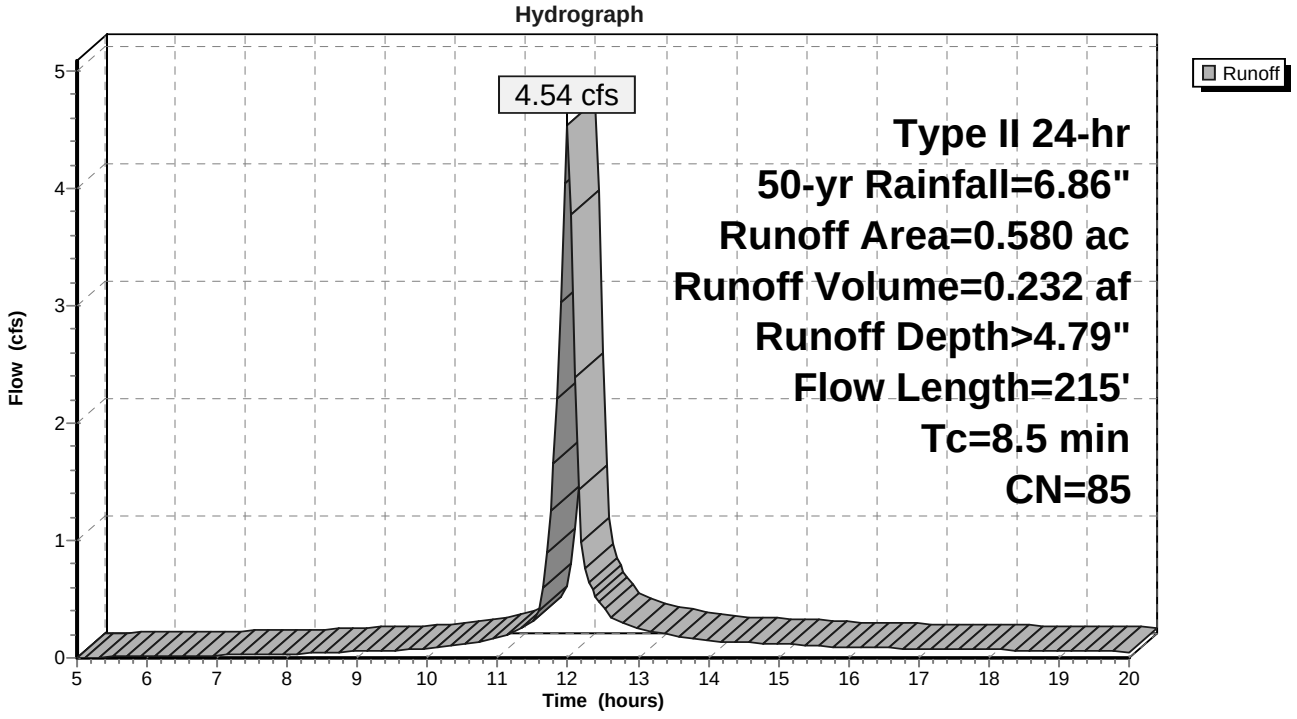
Runoff = 4.54 cfs @ 11.99 hrs, Volume= 0.232 af, Depth> 4.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=6.86"

Area (ac)	CN	Description
0.210	61	>75% Grass cover, Good, HSG B
0.370	98	Paved parking, HSG B
0.580	85	Weighted Average
0.210		36.21% Pervious Area
0.370		63.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	35	0.0150	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	180	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	215	Total			

Subcatchment 6S: Post Dev- Point C



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Post Dev- Point A Runoff Area=0.290 ac 55.17% Impervious Runoff Depth>5.13"
Flow Length=195' Tc=10.9 min CN=81 Runoff=2.26 cfs 0.124 af

Subcatchment 3S: Post Dev- Point B Runoff Area=0.540 ac 75.93% Impervious Runoff Depth>6.01"
Flow Length=145' Tc=9.6 min CN=89 Runoff=4.94 cfs 0.271 af

Subcatchment 6S: Post Dev- Point C Runoff Area=0.580 ac 63.79% Impervious Runoff Depth>5.58"
Flow Length=215' Tc=8.5 min CN=85 Runoff=5.24 cfs 0.270 af

Total Runoff Area = 1.410 ac Runoff Volume = 0.664 af Average Runoff Depth = 5.65"
33.33% Pervious = 0.470 ac 66.67% Impervious = 0.940 ac

Summary for Subcatchment 2S: Post Dev- Point A

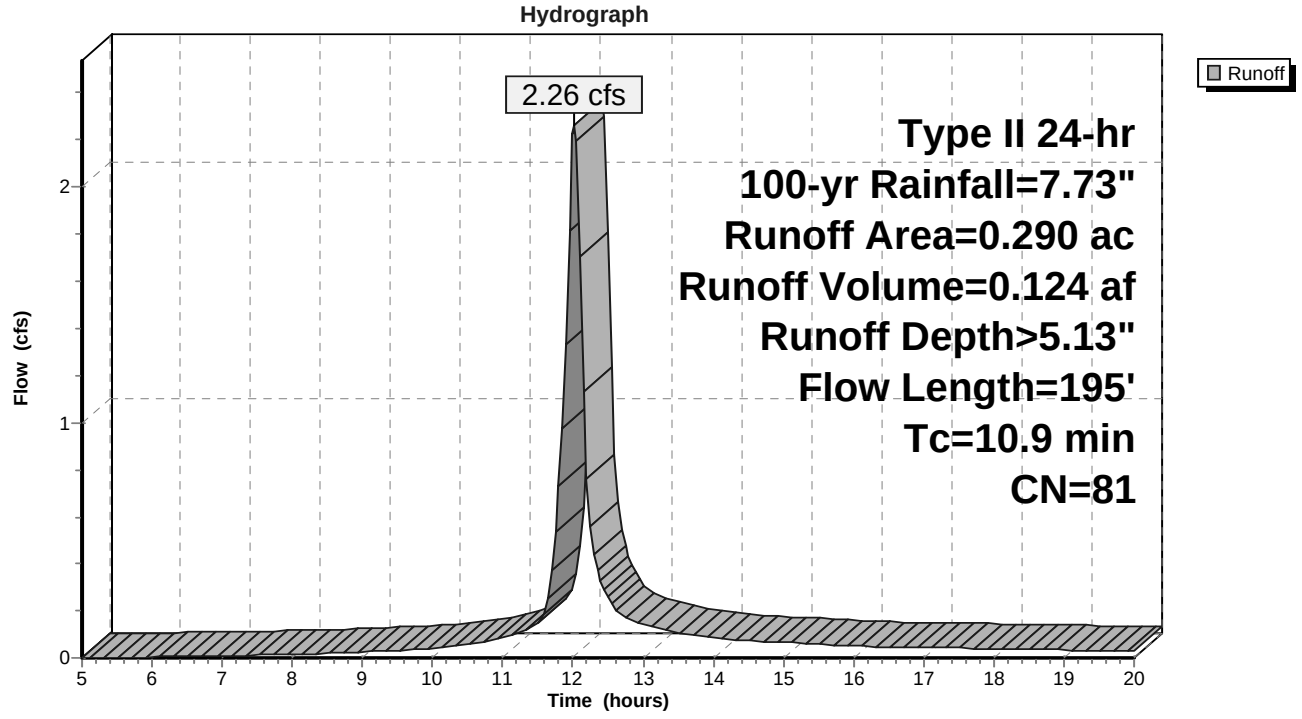
Runoff = 2.26 cfs @ 12.02 hrs, Volume= 0.124 af, Depth> 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.73"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.160	98	Paved parking, HSG B
0.290	81	Weighted Average
0.130		44.83% Pervious Area
0.160		55.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	50	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	145	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.9	195	Total			

Subcatchment 2S: Post Dev- Point A



Summary for Subcatchment 3S: Post Dev- Point B

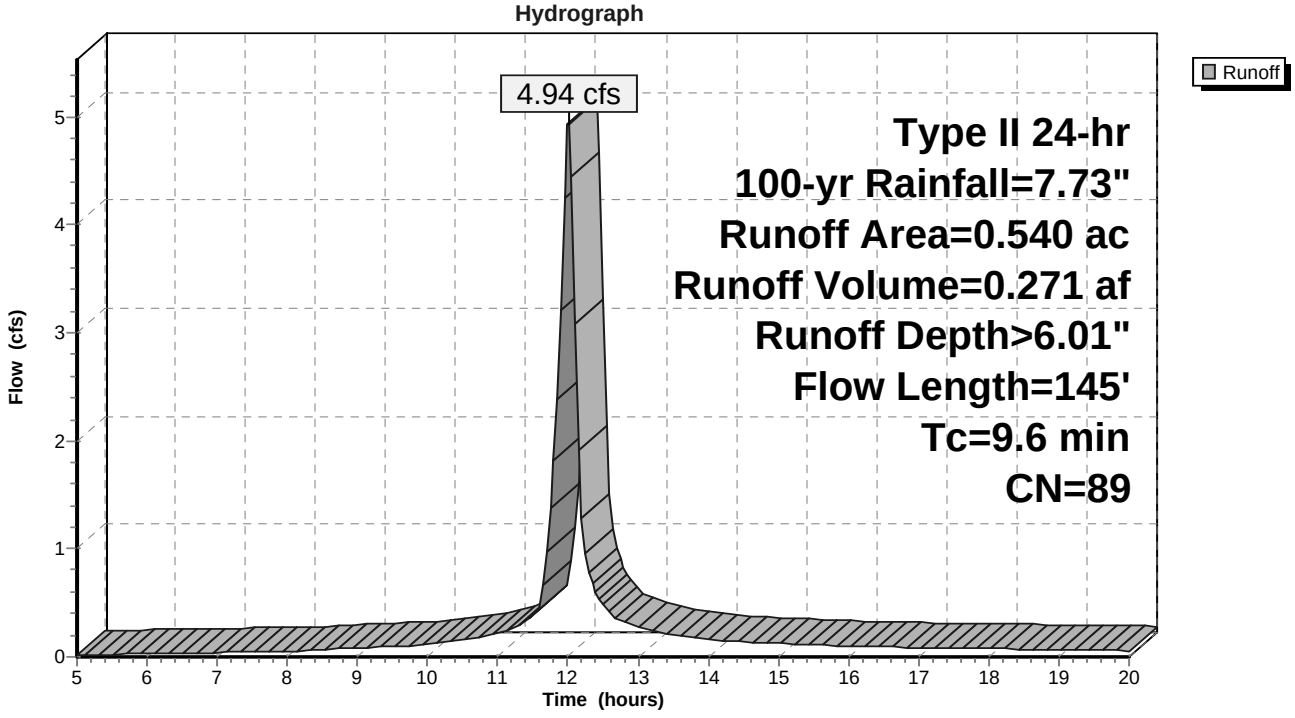
Runoff = 4.94 cfs @ 12.00 hrs, Volume= 0.271 af, Depth> 6.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.73"

Area (ac)	CN	Description
0.130	61	>75% Grass cover, Good, HSG B
0.410	98	Paved parking, HSG B
0.540	89	Weighted Average
0.130		24.07% Pervious Area
0.410		75.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	45	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.0	100	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	145	Total			

