STORMWATER DRAINAGE CALCULATIONS

for

Definitive Subdivision

at

Stoney Brook Farm
New Bedford, MA

Prepared for:

New Bedford Cousins LLC
P.O. Box 36
Scituate, MA 02066

Prepared by:

CAVANARO CONSULTING, INC.
687 MAIN STREET
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May 10, 2017
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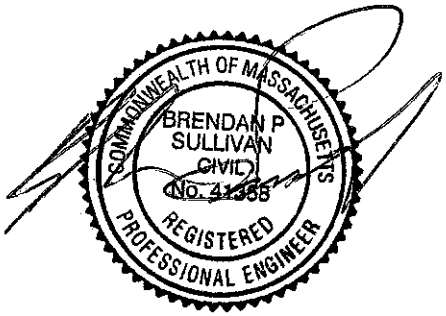


1.0 METHODOLOGY

The adequacy of drainage structures and their ability to function properly must be analyzed to minimize detrimental effects due to flooding conditions. The impacts of storm water are mitigated through several mechanisms such as infiltration, transportation and evaporation. The remaining runoff, can be quantified through developed and accepted methods. By determining the characteristics of site specific storm water conditions, mitigating efforts can be taken to avoid floodwater damage by constructing control devices. Designing and analyzing these facilities requires the acquisition of site data through observations, computer modeling the watershed, and the interpretation and application of the calculated values.

2.0 OVERVIEW

Cavanaro Consulting (CC) has analyzed the existing structures on and adjacent to the site utilizing the HydroCad 7.00 Storm water modeling program. Storm rainfall, run-off curve numbers, and other site characteristics are input into the program. The results of calculations are output into tables and graphs for each area and control structure. The complete calculations are presented in Appendix A of this report.

3.0 DESIGN STORMS

CC has computed storm water run-off calculations for the proposed subdivision site, for a 2, 10, 25, and 100 year, Type III, 24-hour storm events. This results in a 3.2", 4.6", 5.6", and a 6.8" rain event respectively for each storm event.

4.0 EXISTING DRAINAGE AREAS

The existing site is currently divided into three drainage areas: one that flows to the west toward Acushnet Ave through an easement; another flows toward Arnoff and Victoria Street; and a much larger area that flows to the east into an existing bordering vegetated wetland area and eventually to an unnamed river which flows further south to a small pond. It is our understanding that the existing pond located to the southeast has a history of flooding during heavy rainfall events. As a result, we have designed the drainage system for this project to reduce the flow toward the existing wetland while maintaining some flow to continue hydration of the resource area.

5.0 PROPOSED SUBCATCHMENT AREAS

The proposed site was divided into 11 subcatchment areas as shown on the accompanying plan. Three design control points were established to compare the existing with the proposed conditions. The design control points were chosen at the down slope side of the four existing subcatchment areas as shown on the plan. The intent was to direct a limited amount of runoff to the Bordering Vegetated Wetland and to Victoria Street to the South due to the inherent drainage problem at the Easterly end of Victoria Street and the adjacent pond. To achieve this goal more runoff was directed towards Acushnet Avenue, thus resulting in an increase in flow

at design control point No. 1 and a net decrease in flow at design control points No. 2 & 3, as shown in the table below.

6.0 PROPOSED DETENTION POND

The proposed drainage system consists of two infiltration basins. One is an existing underground infiltration basin with outlet structures discharge into the exiting drainage systems in the Acushnet avenue. This infiltration system adjacent to the bank site has been installed as part of that project in 2008. The second open infiltration basin is locate to the southwest portion of the project and discharges towards the adjacent wetlands and unnamed river bordering the eastern portion of the project. Both ponds are designed as dry ponds. Therefore, there is no standing water in the ponds between storm events. All street runoff is captured through deep sump catch basins with oil/gas separators, which discharge to the detention ponds.

7.0 DRAINAGE ANALYSIS

Design Control Point No. 1 (Acushnet Ave.)

Storm	Existing Conditions (1E)	Post-Modification(DCP1)
2–Year-24Hour (3.20")	**0.08 cfs**	**0.08 cfs**
10–Year-24Hour (4.60")	**0.17 cfs**	**2.50 cfs**
25–Year-24Hour (5.60")	**0.24 cfs**	**4.63 cfs**
100–Year-24Hour (6.80")	**0.32 cfs**	**7.81 cfs**

Flow @ Design control Point No. 2 (Monson & Victoria Street)

Storm	Existing Conditions (3E)	Post-development (DCP2)
2–Year-24Hour (3.20")	**3.72 cfs**	**3.60 cfs**
10–Year-24Hour (4.60")	**7.72 cfs**	**7.33 cfs**
25–Year-24Hour (5.60")	**10.84 cfs**	**10.23 cfs**
100–Year-24Hour (6.80")	**14.74 cfs**	**13.86 cfs**

Flow @ Design control Point No. 3 (Rear @ Wetland Area/Southeast corner)

Storm	Existing Conditions (4E)	Post-development (DCP3)
2–Year-24Hour (3.20")	**7.93 cfs**	**4.29 cfs**
10–Year-24Hour (4.60")	**16.42 cfs**	**9.83 cfs**
25–Year-24Hour (5.60")	**23.06 cfs**	**14.20 cfs**
100–Year-24Hour (6.80")	**31.37 cfs**	**19.58 cfs**

The portion of the proposed project will conform to the Stormwater Standards as follows:

Standard 1: No New Stormwater Conveyances of Untreated Stormwater or Erosion Offsite

The proposed improvements have an increase in pavement that will be treated prior to flowing into the infiltration fields. Also deep sump catch basins with hoods will be provided on all new catch basins, and all runoff will flow through a Stomceptor unit prior to discharging off site.

Standard 2: Peak Rate Attenuation

All proposed runoff rates are less than proposed with the exception of design control point number 1. This existing connection to the street was constructed in 2008 as part of the adjacent bank project. The flow was increased in this area to help alleviate an existing drainage problem with the pond off property to the southeast of the project.

Standard 3: Recharge and Discharge Volume

The required recharge volume for the site is 0.25" per net increase of new impervious, or 0.25"/12 x 63,559 s.f. = 1,324 cubic feet. The infiltration basin a volume of 3,107 Cubic feet below the outlet. Therefore, the total recharge for the site is 3,107 cubic feet this is well above the required 1,324 cubic feet.

Standard 4: Water Quality

The implementation of a Long Term Operation and Maintenance Plan will further improve water quality in the long term. The required Water Quality Volume for this site is 1.0" per net increase of new pavement, or 1.0"/12 x 36,526 s.f. = 3,044 cubic feet, new roadway and driveways. The proposed infiltration system for the subdivision has a total volume of 3,107 cubic feet of storage (see above), therefore this requirement is met.

Standard 5: Land Uses with Higher Pollutant Loads (LUHPPLs)

The proposed use of the site does not constitute a higher potential pollutant load, therefore this standard does not apply.

Standard 6: Critical Areas

The locus site is not located within a critical area as can be seen on the attached DEP priority resource map. Thus, Standard 6 does not pertain to this project.

Standard 7: Redevelopment

The project is considered new development.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

The Operation and Maintenance Plan included with this submittal will ensure proper maintenance of the proposed pollution, erosion and sedimentation measures proposed during construction.

Standard 9: Long Term Operation and Maintenance Plan

The Long Term Operation and Maintenance Plan is included within the Operation and Maintenance Plan which is enclosed in this submittal to ensure drainage non-structural BMP's are maintained as intended.

Standard 10: Prohibition of Illicit Discharges

Routine visual inspections are scheduled as part of the Operations and Maintenance Plan to prevent illicit discharges. Furthermore, an Illicit Compliance Statement is included in this submittal.

Improvement Over Existing Conditions

Water quality will be improved through the implementation of an Operation and Maintenance Plan (O & M Plan). This O & M Plan includes good practice measures such as visual maintenance and inspections onsite. The runoff from the existing site has no stormwater controls, the proposed infiltration and stomwater controls will remove greater than 80% of total suspended solids (TSS) from the site improving the downstream runoff dramatically.

