

Exhibit 6
STORMWATER MANAGEMENT REPORT

Anderson Street Realty, LLC.
122 Anderson Street
Portland, Maine 04101

A. Existing Conditions

The existing property occupies approximately 2.70 acres of land is currently developed for industrial and commercial use. The property includes two buildings, paved and gravel areas for parking and vehicular traffic and vegetated areas for stormwater management. A Paved parking lot for the Maine Muslin Community Center occupies a portion of the property but the Maine Muslin Community Center is not a part of the property.

Runoff from the site sheet flows to two general locations. The majority of the stormwater from the site flows toward the north/northeast. The stormwater that flows toward the northeastern property line enters into a swale that flows in to an existing stormwater infiltration pond located along the northern property line. Stormwater that flows toward the north enters directly into the stormwater infiltration pond. There is no apparent outlet control structure to discharge the collected stormwater during large storm events safely offsite. In the event that the stormwater infiltration pond over tops, the stormwater would flow through a low point in the pond's berm onto the property owned by the City of Portland and designated Bayside Trail.

Runoff that flows southeast toward Anderson Street enters into the existing closed drainage system located along the street. This stormwater is not treated prior to discharging from property.

B. Proposed Site Improvements

The proposed development will include the construction of a 22,400 square foot building, paved surfaces for vehicular traffic and parking and a 6-foot wide stone dust trail to connect Anderson St. to Bayside Trail. The proposed development will increase the amount of rooftop impervious area but will reduce the overall amount of impervious area that exists under predevelopment conditions. The proposed development will reduce the amount of impervious surfaces by approximately 4,654 square feet.

The stormwater management plan was designed so that existing drainage patterns are not significantly altered from the existing drainage pattern that exist today. The majority of the stormwater from the site will still flow toward the north/northeast. The stormwater that flows toward the northeastern property line will enter into a regraded grass ditch that flows in to the existing stormwater infiltration pond. The runoff from the proposed building will flow off the rooftop toward the southwest. The stormwater from the roof will enter into the proposed Roofline Drip Edge BMP. The Roofline Drip Edge BMP has been designed in accordance with the MDEP Stormwater Management Design Manual. After passing through

the Roofline Drip Edge, the stormwater will be discharged into the existing stormwater infiltration pond. The introduction of the Roofline Drip Edge and the reduction of the overall impervious area has reduced the amount of stormwater flow in post development compared the pre development stormwater flows. The primary outlet for stormwater entering into the stormwater infiltration pond will still remain as infiltration into the ground during post development conditions. In the event that the stormwater infiltration pond over tops, the stormwater would still flow through a low point in the pond's berm onto the property owned by the City of Portland and designated Bayside Trail.

Overall the re-development of this site will provide 85.5% treatment over the entirety of the impervious site. Since this is a re-development site we cannot collect more than 88% of the of the developed area, as the front of the site hosting existing structures flows back into Anderson Street. And there is no catch basin infrastructure from the site into Anderson Street and that piece of the site has existed for numerous decades. As a result the runoff that flows southeast toward Anderson Street enters into the existing closed drainage system located along the street. This stormwater is not treated prior to discharging from property.

The proposed improvements further improve the site runoff quality, and due to the presence of underlying soil contamination the options to treat are very limited by physical restrictions and cost for contaminated soil removal.

Thereby we feel we have provided the necessary level of water quality as a redeveloped parcel meeting the Maine DEP standards.

Prepared by

SEBAGO TECHNICS, INC.

A handwritten signature in black ink, appearing to read "James R. Seymour". The signature is fluid and cursive, with a long horizontal stroke at the end.

James R. Seymour, P.E.
Senior Project Manager



September 22, 2016
16037

Barbara Barhydt, Senior Planner
City of Portland Planning Division
City Hall, 4th Floor
389 Congress St.
Portland, ME 04101

Site Plan Level 3 Application Submittal – Anderson Street Realty, LLC
Proposed Multi-tenant Industrial Flex Building and Parking Lot Improvements;
122 Anderson Street, Portland, Maine

Dear Ms. Barhydt:

On behalf of Anderson Street Realty, LLC please find attached 1 (one) paper copy and one diskette with the site plan application and site plans for the Level 3 Site Plan application for the proposed proposed Multi-tenant Industrial Flex Building and Parking Lot Improvements for the project located at 122 Anderson Street. The applicant is requesting a site plan review but is technically an amended site plan as the site was approved in 2008 for a container trucking storage yard. The project will entail plans to construct a 22,400 SF multi-tenant commercial building with associated parking area where a previous trucking sand container storage yard existed. The Owner, Mr. Cardente, feels the site will offer a positive opportunity for small commercial/industrial services or other low impact commercial/industrial uses for local expansion and growth, and can continue to rejuvenate the Bayside portion of the City. Additionally, it will displace a previous vacant brownfield site, and provide small business opportunities with benefits to the City.

The parcel is on a mostly vacant 2.70 acre site classified as a Brownfield industrial site, but was capped during the construction of the container yard in 2008, and since has been used as a construction staging area during the City's reconstruction of Anderson Street. Two existing small production buildings will remain unchanged near the front of the property closest to Anderson Street (Tandem Coffee and Bunker Beer). In the place of the expansive vacant rear section, the owner has requested that a rear 10 unit commercial multi-tenant building with new parking area be constructed. To provide off-street parking spaces for his multi-tenant building, the site was reconfigured to actually reduce impervious area. Our understanding is that this plan and application will be reviewed by the Planning Board given the building footprint exceeds the 20,000 SF threshold. We are hopeful that we might be able to commence subsurface construction prior to the winter season. We anticipate hosting a neighborhood meeting immediately planned approximately for October 4th and we will forward notices and results upon its conclusion.

There currently is some off street parking provided for the existing production building/units (Tandem Coffee Producers and Bunker Beer Brewery). The proposed design would create a total of 72 spaces for the entire lot, and paved access to proposed Building at the rear of the lot, as well improve general circulation around the entire street such access to Anderson Street is streamlined and convenient for incoming traffic. As seen by the attached plans, the northernmost access by the existing scales, is an acute angle and currently congested by the scales. The trucking scales will be removed, the entrance will

be controlled to 24 feet width, and a sidewalk will be added for pedestrian access from the lot to Anderson Street. The sites internal access will be improved with curbed radius islands, clear aisles conforming to City standards, and access provided to return outward bound traffic back onto Anderson Street closer to Fox Street.

The existing site structures will be unchanged, requiring no additional utilities or improvements. We have provided four bike racks in the rear and front, and have decreased the impervious area of the lot by widening green areas and adding landscaping internal points/islands. Given the proposed roof top will shed runoff to the western edge of the lot we have incorporated an infiltration drip edge and maintained the existing infiltration treatment pond and accompanied swales as were approved previously for stormwater treatment, we feel we have reduced impervious surface areas while further improving water quality. There is no addition space or depths available to treat the runoff that is in this confined lot and close to existing Trails and abandoned railroad spurs. Current flows would match existing patterns draining the areas towards the Bayside Trail.

To prove this project meeting the Level 3 requirements, we are formerly preparing Stormwater Management Plan and treatment calculations, which indicate the levels of stormwater treatment. We will be connecting underground utilities to services that were stubbed during recent street reconstruction in Anderson Street, or are existing into the site, like power and telco. We are adding some parking and exterior building lighting to promote a secure location, all lighting will be LED lighting with full shielded cut off fixtures. And finally we will be landscaping the site to make a pedestrian friendly and pleasing appearance for the site and surrounding neighborhood.

The applicant is under a strict construction schedule and would appreciate the earliest opportunity to review and meet with the Planning Board such that the owner can commence foundation construction as soon as possible prior to the cold winter temperatures. The site is currently in a compacted gravel surface/state following the construction staging area. And as such the site is well equipped to stage the construction of the building without much complication.

If you have any questions on this application, please do not hesitate to contact us. We look forward to hearing from you.

Sincerely,

SEBAGO TECHNICS, INC.



James R. Seymour, P.E.
Project Manager

JRS/Ilg
Enc.

cc: Doug Cardente-122 Anderson Street Realty LLC
Greg Patterson- PATCO Construction

SEBAGO TECHNICS INC.

75 John Roberts Rd

Suite 1A

South Portland, ME 04106

(207)200-2100 Fax (207)856-2206

MDEP Redevelopment Land Use

Anderson Steet Realty, Inc.

Job #16037

Land Use (Pollutant Ranking)	Existing Conditions (Ac)	Existing Condition Pollutant Ranking	Existing Condition Weighted Average	Proposed Conditions (Ac)	Proposed Condition Pollutant Ranking	Proposed Condition Weighted Average
High use parking lots (5)	0.000	5	0.00	0.000	5	0.00
Medium use parking lots (4)	0.000	4	0.00	0.000	4	0.00
Parking lots and driveways, Flat Asphalt rooftops (3)	2.447	3	7.34	1.800	3	5.40
Other rooftops, Bikeways, Grassed areas mowed more than twice per year, walkways/foot traffic only pavement (2)	0.058	2	0.12	1.203	2	2.41
Non-grass landscaped areas, Stormwater treatment/storage systems (1)	0.757	1	0.76	0.260	1	0.26
Forest, Meadow mowed no more than twice per year (0)	0.000	0	0.00	0.000	0	0.00
Total (Ac.)	3.262	Total Existing Impact Rating	8.21	3.262	Total Proposed Impact Rating	8.06

Existing Impact Rating / Total Redevelopment Acres	2.518
Proposed Impact Rating / Total Redevelopment Acres	2.472
Ranked Impact Change due to Redevelopment	0.046

Ranked Impact Change due to Redevelopment of between ≥ 0.0 to ≤ 1.0 require 60% of the developed areas to be treated as stated in Table 3 of Chapter 500 Stormwater Management

Table 1: MDEP GENERAL STANDARD CALCULATIONS
 Anderson Street Realty, Inc.
 Job #16037

A	B	C	D	E	F	G	H	I	J	K	L	M
AREA ID	WATERSHED SIZE (S.F.)	EXISTING ONSITE IMPERVIOUS AREA (S.F.)	NEW ONSITE IMPERVIOUS AREA (S.F.)	EXISTING ONSITE LANDSCAPED AREA (S.F.)	NEW ONSITE LANDSCAPED AREA (S.F.)	NET NEW DEVELOPED AREA (S.F.)	NET EXISTING DEVELOPED AREA (S.F.)	TREATMENT PROVIDED?	IMPERVIOUS AREA TREATED* (S.F.)	LANDSCAPED AREA TREATED* (S.F.)	DEVELOPED AREA TREATED* (S.F.)	TREATMENT BMP
1S	101,311	63,522	152	28,596	9,041	9,193	92,118	YES	63,674	37,637	101,311	Infiltration Basin
2S	23,540	22,694	846	0	0	846	22,694	YES	23,540	0	23,540	Roof Drip Edge
3S	17,259	14,717	0	2,542	0	0	17,259	No	0	0	0	None
TOTAL (S.F.)	142,110	100,933	998	31,138	9,041	10,039	132,071		87,214	37,637	124,851	

TOTAL NEW IMPERVIOUS AREA (S.F.)	998	TOTAL NEW DEVELOPED AREA (S.F.)	10,039
EXISTING IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	86,216	EXISTING DEV. AREA RECEIVING TREATMENT (S.F.)	114,812
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	87,214	TOTAL DEV. AREA RECEIVING TREATMENT (S.F.)	124,851
TOTAL IMPERVIOUS AREA (S.F.)	101,931	TOTAL DEV. AREA (S.F.)	142,110
% OF IMPERVIOUS AREA RECEIVING TREATMENT	85.56%	% OF DEV. AREA RECEIVING TREATMENT	87.86%

Net New Development Area (G)= D + F = G
 Net Existing Development Area (H)= C + E = H

SEBAGO TECHNICS, INC.
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 South Portland, ME 04106
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JOB 16037
 SHEET NO. 1 OF 1
 CALCULATED BY BJB DATE 9/12/2016
 CHECKED BY JRS
 FILE NAME 13367 WQC PRINT DATE 9/15/2016
 MDEP Site Location of Development Submission

Note: Underdrained Soil Filters are sized in accordance with Chapter 7 of the Maine Department of Environmental Protection BMPs Technical Design Manual, latest revision

Treatment Calculations for Proposed Infiltration Basin #1 (IB-1)			
<i>Subcatchments tributary to IB-1 include 1S</i>			
WQV Calculation			
(WQV = Water Quality Volume)			
Total Impervious Area =	63,674	sf	
Total Landscaped Area =	37,637	sf	
Redeveloped Impervious Treatment Area =	38,204	sf	Areas are based on 60% of required treatment level per Table 3 of Chapter 500
Redeveloped Landscaped Treatment Area =	22,582	sf	
WQV Required = 1" x Impervious Area + 0.4"x Landscape Area =	3,936.4	cf	
WQV Provided =	36,845.0	cf @ 3.2' depth	
Pre-treatment Sediment Forebay Volume Calculation			
Sand Application Rate =	50.0	cf/acre/year	
Total Impervious Area =	38,204	sf	
Tributary to IB #1			
Required Pre-treatment Volume =	44	cf	
Provided Pre-treatment Volume =		cf	

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JOB 16037
 SHEET NO. 1 OF 1
 CALCULATED BY BJB DATE 9/12/2016
 CHECKED BY JRS
 FILE NAME 15096 WQV PRINT DATE 9/15/2016

Note: Underdrained Soil Filters are sized in accordance with Chapter 7 of the Maine Department of Environmental Protection BMPs Technical Design Manual, latest revision

Treatment Calculations for Proposed Roof Dripline Filter #1 (RD-1)			
Subcatchments tributary to RD-1 include 2S			
WQV Calculation			
(WQV = Water Quality Volume)			
Total Impervious Area =	23,544.0	sf	
Redeveloped Impervious Treatment Area=	14,126	sf	Areas are based on 60% of required treatment level per Table 3 of Chapter 500
WQV Required= 1.0" x Impervious Area =	1,177.2	cf	
WQV Provided =	637.0	cf @ 1.5' depth	

Pre-Development Stormwater Calculations



Flow To Existing
Infiltration Basin



Existing Infiltration Basin



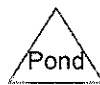
Analysis Point 1



Flow To Existing
Infiltration Basin



Analysis Point 2



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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
35,525	39	>75% Grass cover, Good, HSG A (1S, 2S)
54,400	96	Gravel surface, HSG A (1S)
42,169	98	Paved parking, HSG A (1S, 2S)
10,016	98	Roofs, HSG A (1S, 2S)
142,110	82	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
142,110	HSG A	1S, 2S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
142,110		TOTAL AREA

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Type III 24-hr 2-YR Rainfall=3.10"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Flow To Existing Runoff Area=124,851 sf 30.01% Impervious Runoff Depth=1.46"
Flow Length=418' Tc=6.0 min CN=82 Runoff=4.88 cfs 15,171 cf

Subcatchment 2S: Flow To Existing Runoff Area=17,259 sf 85.27% Impervious Runoff Depth=1.99"
Flow Length=95' Slope=0.0200 '/ Tc=6.0 min CN=89 Runoff=0.92 cfs 2,863 cf

Reach AP-1: Analysis Point 1 Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach AP-2: Analysis Point 2 Inflow=0.92 cfs 2,863 cf
Outflow=0.92 cfs 2,863 cf

Pond 1P: Existing Infiltration Basin Peak Elev=6.55' Storage=5,800 cf Inflow=4.88 cfs 15,171 cf
Discarded=0.51 cfs 15,173 cf Primary=0.00 cfs 0 cf Outflow=0.51 cfs 15,173 cf

Total Runoff Area = 142,110 sf Runoff Volume = 18,033 cf Average Runoff Depth = 1.52"
63.28% Pervious = 89,925 sf 36.72% Impervious = 52,185 sf

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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Subcatchment 1S: Flow To Existing Infiltration Basin

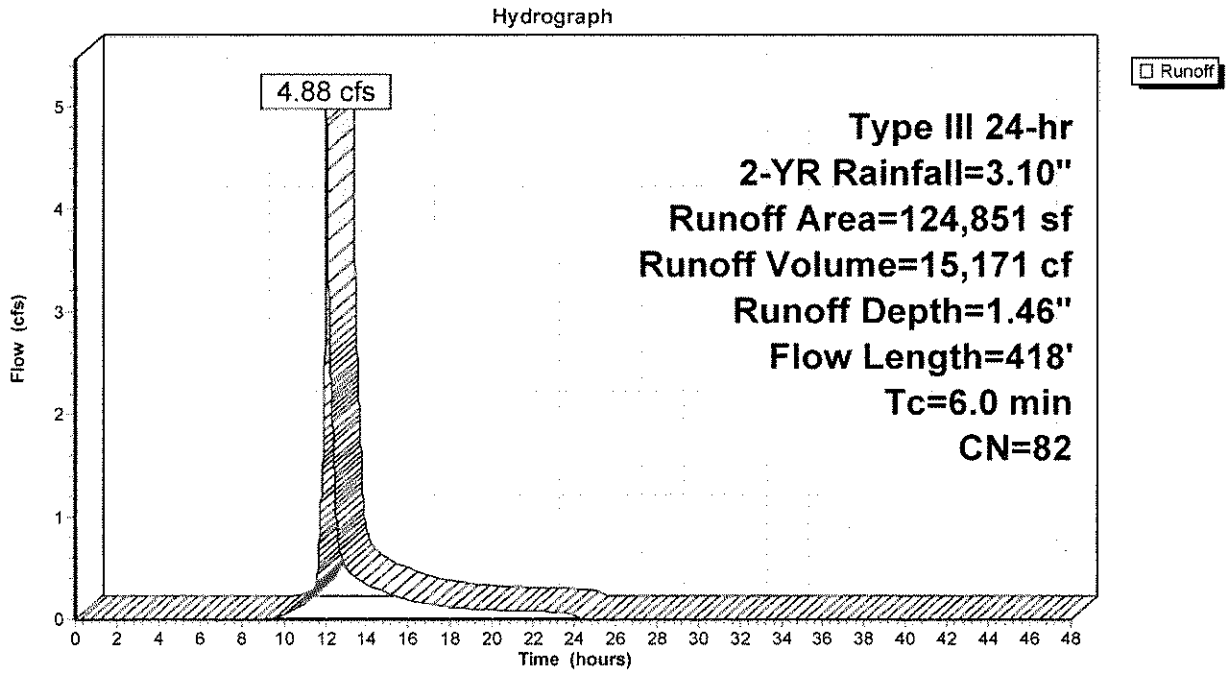
Runoff = 4.88 cfs @ 12.09 hrs, Volume= 15,171 cf, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
8,873	98	Roofs, HSG A
28,595	98	Paved parking, HSG A
54,400	96	Gravel surface, HSG A
32,983	39	>75% Grass cover, Good, HSG A
124,851	82	Weighted Average
87,383		69.99% Pervious Area
37,468		30.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	66	0.0450	1.72		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
3.2	94	0.0050	0.49		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.2	258	0.0155	3.51	17.54	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.035 Earth, dense weeds
1.0					Direct Entry, Direct Entry
6.0	418	Total			