Subcatchment 3S: Post Dev- Point B



Summary for Subcatchment 6S: Post Dev- Point C

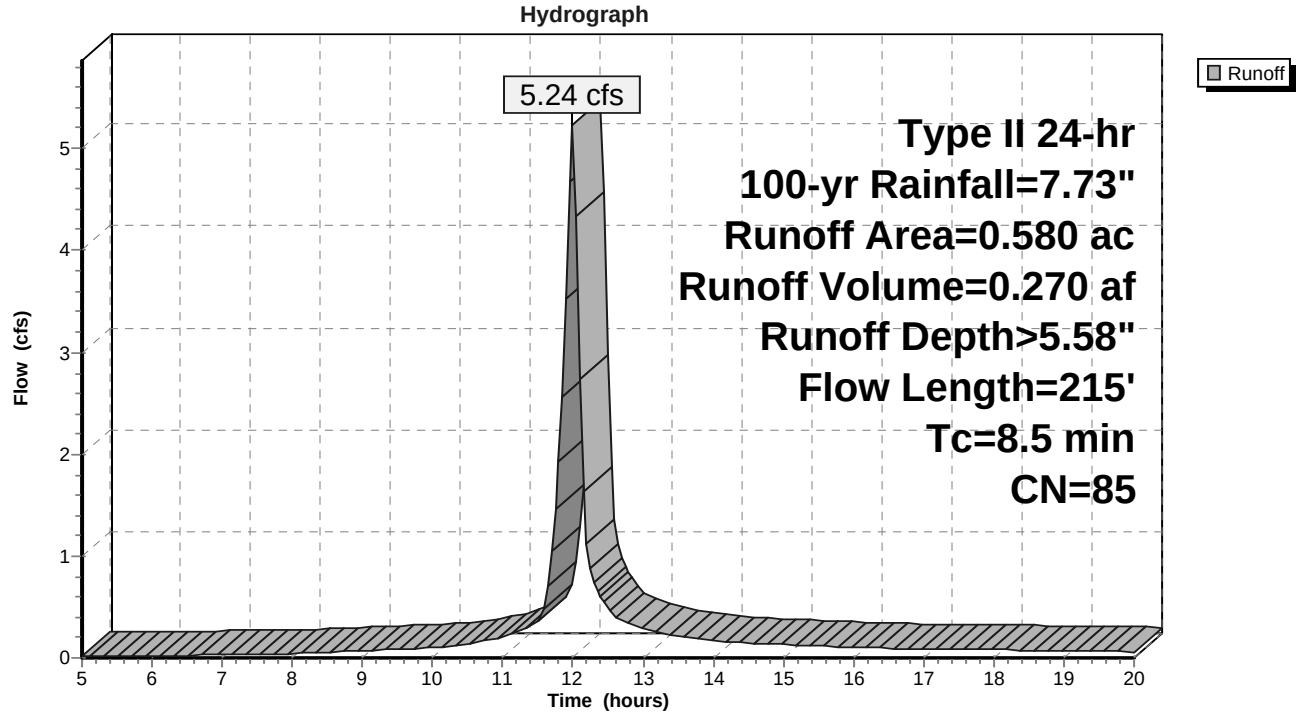
Runoff = 5.24 cfs @ 11.99 hrs, Volume= 0.270 af, Depth> 5.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.73"

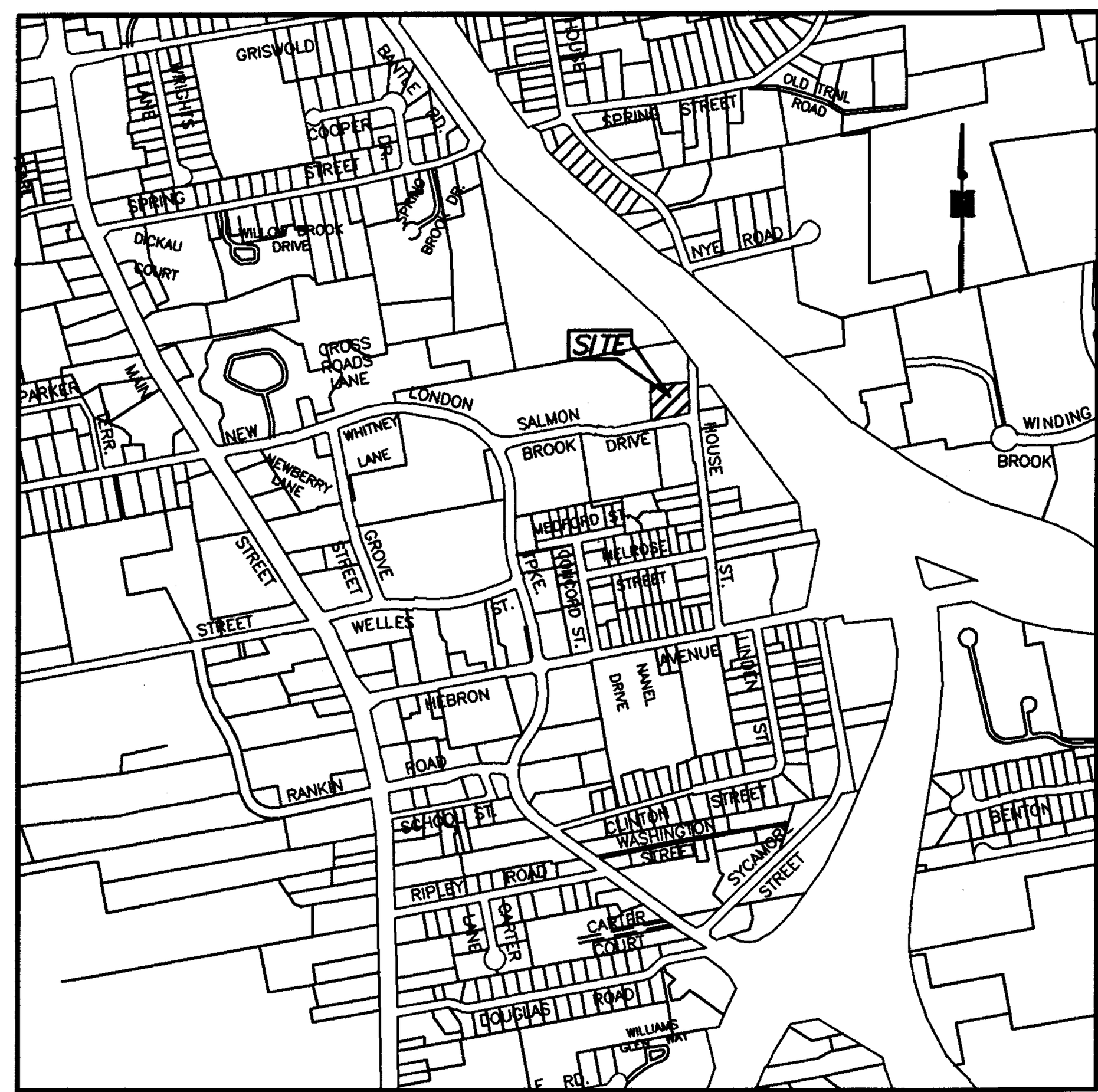
Area (ac)	CN	Description
0.210	61	>75% Grass cover, Good, HSG B
0.370	98	Paved parking, HSG B
0.580	85	Weighted Average
0.210		36.21% Pervious Area
0.370		63.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	35	0.0150	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.09"
1.5	180	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	215	Total			

Subcatchment 6S: Post Dev- Point C

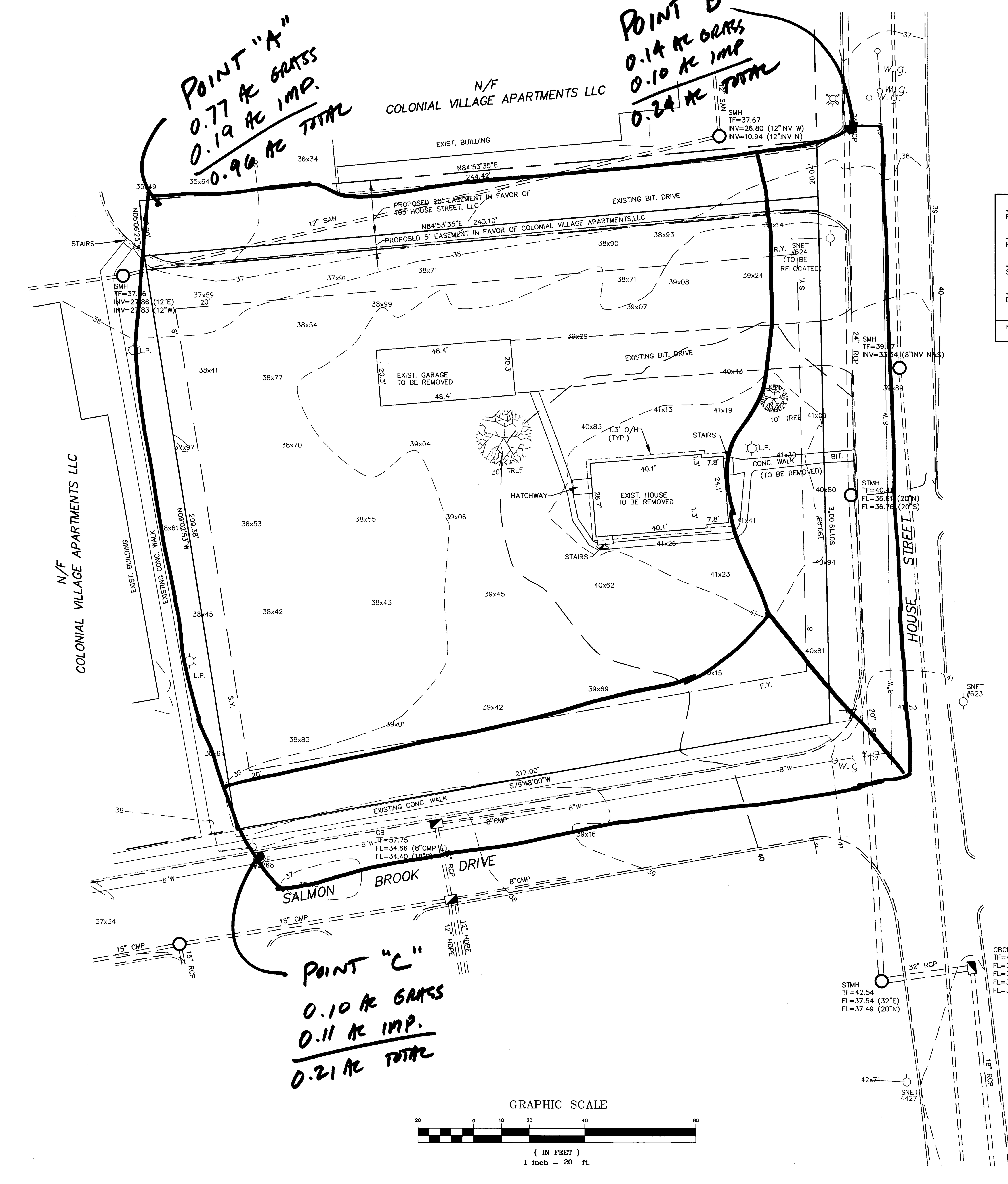


APPENDIX B
PRE-DEVELOPMENT
DRAINAGE AREA MAP



SITE LOCATION MAP

SCALE: 1"=1,000'



103 HOUSE STREET, LLC.	TOWN CENTER ZONE
PROJECT/APPLICANT	ZONE
103 HOUSE STREET	
PROJECT ADDRESS	
SPECIAL PERMIT SECTION	TPZ CHAIRMAN
DATE SPECIAL PERMIT APP'D	DIRECTOR OF COMMUNITY DEVELOPMENT

NOTE: ALL SHEETS OF THIS PLAN SET ARE LOCATED IN THE OFFICE OF COMMUNITY DEVELOPMENT FILE NO.