Stage-Area-Storage for Pond 2P: Infiltration Pond #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
92.50	2,105	0
92.55	2,179	123
92.60	2,254	247
92.65	2,329	370
92.70	2,403	494
92.75	2,478	617
92.80	2,552	740
92.85	2,626	864
92.90	2,701	987
92.95	2,776	1,111
93.00	2,850	1,234
93.05	2,943	1,421
93.10	3,037	1,609
93.15	3,131	1,796
93.20	3,224	1,983
93.25	3,318	2,171
93.30	3,411	2,358
93.35	3,504	2,545
93.40	3,598	2,732
93.45	3,692	2,920
93.50	3,785	3,107
93.55	3,878	3,294
93.60	3,972	3,482
93.65	4,066	3,669
93.70	4,159	3,856
93.75	4,253	4,043
93.80	4,346	4,231
93.85	4,439	4,418
93.90	4,533	4,605
93.95	4,627	4,793
94.00	4,720	4,980
94.05	4,835	5,272
94.10	4,950	5,563
94.15	5,066	5,855
94.20	5,181	6,147
94.25	5,296	6,439
94.30	5,411	6,730
94.35	5,527	7,022
94.40	5,642	7,314
94.45	5,757	7,605
94.50	5,873	7,897
94.55	5,988	8,189
94.60	6,103	8,481
94.65	6,218	8,772
94.70	6,334	9,064
94.75	6,449	9,356
94.80	6,564	9,648
94.85	6,679	9,939
94.90	6,795	10,231
94.95	6,910	10,523
95.00	7,025	10,814
95.05	7,155	11,229
95.10	7,285	11,644
95.15	7,416	12,058
95.20	7,546	12,473
95.25	7,676	12,888
95.30	7,806	13,302
95.35	7,936	13,717
95.40	8,067	14,132
95.45	8,197	14,546
95.50	8,327	14,961
95.55	8,457	15,375
95.60	8,587	15,790
95.65	8,718	16,205
95.70	8,848	16,619
95.75	8,978	17,034
95.80	9,108	17,449
95.85	9,238	17,863
95.90	9,369	18,278
95.95	9,499	18,693
96.00	**9,629**	**19,107**

Long Term Stormwater Operation and Maintenance Plan and Illicit Discharge Statement

Proposed Residential Development
"Stoney Brook Farm"
Stoney Brook Farm Subdivision – New Bedford, MA 02045
Stormwater Management System's Owner: New Bedford Cousins LLC
System Owner's Address: P.O. Box 36, Scituate, MA 02066
Party responsible for Operations and Maintenance: Owners of Stoney Brook Farm

It is most important for a drainage system to be maintained in order for it to work properly. The following is an Operation and Maintenance plan to upkeep the existing non-structural and structural best performance practices as outlined in the Massachusetts Department of Environmental Protection's Stormwater Management Policy.

Operation and Maintenance Plan After Construction:

Good housekeeping:

General trash and litter cleanup of the site, inspect all vehicles on a regular basis for detention of leaking oil, gas and other fluids, provide routine visual inspections of potential pollution sources, and maintain an inventory of potential pollution sources stored on site. Initiate and maintain record keeping of activity with regard to the contents of this plan.

Spill prevention and response:

In the event of a spill, immediately initiate containment and cleanup procedures appropriate for the material and notify the proper authorities. All attempts must be made to prevent spilled material from entering the drainage system or infiltrating into the ground.

Landscape Maintenance:

Maintenance of lawns and landscaped areas: Regularly mow lawn areas and weed landscaped areas.

Pipes:

Drainage pipes (inlets and outlets) shall be inspected to ensure that they are free of all obstructions and that they are structurally sound during every catch basin inspection.

Street Sweeping:

Sweeping of the parking lots and driveways should be done at least 2 times annually, namely in the spring and fall. It is imperative that sweeping take place immediately following final winter snowmelt to remove winter sand. All sediments containing hydrocarbons shall be handled properly and disposed of in accordance with local, state and federal guidelines and regulations.

Catch Basin Cleaning:

Catch basins shall be inspected and sediment removed at least two times per year and at the end of the foliage and snow removal seasons. Sediment must be removed at the required interval or whenever the depth of deposits is greater than or equal to one half the depth of the sump (2 feet). Care must be exercised to not damage the outlet hood when using a clamshell type cleaning bucket. A damaged or dislodged hood must be repaired or replaced immediately.

Culverts. pipes. and manholes:

All culverts, pipes, and manholes shall be inspected two times per year and cleaned when drainage impediments are discovered. Flushing of pipes may be required to remove accumulated sediment.

Riprap Drain Outfalls:

All riprap drain outfalls shall be inspected two times per year and repaired as necessary. Riprap shall be replaced/repaired as necessary, debris and accumulated sediment removed, and any woody growth removed.

Infiltration Basins:

The infiltration basin shall be inspected at least once a year to ensure that the basin is operating as intended. Inspections conducted at intervals during and after storm events will help to determine if the basin is meeting the expected detention times. The outlet structures should be inspected for evidence of clogging or outflow release velocities that are greater than design flow. Potential problems that should be checked include: subsidence, erosion, cracking or tree growth on the embankment; damage to the emergency spillway; sediment accumulation around the outlet; inadequacy of the inlet/outlet channel erosion control measures and erosion within the basin and banks. Any necessary repairs should be made immediately. During inspections, changes to the detention basin or the contributing watershed should be noted, as these may affect basin performance.

The upper-stage side slopes, embankment and emergency spillway should be mowed at least twice a year. Trash and debris should also be removed at this time. Sediment should be removed from the basin as necessary, and at least once every five years.

The subsurface system is designed to fully drain after a storm event therefore if standing water is observed within the system beyond 24 hours since the cessation of inflow to the system from a rain storm. this may indicate a problem and should be noted on the inspection log and further inspected for repairs. The Owner may need to contact a Registered Professional Engineer to evaluate the system in the event of major problems.

Pet Waste Management

All pet owners and keepers are required to immediately and properly dispose of their pet’s solid waste deposited on any property, public or private, not owned or possessed by that person.

Snow Management

Place snow in pervious areas where it can slowly infiltrate however it should not be placed over any component of the site's stormwater management system, particularly the catch basins. Any sand and debris mixed with snow would block the inlet or be quickly introduced into the drainage system upon snowmelt.

At no time shall the stormwater infiltration basins or wetlands be used for the stockpiling of snow. At no time shall snow be stored within 100 feet of the Bordering Vegetated Wetlands.

Estimated Operation and Maintenance Budget:

Maintenance cost will be approximately $5,000.00 per year.

Illicit Discharges:

At no time will the owner or any other individual utilize the stormwater management system for any purpose other than its intended use. The stormwater management system as shown on the attached site plan at no time shall receive discharges other than stormwater, this includes "wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil or grease."

Terrence Tedeschi

Applicant (Signature)

Terrence Tedeschi

Applicant (Print)

MAINTENANCE INSPECTION LOG FORM

Stoney Brook Farm, New Bedford, MA

Contractor Date

OPERATION	Inspected	Cleaning / Maintenance required
1. Inspect catch basins & inlets		
2. Inspect drain outlets		
3. Inspect constructed wetland		
4. Inspect for signs of drain line blockage		
5. Inspect drainage swales		
6. Inspect sediment forebay		
7. Inspect pavement surface		
9. Inspect vegetation on site		

COMMENTS / MAINTENANCE REQUIRED:

Detailed Stormceptor Sizing Report – DMH # 4

Project Information & Location			
Project Name	Stoney Brook Farm	**Project Number**	5005
City	New Bedford	**State/ Province**	Massachusetts
Country	United States of America	**Date**	5/16/2017
Designer Information		**EOR Information (optional)**	
Name	Brendan Sullivan	**Name**	
Company	Cavanaro Consulting	**Company**	
Phone #	781-659-8187	**Phone #**	
Email	bsullivan@cavanaroconsulting.com	**Email**	

Stormwater Treatment Recommendation

The recommended Stormceptor Model(s) which achieve or exceed the user defined water quality objective for each site within the project are listed in the below Sizing Summary table.