Subcatchment 1S: Flow To Existing Infiltration Basin



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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Subcatchment 2S: Flow To Existing Infiltration Basin

Runoff = 0.92 cfs @ 12.09 hrs, Volume= 2,863 cf, Depth= 1.99"

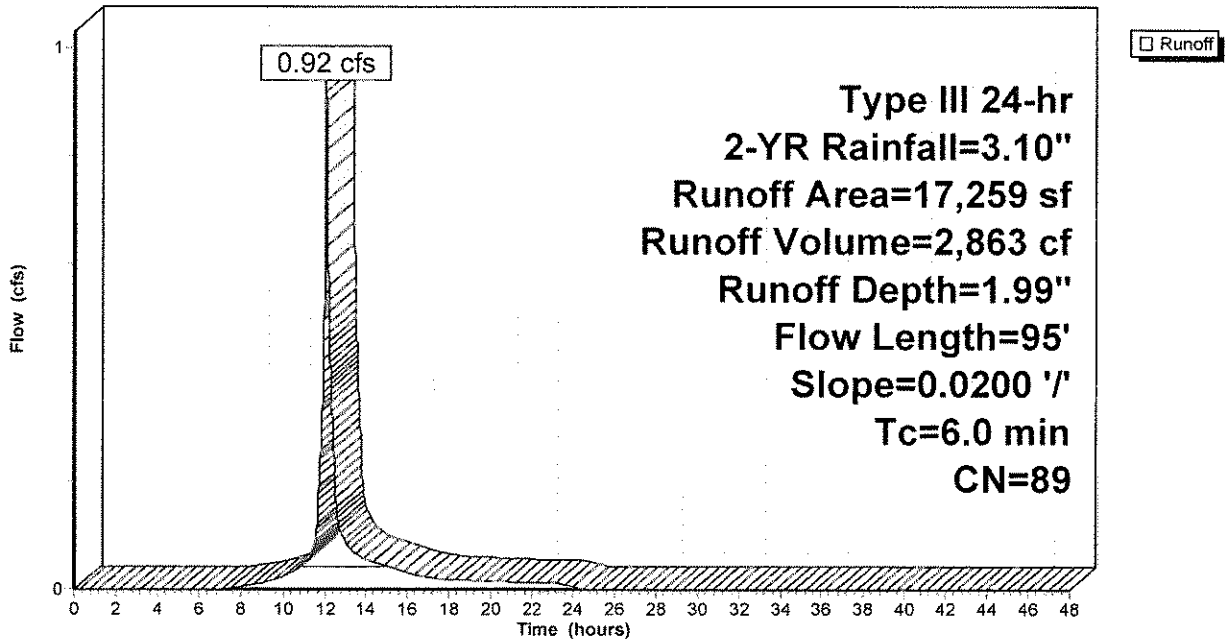
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,143	98	Roofs, HSG A
13,574	98	Paved parking, HSG A
2,542	39	>75% Grass cover, Good, HSG A
17,259	89	Weighted Average
2,542		14.73% Pervious Area
14,717		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
4.8					Direct Entry, Direct Entry
6.0	95	Total			

Subcatchment 2S: Flow To Existing Infiltration Basin

Hydrograph

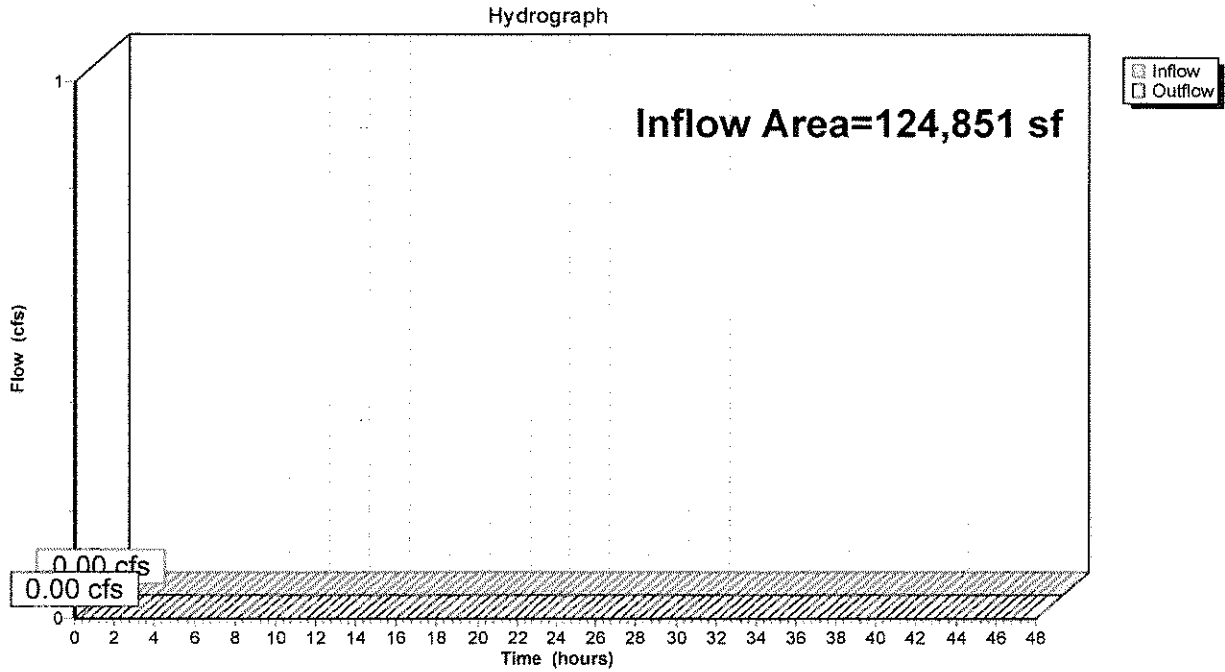


Summary for Reach AP-1: Analysis Point 1

Inflow Area = 124,851 sf, 30.01% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach AP-1: Analysis Point 1

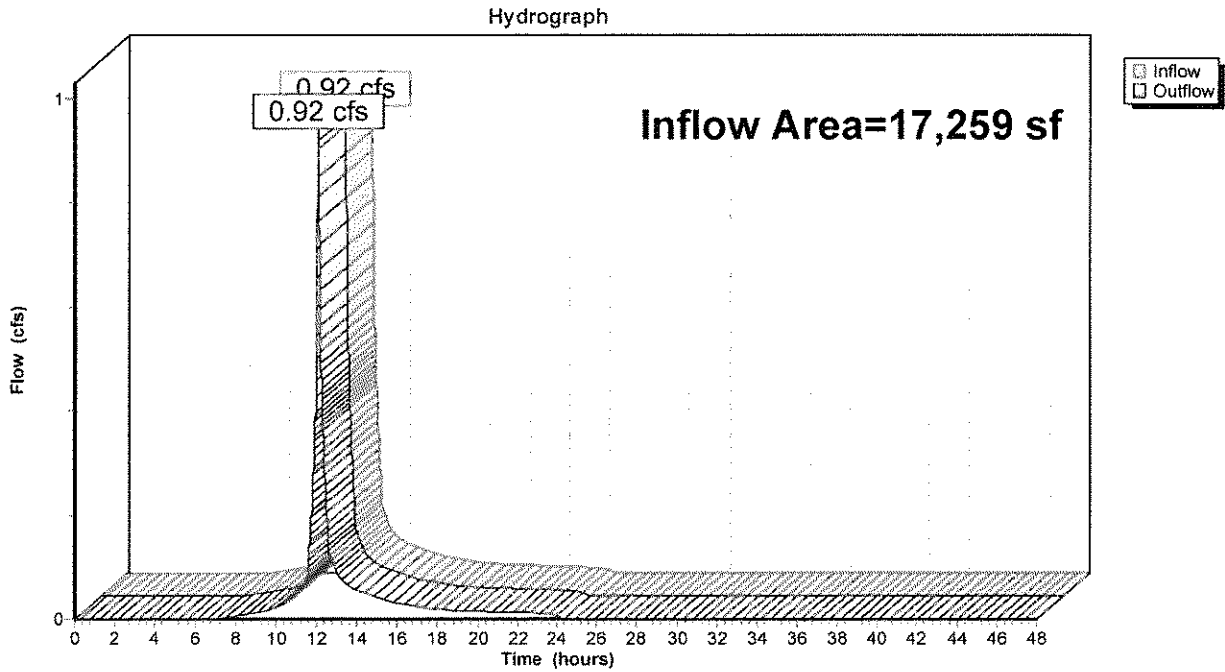


Summary for Reach AP-2: Analysis Point 2

Inflow Area = 17,259 sf, 85.27% Impervious, Inflow Depth = 1.99" for 2-YR event
Inflow = 0.92 cfs @ 12.09 hrs, Volume= 2,863 cf
Outflow = 0.92 cfs @ 12.09 hrs, Volume= 2,863 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach AP-2: Analysis Point 2



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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Pond 1P: Existing Infiltration Basin

Inflow Area = 124,851 sf, 30.01% Impervious, Inflow Depth = 1.46" for 2-YR event
 Inflow = 4.88 cfs @ 12.09 hrs, Volume= 15,171 cf
 Outflow = 0.51 cfs @ 13.02 hrs, Volume= 15,173 cf, Atten= 90%, Lag= 55.5 min
 Discarded = 0.51 cfs @ 13.02 hrs, Volume= 15,173 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 6.55' @ 13.02 hrs Surf.Area= 9,113 sf Storage= 5,800 cf
 Flood Elev= 9.50' Surf.Area= 18,425 sf Storage= 37,545 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 105.9 min (943.7 - 837.8)

Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	37,545 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.80	4,413	0	0
6.00	7,557	1,197	1,197
7.00	10,375	8,966	10,163
8.00	12,982	11,679	21,842
9.00	18,425	15,704	37,545

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	2.410 in/hr Infiltration over Surface area
#2	Primary	9.00'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50 5.00 5.50			
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			

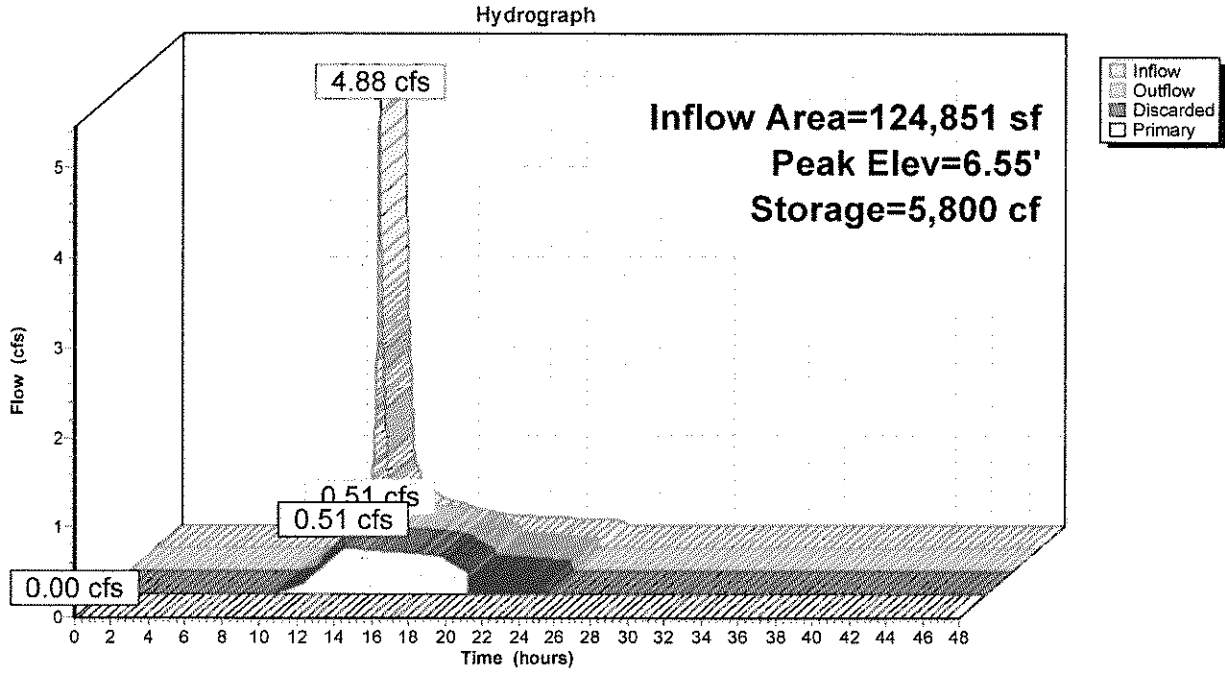
Discarded OutFlow Max=0.51 cfs @ 13.02 hrs HW=6.55' (Free Discharge)

↑1=**Infiltration** (Exfiltration Controls 0.51 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.80' TW=0.00' (Dynamic Tailwater)

↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Existing Infiltration Basin



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Type III 24-hr 10-YR Rainfall=4.60"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Flow To Existing Runoff Area=124,851 sf 30.01% Impervious Runoff Depth=2.72"
Flow Length=418' Tc=6.0 min CN=82 Runoff=9.15 cfs 28,341 cf

Subcatchment 2S: Flow To Existing Runoff Area=17,259 sf 85.27% Impervious Runoff Depth=3.39"
Flow Length=95' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=1.54 cfs 4,876 cf

Reach AP-1: Analysis Point 1 Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach AP-2: Analysis Point 2 Inflow=1.54 cfs 4,876 cf
Outflow=1.54 cfs 4,876 cf

Pond 1P: Existing Infiltration Basin Peak Elev=7.29' Storage=13,234 cf Inflow=9.15 cfs 28,341 cf
Discarded=0.62 cfs 28,345 cf Primary=0.00 cfs 0 cf Outflow=0.62 cfs 28,345 cf

Total Runoff Area = 142,110 sf Runoff Volume = 33,217 cf Average Runoff Depth = 2.80"
63.28% Pervious = 89,925 sf 36.72% Impervious = 52,185 sf

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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Subcatchment 1S: Flow To Existing Infiltration Basin

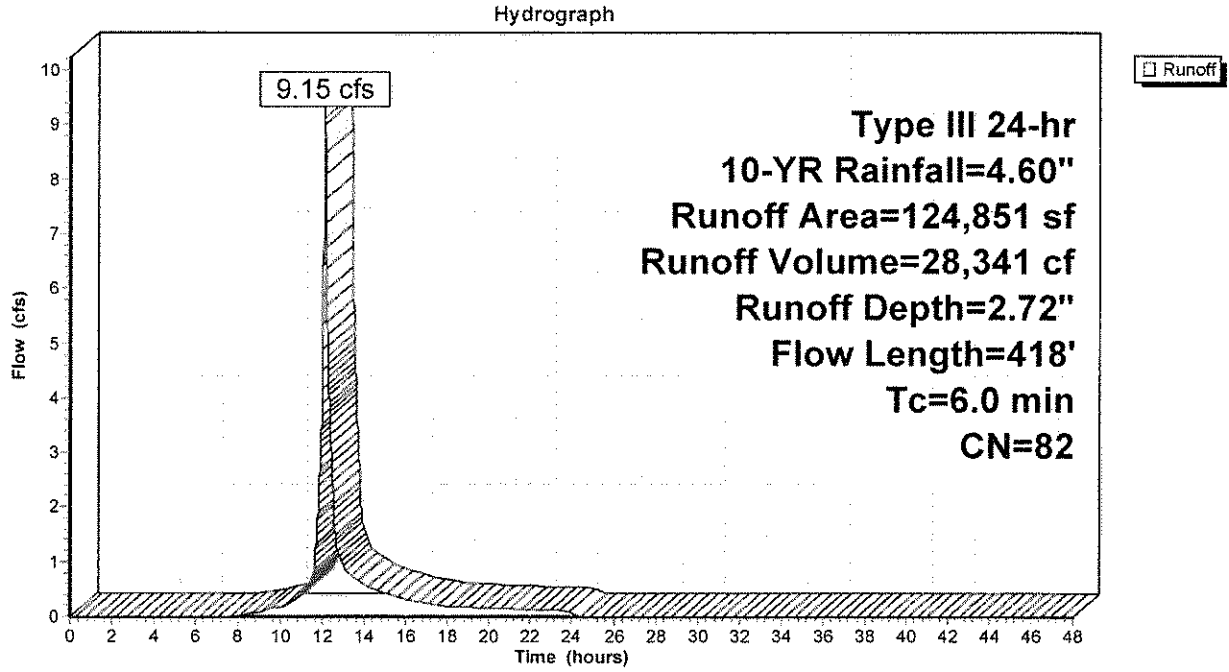
Runoff = 9.15 cfs @ 12.09 hrs, Volume= 28,341 cf, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
8,873	98	Roofs, HSG A
28,595	98	Paved parking, HSG A
54,400	96	Gravel surface, HSG A
32,983	39	>75% Grass cover, Good, HSG A
124,851	82	Weighted Average
87,383		69.99% Pervious Area
37,468		30.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	66	0.0450	1.72		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
3.2	94	0.0050	0.49		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.2	258	0.0155	3.51	17.54	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.035 Earth, dense weeds
1.0					Direct Entry, Direct Entry
6.0	418	Total			