ZONING INFORMATION

ZONE: TOWN CENTER ZONE

LOT AREA = 45,760 S.F.
1.050 AC.

	EXISTING
BUILDING COVERAGE:	2,240 S.F.
PAVEMENT COVERAGE:	2,915 S.F.
OPEN SPACE:	41,183 S.F.

LEGEND

SPOT ELEVATION	39x06
EXISTING CONTOUR	— — —

PRE-DEVELOPMENT DRAINAGE MAP

REFERENCE MADE TO MAP TITLED:

"BOUNDARY LINE MODIFICATION MAP #103 HOUSE STREET PREPARED FOR COLEMAN ASSOCIATES, LLC. GLASTONBURY, CONN." BY MEGSON, HEAGLE & FRIEND C.E. & L.S., LLC DATE: 11-12-19 SCALE: 1"=20' SHEET 1 OF 1 MAP NO. 93-19-1BLM

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON. THIS SURVEY WAS PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTION 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON SEPTEMBER 26, 1996.
TYPE OF SURVEY: PROPERTY/BOUNDARY SURVEY
BOUNDARY DETERMINATION CATEGORY: DEPENDENT RESURVEY
CLASS OF ACCURACY: A-2

JOHN L. HEAGLE L.S. # 9396

I HEREBY DECLARE TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS PLAN IS SUBSTANTIALLY CORRECT.

JONATHAN H. SCZUREK P.E. # 26858

MEGSON, HEAGLE & FRIEND
CIVIL ENGINEERS & LAND SURVEYORS, LLC
81 RANKIN ROAD
GLASTONBURY, CONN. 06033
PHONE (860)-659-0587

BOUNDARY/EXISTING CONDITIONS PLAN
#103 HOUSE STREET
PREPARED FOR
103 HOUSE STREET, LLC.
GLASTONBURY, CONN.

CK. BY:	JHS
DRW. BY:	RSS
DATE:	3-19-20
SCALE:	1"=20'
SHEET	2 OF 10
MAP NO.	93-19-1B

REV. 7-6-20

APPENDIX C
POST-DEVELOPMENT
DRAINAGE AREA MAP

SITE LOCATION MAP
SCALE: 1"=1,000'

SOILS DATA

TEST PIT: #1
DATE: 12-13-19
DEPTH: 78"
GROUNDWATER: 70"
LEDGE: NONE
MATERIAL:
0-12" TOPSOIL
12-32" FINE SANDY LOAM
32-60" MOD. COMPACT FINE SAND
60-78" COARSE SAND & GRAVEL

TEST PIT: #2
DATE: 12-13-19
DEPTH: 82"
GROUNDWATER: 64"
LEDGE: NONE
MATERIAL:
0-22" TOPSOIL
22-36" FINE SANDY LOAM
36-60" COARSE SAND & GRAVEL
60-82" VERY FINE SAND & SILT

TEST PIT: #3
DATE: 12-13-19
DEPTH: 87"
GROUNDWATER: 73"
LEDGE: NONE
MATERIAL:
0-15" TOPSOIL
15-36" FINE SANDY LOAM
36-53" VERY FINE SAND
53-87" COMPACT COARSE SAND & GRAVEL

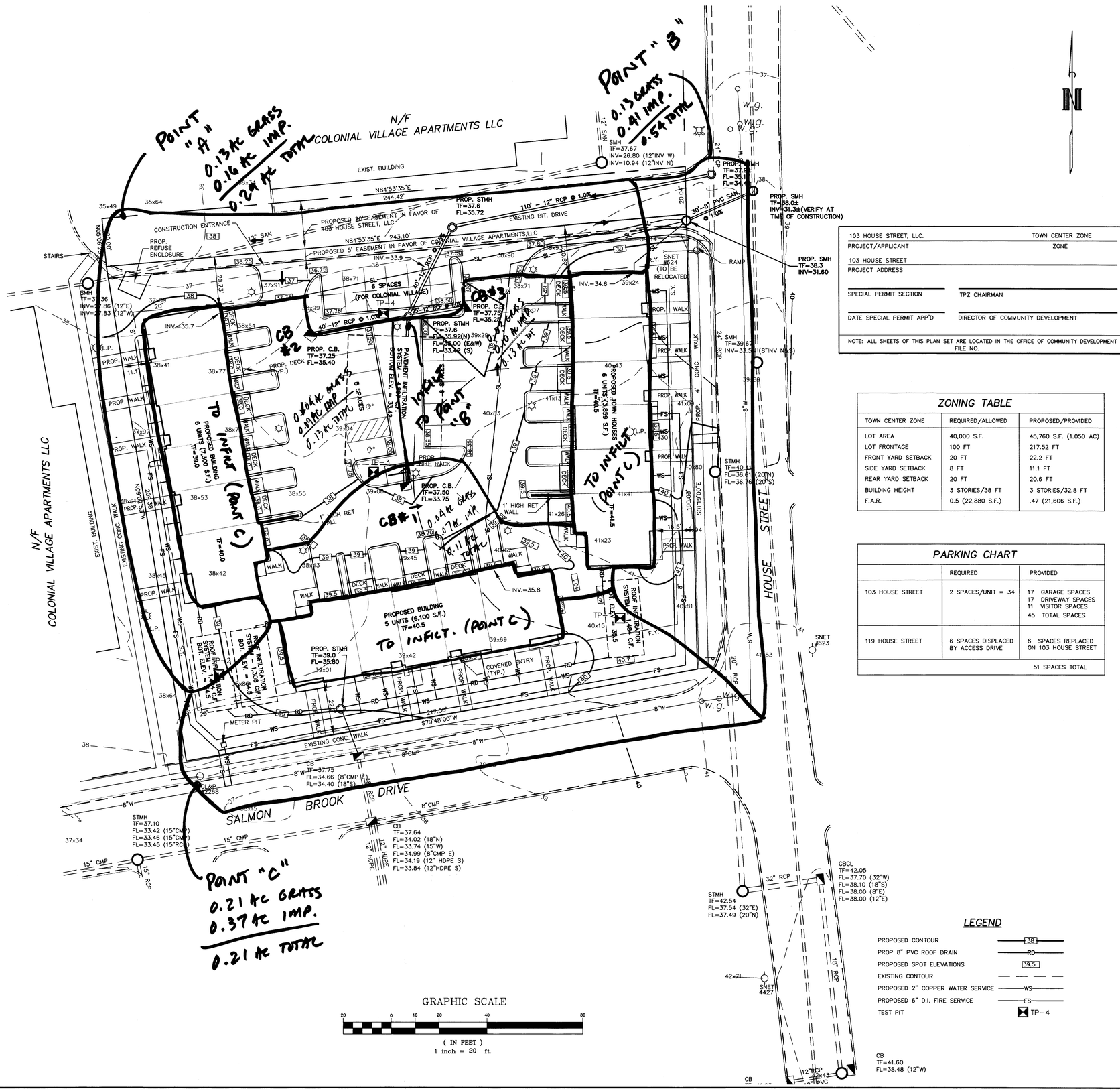
TEST PIT: #4
DATE: 12-13-19
DEPTH: 96"
GROUNDWATER: NONE
LEDGE: NONE
MATERIAL:
0-15" TOPSOIL
15-28" FINE SANDY LOAM
28-66" COARSE SAND & GRAVEL
66-96" COARSE SAND

STANDPIPE READINGS

DEPTH TO GROUNDWATER FROM GROUND SURFACE

STANDPIPE #	12/18/2019	12/24/2019	12/31/2019	1/10/2020	1/24/2020	2/3/2020	2/17/2020	3/9/2020
TP-1	4.85'	5.37'	4.75'	5.25'	5.75'	5.75'	5.45'	5.75'
TP-2	4.37'	5.17'	5.02'	5.25'	5.97'	DRY	5.27'	5.87'
TP-3	5.23'	6.03'	6.03'	6.14'	6.93'	DRY	6.13'	6.73'
TP-4	7.43'	8.08'	8.18'(DRY)	DRY	DRY	DRY	DRY	DRY

REFERNCE MADE TO MAP TITLED:
"BOUNDARY LINE MODIFICATION MAP #103 HOUSE STREET PREPARED FOR COLEMAN ASSOCIATES, LLC GLASTONBURY, CONN" BY MEGSON, HEAGLE & FRIEND, C.E. & L.S., LLC GLASTONBURY, CT DATE: 11-11-19 SCALE:1"=20' MAP NO. 93-19-1BLM



ZONING TABLE

TOWN CENTER ZONE	REQUIRED/ALLOWED	PROPOSED/PROVIDED
LOT AREA	40,000 S.F.	45,760 S.F. (1.050 AC)
LOT FRONTAGE	100 FT	217.52 FT
FRONT YARD SETBACK	20 FT	22.2 FT
SIDE YARD SETBACK	8 FT	11.1 FT
REAR YARD SETBACK	20 FT	20.6 FT
BUILDING HEIGHT	3 STORIES/38 FT	3 STORIES/32.8 FT
F.A.R.	0.5 (22,880 S.F.)	.47 (21,606 S.F.)

PARKING CHART

	REQUIRED	PROVIDED
103 HOUSE STREET	2 SPACES/UNIT = 34	17 GARAGE SPACES 17 DRIVEWAY SPACES 11 VISITOR SPACES 45 TOTAL SPACES
119 HOUSE STREET	6 SPACES DISPLACED BY ACCESS DRIVE	6 SPACES REPLACED ON 103 HOUSE STREET
		51 SPACES TOTAL

LEGEND

PROPOSED CONTOUR — 38
PROP 8" PVC ROOF DRAIN — RD
PROPOSED SPOT ELEVATIONS — 39.5
EXISTING CONTOUR
PROPOSED 2" COPPER WATER SERVICE — WS
PROPOSED 6" D.I. FIRE SERVICE — FS
TEST PIT — TP-4

103 HOUSE STREET, LLC. — TOWN CENTER ZONE
PROJECT/APPLICANT — ZONE
103 HOUSE STREET
PROJECT ADDRESS
SPECIAL PERMIT SECTION — TPZ CHAIRMAN
DATE SPECIAL PERMIT APP'D — DIRECTOR OF COMMUNITY DEVELOPMENT

NOTE: ALL SHEETS OF THIS PLAN SET ARE LOCATED IN THE OFFICE OF COMMUNITY DEVELOPMENT FILE NO.

I HEREBY DECLARE TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS PLAN IS SUBSTANTIALLY CORRECT.

JONATHAN H. SCZUREK P.E. # 26858

MEGSON, HEAGLE & FRIEND
CIVIL ENGINEERS & LAND SURVEYORS, LLC
81 RANKIN ROAD
GLASTONBURY, CONN. 06033
PHONE (860)-659-0587

SITE PLAN – PROPOSED TOWN HOMES
#103 HOUSE STREET
PREPARED FOR
103 HOUSE STREET, LLC.
GLASTONBURY, CONN.

POST-DEV. DRAINAGE MAP.