Site Name	DMH # 4
Recommended Stormceptor Model	STC 450i
Target TSS Removal (%)	80.0
TSS Removal (%) Provided	99
PSD	Fine Distribution
Rainfall Station	BLUE HILL

The recommended Stormceptor model achieves the water quality objectives based on the selected inputs, historical rainfall records and selected particle size distribution.

Stormceptor Sizing Summary	
Stormceptor Model	**% TSS Removal Provided**
STC 450i	99
STC 900	100
STC 1200	100
STC 1800	100
STC 2400	100
STC 3600	100
STC 4800	100
STC 6000	100
STC 7200	100
STC 11000	100
STC 13000	100
STC 16000	100
StormceptorMAX	Custom

Stormceptor
The Stormceptor oil and sediment separator is sized to treat stormwater runoff by removing pollutants through gravity separation and flotation. Stormceptor's patented design generates positive TSS removal for each rainfall event, including large storms. Significant levels of pollutants such as heavy metals, free oils and nutrients are prevented from entering natural water resources and the re-suspension of previously captured sediment (scour) does not occur.
Stormceptor provides a high level of TSS removal for small frequent storm events that represent the majority of annual rainfall volume and pollutant load. Positive treatment continues for large infrequent events, however, such events have little impact on the average annual TSS removal as they represent a small percentage of the total runoff volume and pollutant load.

Design Methodology
Stormceptor is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology using local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective. The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. The Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing:
• Site parameters
• Continuous historical rainfall data, including duration, distribution, peaks & inter-event dry periods
• Particle size distribution, and associated settling velocities (Stokes Law, corrected for drag)
• TSS load
• Detention time of the system

Hydrology Analysis
PCSWMM for Stormceptor calculates annual hydrology with the US EPA SWMM and local continuous historical rainfall data. Performance calculations of Stormceptor are based on the average annual removal of TSS for the selected site parameters. The Stormceptor is engineered to capture sediment particles by treating the required average annual runoff volume, ensuring positive removal efficiency is maintained during each rainfall event, and preventing negative removal efficiency (scour). Smaller recurring storms account for the majority of rainfall events and average annual runoff volume, as observed in the historical rainfall data analyses presented in this section.

Rainfall Station			
State/Province	Massachusetts	**Total Number of Rainfall Events**	10784
Rainfall Station Name	BLUE HILL	**Total Rainfall (in)**	2849.7
Station ID #	0736	**Average Annual Rainfall (in)**	49.1
Coordinates	42°12'44"N, 71°6'53"W	**Total Evaporation (in)**	2.7
Elevation (ft)	630	**Total Infiltration (in)**	2811.0
Years of Rainfall Data	58	**Total Rainfall that is Runoff (in)**	36.0

Notes
• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules. • Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed. • For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

Drainage Area	
Total Area (acres)	2.09
Imperviousness %	0.2

Water Quality Objective	
TSS Removal (%)	80.0
Runoff Volume Capture (%)	
Oil Spill Capture Volume (Gal)	
Peak Conveyed Flow Rate (CFS)	8.00
Water Quality Flow Rate (CFS)	0.50

Up Stream Storage	
Storage (ac-ft)	Discharge (cfs)
0.000	0.000

Up Stream Flow Diversion	
Max. Flow to Stormceptor (cfs)	

Design Details	
Stormceptor Inlet Invert Elev (ft)	96.10
Stormceptor Outlet Invert Elev (ft)	96.10
Stormceptor Rim Elev (ft)	102.50
Normal Water Level Elevation (ft)	
Pipe Diameter (in)	18
Pipe Material	RCP - concrete
Multiple Inlets (Y/N)	Yes
Grate Inlet (Y/N)	No

Particle Size Distribution (PSD)

Removing the smallest fraction of particulates from runoff ensures the majority of pollutants, such as metals, hydrocarbons and nutrients are captured. The table below identifies the Particle Size Distribution (PSD) that was selected to define TSS removal for the Stormceptor design.

Fine Distribution		
Particle Diameter (microns)	Distribution %	Specific Gravity
20.0	20.0	1.30
60.0	20.0	1.80
150.0	20.0	2.20
400.0	20.0	2.65
2000.0	20.0	2.65

Site Name	DMH # 4

Site Details

Drainage Area

Total Area (acres)	2.09
Imperviousness %	0.2

Surface Characteristics

Width (ft)	603.00
Slope %	2
Impervious Depression Storage (in)	0.02
Pervious Depression Storage (in)	0.2
Impervious Manning's n	0.015
Pervious Manning's n	0.25

Maintenance Frequency

Maintenance Frequency (months) >	12

Infiltration Parameters

Horton's equation is used to estimate infiltration

Max. Infiltration Rate (in/hr)	2.44
Min. Infiltration Rate (in/hr)	0.4
Decay Rate (1/sec)	0.00055
Regeneration Rate (1/sec)	0.01

Evaporation

Daily Evaporation Rate (in/day)	0.1

Dry Weather Flow

Dry Weather Flow (cfs)	0

Winter Months

Winter Infiltration	0

TSS Loading Parameters

TSS Loading Function	

Buildup/Wash-off Parameters

Target Event Mean Conc. (EMC) mg/L	
Exponential Buildup Power	
Exponential Washoff Exponent	

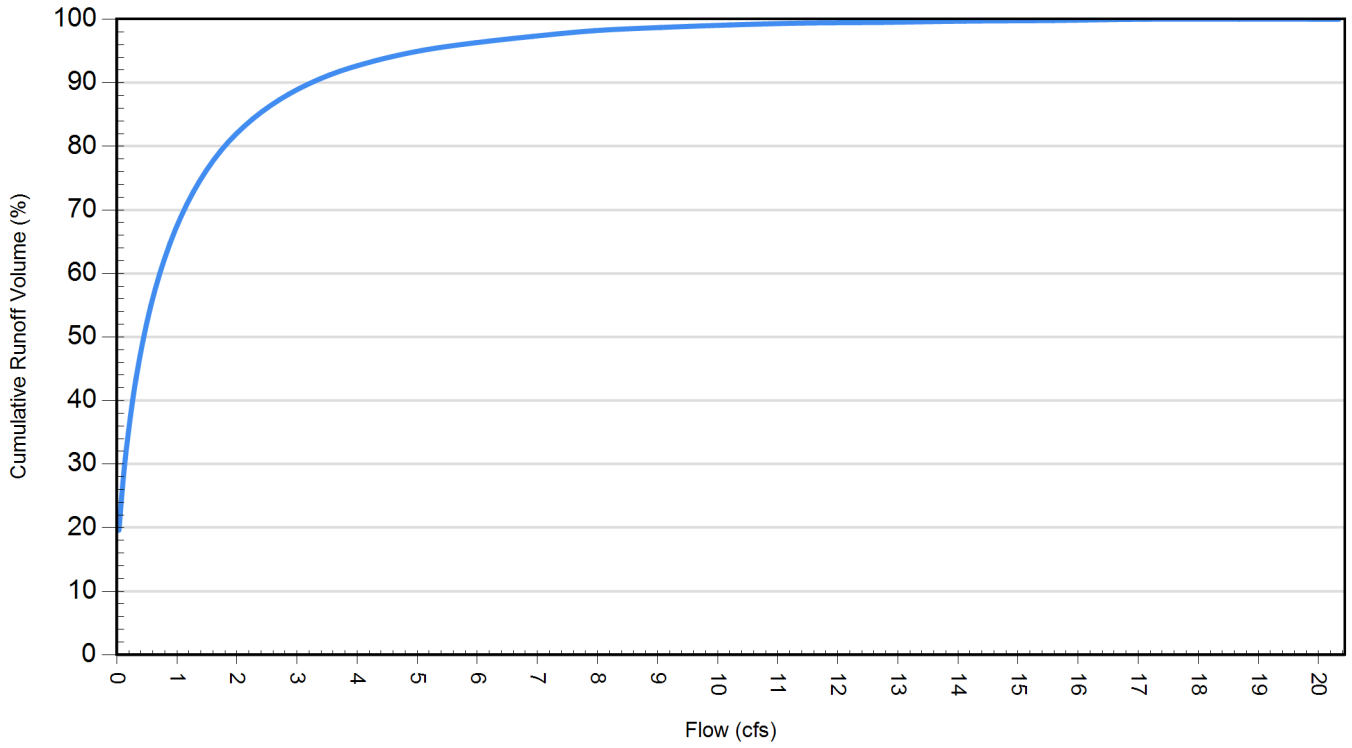
TSS Availability Parameters

Availability Constant A	
Availability Factor B	
Availability Exponent C	
Min. Particle Size Affected by Availability (micron)	