Subcatchment 1S: Flow To Existing Infiltration Basin



16037 Pre Development

Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Subcatchment 2S: Flow To Existing Infiltration Basin

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 4,876 cf, Depth= 3.39"

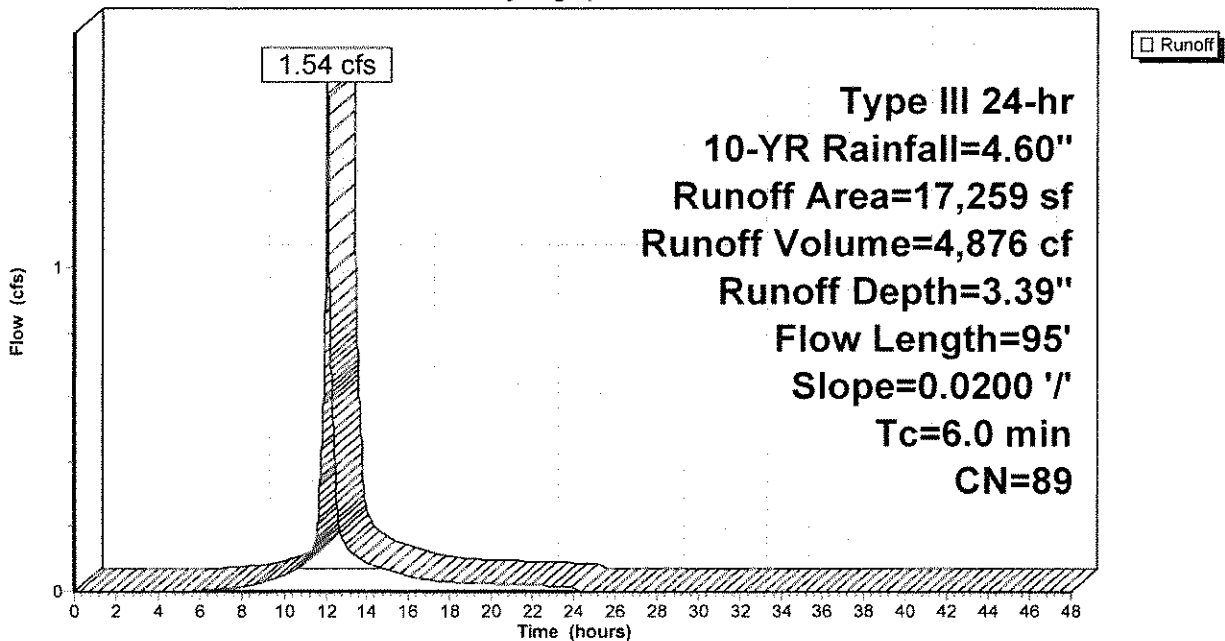
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,143	98	Roofs, HSG A
13,574	98	Paved parking, HSG A
2,542	39	>75% Grass cover, Good, HSG A
17,259	89	Weighted Average
2,542		14.73% Pervious Area
14,717		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
4.8					Direct Entry, Direct Entry
6.0	95	Total			

Subcatchment 2S: Flow To Existing Infiltration Basin

Hydrograph

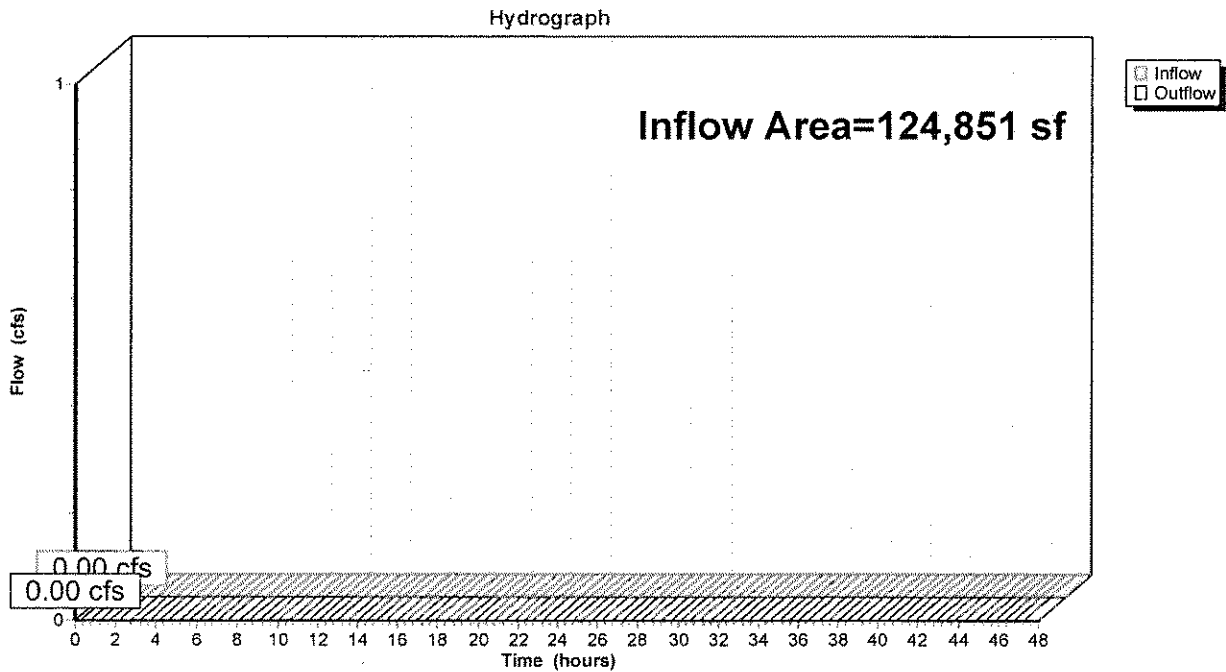


Summary for Reach AP-1: Analysis Point 1

Inflow Area = 124,851 sf; 30.01% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach AP-1: Analysis Point 1



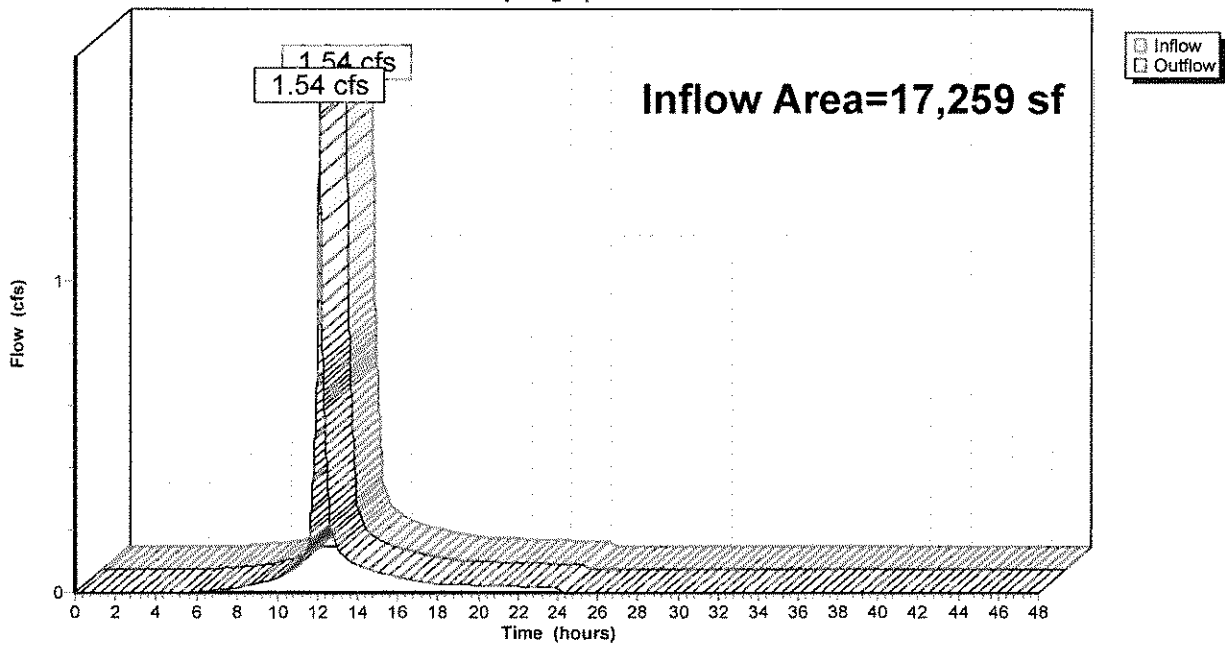
Summary for Reach AP-2: Analysis Point 2

Inflow Area = 17,259 sf, 85.27% Impervious, Inflow Depth = 3.39" for 10-YR event
Inflow = 1.54 cfs @ 12.09 hrs, Volume= 4,876 cf
Outflow = 1.54 cfs @ 12.09 hrs, Volume= 4,876 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach AP-2: Analysis Point 2

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Pond 1P: Existing Infiltration Basin

Inflow Area = 124,851 sf, 30.01% Impervious, Inflow Depth = 2.72" for 10-YR event
 Inflow = 9.15 cfs @ 12.09 hrs, Volume= 28,341 cf
 Outflow = 0.62 cfs @ 13.81 hrs, Volume= 28,345 cf, Atten= 93%, Lag= 103.2 min
 Discarded = 0.62 cfs @ 13.81 hrs, Volume= 28,345 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 7.29' @ 13.81 hrs Surf.Area= 11,120 sf Storage= 13,234 cf
 Flood Elev= 9.50' Surf.Area= 18,425 sf Storage= 37,545 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 223.8 min (1,043.6 - 819.8)

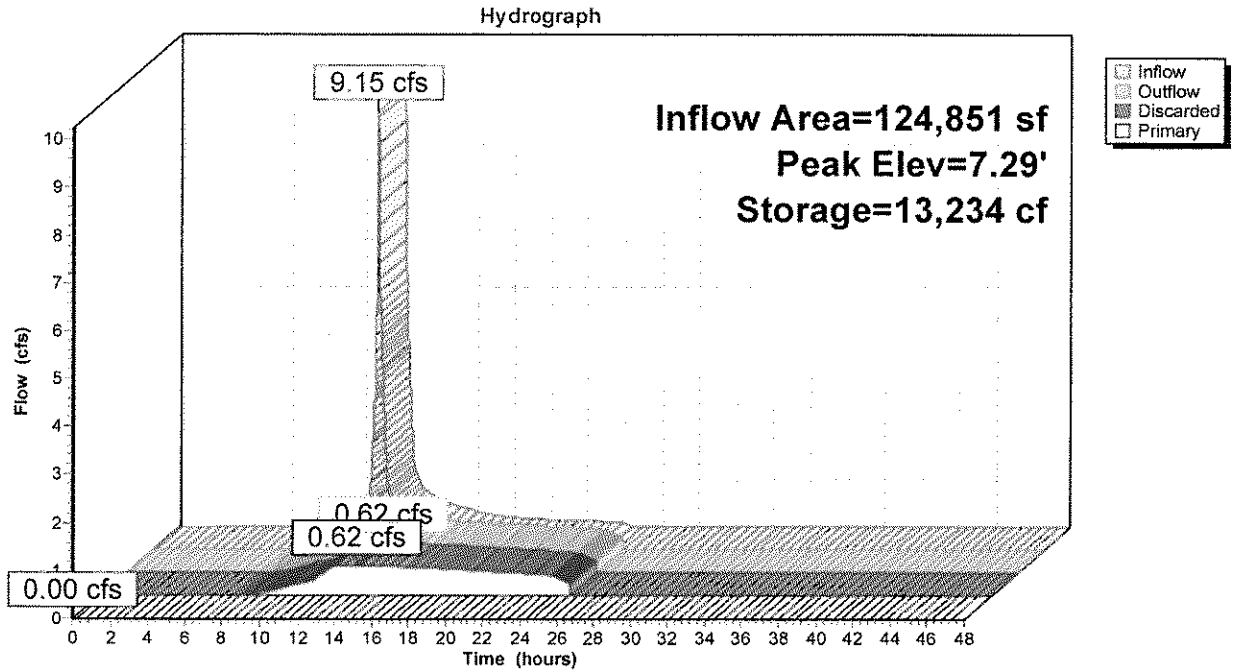
Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	37,545 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.80	4,413	0	0
6.00	7,557	1,197	1,197
7.00	10,375	8,966	10,163
8.00	12,982	11,679	21,842
9.00	18,425	15,704	37,545

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	2.410 in/hr Infiltration over Surface area
#2	Primary	9.00'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50 5.00 5.50			
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			

Discarded OutFlow Max=0.62 cfs @ 13.81 hrs HW=7.29' (Free Discharge)
 ↕ **1=Infiltration** (Exfiltration Controls 0.62 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.80' TW=0.00' (Dynamic Tailwater)
 ↕ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Existing Infiltration Basin



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Type III 24-hr 25-YR Rainfall=5.80"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Flow To Existing Runoff Area=124,851 sf 30.01% Impervious Runoff Depth=3.80"
Flow Length=418' Tc=6.0 min CN=82 Runoff=12.69 cfs 39,573 cf

Subcatchment 2S: Flow To Existing Runoff Area=17,259 sf 85.27% Impervious Runoff Depth=4.54"
Flow Length=95' Slope=0.0200 1' Tc=6.0 min CN=89 Runoff=2.03 cfs 6,532 cf

Reach AP-1: Analysis Point 1 Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach AP-2: Analysis Point 2 Inflow=2.03 cfs 6,532 cf
Outflow=2.03 cfs 6,532 cf

Pond 1P: Existing Infiltration Basin Peak Elev=7.87' Storage=20,185 cf Inflow=12.69 cfs 39,573 cf
Discarded=0.71 cfs 39,574 cf Primary=0.00 cfs 0 cf Outflow=0.71 cfs 39,574 cf

Total Runoff Area = 142,110 sf Runoff Volume = 46,106 cf Average Runoff Depth = 3.89"
63.28% Pervious = 89,925 sf 36.72% Impervious = 52,185 sf

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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 1S: Flow To Existing Infiltration Basin

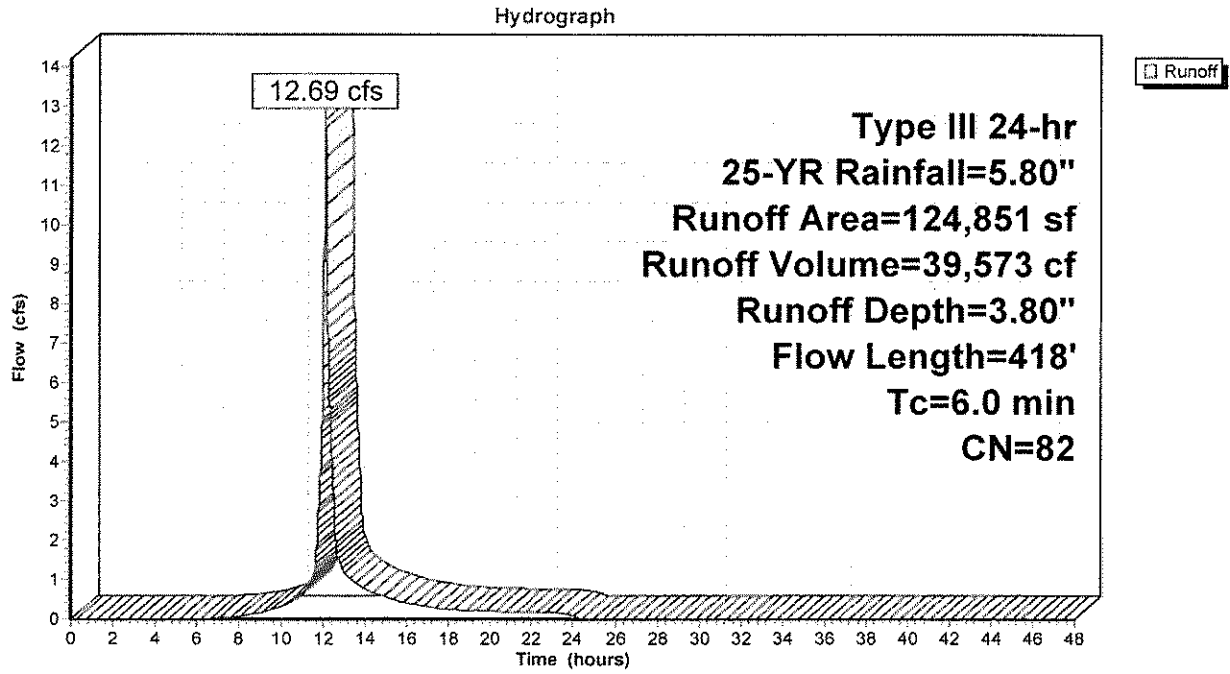
Runoff = 12.69 cfs @ 12.09 hrs, Volume= 39,573 cf, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
8,873	98	Roofs, HSG A
28,595	98	Paved parking, HSG A
54,400	96	Gravel surface, HSG A
32,983	39	>75% Grass cover, Good, HSG A
124,851	82	Weighted Average
87,383		69.99% Pervious Area
37,468		30.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	66	0.0450	1.72		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
3.2	94	0.0050	0.49		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.2	258	0.0155	3.51	17.54	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.035 Earth, dense weeds
1.0					Direct Entry, Direct Entry
6.0	418	Total			

Subcatchment 1S: Flow To Existing Infiltration Basin



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 2S: Flow To Existing Infiltration Basin

Runoff = 2.03 cfs @ 12.08 hrs, Volume= 6,532 cf, Depth= 4.54"