CK. BY:	JHS
DRW. BY:	RSS
DATE:	3-19-20
SCALE:	1"=20'
SHEET	3 OF 10
MAP NO. 93-19-1SP	

REV. 8-10-20
REV. 7-6-20

APPENDIX C
STORM SEWER DESIGN

MEGSON & HEAGLE
CIVIL ENGINEERS & LAND SURVEYORS, LLC
81 RANKIN ROAD
GLASTONBURY, CONN. 06033
PHONE: (860) 659-0587

Project 93-19 Designed by JHS Date 8-20

Town GLAST. Checked by Date

Sheet No. of

Storm Sewer System Design - 10 YR STORM

Line Segment	1	CB1 TO INFLO	CB2 TO INFLO	CB 3 TO INFLO	MH OUT TO HOUSE ST
Time to Inlet MIN	2	5	5	5	1
Time in Pipe S	3	2	14	9	27
Accumulated Time	4	5	5	5	5
AI Entering CB	5	0.08	0.10	0.10	0.20
Sum of AI in System	6	.08	.10	0.10	.20
Rainfall Intensity IN/HR	7	7.45	7.45	7.45	(11.6)
Q in System CFS	8	0.60	0.75	0.75	3.25
Pipe Size	9	12"	12"	12"	12"
Length of Pipe FT	10	8	40	25'	150'
Slope %	11	1.0	1.0	1.0	1.0%
Average Velocity FT/S	12	2.7	2.8	2.8	5.4
Full Capacity CFS	13	3.25	3.25	3.25	3.25
Headwater	14	.5'	.6'	.6'	1.2'
"n"	15	0.015	→	→	→

C 100 YEAR STORM

APPENDIX C
INFILTRATION CHAMBER DETAILS

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

103 HOUSE ST PAVEMENT

GLASTONBURY, CT

SiteASSIST by StormTech

FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2ò.
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73Á F / 23Á C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

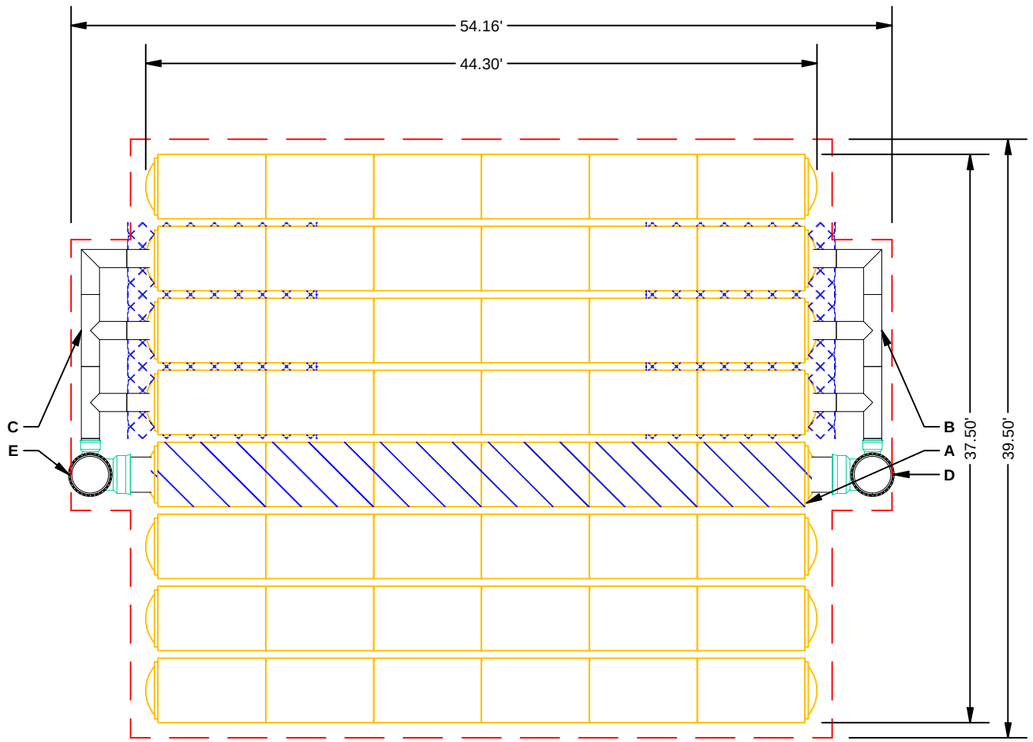
48	STORMTECH SC-740 CHAMBERS
16	STORMTECH SC-740 END CAPS
12	STONE ABOVE (in)
12	STONE BELOW (in)
40	STONE VOID
4869	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
1970	SYSTEM AREA (SF)
187.3	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	11.50
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5.50
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	5.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	5.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	5.00
TOP OF STONE:	4.50
TOP OF SC-740 CHAMBER:	3.50
12" x 12" TOP MANIFOLD INVERT:	2.04
12" x 12" TOP MANIFOLD INVERT:	2.04
24" ISOLATOR ROW INVERT:	1.01
24" ISOLATOR ROW INVERT:	1.01
BOTTOM OF SC-740 CHAMBER:	1.00
BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PREFABRICATED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	0.10"	
MANIFOLD	B	12" x 12" TOP MANIFOLD, ADS N-12	12.50"	
MANIFOLD	C	12" x 12" TOP MANIFOLD, ADS N-12	12.50"	
NYLOPLAST (INLET W/ ISO ROW)	D	30" DIAMETER (24.00" SUMP MIN)		5.7 CFS IN
NYLOPLAST (INLET W/ ISO ROW)	E	30" DIAMETER (24.00" SUMP MIN)		5.7 CFS IN



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADS GEOSYNTHETICS 315WTK WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

1. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
2. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
3. THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
4. THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
5. **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

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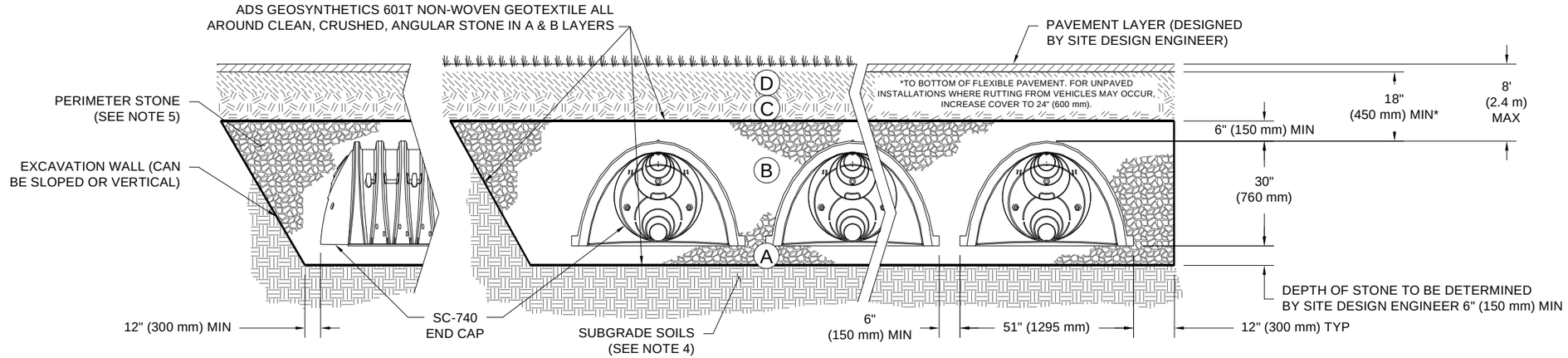
0 10' 20'

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145ĭ A-1, A-2-4, A-3 OR AASHTO M43ĭ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43ĭ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43ĭ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2ò.
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73Á F / 23Á C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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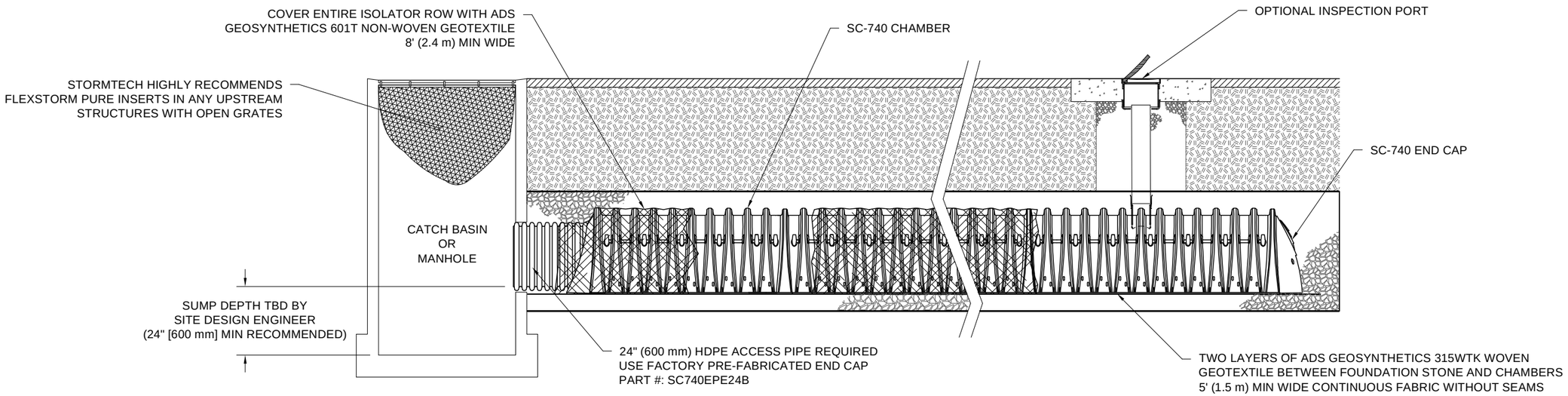

SC-740 ISOLATOR ROW DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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SC-740 TECHNICAL SPECIFICATION

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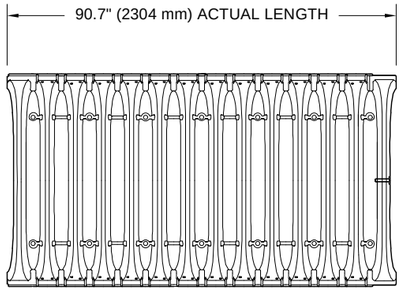
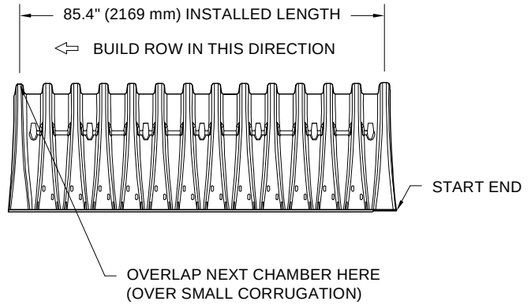
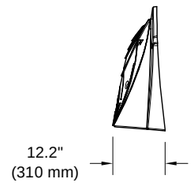
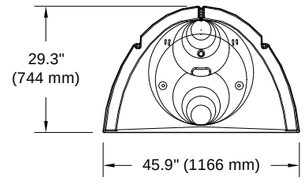
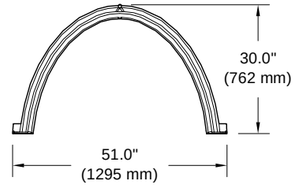






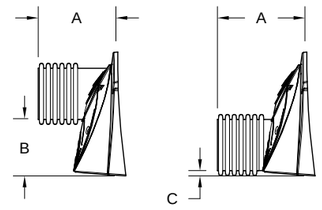




NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 mj)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 mj)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