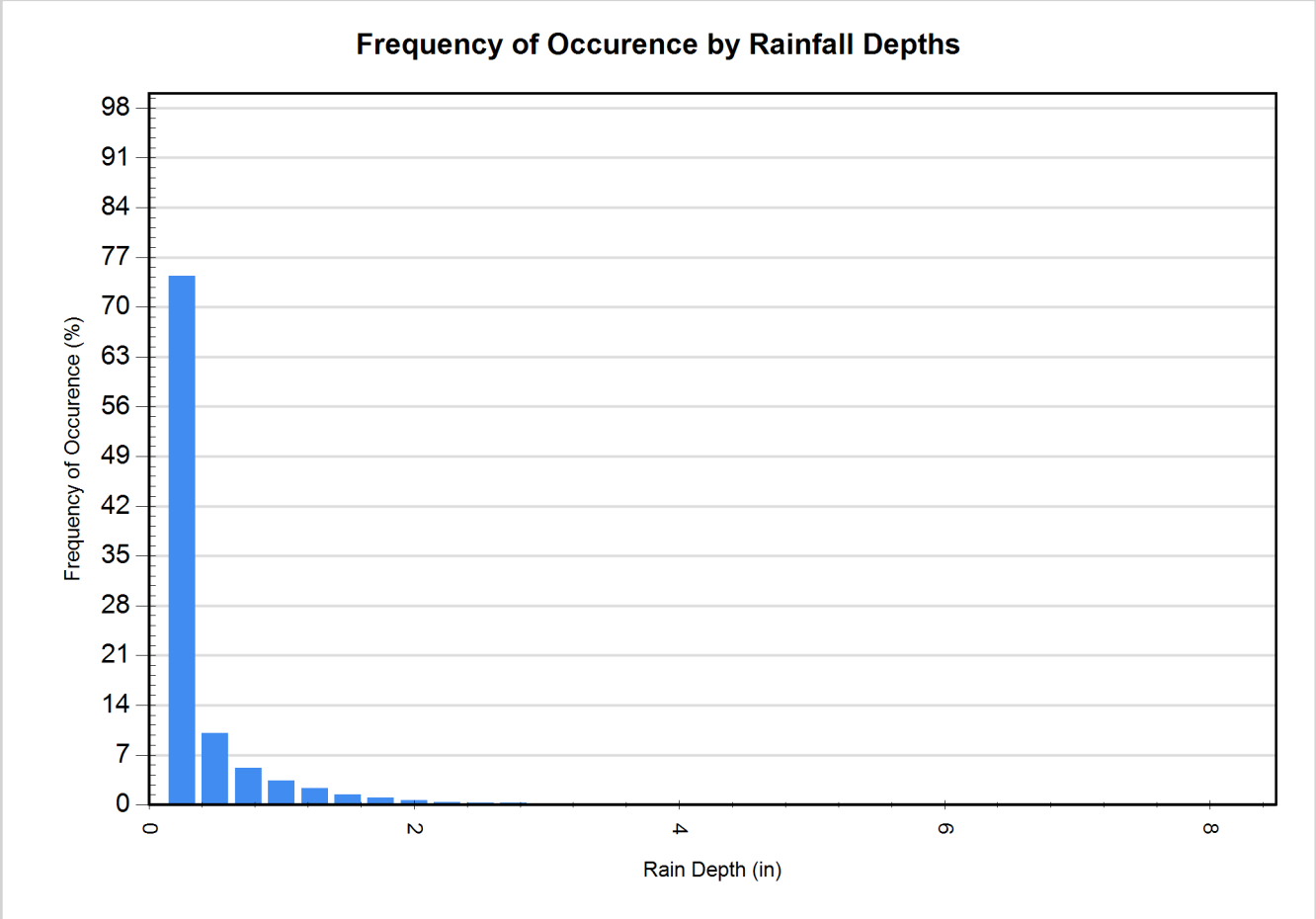
Cumulative Runoff Volume by Runoff Rate			
Runoff Rate (cfs)	**Runoff Volume (ft³)**	**Volume Over (ft³)**	**Cumulative Runoff Volume (%)**
0.035	54619	223442	19.6
0.141	85995	192055	30.9
0.318	120794	157248	43.4
0.565	152792	125243	54.9
0.883	179896	98167	64.7
1.271	202526	75535	72.8
1.730	220513	57558	79.3
2.260	234358	43721	84.3
2.860	245288	32793	88.2
3.531	253568	24518	91.2
4.273	259652	18432	93.4
5.085	264328	13757	95.1
5.968	267857	10230	96.3
6.922	270715	7375	97.3
7.946	272994	5096	98.2
9.041	274480	3610	98.7
10.206	275586	2504	99.1
11.442	276328	1763	99.4
12.749	276745	1346	99.5
14.126	277158	933	99.7
15.574	277592	498	99.8
17.092	278048	43	100.0
18.681	278090	0	100.0
20.341	278090	0	100.0

Cumulative Runoff Volume by Runoff Rate

For area: 2.09(ac), imperviousness: 0.2%, rainfall station: BLUE HILL



Rainfall Event Analysis				
Rainfall Depth (in)	No. of Events	Percentage of Total Events (%)	Total Volume (in)	Percentage of Annual Volume (%)
0.25	8022	74.4	470	16.5
0.50	1094	10.1	398	14.0
0.75	557	5.2	345	12.1
1.00	368	3.4	318	11.1
1.25	243	2.3	272	9.5
1.50	148	1.4	202	7.1
1.75	107	1.0	174	6.1
2.00	66	0.6	123	4.3
2.25	42	0.4	89	3.1
2.50	33	0.3	79	2.8
2.75	28	0.3	74	2.6
3.00	21	0.2	60	2.1
3.25	12	0.1	37	1.3
3.50	10	0.1	34	1.2
3.75	5	0.0	18	0.6
4.00	2	0.0	8	0.3
4.25	1	0.0	4	0.1
4.50	4	0.0	18	0.6
4.75	3	0.0	14	0.5
5.00	0	0.0	0	0.0
5.25	1	0.0	5	0.2
5.50	3	0.0	16	0.6
5.75	2	0.0	11	0.4
6.00	5	0.0	29	1.0
6.25	0	0.0	0	0.0
6.50	1	0.0	6	0.2
6.75	0	0.0	0	0.0
7.00	1	0.0	7	0.2
7.25	1	0.0	7	0.2
7.50	0	0.0	0	0.0
7.75	2	0.0	15	0.5
8.00	0	0.0	0	0.0
8.25	0	0.0	0	0.0
8.25	2	0.0	17	0.6



For Stormceptor Specifications and Drawings Please Visit:
http://www.imbriumsystems.com/technical-specifications

Detailed Stormceptor Sizing Report – DMH # 7

Project Information & Location			
Project Name	Stoney Brook Farm	**Project Number**	5005
City	New Bedford	**State/ Province**	Massachusetts
Country	United States of America	**Date**	5/16/2017
Designer Information		**EOR Information (optional)**	
Name	Brendan Sullivan	**Name**	
Company	Cavanaro Consulting	**Company**	
Phone #	781-659-8187	**Phone #**	
Email	bsullivan@cavanaroconsulting.com	**Email**	

Stormwater Treatment Recommendation

The recommended Stormceptor Model(s) which achieve or exceed the user defined water quality objective for each site within the project are listed in the below Sizing Summary table.