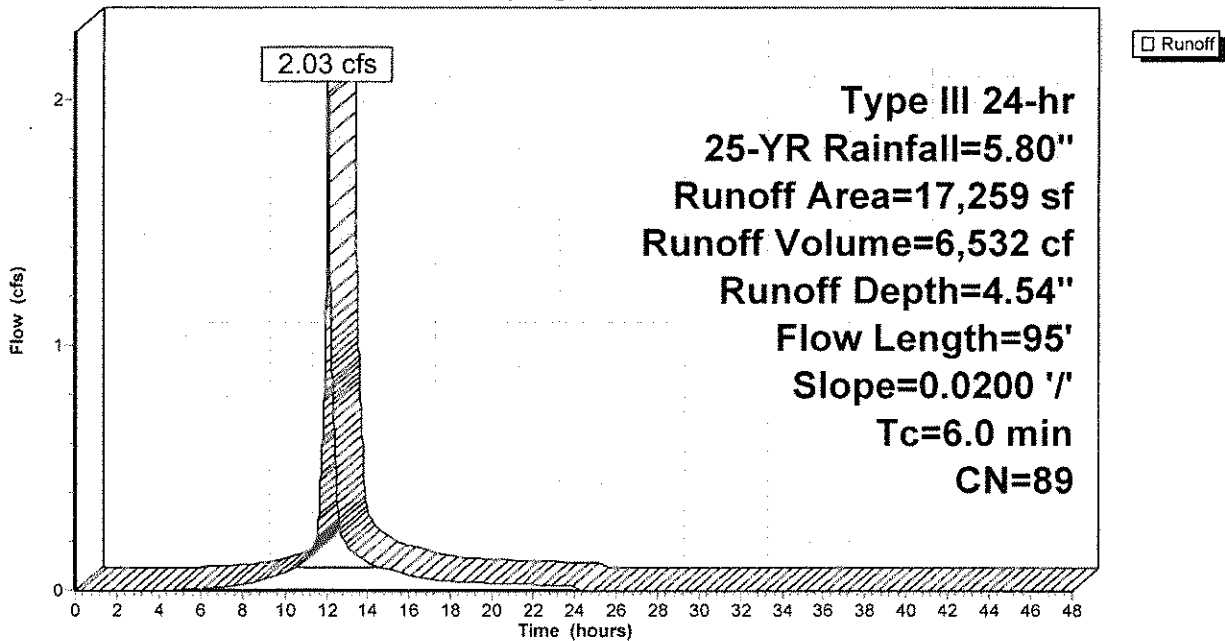
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,143	98	Roofs, HSG A
13,574	98	Paved parking, HSG A
2,542	39	>75% Grass cover, Good, HSG A
17,259	89	Weighted Average
2,542		14.73% Pervious Area
14,717		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
4.8					Direct Entry, Direct Entry
6.0	95	Total			

Subcatchment 2S: Flow To Existing Infiltration Basin

Hydrograph

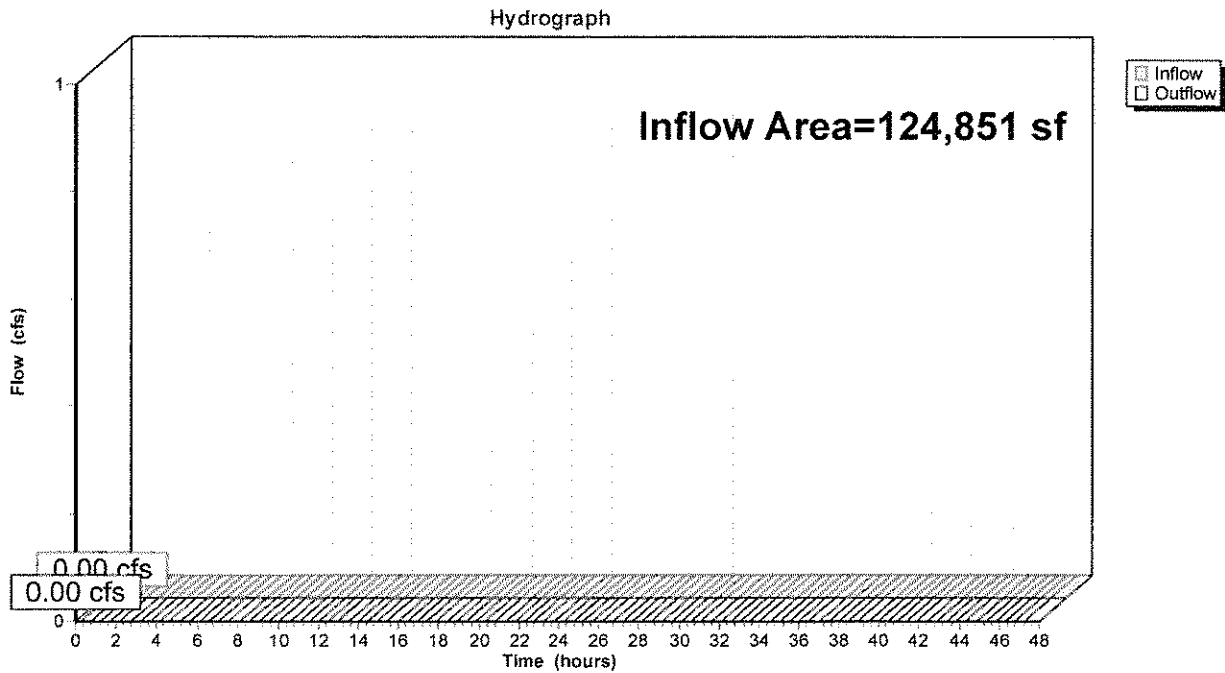


Summary for Reach AP-1: Analysis Point 1

Inflow Area = 124,851 sf, 30.01% Impervious, Inflow Depth = 0.00" for 25-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach AP-1: Analysis Point 1

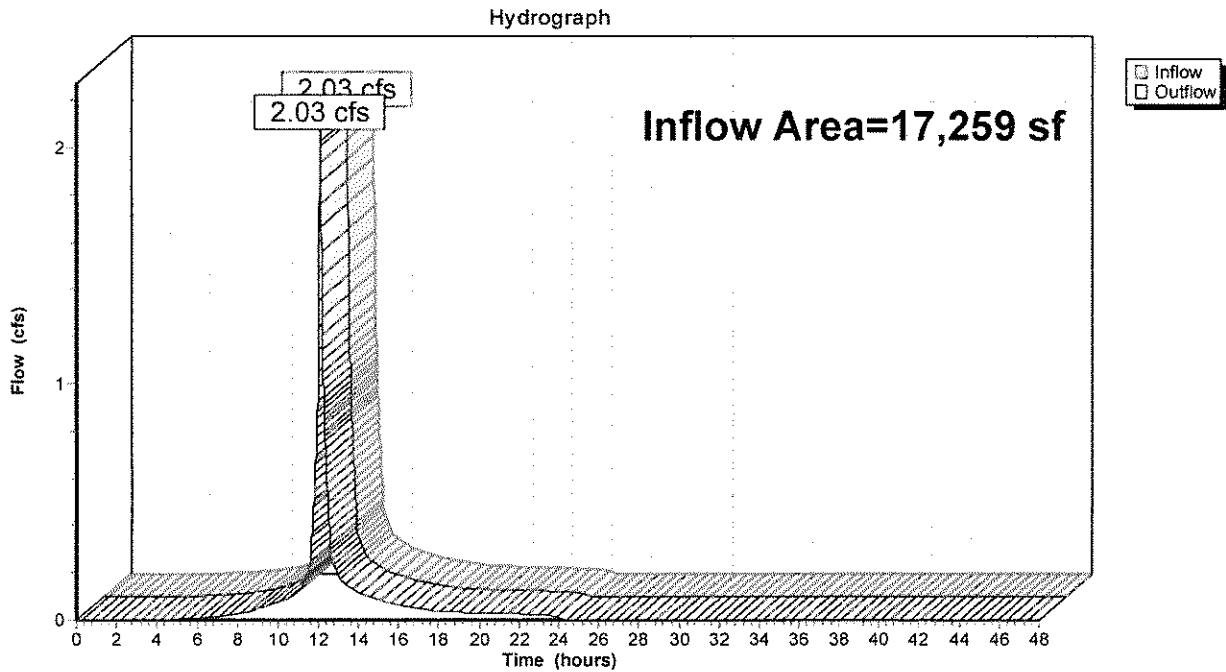


Summary for Reach AP-2: Analysis Point 2

Inflow Area = 17,259 sf, 85.27% Impervious, Inflow Depth = 4.54" for 25-YR event
Inflow = 2.03 cfs @ 12.08 hrs, Volume= 6,532 cf
Outflow = 2.03 cfs @ 12.08 hrs, Volume= 6,532 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach AP-2: Analysis Point 2



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Pond 1P: Existing Infiltration Basin

Inflow Area = 124,851 sf, 30.01% Impervious, Inflow Depth = 3.80" for 25-YR event
 Inflow = 12.69 cfs @ 12.09 hrs, Volume= 39,573 cf
 Outflow = 0.71 cfs @ 14.22 hrs, Volume= 39,574 cf, Atten= 94%, Lag= 128.2 min
 Discarded = 0.71 cfs @ 14.22 hrs, Volume= 39,574 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 7.87' @ 14.22 hrs Surf.Area= 12,645 sf Storage= 20,185 cf
 Flood Elev= 9.50' Surf.Area= 18,425 sf Storage= 37,545 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 308.7 min (1,119.0 - 810.3)

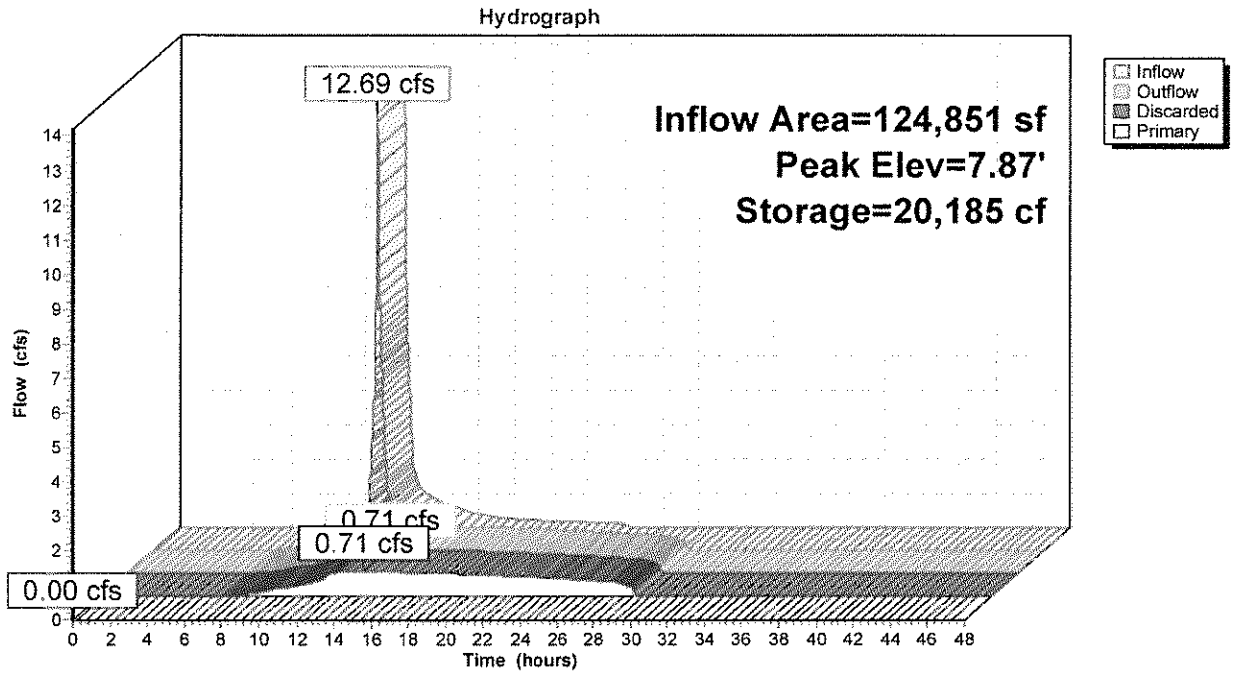
Volume #1	Invert 5.80'	Avail.Storage 37,545 cf	Storage Description
Custom Stage Data (Prismatic) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.80	4,413	0	0
6.00	7,557	1,197	1,197
7.00	10,375	8,966	10,163
8.00	12,982	11,679	21,842
9.00	18,425	15,704	37,545

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	2.410 in/hr Infiltration over Surface area
#2	Primary	9.00'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50 5.00 5.50			
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			

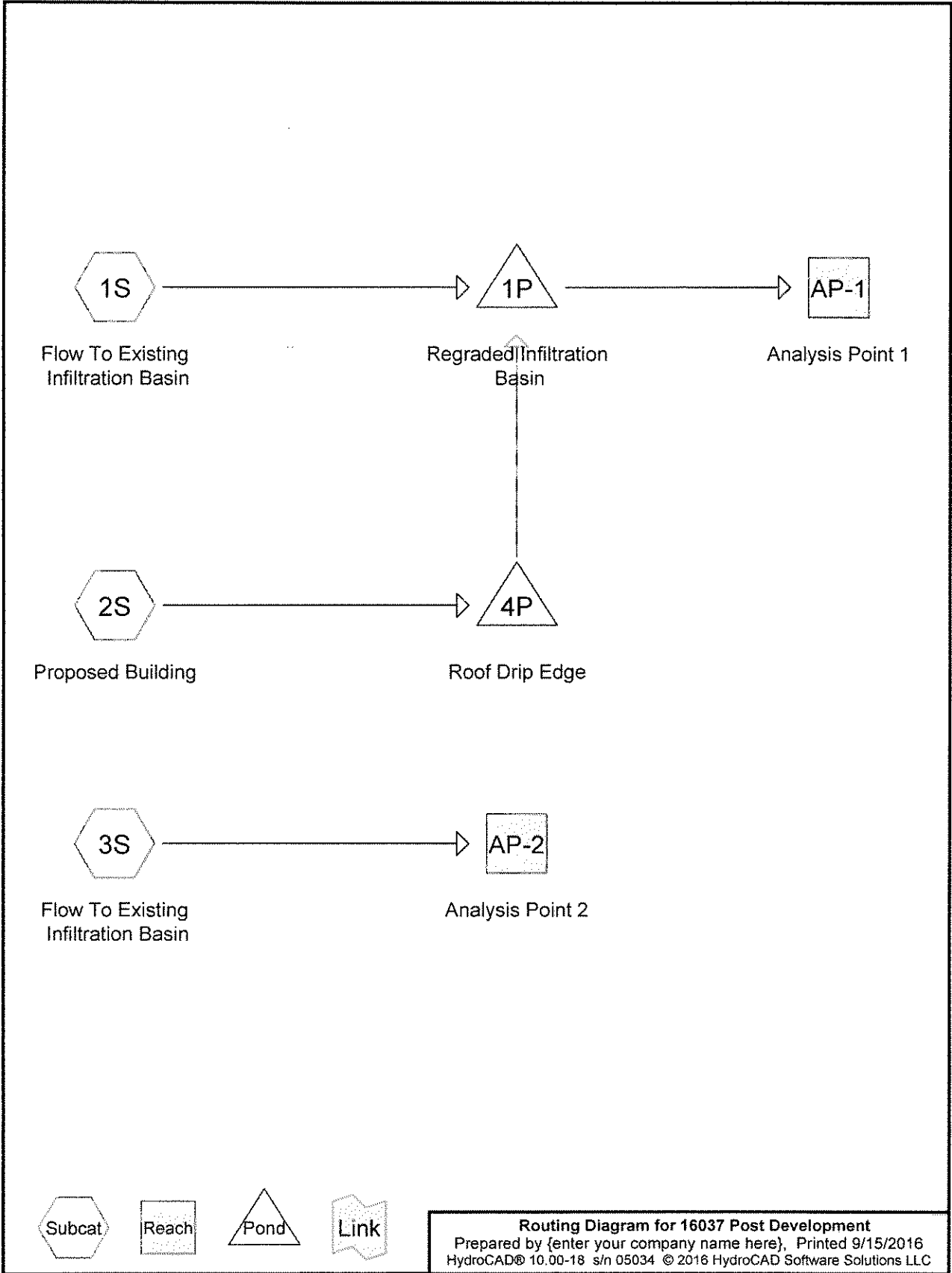
Discarded OutFlow Max=0.71 cfs @ 14.22 hrs HW=7.87' (Free Discharge)
 ↳1=Infiltration (Exfiltration Controls 0.71 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.80' TW=0.00' (Dynamic Tailwater)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Existing Infiltration Basin



Post Development Stormwater Calculations



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Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
40,179	39	>75% Grass cover, Good, HSG A (1S, 3S)
5,137	96	Gravel surface, HSG A (1S, 2S)
64,234	98	Paved parking, HSG A (1S, 3S)
32,560	98	Roofs, HSG A (1S, 2S, 3S)
142,110	81	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
142,110	HSG A	1S, 2S, 3S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
142,110		TOTAL AREA

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Type III 24-hr 2-YR Rainfall=3.10"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Flow To Existing Runoff Area=101,311 sf 58.76% Impervious Runoff Depth=1.08"
Flow Length=313' Tc=6.0 min CN=76 Runoff=2.84 cfs 9,143 cf

Subcatchment 2S: Proposed Building Runoff Area=23,540 sf 95.77% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=1.62 cfs 5,626 cf

Subcatchment 3S: Flow To Existing Runoff Area=17,259 sf 85.27% Impervious Runoff Depth=1.99"
Flow Length=95' Slope=0.0200 '/ Tc=6.0 min CN=89 Runoff=0.92 cfs 2,863 cf

Reach AP-1: Analysis Point 1 Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach AP-2: Analysis Point 2 Inflow=0.92 cfs 2,863 cf
Outflow=0.92 cfs 2,863 cf

Pond 1P: Regraded Infiltration Basin Peak Elev=6.44' Storage=5,196 cf Inflow=3.73 cfs 14,768 cf
Discarded=0.52 cfs 14,768 cf Primary=0.00 cfs 0 cf Outflow=0.52 cfs 14,768 cf