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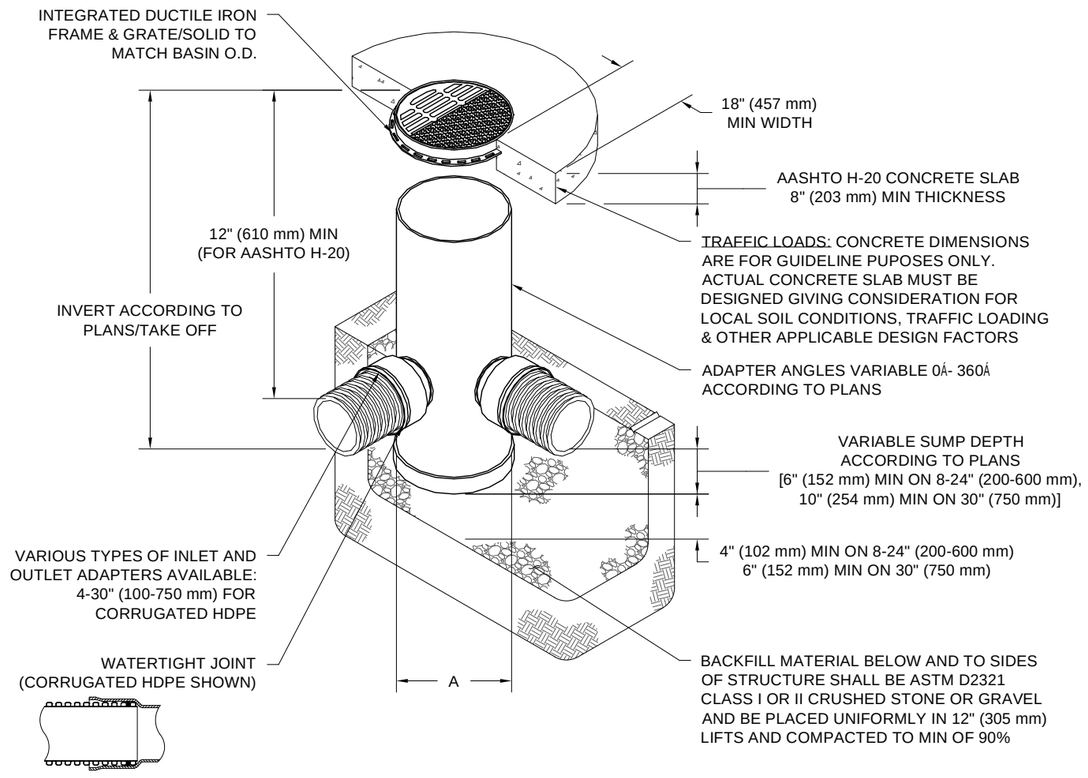

NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

103 HOUSE ST PAVEMENT
GLASTONBURY, CT

DATE:
DRAWN: JS
PROJECT #:
CHECKED: N/A

REV	DRW	CHK	DESCRIPTION

3130 VERONA AVE
BUFORD, GA 30518
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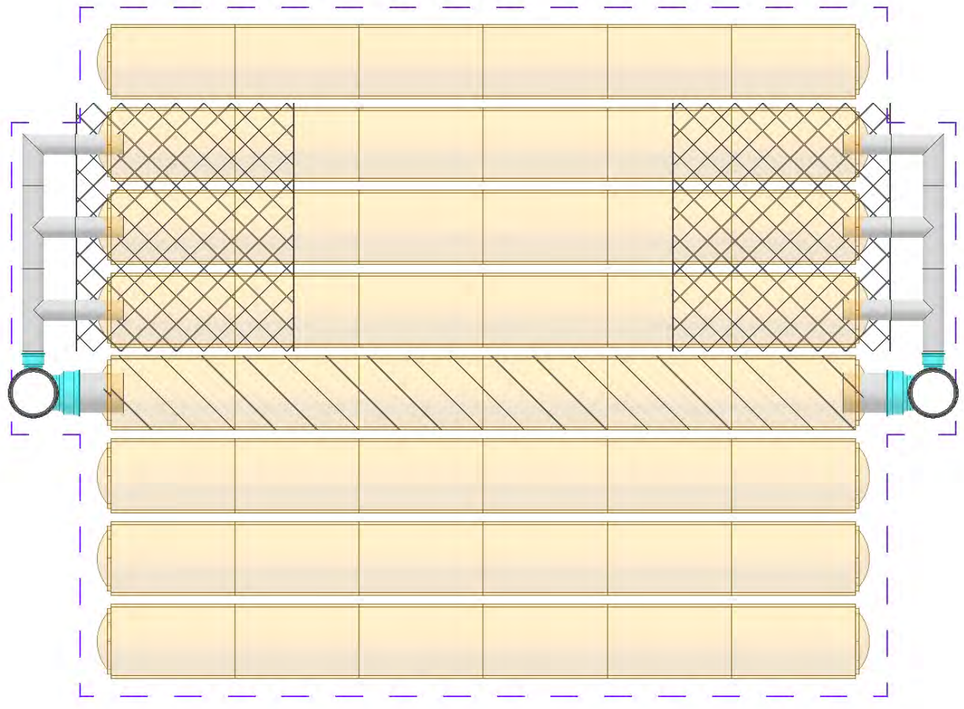
FAX (770) 932-2490
www.nyloplast-us.com

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

ADVANCED DRAINAGE SYSTEMS, INC.



PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

COLEMAN ROOF 5 UNIT

GLASTONBURY, CT

SiteASSIST by StormTech

FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3ô.
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73Á F / 23Á C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

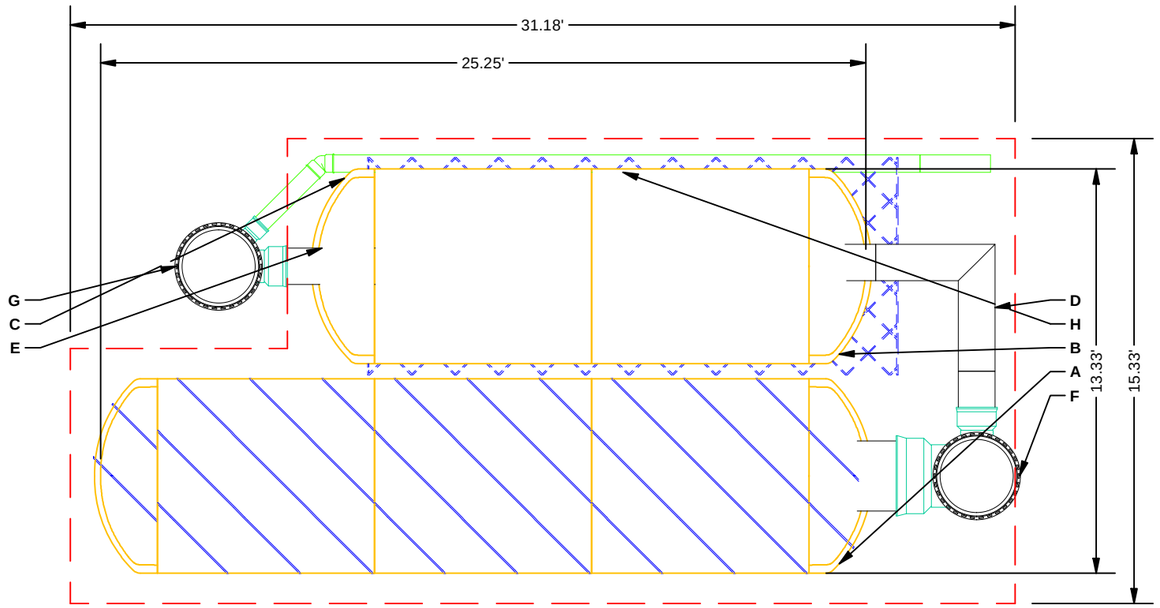
5	STORMTECH MC-3500 CHAMBERS
4	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	STONE VOID
1309	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
429	SYSTEM AREA (SF)
93.0	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.50
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	7.00
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	6.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	6.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	6.00
TOP OF STONE:	5.50
TOP OF MC-3500 CHAMBER:	4.50
12" x 12" TOP MANIFOLD INVERT:	2.95
24" ISOLATOR ROW INVERT:	0.92
12" BOTTOM CONNECTION INVERT:	0.86
BOTTOM OF MC-3500 CHAMBER:	0.75
UNDERDRAIN INVERT:	0.00
BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	2.06"	
PREFABRICATED END CAP	B	12" TOP CORED END CAP/TYP OF ALL 12" TOP CONNECTIONS	26.40"	
PREFABRICATED END CAP	C	12" BOTTOM CORED END CAP/TYP OF ALL 12" BOTTOM CONNECTIONS	1.35"	
MANIFOLD	D	12" x 12" TOP MANIFOLD, ADS N-12	26.36"	
PIPE CONNECTION	E	12" BOTTOM CONNECTION	1.35"	
NYLOPLAST (INLET W/ ISO ROW)	F	30" DIAMETER (24.00" SUMP MIN)		2.5 CFS IN
NYLOPLAST (OUTLET)	G	30" DIAMETER (DESIGN BY ENGINEER)		2.0 CFS OUT
UNDERDRAIN	H	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 17.50' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

1. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
2. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
3. THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
4. THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
5. **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

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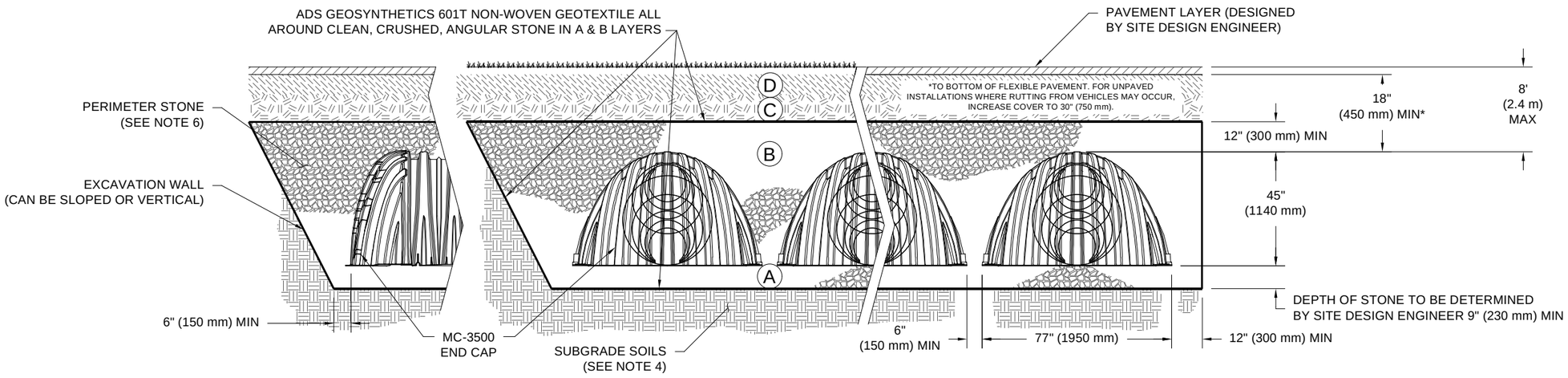
10'
5'
0

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145ĭ A-1, A-2-4, A-3 OR AASHTO M43ĭ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43ĭ 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43ĭ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