Site Name	DMH # 7
Recommended Stormceptor Model	STC 450i
Target TSS Removal (%)	80.0
TSS Removal (%) Provided	98
PSD	Fine Distribution
Rainfall Station	BLUE HILL

The recommended Stormceptor model achieves the water quality objectives based on the selected inputs, historical rainfall records and selected particle size distribution.

Stormceptor Sizing Summary	
Stormceptor Model	**% TSS Removal Provided**
STC 450i	98
STC 900	99
STC 1200	99
STC 1800	99
STC 2400	99
STC 3600	99
STC 4800	100
STC 6000	100
STC 7200	100
STC 11000	100
STC 13000	100
STC 16000	100
StormceptorMAX	Custom

Stormceptor
The Stormceptor oil and sediment separator is sized to treat stormwater runoff by removing pollutants through gravity separation and flotation. Stormceptor's patented design generates positive TSS removal for each rainfall event, including large storms. Significant levels of pollutants such as heavy metals, free oils and nutrients are prevented from entering natural water resources and the re-suspension of previously captured sediment (scour) does not occur.
Stormceptor provides a high level of TSS removal for small frequent storm events that represent the majority of annual rainfall volume and pollutant load. Positive treatment continues for large infrequent events, however, such events have little impact on the average annual TSS removal as they represent a small percentage of the total runoff volume and pollutant load.

Design Methodology
Stormceptor is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology using local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective. The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. The Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing:
• Site parameters
• Continuous historical rainfall data, including duration, distribution, peaks & inter-event dry periods
• Particle size distribution, and associated settling velocities (Stokes Law, corrected for drag)
• TSS load
• Detention time of the system

Hydrology Analysis
PCSWMM for Stormceptor calculates annual hydrology with the US EPA SWMM and local continuous historical rainfall data. Performance calculations of Stormceptor are based on the average annual removal of TSS for the selected site parameters. The Stormceptor is engineered to capture sediment particles by treating the required average annual runoff volume, ensuring positive removal efficiency is maintained during each rainfall event, and preventing negative removal efficiency (scour). Smaller recurring storms account for the majority of rainfall events and average annual runoff volume, as observed in the historical rainfall data analyses presented in this section.

Rainfall Station			
State/Province	Massachusetts	**Total Number of Rainfall Events**	10784
Rainfall Station Name	BLUE HILL	**Total Rainfall (in)**	2849.7
Station ID #	0736	**Average Annual Rainfall (in)**	49.1
Coordinates	42°12'44"N, 71°6'53"W	**Total Evaporation (in)**	3.3
Elevation (ft)	630	**Total Infiltration (in)**	2799.8
Years of Rainfall Data	58	**Total Rainfall that is Runoff (in)**	46.6

Notes
• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules. • Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed. • For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

Drainage Area	
Total Area (acres)	1.2
Imperviousness %	0.5

Water Quality Objective	
TSS Removal (%)	80.0
Runoff Volume Capture (%)	
Oil Spill Capture Volume (Gal)	
Peak Conveyed Flow Rate (CFS)	7.00
Water Quality Flow Rate (CFS)	0.50

Up Stream Storage	
Storage (ac-ft)	Discharge (cfs)
0.000	0.000

Up Stream Flow Diversion	
Max. Flow to Stormceptor (cfs)	

Design Details	
Stormceptor Inlet Invert Elev (ft)	92.90
Stormceptor Outlet Invert Elev (ft)	92.90
Stormceptor Rim Elev (ft)	96.50
Normal Water Level Elevation (ft)	
Pipe Diameter (in)	18
Pipe Material	RCP - concrete
Multiple Inlets (Y/N)	No
Grate Inlet (Y/N)	No

Particle Size Distribution (PSD)

Removing the smallest fraction of particulates from runoff ensures the majority of pollutants, such as metals, hydrocarbons and nutrients are captured. The table below identifies the Particle Size Distribution (PSD) that was selected to define TSS removal for the Stormceptor design.

Fine Distribution		
Particle Diameter (microns)	Distribution %	Specific Gravity
20.0	20.0	1.30
60.0	20.0	1.80
150.0	20.0	2.20
400.0	20.0	2.65
2000.0	20.0	2.65

Site Name	DMH # 7

Site Details

Drainage Area

Total Area (acres)	1.2
Imperviousness %	0.5

Surface Characteristics

Width (ft)	457.00
Slope %	2
Impervious Depression Storage (in)	0.02
Pervious Depression Storage (in)	0.2
Impervious Manning's n	0.015
Pervious Manning's n	0.25

Maintenance Frequency

Maintenance Frequency (months) >	12

Infiltration Parameters

Horton's equation is used to estimate infiltration

Max. Infiltration Rate (in/hr)	2.44
Min. Infiltration Rate (in/hr)	0.4
Decay Rate (1/sec)	0.00055
Regeneration Rate (1/sec)	0.01

Evaporation

Daily Evaporation Rate (in/day)	0.1

Dry Weather Flow

Dry Weather Flow (cfs)	0

Winter Months

Winter Infiltration	0

TSS Loading Parameters

TSS Loading Function	

Buildup/Wash-off Parameters

Target Event Mean Conc. (EMC) mg/L	
Exponential Buildup Power	
Exponential Washoff Exponent	

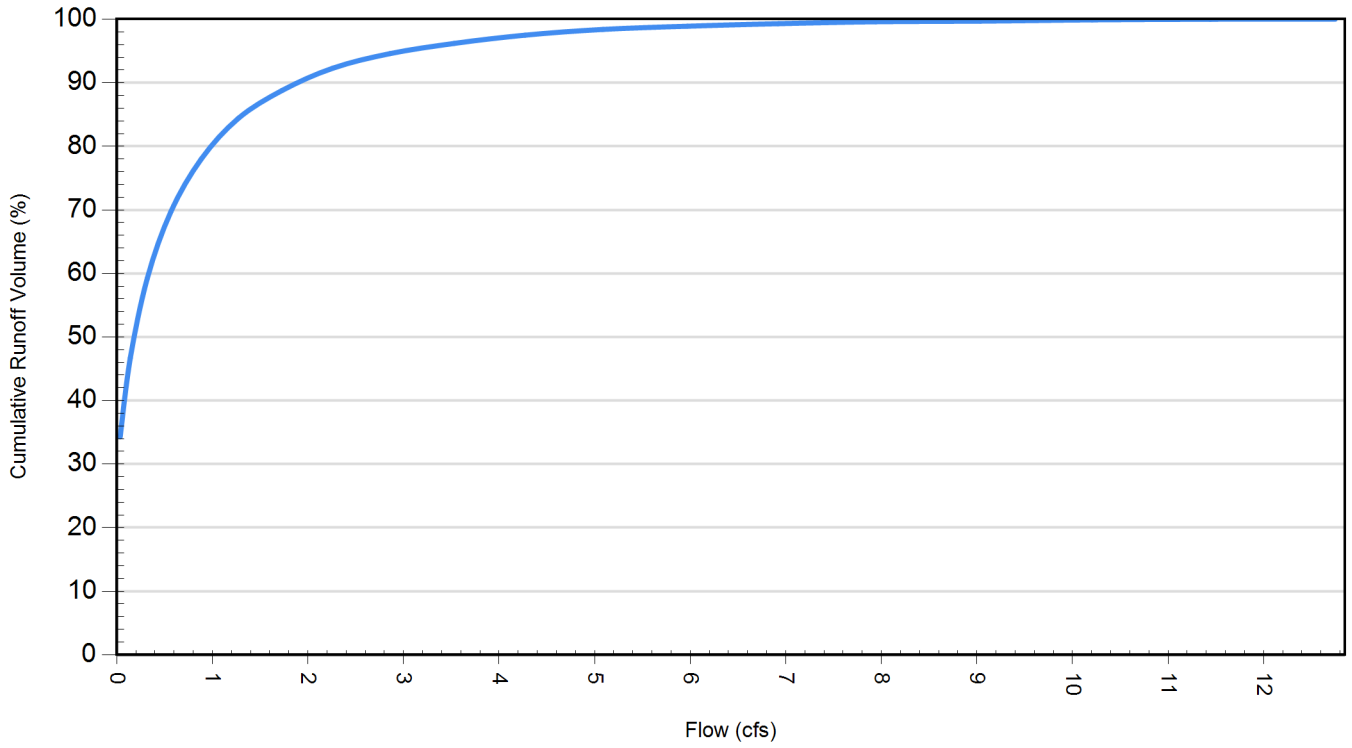
TSS Availability Parameters

Availability Constant A	
Availability Factor B	
Availability Exponent C	
Min. Particle Size Affected by Availability (micron)	