Pond 4P: Roof Drip Edge Peak Elev=9.06' Storage=652 cf Inflow=1.62 cfs 5,626 cf
Primary=0.94 cfs 5,625 cf Secondary=0.00 cfs 0 cf Outflow=0.94 cfs 5,625 cf

Total Runoff Area = 142,110 sf Runoff Volume = 17,632 cf Average Runoff Depth = 1.49"
31.89% Pervious = 45,316 sf 68.11% Impervious = 96,794 sf

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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Subcatchment 1S: Flow To Existing Infiltration Basin

Runoff = 2.84 cfs @ 12.09 hrs, Volume= 9,143 cf, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
8,873	98	Roofs, HSG A
50,660	98	Paved parking, HSG A
4,141	96	Gravel surface, HSG A
37,637	39	>75% Grass cover, Good, HSG A
101,311	76	Weighted Average
41,778		41.24% Pervious Area
59,533		58.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0180	1.21		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
0.1	15	0.2000	3.13		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.0	229	0.0130	3.75	18.74	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.030 Earth, grassed & winding
3.9					Direct Entry, Direct Entry
6.0	313	Total			

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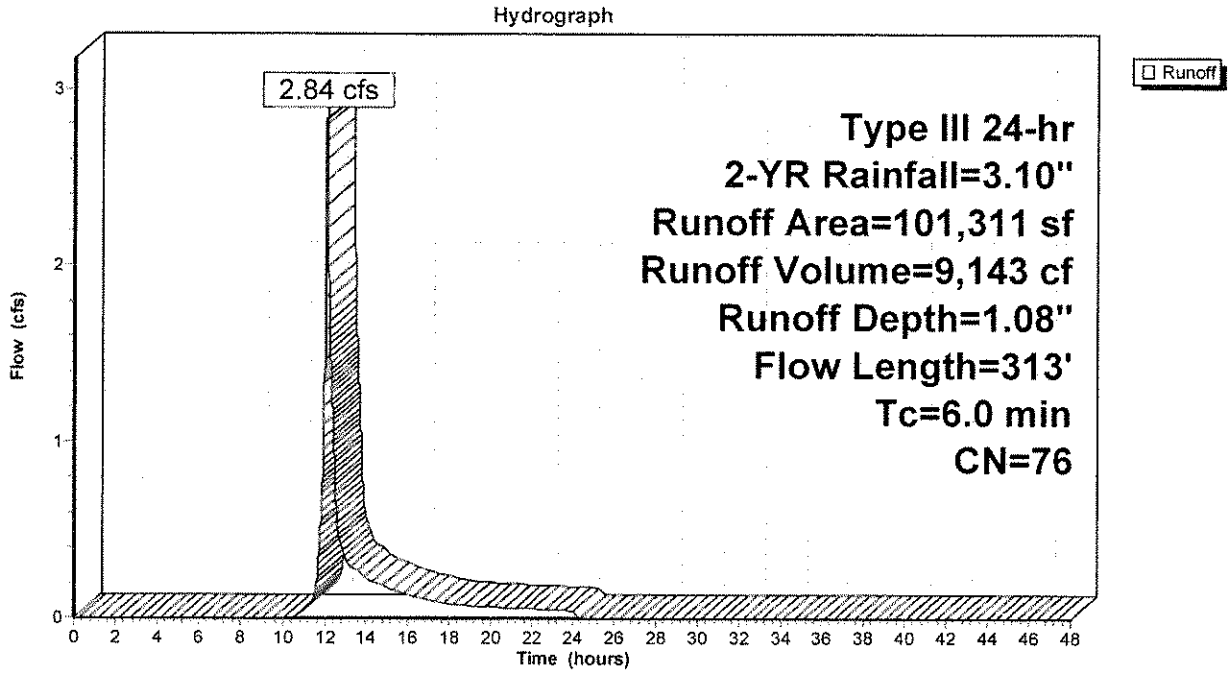
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Type III 24-hr 2-YR Rainfall=3.10"

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Subcatchment 1S: Flow To Existing Infiltration Basin



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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Subcatchment 2S: Proposed Building

Runoff = 1.62 cfs @ 12.08 hrs, Volume= 5,626 cf, Depth= 2.87"

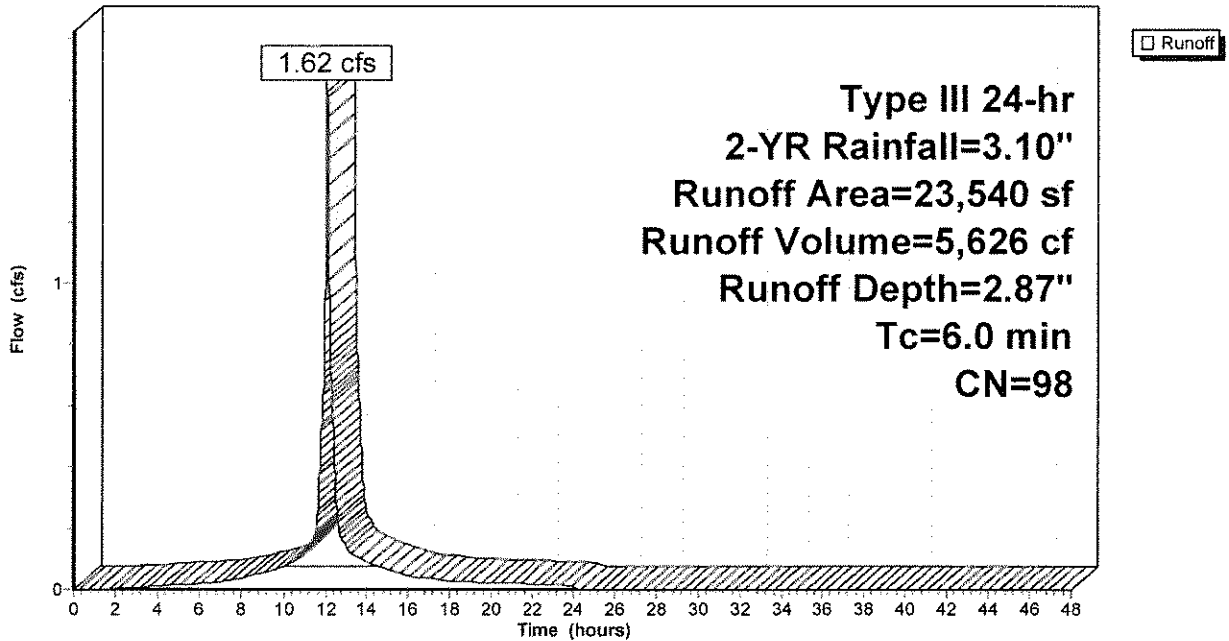
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
22,544	98	Roofs, HSG A
996	96	Gravel surface, HSG A
23,540	98	Weighted Average
996		4.23% Pervious Area
22,544		95.77% Impervious Area

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

Subcatchment 2S: Proposed Building

Hydrograph



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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Subcatchment 3S: Flow To Existing Infiltration Basin

Runoff = 0.92 cfs @ 12.09 hrs, Volume= 2,863 cf, Depth= 1.99"

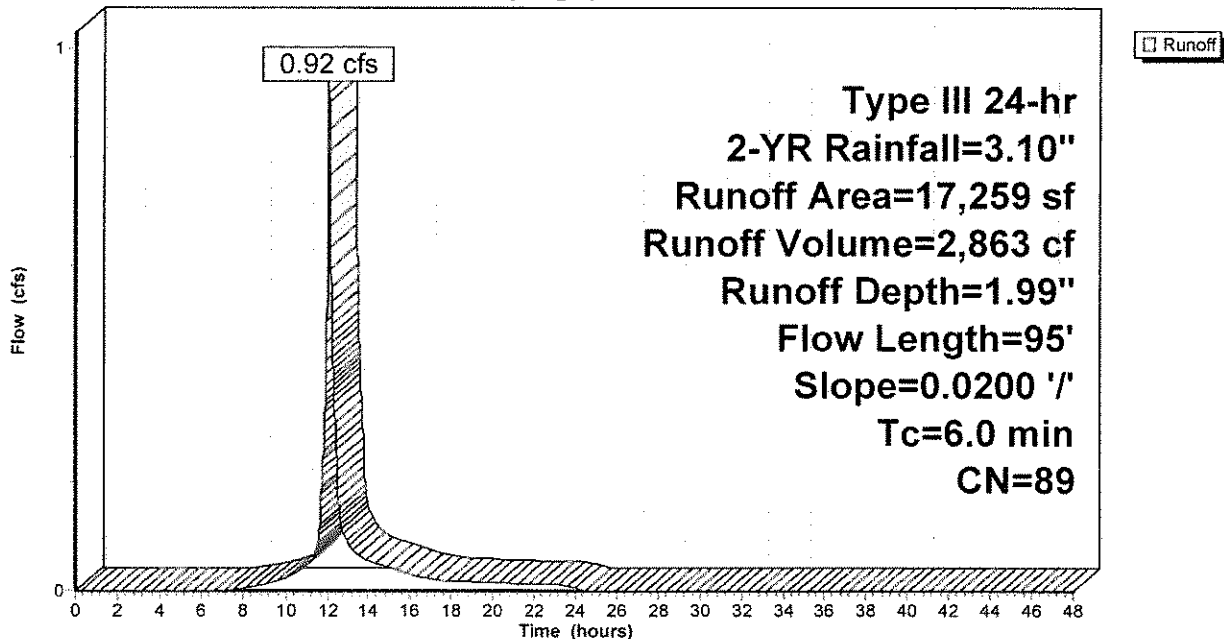
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
1,143	98	Roofs, HSG A
13,574	98	Paved parking, HSG A
2,542	39	>75% Grass cover, Good, HSG A
17,259	89	Weighted Average
2,542		14.73% Pervious Area
14,717		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
4.8					Direct Entry, Direct Entry
6.0	95	Total			

Subcatchment 3S: Flow To Existing Infiltration Basin

Hydrograph



16037 Post Development

Type III 24-hr 2-YR Rainfall=3.10"

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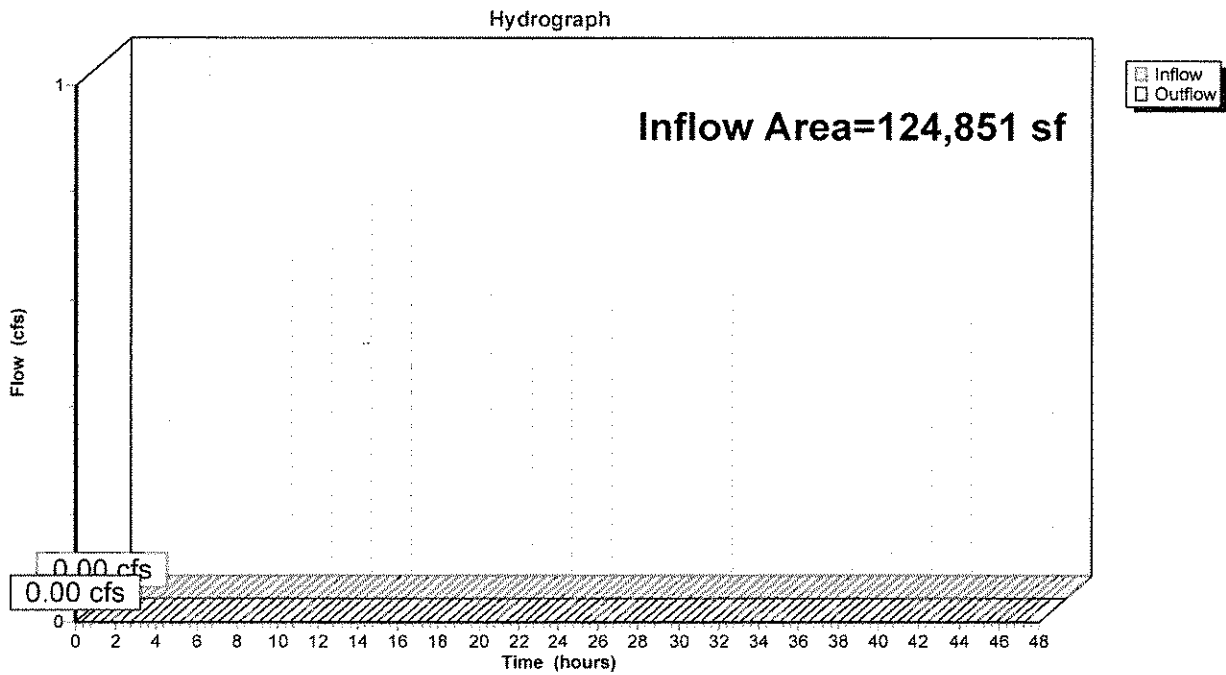
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Summary for Reach AP-1: Analysis Point 1

Inflow Area = 124,851 sf, 65.74% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach AP-1: Analysis Point 1



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Type III 24-hr 2-YR Rainfall=3.10"

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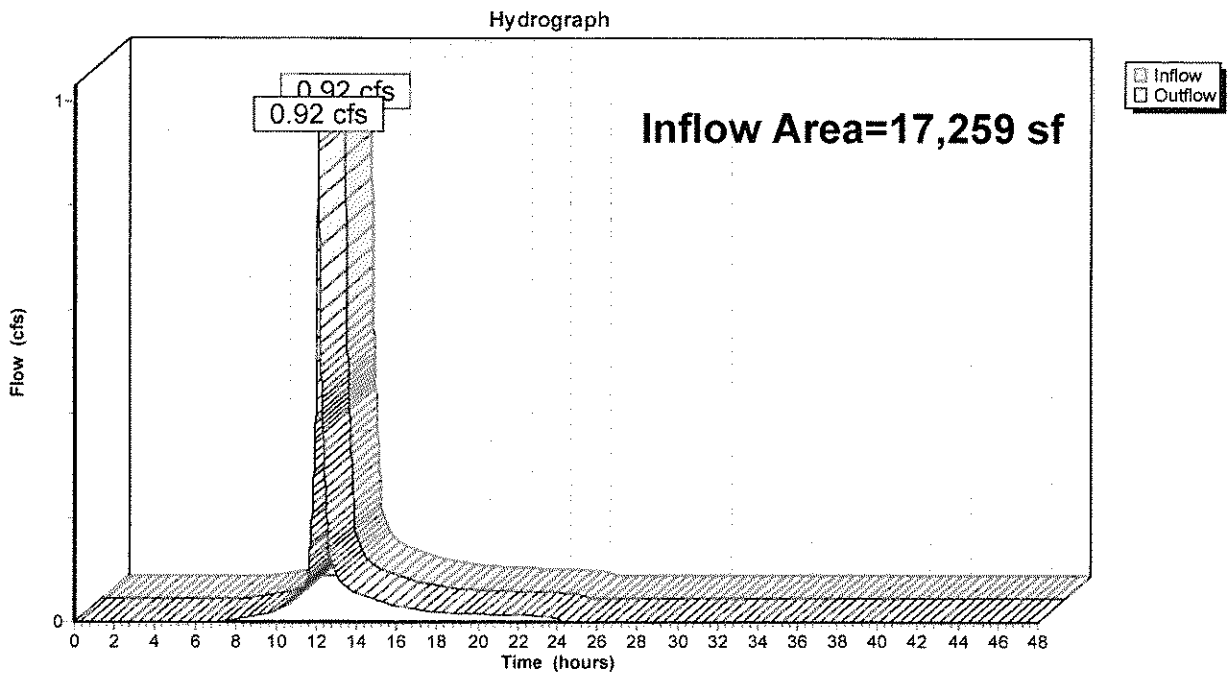
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Summary for Reach AP-2: Analysis Point 2

Inflow Area = 17,259 sf, 85.27% Impervious, Inflow Depth = 1.99" for 2-YR event
Inflow = 0.92 cfs @ 12.09 hrs, Volume= 2,863 cf
Outflow = 0.92 cfs @ 12.09 hrs, Volume= 2,863 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach AP-2: Analysis Point 2



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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Pond 1P: Regraded Infiltration Basin

Inflow Area = 124,851 sf, 65.74% Impervious, Inflow Depth = 1.42" for 2-YR event
 Inflow = 3.73 cfs @ 12.10 hrs, Volume= 14,768 cf
 Outflow = 0.52 cfs @ 12.97 hrs, Volume= 14,768 cf, Atten= 86%, Lag= 52.3 min
 Discarded = 0.52 cfs @ 12.97 hrs, Volume= 14,768 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 6.44' @ 12.97 hrs Surf.Area= 9,264 sf Storage= 5,196 cf
 Flood Elev= 9.50' Surf.Area= 17,373 sf Storage= 36,845 cf

Plug-Flow detention time= 86.4 min calculated for 14,768 cf (100% of inflow)
 Center-of-Mass det. time= 86.4 min (913.1 - 826.7)

Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	36,845 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.80	4,413	0	0
6.00	8,409	1,282	1,282
7.00	10,340	9,375	10,657
8.00	12,332	11,336	21,993
9.00	17,373	14,853	36,845

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	2.410 in/hr Infiltration over Surface area
#2	Primary	9.00'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50 5.00 5.50			
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			

Discarded OutFlow Max=0.52 cfs @ 12.97 hrs HW=6.44' (Free Discharge)
 ↳1=Infiltration (Exfiltration Controls 0.52 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.80' (Free Discharge)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

16037 Post Development

Type III 24-hr 2-YR Rainfall=3.10"