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3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3ò.
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73Á F / 23Á C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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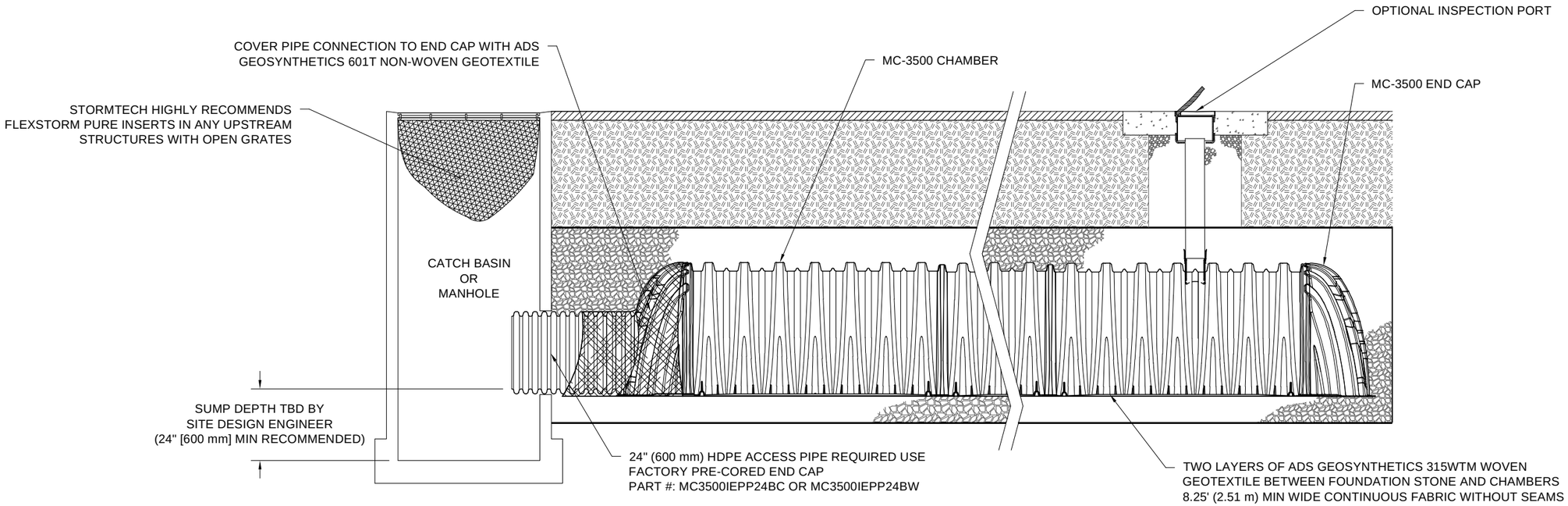

MC-3500 ISOLATOR ROW DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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UNDERDRAIN DETAIL

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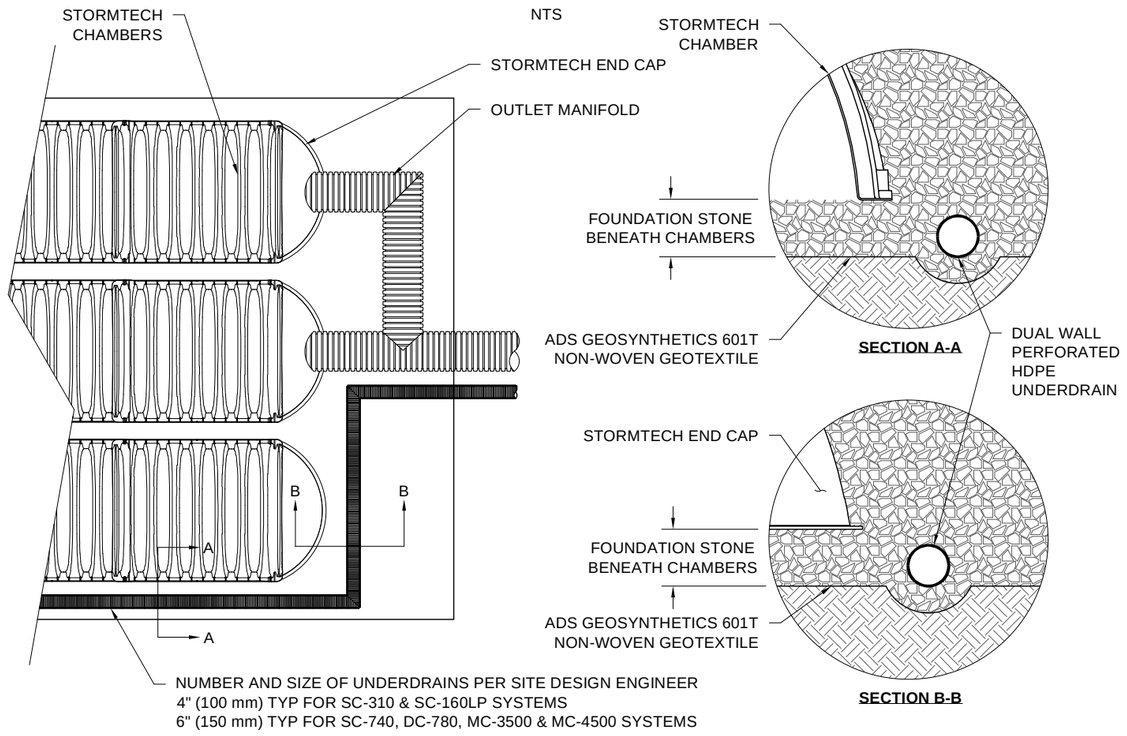

MC-SERIES END CAP INSERTION DETAIL

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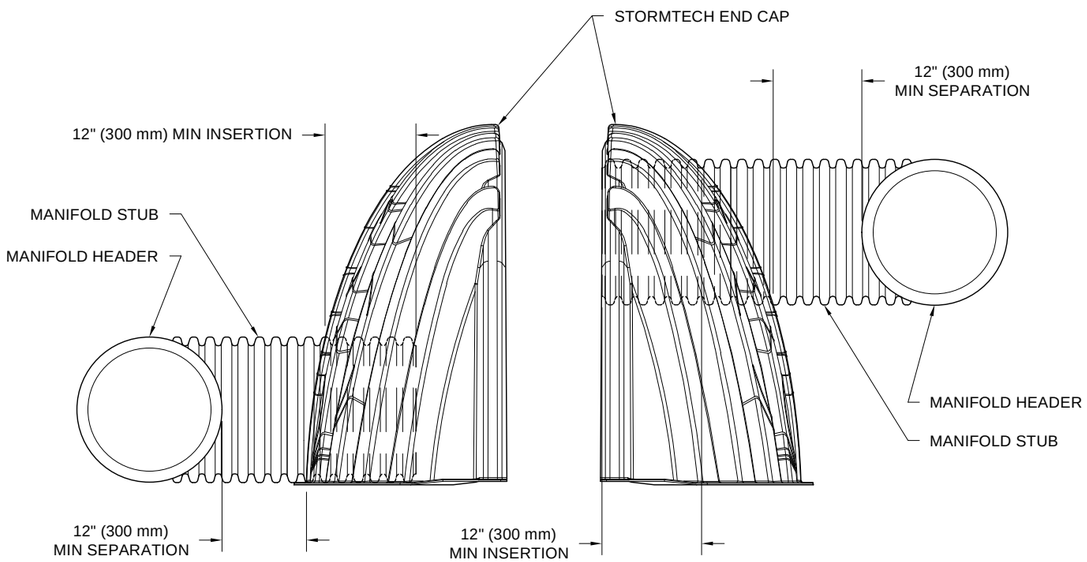
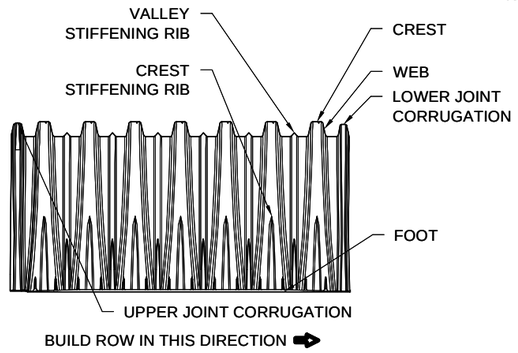
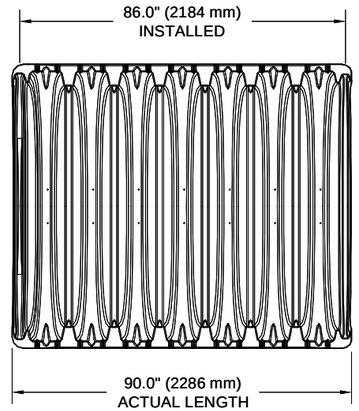


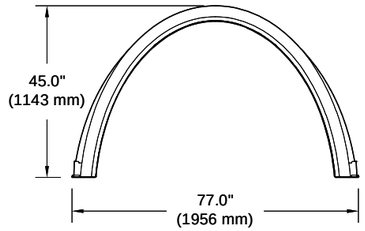
NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

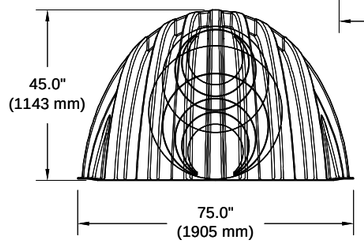
MC-3500 TECHNICAL SPECIFICATION

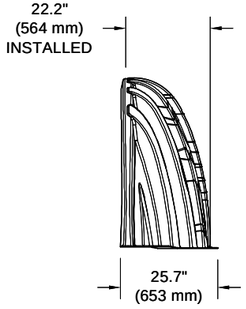
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 mj)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 mj)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

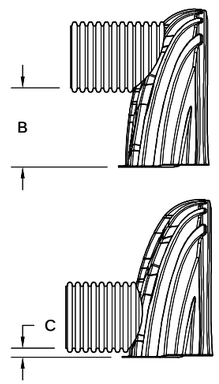
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 mj)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 mj)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

COLEMAN ROOF 5 UNIT
GLASTONBURY, CT

DATE: | DRAWN: JS | CHECKED: N/A | PROJECT #:

REV	DESCRIPTION	CHK	DRW

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NYLOPLAST DRAIN BASIN

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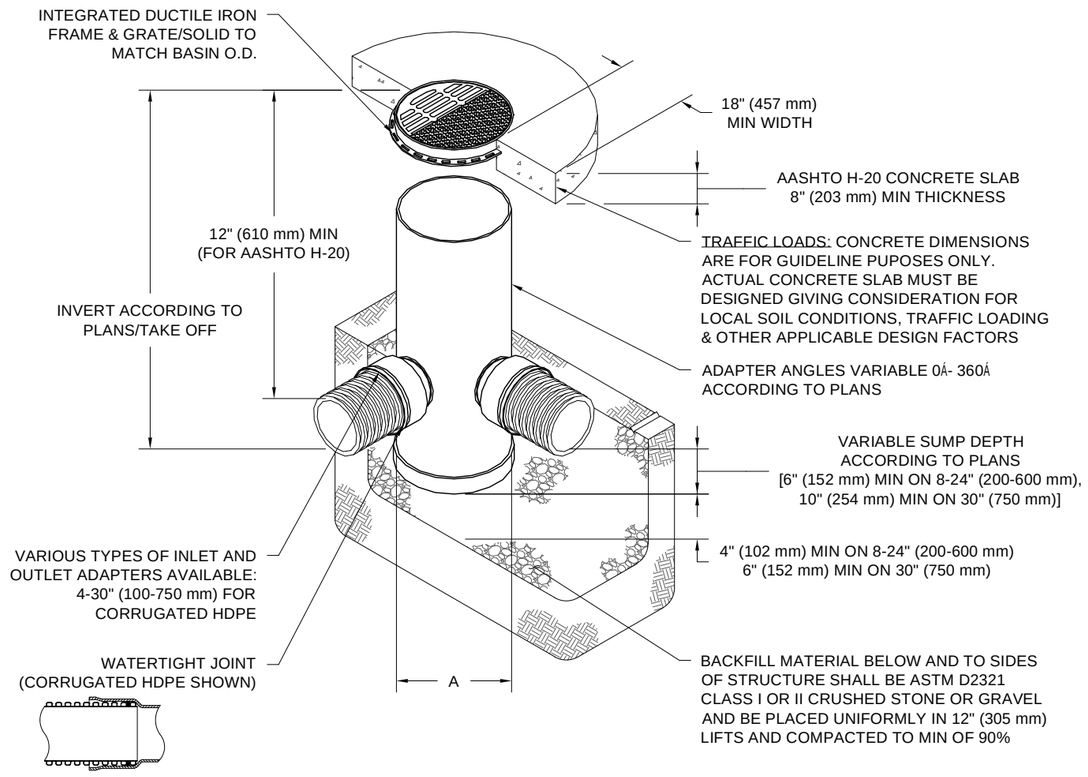

NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

COLEMAN ROOF 5 UNIT
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FAX (770) 932-2490
www.nyloplast-us.com

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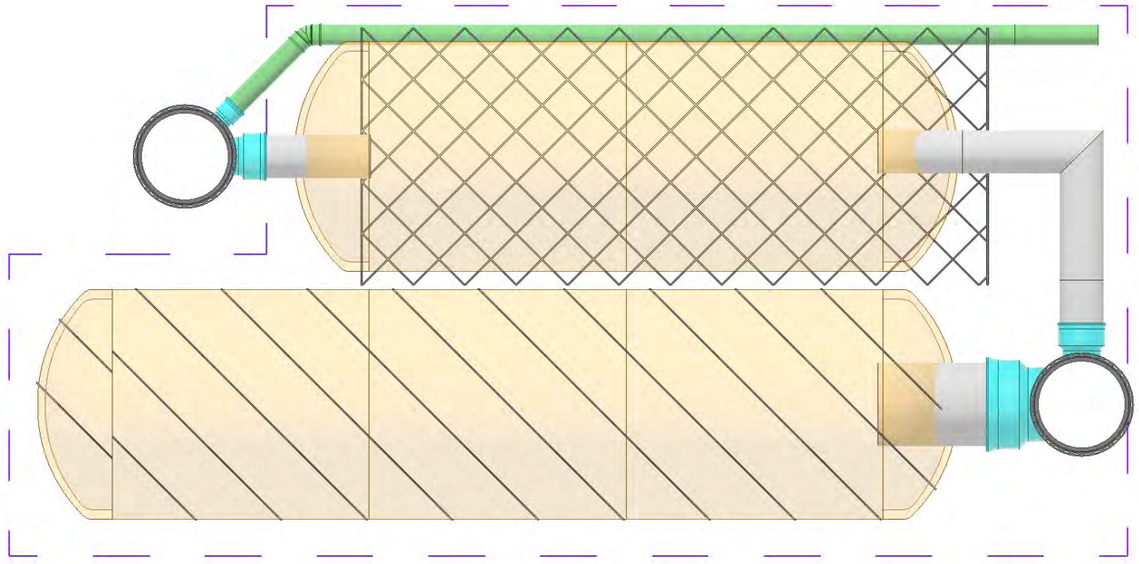

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

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COLEMAN ROOF 6 UNIT

GLASTONBURY, CT

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3ô.
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73Á F / 23Á C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

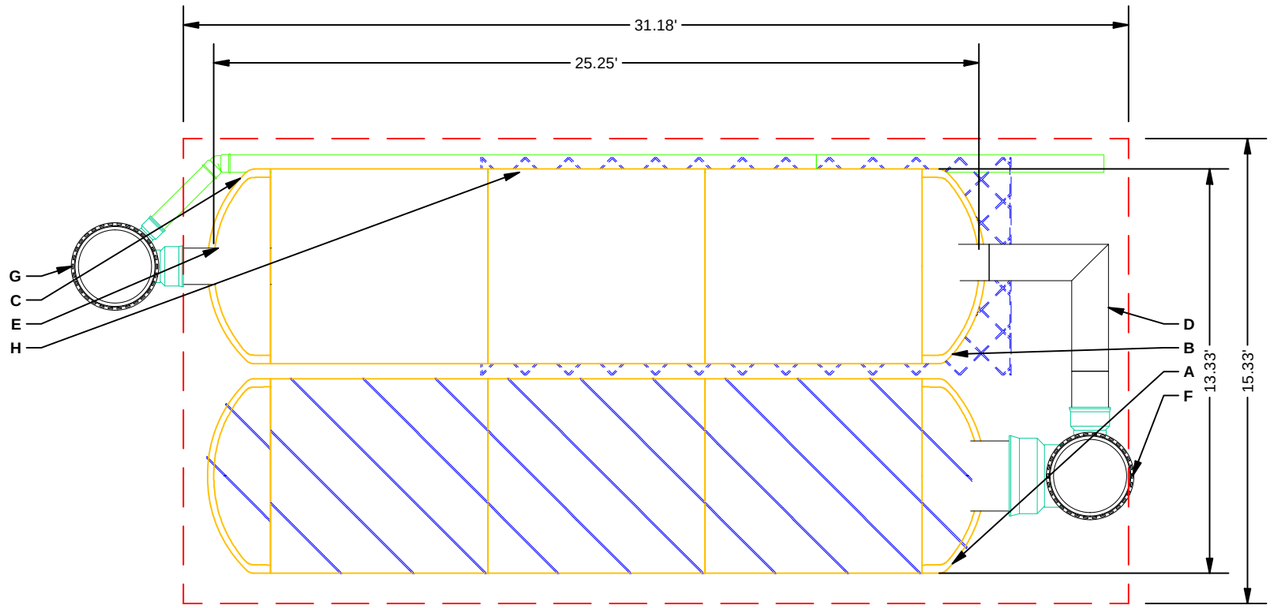
6	STORMTECH MC-3500 CHAMBERS
4	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	STONE VOID
1484	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
478	SYSTEM AREA (SF)
93.0	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.50
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	7.00
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	6.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	6.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	6.00
TOP OF STONE:	5.50
TOP OF MC-3500 CHAMBER:	4.50
12" x 12" TOP MANIFOLD INVERT:	2.95
24" ISOLATOR ROW INVERT:	0.92
12" BOTTOM CONNECTION INVERT:	0.86
BOTTOM OF MC-3500 CHAMBER:	0.75
UNDERDRAIN INVERT:	0.00
BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	2.06"	
PREFABRICATED END CAP	B	12" TOP CORED END CAP/TYP OF ALL 12" TOP CONNECTIONS	26.40"	
PREFABRICATED END CAP	C	12" BOTTOM CORED END CAP/TYP OF ALL 12" BOTTOM CONNECTIONS	1.35"	
MANIFOLD	D	12" x 12" TOP MANIFOLD, ADS N-12	26.36"	
PIPE CONNECTION	E	12" BOTTOM CONNECTION	1.35"	
NYLOPLAST (INLET W/ ISO ROW)	F	30" DIAMETER (24.00" SUMP MIN)		2.5 CFS IN
NYLOPLAST (OUTLET)	G	30" DIAMETER (DESIGN BY ENGINEER)		2.0 CFS OUT
UNDERDRAIN	H	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 17.50' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

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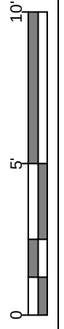
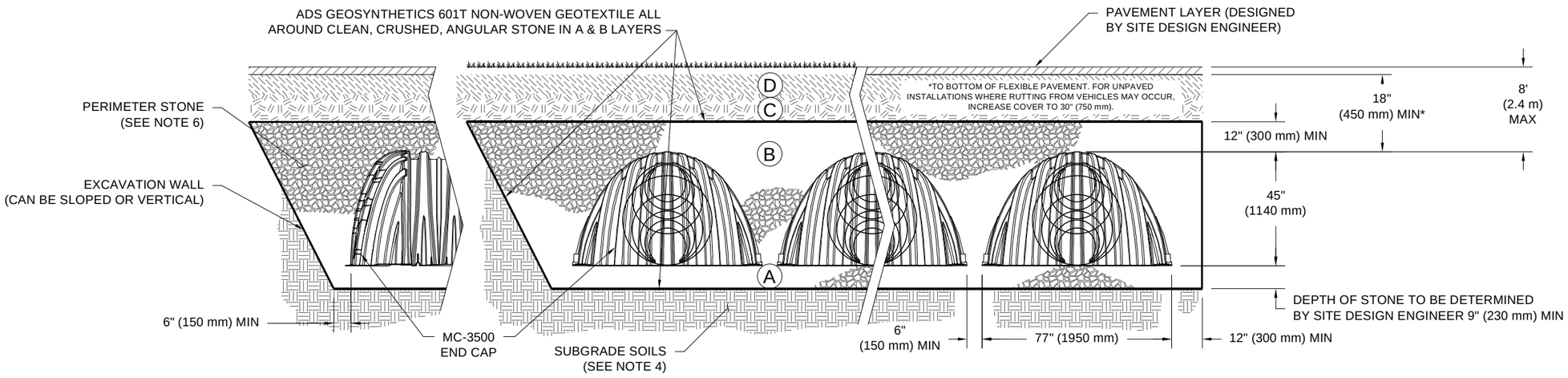


ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145ĭ A-1, A-2-4, A-3 OR AASHTO M43ĭ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43ĭ 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43ĭ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3ò.
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73Á F / 23Á C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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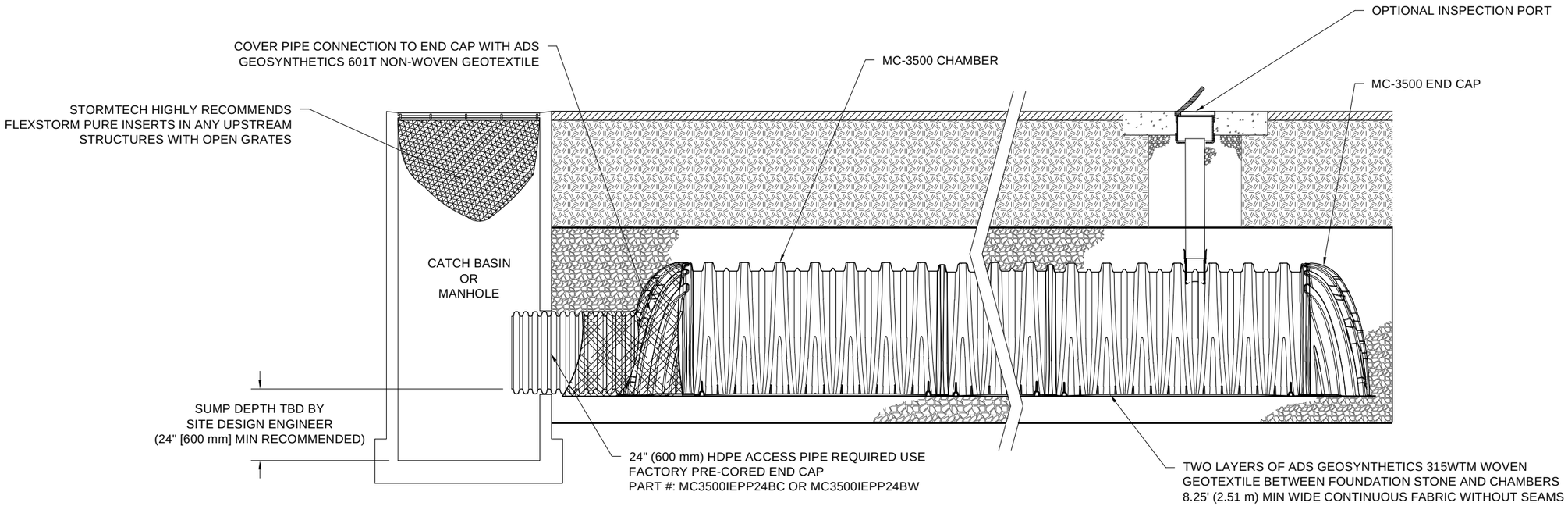