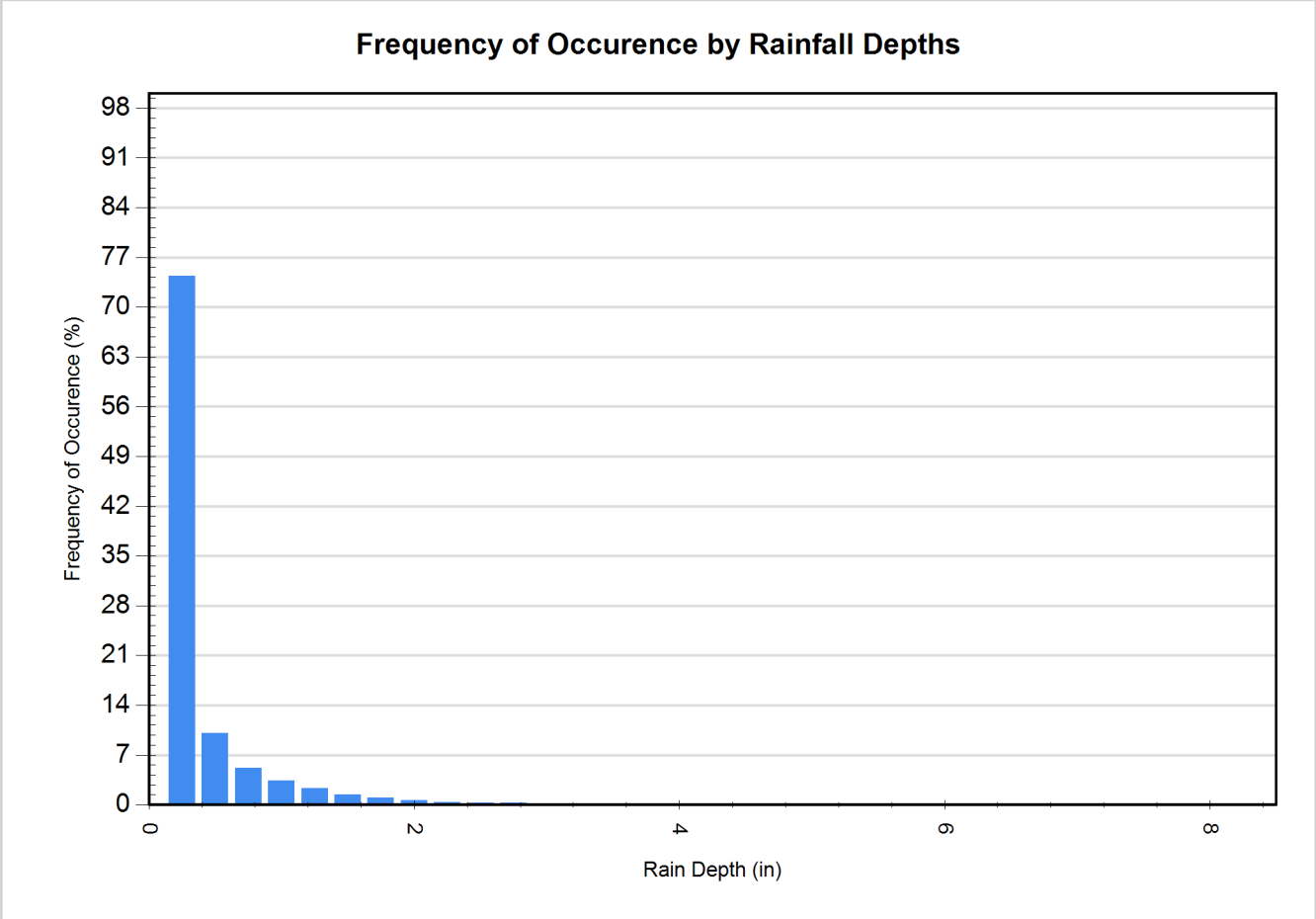
Cumulative Runoff Volume by Runoff Rate			
Runoff Rate (cfs)	**Runoff Volume (ft³)**	**Volume Over (ft³)**	**Cumulative Runoff Volume (%)**
0.035	71711	137254	34.3
0.141	97639	111328	46.7
0.318	123756	85211	59.2
0.565	145580	63388	69.7
0.883	163079	45894	78.0
1.271	176292	32682	84.4
1.730	185677	23296	88.8
2.260	192819	16155	92.3
2.860	197688	11288	94.6
3.531	201077	7900	96.2
4.273	203756	5222	97.5
5.085	205554	3424	98.4
5.968	206748	2231	98.9
6.922	207503	1475	99.3
7.946	208080	898	99.6
9.041	208409	570	99.7
10.206	208758	220	99.9
11.442	208979	0	100.0
12.749	208979	0	100.0

Cumulative Runoff Volume by Runoff Rate

For area: 1.2(ac), imperviousness: 0.5%, rainfall station: BLUE HILL



Rainfall Event Analysis				
Rainfall Depth (in)	No. of Events	Percentage of Total Events (%)	Total Volume (in)	Percentage of Annual Volume (%)
0.25	8022	74.4	470	16.5
0.50	1094	10.1	398	14.0
0.75	557	5.2	345	12.1
1.00	368	3.4	318	11.1
1.25	243	2.3	272	9.5
1.50	148	1.4	202	7.1
1.75	107	1.0	174	6.1
2.00	66	0.6	123	4.3
2.25	42	0.4	89	3.1
2.50	33	0.3	79	2.8
2.75	28	0.3	74	2.6
3.00	21	0.2	60	2.1
3.25	12	0.1	37	1.3
3.50	10	0.1	34	1.2
3.75	5	0.0	18	0.6
4.00	2	0.0	8	0.3
4.25	1	0.0	4	0.1
4.50	4	0.0	18	0.6
4.75	3	0.0	14	0.5
5.00	0	0.0	0	0.0
5.25	1	0.0	5	0.2
5.50	3	0.0	16	0.6
5.75	2	0.0	11	0.4
6.00	5	0.0	29	1.0
6.25	0	0.0	0	0.0
6.50	1	0.0	6	0.2
6.75	0	0.0	0	0.0
7.00	1	0.0	7	0.2
7.25	1	0.0	7	0.2
7.50	0	0.0	0	0.0
7.75	2	0.0	15	0.5
8.00	0	0.0	0	0.0
8.25	0	0.0	0	0.0
8.25	2	0.0	17	0.6



For Stormceptor Specifications and Drawings Please Visit:
http://www.imbriumsystems.com/technical-specifications

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: DCP No. 1 prior to Existing Infiltration Basin

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Street sweeping	0.05	1.00	0.05	0.95
Deep sump catch basin	0.25	0.95	0.24	0.71
Stormceptor Model STC 450i	0.91	0.71	0.65	0.06
			94%	

Total TSS Removal = 94%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: 5005

Prepared By: BPS

Date: 5/22/17

*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: DCP No. 3 prior to Proposed Infiltration Basin

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Street sweeping	0.05	**1.00**	0.05	0.95
Deep sump catch basin	0.25	0.95	0.24	0.71
Stormceptor Model STC 450i	0.91	0.71	0.65	0.06
			94%	

Total TSS Removal = 94%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: 5005
Prepared By: BPS
Date: 5/22/17