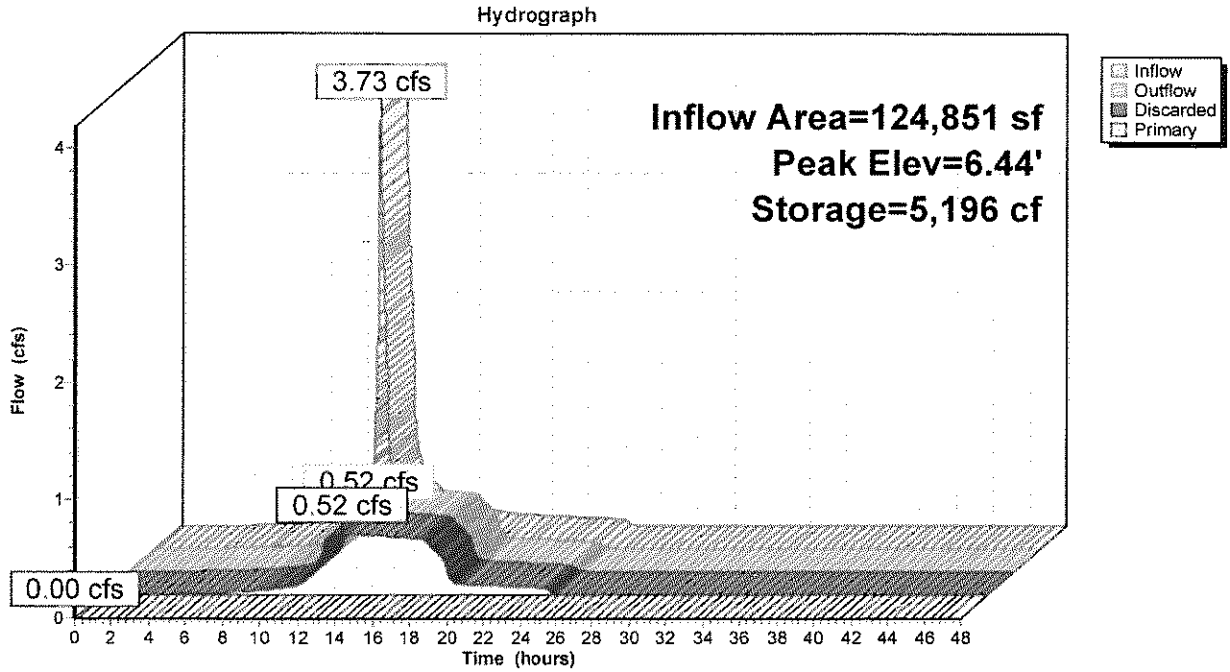
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Pond 1P: Regraded Infiltration Basin



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Type III 24-hr 2-YR Rainfall=3.10"

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Summary for Pond 4P: Roof Drip Edge

Inflow Area = 23,540 sf, 95.77% Impervious, Inflow Depth = 2.87" for 2-YR event
 Inflow = 1.62 cfs @ 12.08 hrs, Volume= 5,626 cf
 Outflow = 0.94 cfs @ 12.19 hrs, Volume= 5,625 cf, Atten= 42%, Lag= 6.6 min
 Primary = 0.94 cfs @ 12.19 hrs, Volume= 5,625 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 9.06' @ 12.19 hrs Surf.Area= 1,340 sf Storage= 652 cf
 Flood Elev= 11.05' Surf.Area= 1,340 sf Storage= 1,702 cf

Plug-Flow detention time= 19.5 min calculated for 5,624 cf (100% of inflow)
 Center-of-Mass det. time= 19.6 min (776.7 - 757.1)

Volume #1	Invert 7.84'	Avail.Storage 1,702 cf	Storage Description Custom Stage Data (Prismatic) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
7.84	1,340	0.0	0	0	
7.85	1,340	40.0	5	5	
8.00	1,340	40.0	80	86	
9.00	1,340	40.0	536	622	
10.00	1,340	40.0	536	1,158	
10.99	1,340	40.0	531	1,688	
11.00	1,340	100.0	13	1,702	

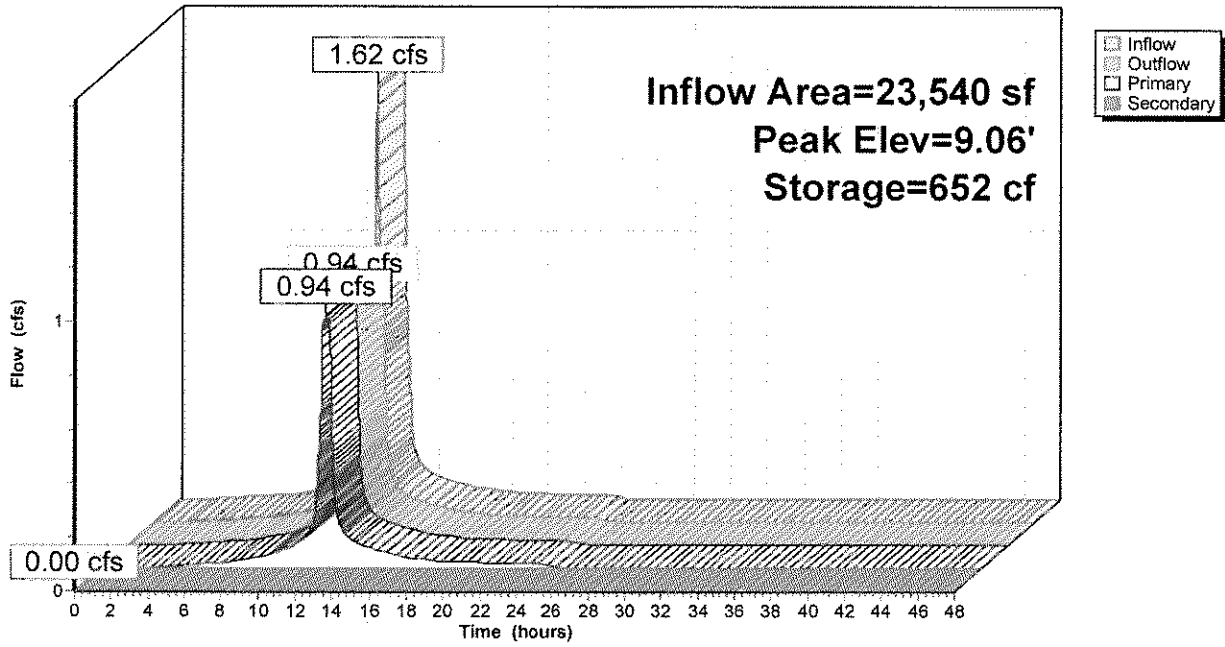
Device #1	Routing Primary	Invert 7.84'	Outlet Devices 8.0" Round Outlet Pipe
			L= 368.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.84' / 6.00' S= 0.0050 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	11.00'	332.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.94 cfs @ 12.19 hrs HW=9.06' (Free Discharge)
 ↳1=Outlet Pipe (Barrel Controls 0.94 cfs @ 2.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=7.84' (Free Discharge)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Roof Drip Edge

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.60"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Flow To Existing Runoff Area=101,311 sf 58.76% Impervious Runoff Depth=2.21"
Flow Length=313' Tc=6.0 min CN=76 Runoff=6.01 cfs 18,657 cf

Subcatchment 2S: Proposed Building Runoff Area=23,540 sf 95.77% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=2.43 cfs 8,560 cf

Subcatchment 3S: Flow To Existing Runoff Area=17,259 sf 85.27% Impervious Runoff Depth=3.39"
Flow Length=95' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=1.54 cfs 4,876 cf

Reach AP-1: Analysis Point 1 Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach AP-2: Analysis Point 2 Inflow=1.54 cfs 4,876 cf
Outflow=1.54 cfs 4,876 cf

Pond 1P: Regraded Infiltration Basin Peak Elev=7.13' Storage=12,067 cf Inflow=7.01 cfs 27,217 cf
Discarded=0.59 cfs 27,217 cf Primary=0.00 cfs 0 cf Outflow=0.59 cfs 27,217 cf

Pond 4P: Roof Drip Edge Peak Elev=10.05' Storage=1,187 cf Inflow=2.43 cfs 8,560 cf
Primary=1.12 cfs 8,560 cf Secondary=0.00 cfs 0 cf Outflow=1.12 cfs 8,560 cf

Total Runoff Area = 142,110 sf Runoff Volume = 32,094 cf Average Runoff Depth = 2.71"
31.89% Pervious = 45,316 sf 68.11% Impervious = 96,794 sf

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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Subcatchment 1S: Flow To Existing Infiltration Basin

Runoff = 6.01 cfs @ 12.09 hrs, Volume= 18,657 cf, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
8,873	98	Roofs, HSG A
50,660	98	Paved parking, HSG A
4,141	96	Gravel surface, HSG A
37,637	39	>75% Grass cover, Good, HSG A
101,311	76	Weighted Average
41,778		41.24% Pervious Area
59,533		58.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0180	1.21		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
0.1	15	0.2000	3.13		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.0	229	0.0130	3.75	18.74	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.030 Earth, grassed & winding
3.9					Direct Entry, Direct Entry
6.0	313	Total			

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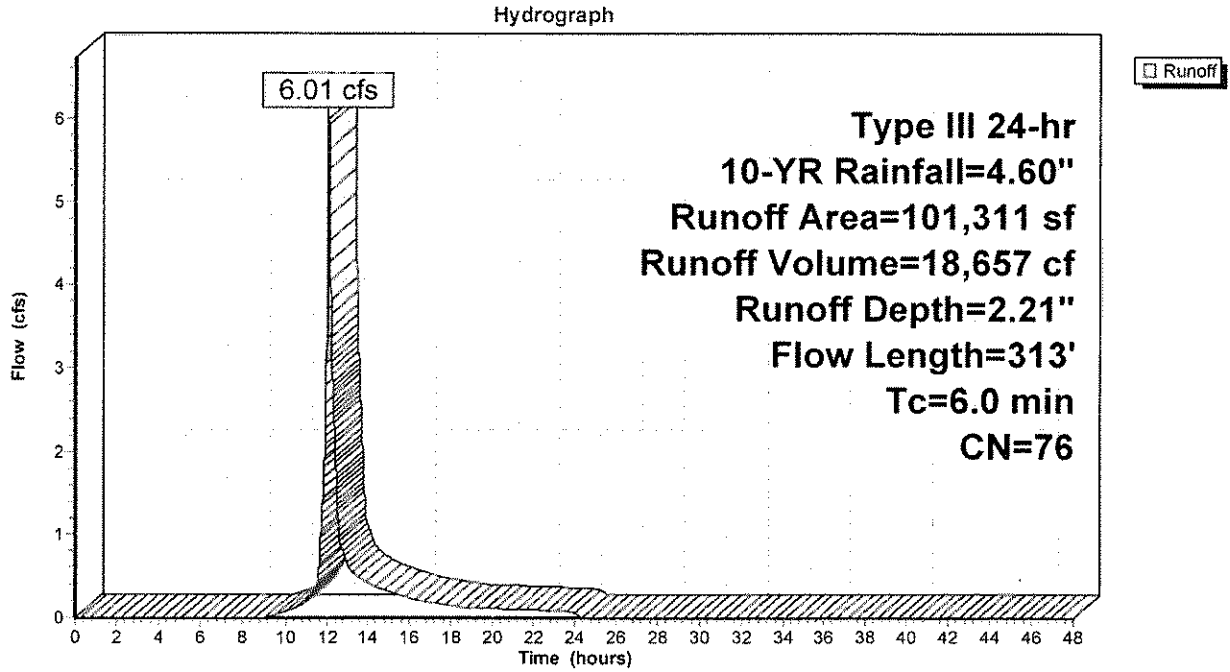
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Type III 24-hr 10-YR Rainfall=4.60"

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Subcatchment 1S: Flow To Existing Infiltration Basin



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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Subcatchment 2S: Proposed Building

Runoff = 2.43 cfs @ 12.08 hrs, Volume= 8,560 cf, Depth= 4.36"

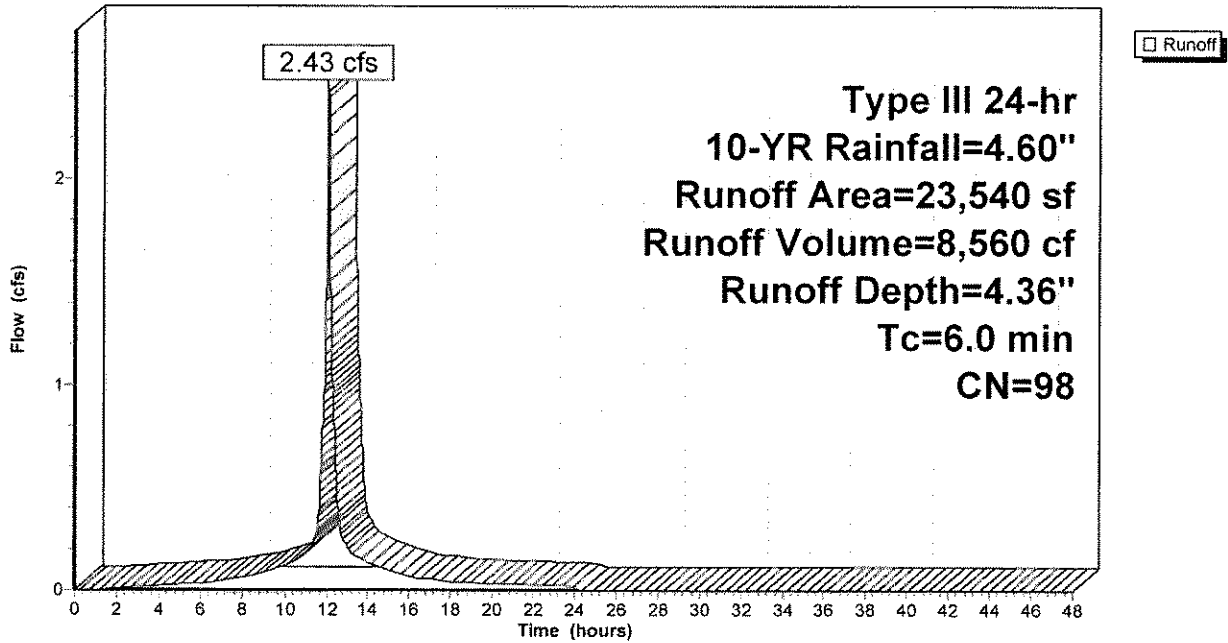
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
22,544	98	Roofs, HSG A
996	96	Gravel surface, HSG A
23,540	98	Weighted Average
996		4.23% Pervious Area
22,544		95.77% Impervious Area

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

Subcatchment 2S: Proposed Building

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Subcatchment 3S: Flow To Existing Infiltration Basin

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 4,876 cf, Depth= 3.39"

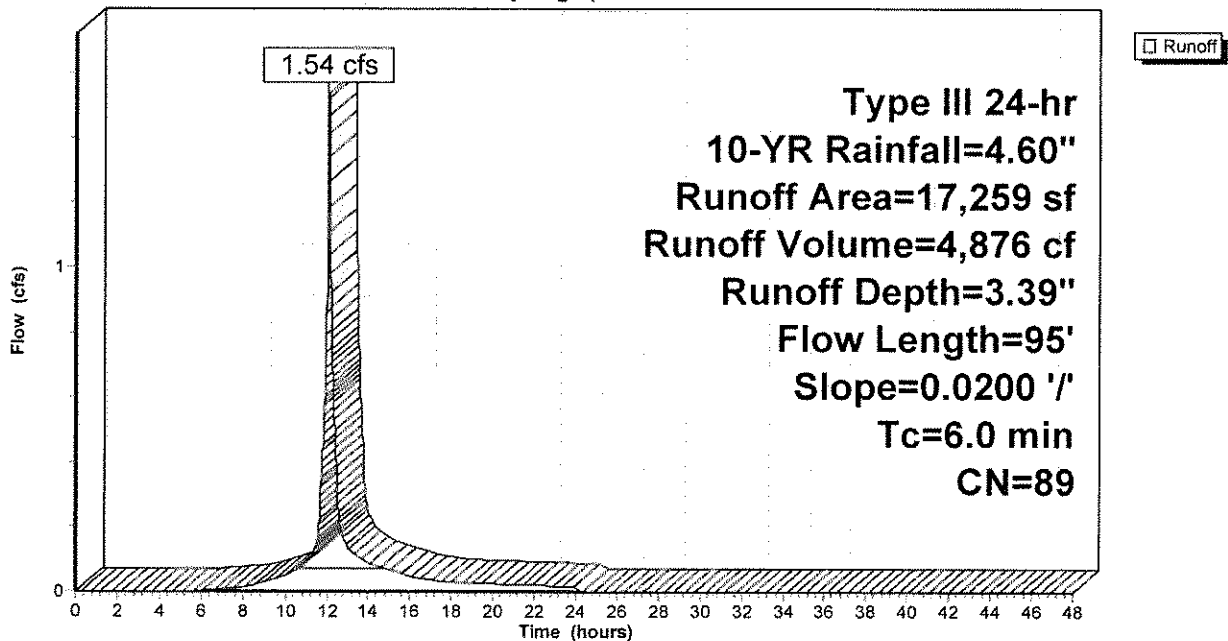
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
1,143	98	Roofs, HSG A
13,574	98	Paved parking, HSG A
2,542	39	>75% Grass cover, Good, HSG A
17,259	89	Weighted Average
2,542		14.73% Pervious Area
14,717		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
4.8					Direct Entry, Direct Entry
6.0	95	Total			

Subcatchment 3S: Flow To Existing Infiltration Basin

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.60"