MC-3500 ISOLATOR ROW DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

COLEMAN ROOF 6 UNIT
GLASTONBURY, CT

DATE:
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REV	DRW	CHK	DESCRIPTION

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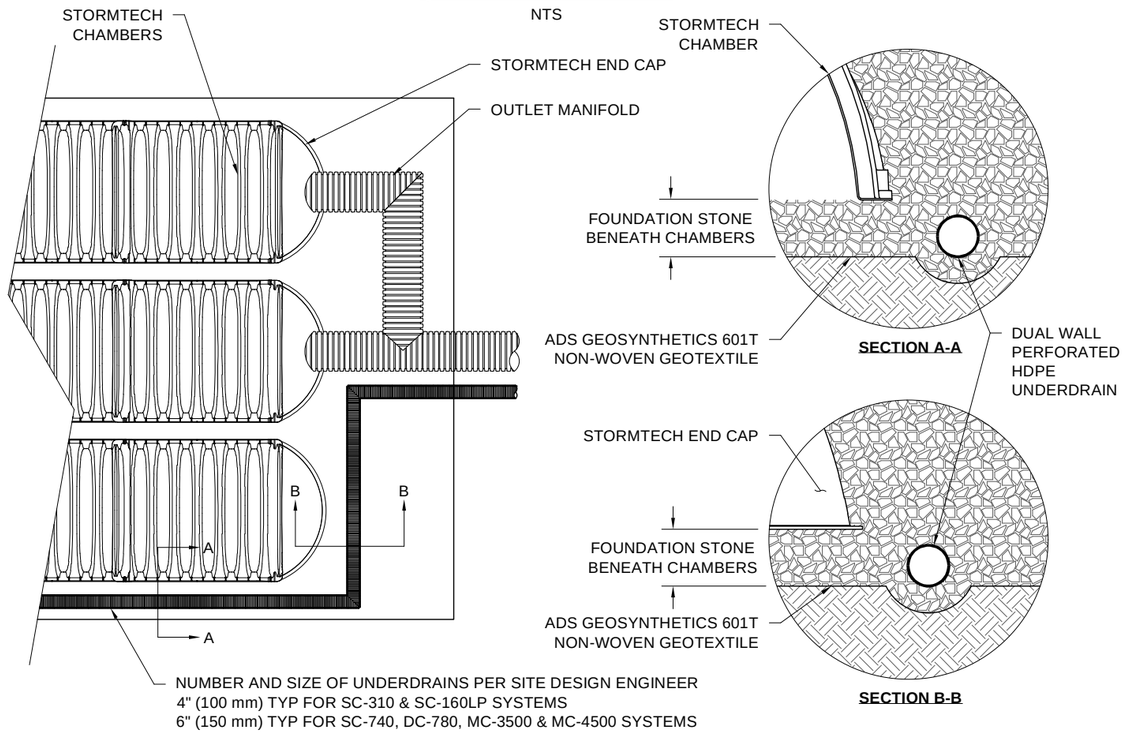
UNDERDRAIN DETAIL

NTS



MC-SERIES END CAP INSERTION DETAIL

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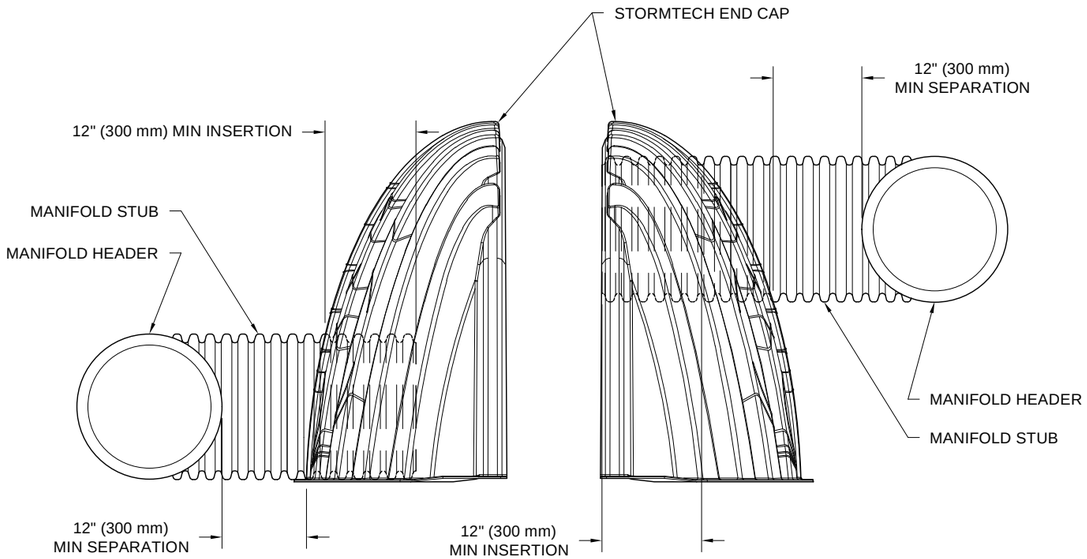
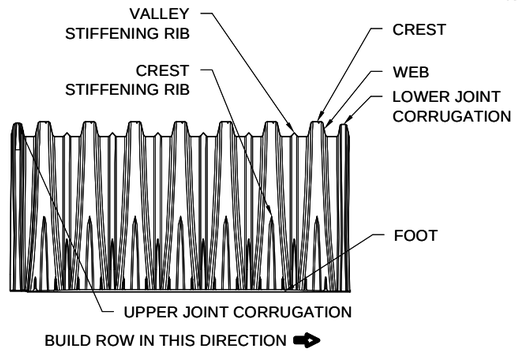
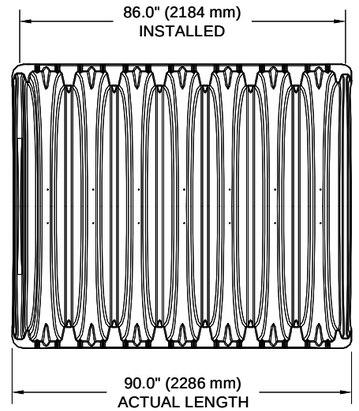


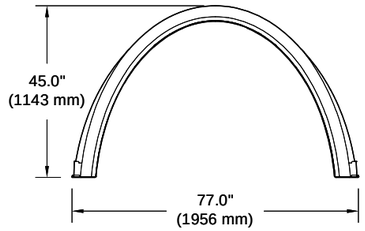
NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

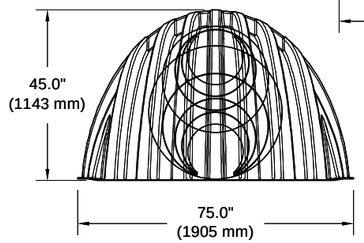
MC-3500 TECHNICAL SPECIFICATION

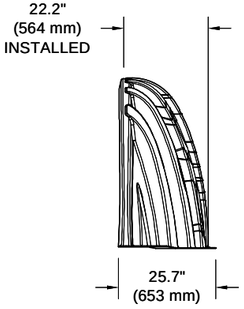
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 mj)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 mj)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

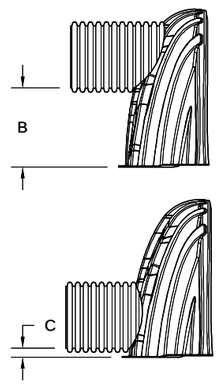
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 mj)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 mj)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

COLEMAN ROOF 6 UNIT
GLASTONBURY, CT

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NYLOPLAST DRAIN BASIN

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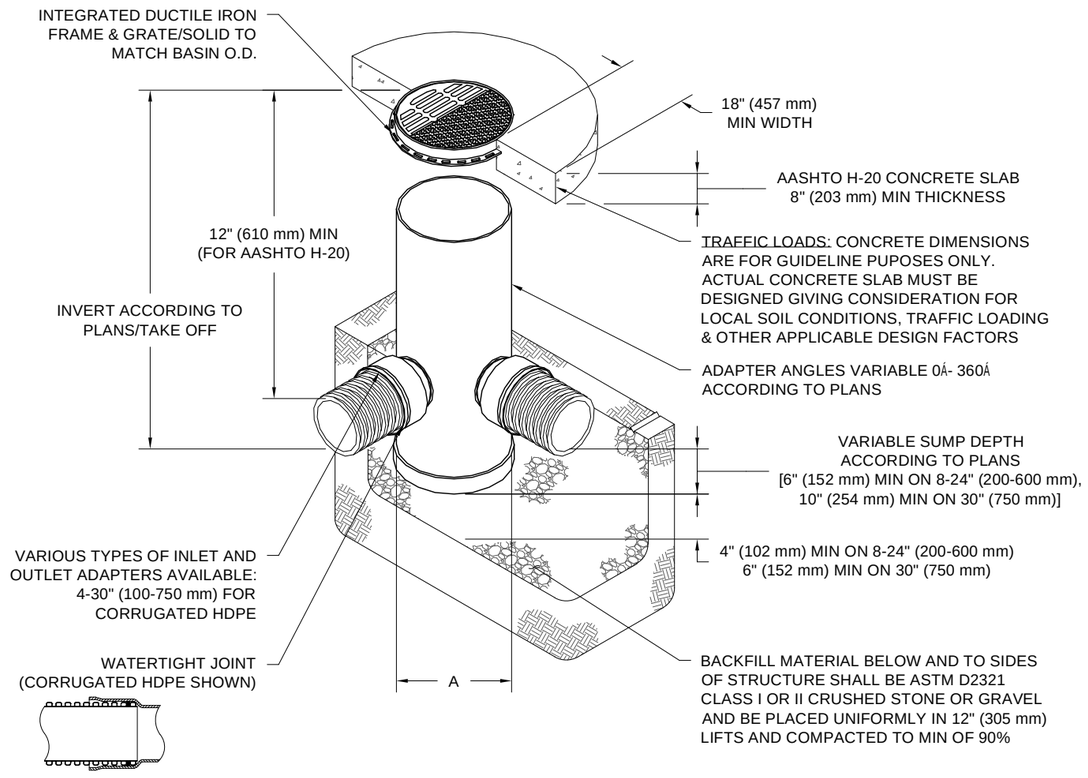

NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

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