*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

EXISTING INFILTRATION POND FOR BANK ROOF
2P

EXISTING INFILTRATION POND
1P

DCP #

DRAINAGE CONTROL POINT
TYPICAL
DCP # 2

3
3B
SUBCATCHMENT AREA AND ASSOCIATED HYDROCAD NODE NO.
TYPICAL

DCP # 3

DCP # 4

EXISTING EASEMENT RECORDED IN DEED BOOK 9527 PAGE 232

VICTORIA STREET

GRAPHIC SCALE

0 50 100 200

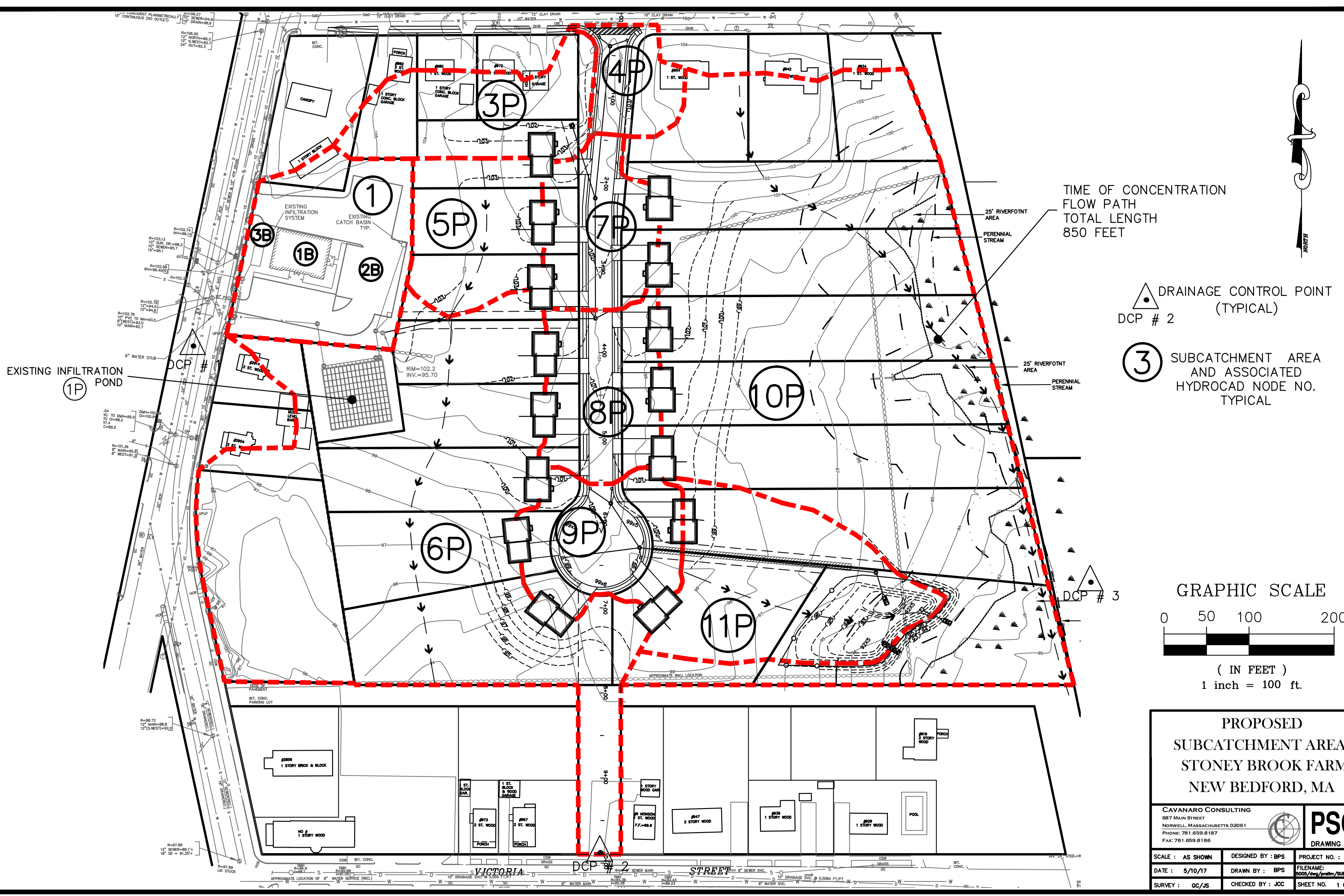
(IN FEET)
1 inch = 100 ft.

EXISTING SUBCATCHMENT AREAS STONEY BROOK FARM NEW BEDFORD, MA

CAVANARO CONSULTING
687 MAIN STREET
NORWELL, MASSACHUSETTS 02061
PHONE: 781.659.8187
FAX: 781.659.8186

ESC
DRAWING NO.

SCALE : AS SHOWN	DESIGNED BY : BPS	PROJECT NO. : 5005
DATE : 5/10/17	DRAWN BY : BPS	FILENAME: 5005/dwg/prelim/SUBCATCH
SURVEY : GC/JS	CHECKED BY : JCC	SHEET NO. 1 OF 1

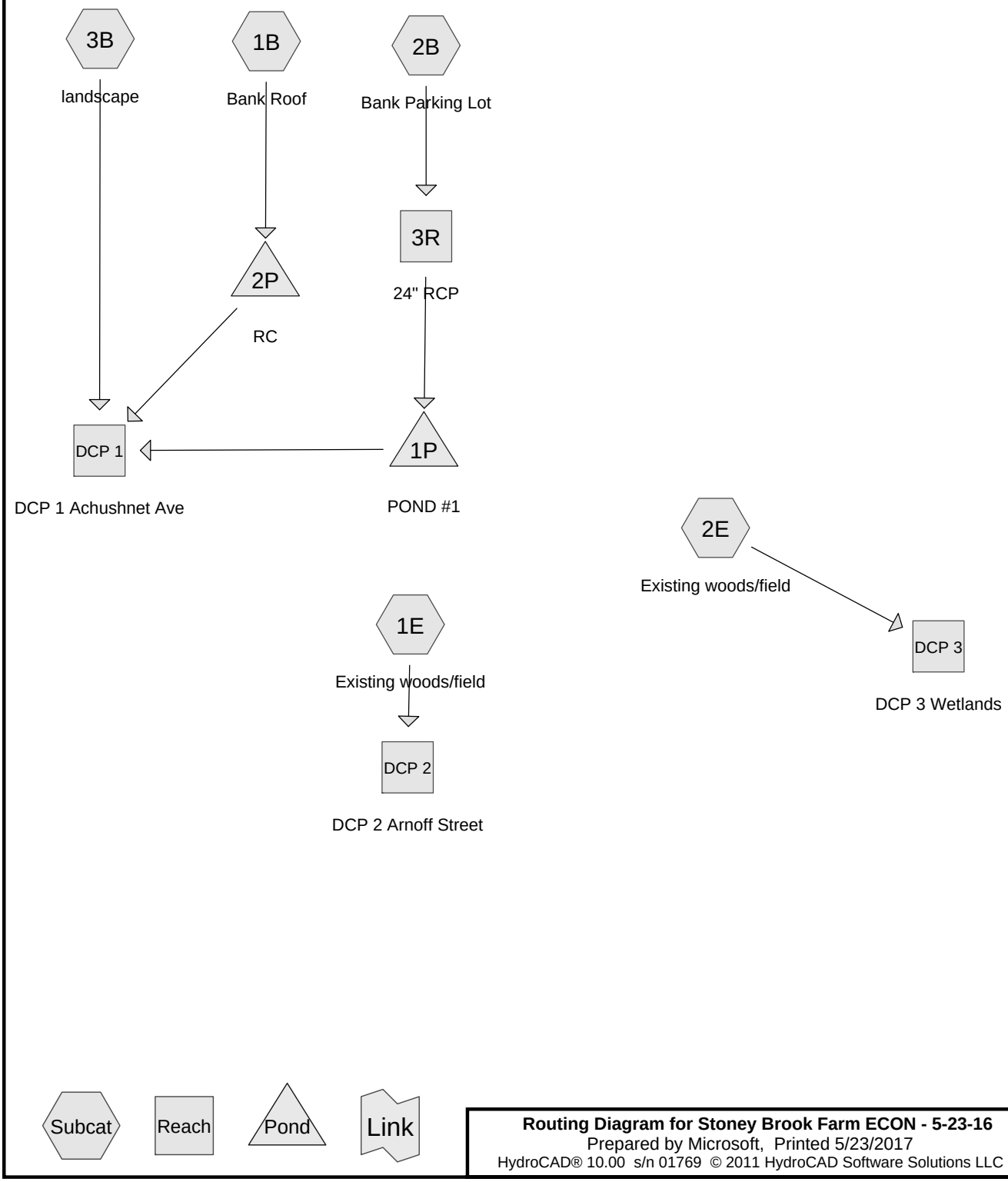


PROPOSED SUBCATCHMENT AREAS STONEY BROOK FARM NEW BEDFORD, MA

CAVANARO CONSULTING
687 MAIN STREET
NORWELL, MASSACHUSETTS 02061
PHONE: 781.659.8187
FAX: 781.659.8186

PSC
DRAWING NO.