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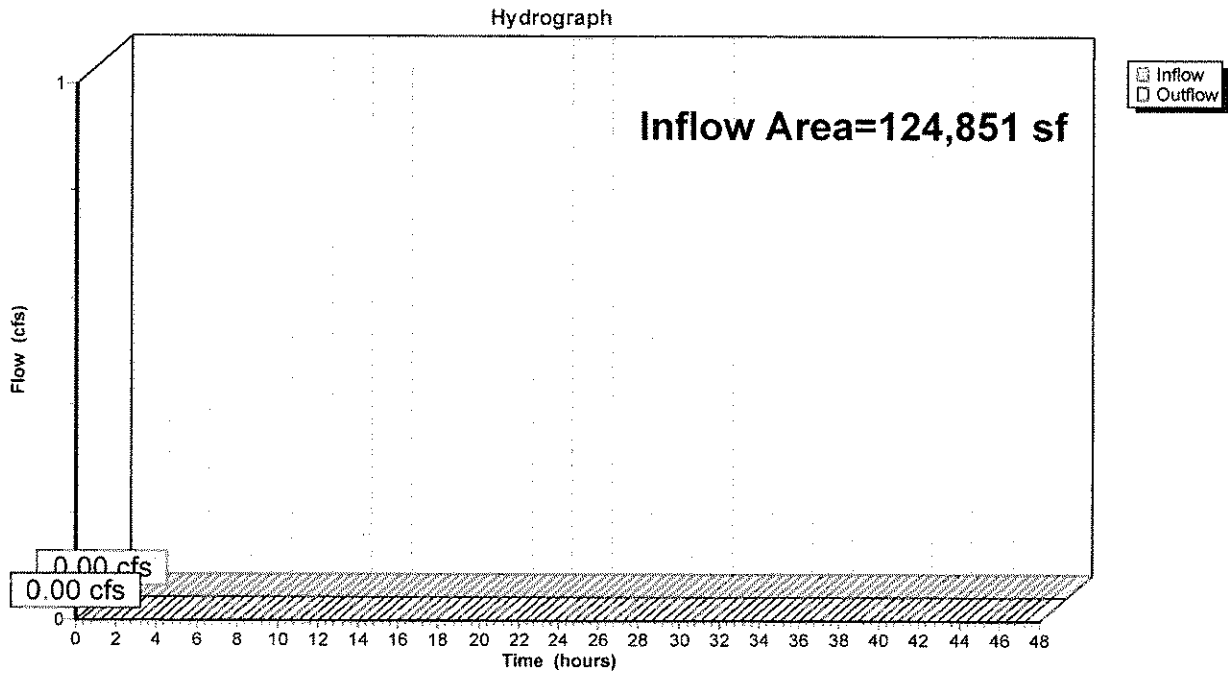
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Summary for Reach AP-1: Analysis Point 1

Inflow Area = 124,851 sf, 65.74% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach AP-1: Analysis Point 1



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Type III 24-hr 10-YR Rainfall=4.60"

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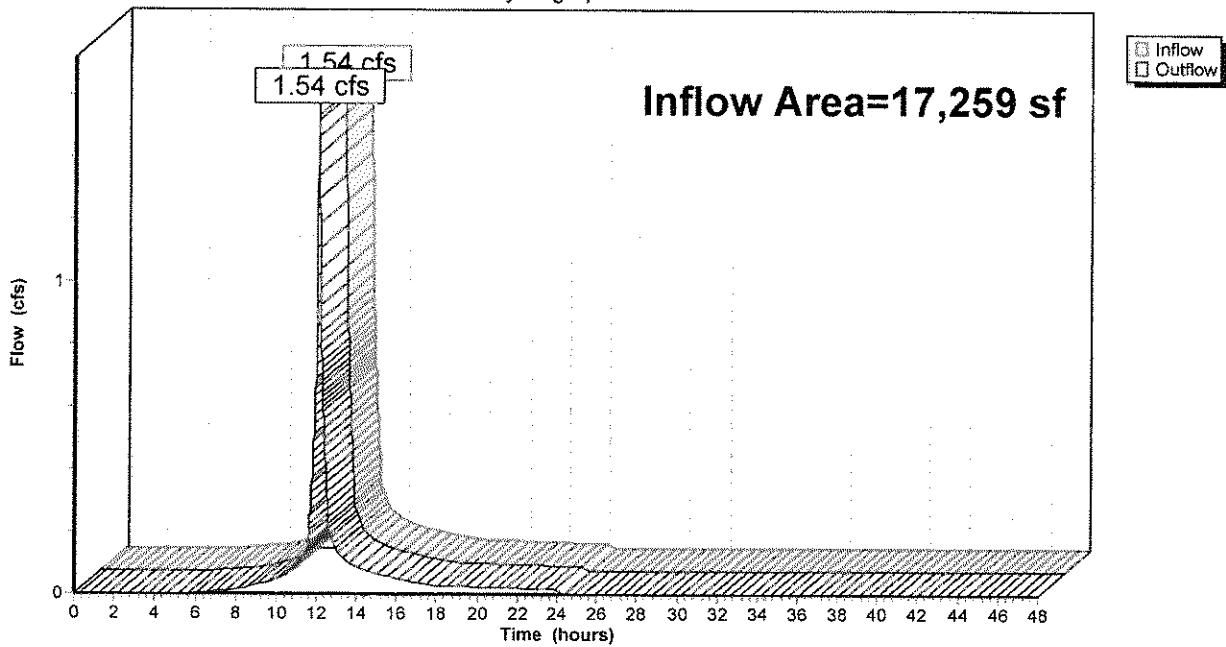
Summary for Reach AP-2: Analysis Point 2

Inflow Area = 17,259 sf, 85.27% Impervious, Inflow Depth = 3.39" for 10-YR event
Inflow = 1.54 cfs @ 12.09 hrs, Volume= 4,876 cf
Outflow = 1.54 cfs @ 12.09 hrs, Volume= 4,876 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach AP-2: Analysis Point 2

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Pond 1P: Regraded Infiltration Basin

Inflow Area = 124,851 sf, 65.74% Impervious, Inflow Depth = 2.62" for 10-YR event
 Inflow = 7.01 cfs @ 12.09 hrs, Volume= 27,217 cf
 Outflow = 0.59 cfs @ 13.81 hrs, Volume= 27,217 cf, Atten= 92%, Lag= 103.2 min
 Discarded = 0.59 cfs @ 13.81 hrs, Volume= 27,217 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 7.13' @ 13.81 hrs Surf.Area= 10,608 sf Storage= 12,067 cf
 Flood Elev= 9.50' Surf.Area= 17,373 sf Storage= 36,845 cf

Plug-Flow detention time= 201.5 min calculated for 27,211 cf (100% of inflow)
 Center-of-Mass det. time= 201.5 min (1,016.2 - 814.7)

Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	36,845 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.80	4,413	0	0
6.00	8,409	1,282	1,282
7.00	10,340	9,375	10,657
8.00	12,332	11,336	21,993
9.00	17,373	14,853	36,845

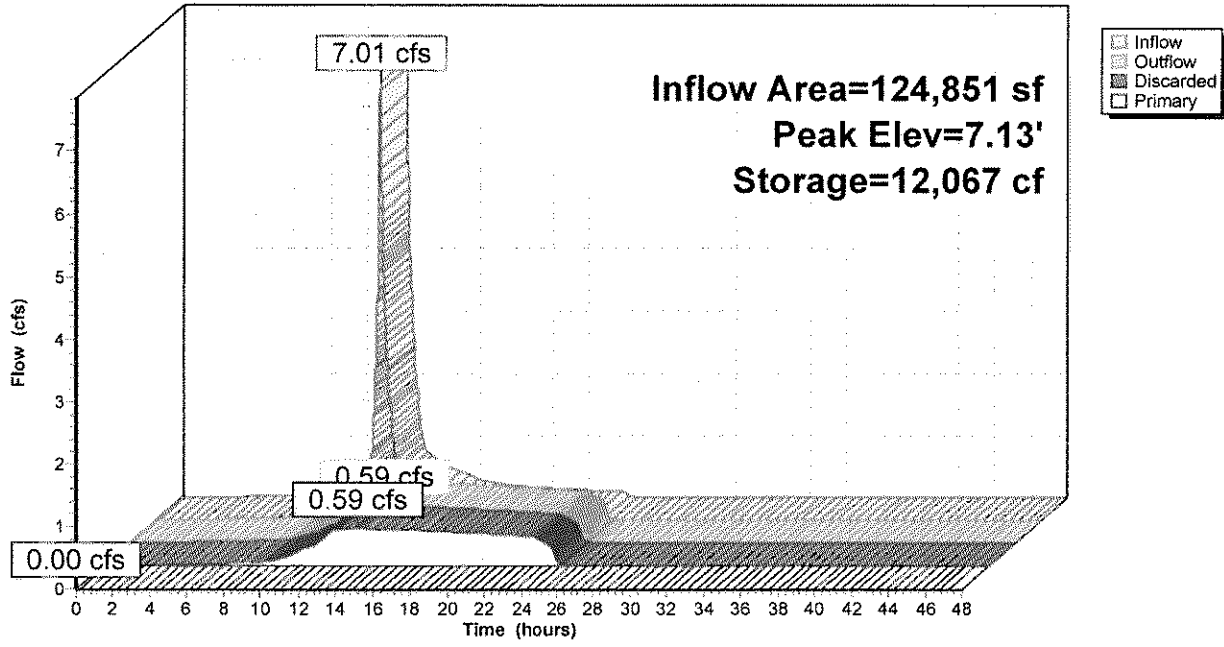
Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	2.410 in/hr Infiltration over Surface area
#2	Primary	9.00'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50 5.00 5.50			
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			

Discarded OutFlow Max=0.59 cfs @ 13.81 hrs HW=7.13' (Free Discharge)
 ↳1=Infiltration (Exfiltration Controls 0.59 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.80' (Free Discharge)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Regraded Infiltration Basin

Hydrograph



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Type III 24-hr 10-YR Rainfall=4.60"

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Summary for Pond 4P: Roof Drip Edge

Inflow Area = 23,540 sf, 95.77% Impervious, Inflow Depth = 4.36" for 10-YR event
 Inflow = 2.43 cfs @ 12.08 hrs, Volume= 8,560 cf
 Outflow = 1.12 cfs @ 12.25 hrs, Volume= 8,560 cf, Atten= 54%, Lag= 9.8 min
 Primary = 1.12 cfs @ 12.25 hrs, Volume= 8,560 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 10.05' @ 12.25 hrs Surf.Area= 1,340 sf Storage= 1,187 cf
 Flood Elev= 11.05' Surf.Area= 1,340 sf Storage= 1,702 cf

Plug-Flow detention time= 18.3 min calculated for 8,560 cf (100% of inflow)
 Center-of-Mass det. time= 18.2 min (767.6 - 749.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	7.84'	1,702 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.84	1,340	0.0	0	0
7.85	1,340	40.0	5	5
8.00	1,340	40.0	80	86
9.00	1,340	40.0	536	622
10.00	1,340	40.0	536	1,158
10.99	1,340	40.0	531	1,688
11.00	1,340	100.0	13	1,702

Device	Routing	Invert	Outlet Devices
#1	Primary	7.84'	8.0" Round Outlet Pipe L= 368.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.84' / 6.00' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	11.00'	332.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.12 cfs @ 12.25 hrs HW=10.05' (Free Discharge)
 ↑1=Outlet Pipe (Barrel Controls 1.12 cfs @ 3.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=7.84' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

16037 Post Development

Type III 24-hr 10-YR Rainfall=4.60"

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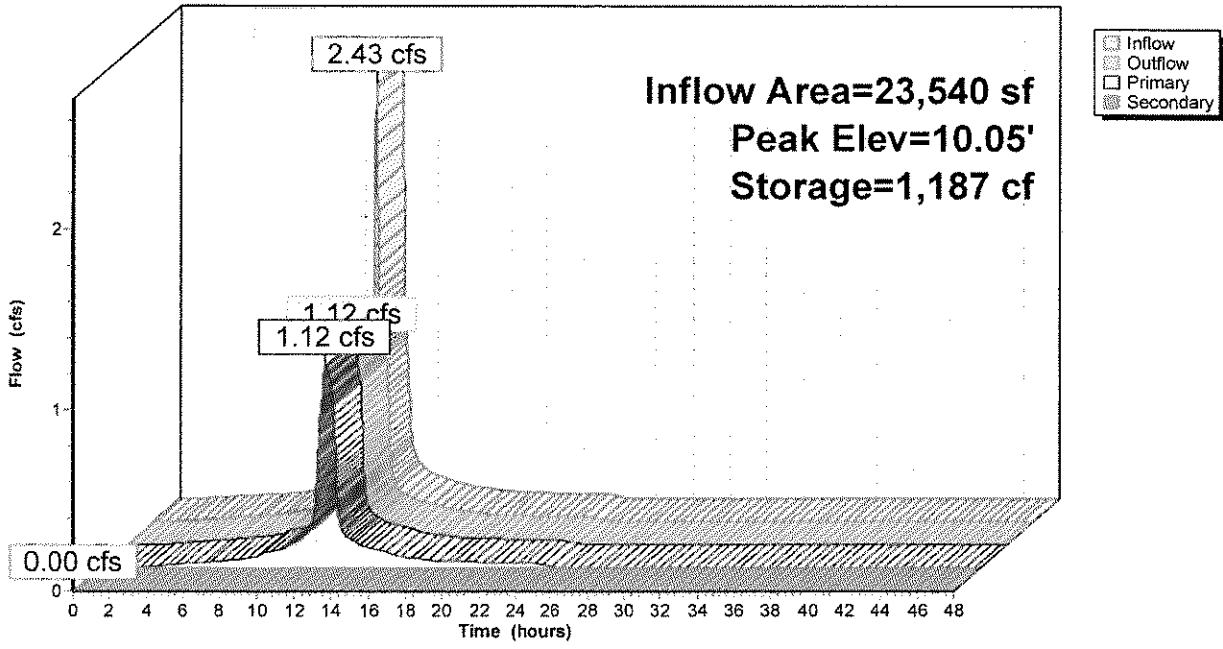
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Pond 4P: Roof Drip Edge

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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: Flow To Existing Runoff Area=101,311 sf 58.76% Impervious Runoff Depth=3.21"
Flow Length=313' Tc=6.0 min CN=76 Runoff=8.75 cfs 27,086 cf

Subcatchment 2S: Proposed Building Runoff Area=23,540 sf 95.77% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=3.07 cfs 10,911 cf

Subcatchment 3S: Flow To Existing Runoff Area=17,259 sf 85.27% Impervious Runoff Depth=4.54"
Flow Length=95' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.03 cfs 6,532 cf

Reach AP-1: Analysis Point 1 Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Reach AP-2: Analysis Point 2 Inflow=2.03 cfs 6,532 cf
Outflow=2.03 cfs 6,532 cf

Pond 1P: Regraded Infiltration Basin Peak Elev=7.73' Storage=18,716 cf Inflow=9.86 cfs 37,996 cf
Discarded=0.66 cfs 37,996 cf Primary=0.00 cfs 0 cf Outflow=0.66 cfs 37,996 cf

Pond 4P: Roof Drip Edge Peak Elev=11.00' Storage=1,698 cf Inflow=3.07 cfs 10,911 cf
Primary=1.26 cfs 10,910 cf Secondary=0.00 cfs 0 cf Outflow=1.26 cfs 10,910 cf

Total Runoff Area = 142,110 sf Runoff Volume = 44,529 cf Average Runoff Depth = 3.76"
31.89% Pervious = 45,316 sf 68.11% Impervious = 96,794 sf

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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 1S: Flow To Existing Infiltration Basin

Runoff = 8.75 cfs @ 12.09 hrs, Volume= 27,086 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
8,873	98	Roofs, HSG A
50,660	98	Paved parking, HSG A
4,141	96	Gravel surface, HSG A
37,637	39	>75% Grass cover, Good, HSG A
101,311	76	Weighted Average
41,778		41.24% Pervious Area
59,533		58.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	69	0.0180	1.21		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
0.1	15	0.2000	3.13		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.0	229	0.0130	3.75	18.74	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 ' Top.W=9.00' n= 0.030 Earth, grassed & winding
3.9					Direct Entry, Direct Entry
6.0	313	Total			

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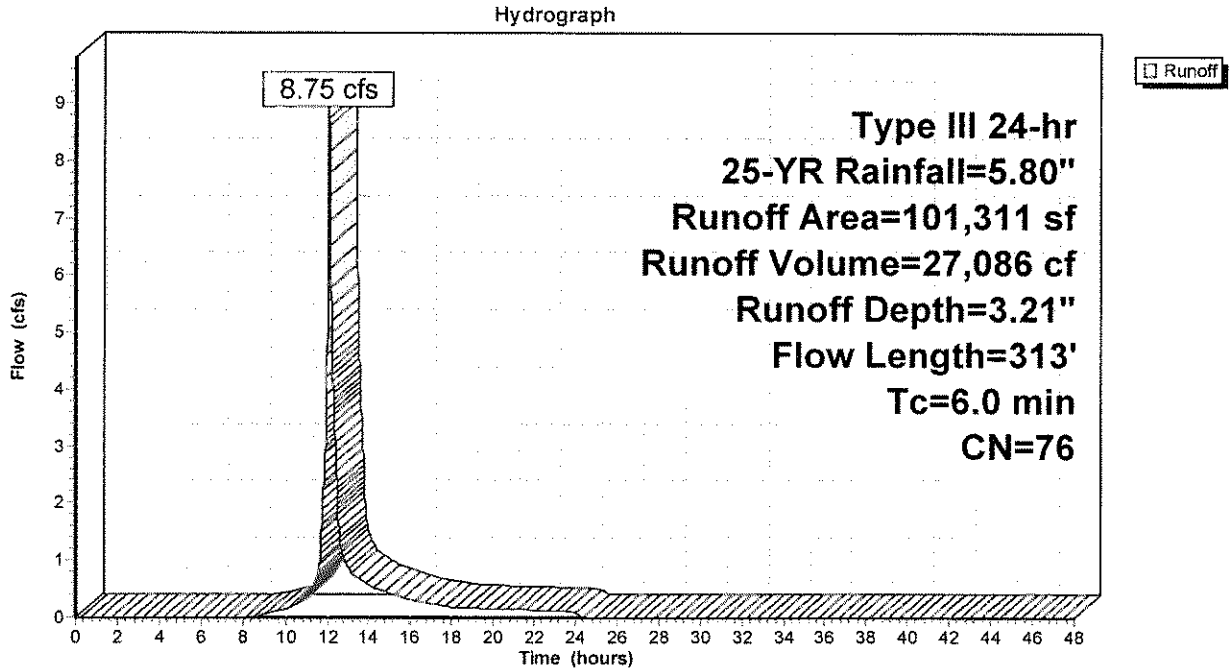
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Type III 24-hr 25-YR Rainfall=5.80"

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Subcatchment 1S: Flow To Existing Infiltration Basin



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 2S: Proposed Building

Runoff = 3.07 cfs @ 12.08 hrs, Volume= 10,911 cf, Depth= 5.56"

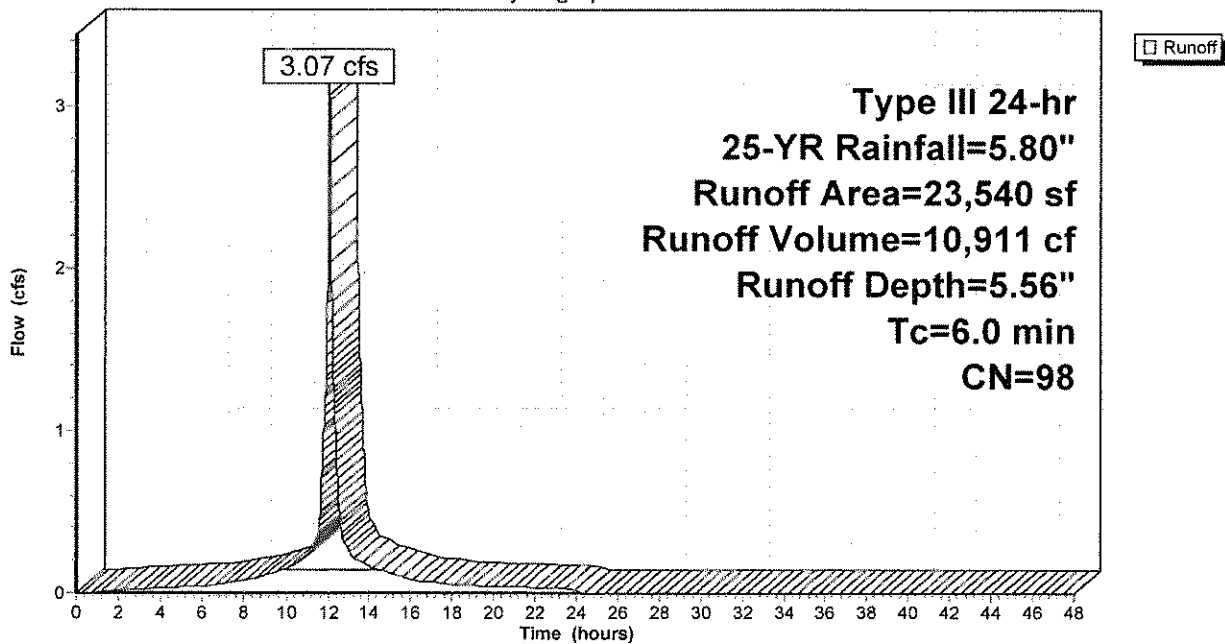
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
22,544	98	Roofs, HSG A
996	96	Gravel surface, HSG A
23,540	98	Weighted Average
996		4.23% Pervious Area
22,544		95.77% Impervious Area

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

Subcatchment 2S: Proposed Building

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Subcatchment 3S: Flow To Existing Infiltration Basin

Runoff = 2.03 cfs @ 12.08 hrs, Volume= 6,532 cf, Depth= 4.54"

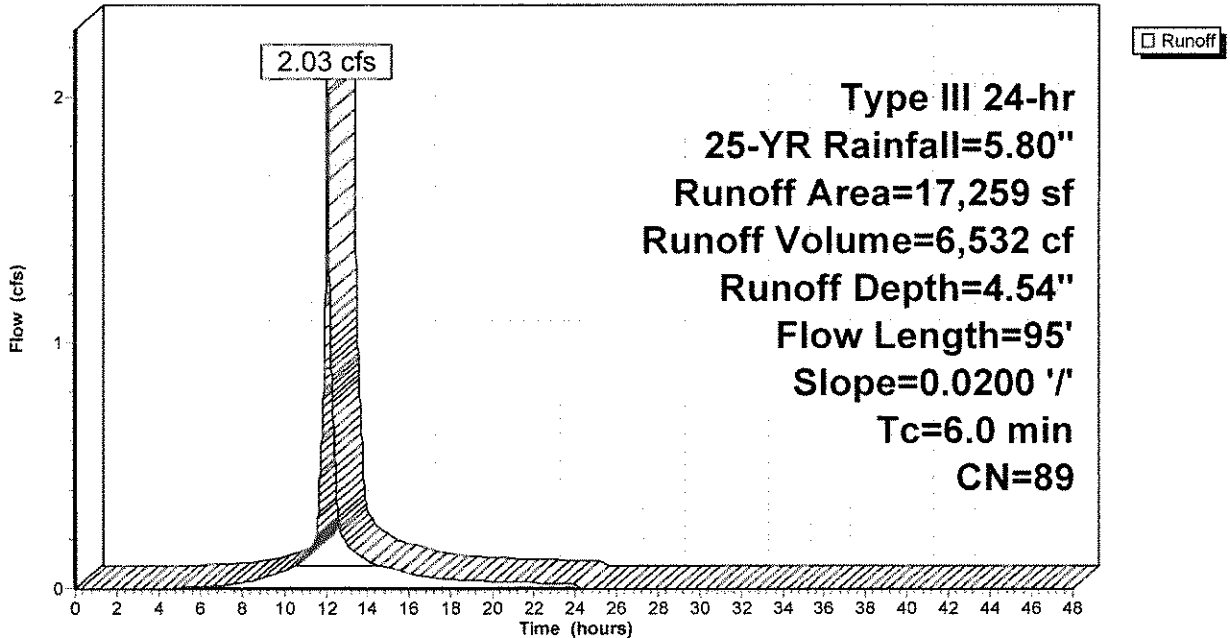
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,143	98	Roofs, HSG A
13,574	98	Paved parking, HSG A
2,542	39	>75% Grass cover, Good, HSG A
17,259	89	Weighted Average
2,542		14.73% Pervious Area
14,717		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	95	0.0200	1.34		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.10"
4.8					Direct Entry, Direct Entry
6.0	95	Total			

Subcatchment 3S: Flow To Existing Infiltration Basin

Hydrograph



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Type III 24-hr 25-YR Rainfall=5.80"

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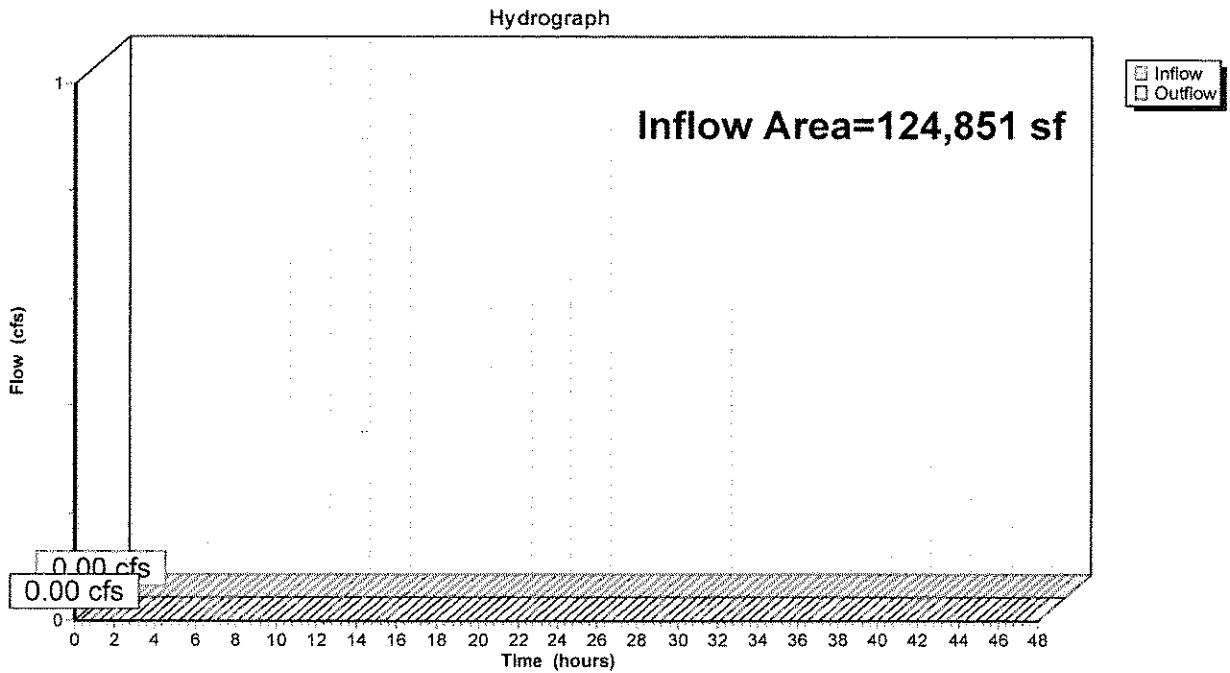
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Summary for Reach AP-1: Analysis Point 1

Inflow Area = 124,851 sf, 65.74% Impervious, Inflow Depth = 0.00" for 25-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach AP-1: Analysis Point 1



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Type III 24-hr 25-YR Rainfall=5.80"

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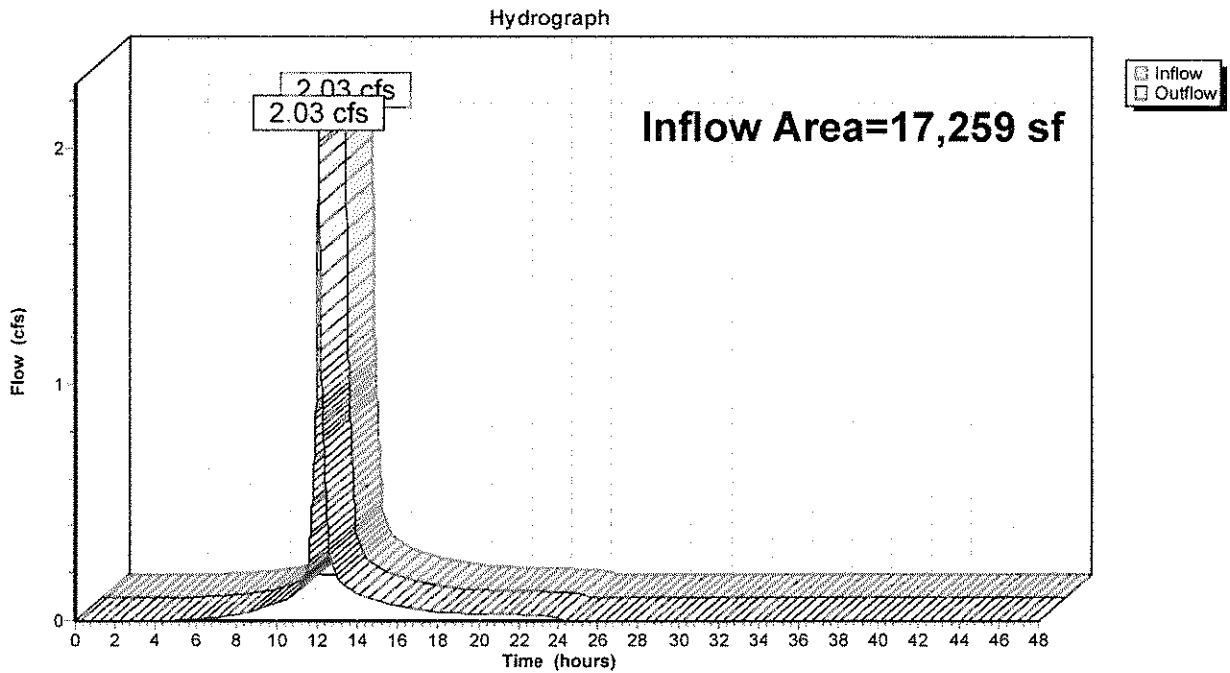
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Summary for Reach AP-2: Analysis Point 2

Inflow Area = 17,259 sf, 85.27% Impervious, Inflow Depth = 4.54" for 25-YR event
Inflow = 2.03 cfs @ 12.08 hrs, Volume= 6,532 cf
Outflow = 2.03 cfs @ 12.08 hrs, Volume= 6,532 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach AP-2: Analysis Point 2



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Pond 1P: Regraded Infiltration Basin

Inflow Area = 124,851 sf, 65.74% Impervious, Inflow Depth = 3.65" for 25-YR event
 Inflow = 9.86 cfs @ 12.09 hrs, Volume= 37,996 cf
 Outflow = 0.66 cfs @ 14.36 hrs, Volume= 37,996 cf, Atten= 93%, Lag= 136.3 min
 Discarded = 0.66 cfs @ 14.36 hrs, Volume= 37,996 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 7.73' @ 14.36 hrs Surf.Area= 11,791 sf Storage= 18,716 cf
 Flood Elev= 9.50' Surf.Area= 17,373 sf Storage= 36,845 cf

Plug-Flow detention time= 293.8 min calculated for 37,988 cf (100% of inflow)
 Center-of-Mass det. time= 293.7 min (1,101.5 - 807.8)

Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	36,845 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.80	4,413	0	0
6.00	8,409	1,282	1,282
7.00	10,340	9,375	10,657
8.00	12,332	11,336	21,993
9.00	17,373	14,853	36,845

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	2.410 in/hr Infiltration over Surface area
#2	Primary	9.00'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50 4.00 4.50 5.00 5.50			
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			

Discarded OutFlow Max=0.66 cfs @ 14.36 hrs HW=7.73' (Free Discharge)
 ↳1=Infiltration (Exfiltration Controls 0.66 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.80' (Free Discharge)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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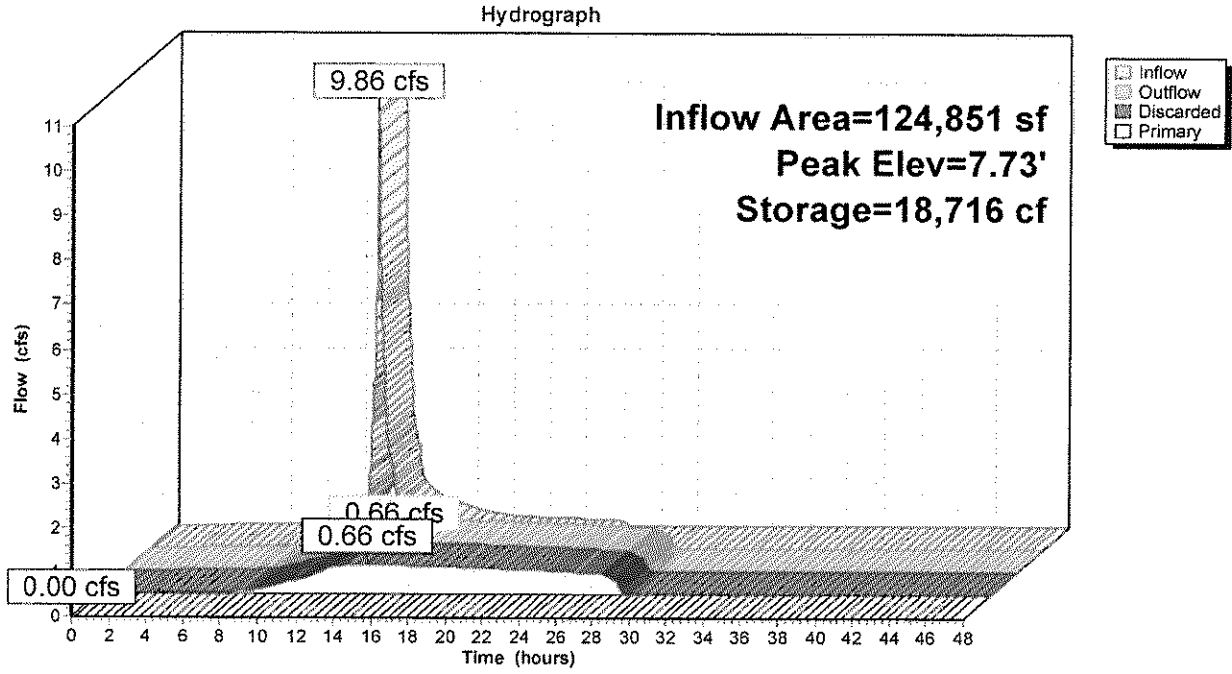
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Type III 24-hr 25-YR Rainfall=5.80"

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Pond 1P: Regraded Infiltration Basin



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Type III 24-hr 25-YR Rainfall=5.80"

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Summary for Pond 4P: Roof Drip Edge

Inflow Area = 23,540 sf, 95.77% Impervious, Inflow Depth = 5.56" for 25-YR event
 Inflow = 3.07 cfs @ 12.08 hrs, Volume= 10,911 cf
 Outflow = 1.26 cfs @ 12.28 hrs, Volume= 10,910 cf, Atten= 59%, Lag= 12.0 min
 Primary = 1.26 cfs @ 12.28 hrs, Volume= 10,910 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 11.00' @ 12.28 hrs Surf.Area= 1,340 sf Storage= 1,698 cf
 Flood Elev= 11.05' Surf.Area= 1,340 sf Storage= 1,702 cf

Plug-Flow detention time= 18.0 min calculated for 10,908 cf (100% of inflow)
 Center-of-Mass det. time= 18.2 min (763.8 - 745.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	7.84'	1,702 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.84	1,340	0.0	0	0
7.85	1,340	40.0	5	5
8.00	1,340	40.0	80	86
9.00	1,340	40.0	536	622
10.00	1,340	40.0	536	1,158
10.99	1,340	40.0	531	1,688
11.00	1,340	100.0	13	1,702

Device	Routing	Invert	Outlet Devices
#1	Primary	7.84'	8.0" Round Outlet Pipe L= 368.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.84' / 6.00' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	11.00'	332.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.26 cfs @ 12.28 hrs HW=11.00' (Free Discharge)
 ↖1=Outlet Pipe (Barrel Controls 1.26 cfs @ 3.62 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=7.84' (Free Discharge)
 ↖2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Roof Drip Edge

Hydrograph