SCALE : AS SHOWN	DESIGNED BY : BPS	PROJECT NO. : 5005
DATE : 5/10/17	DRAWN BY : BPS	FILENAME: 5005/dwg/prelim/SUBCATCH
SURVEY : GC/JS	CHECKED BY : JCC	SHEET NO. 1 OF 1



Routing Diagram for Stoney Brook Farm ECON - 5-23-16
Prepared by Microsoft, Printed 5/23/2017

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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>2.77"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.018 af

Subcatchment 1E: Existing woods/field Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>0.94"
Flow Length=600' Tc=14.5 min CN=74 Runoff=3.72 cfs 0.335 af

Subcatchment 2B: Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>1.87"
Tc=5.0 min CN=88 Runoff=1.96 cfs 0.131 af

Subcatchment 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>0.94"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=7.93 cfs 0.753 af

Subcatchment 3B: landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>0.95"
Tc=5.0 min CN=74 Runoff=0.08 cfs 0.006 af

Reach 3R: 24" RCP Avg. Flow Depth=0.46' Max Vel=3.60 fps Inflow=1.96 cfs 0.131 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=1.95 cfs 0.131 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.08 cfs 0.006 af
Outflow=0.08 cfs 0.006 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=3.72 cfs 0.335 af
Outflow=3.72 cfs 0.335 af

Reach DCP 3: DCP 3 Wetlands Inflow=7.93 cfs 0.753 af
Outflow=7.93 cfs 0.753 af

Pond 1P: POND #1 Peak Elev=95.51' Storage=604 cf Inflow=1.95 cfs 0.131 af
Discarded=1.02 cfs 0.131 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.131 af

Pond 2P: RC Peak Elev=91.26' Storage=156 cf Inflow=0.24 cfs 0.018 af
Discarded=0.08 cfs 0.018 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.018 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 0.018 af, Depth> 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 1E: Existing woods/field

Runoff = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 1.96 cfs @ 12.08 hrs, Volume= 0.131 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 2E: Existing woods/field

Runoff = 7.93 cfs @ 12.25 hrs, Volume= 0.753 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	283,267	73	Woods, Fair, HSG C
	90,464	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	0	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	0	76	grass adj. to Monson St
*	0	98	drive adj. to Monson st
	417,719	74	Weighted Average
	412,789		98.82% Pervious Area
	4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	**Channel Flow, CHANNEL** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

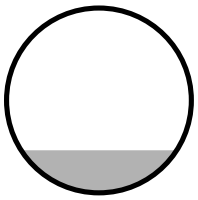
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 1.87" for 2 Year Event event
Inflow = 1.96 cfs @ 12.08 hrs, Volume= 0.131 af
Outflow = 1.95 cfs @ 12.08 hrs, Volume= 0.131 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.60 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 0.4 min

Peak Storage= 19 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
n= 0.013
Length= 35.0' Slope= 0.0057 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.07" for 2 Year Event event
Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 0.94" for 2 Year Event event
Inflow = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af
Outflow = 3.72 cfs @ 12.22 hrs, Volume= 0.335 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 0.94" for 2 Year Event event
Inflow = 7.93 cfs @ 12.25 hrs, Volume= 0.753 af
Outflow = 7.93 cfs @ 12.25 hrs, Volume= 0.753 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 1.87" for 2 Year Event event
Inflow = 1.95 cfs @ 12.08 hrs, Volume= 0.131 af
Outflow = 1.02 cfs @ 12.05 hrs, Volume= 0.131 af, Atten= 48%, Lag= 0.0 min
Discarded = 1.02 cfs @ 12.05 hrs, Volume= 0.131 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.51' @ 12.22 hrs Surf.Area= 5,325 sf Storage= 604 cf

Plug-Flow detention time= 4.5 min calculated for 0.131 af (100% of inflow)
Center-of-Mass det. time= 4.1 min (785.1 - 781.0)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	96.30'	**11.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=1.02 cfs @ 12.05 hrs HW=95.45' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=95.40' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac,100.00% Impervious, Inflow Depth > 2.77" for 2 Year Event event
Inflow = 0.24 cfs @ 12.07 hrs, Volume= 0.018 af
Outflow = 0.08 cfs @ 12.85 hrs, Volume= 0.018 af, Atten= 67%, Lag= 46.8 min
Discarded = 0.08 cfs @ 12.85 hrs, Volume= 0.018 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 91.26' @ 12.35 hrs Surf.Area= 408 sf Storage= 156 cf

Plug-Flow detention time= 13.3 min calculated for 0.017 af (100% of inflow)
Center-of-Mass det. time= 13.0 min (750.8 - 737.8)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 12.85 hrs HW=91.01' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.026 af

Subcatchment 1E: Existing woods/field Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>1.89"
Flow Length=600' Tc=14.5 min CN=74 Runoff=7.72 cfs 0.671 af

Subcatchment 2B: Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>3.10"
Tc=5.0 min CN=88 Runoff=3.21 cfs 0.218 af

Subcatchment 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>1.89"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=16.42 cfs 1.508 af

Subcatchment 3B: landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>1.90"
Tc=5.0 min CN=74 Runoff=0.17 cfs 0.011 af

Reach 3R: 24" RCP Avg. Flow Depth=0.59' Max Vel=4.13 fps Inflow=3.21 cfs 0.218 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=3.17 cfs 0.218 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.17 cfs 0.011 af
Outflow=0.17 cfs 0.011 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=7.72 cfs 0.671 af
Outflow=7.72 cfs 0.671 af

Reach DCP 3: DCP 3 Wetlands Inflow=16.42 cfs 1.508 af
Outflow=16.42 cfs 1.508 af

Pond 1P: POND #1 Peak Elev=95.72' Storage=1,718 cf Inflow=3.17 cfs 0.218 af
Discarded=1.02 cfs 0.217 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.217 af

Pond 2P: RC Peak Elev=91.73' Storage=289 cf Inflow=0.34 cfs 0.026 af
Discarded=0.08 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.026 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 1E: Existing woods/field

Runoff = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 3.21 cfs @ 12.07 hrs, Volume= 0.218 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 2E: Existing woods/field

Runoff = 16.42 cfs @ 12.24 hrs, Volume= 1.508 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	283,267	73	Woods, Fair, HSG C
	90,464	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	0	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	0	76	grass adj. to Monson St
*	0	98	drive adj. to Monson st
	417,719	74	Weighted Average
	412,789		98.82% Pervious Area
	4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	**Channel Flow, CHANNEL** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.011 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

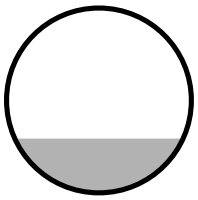
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 3.10" for 10 Year Event event
Inflow = 3.21 cfs @ 12.07 hrs, Volume= 0.218 af
Outflow = 3.17 cfs @ 12.08 hrs, Volume= 0.218 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.13 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.47 fps, Avg. Travel Time= 0.4 min

Peak Storage= 27 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
n= 0.013
Length= 35.0' Slope= 0.0057 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.14" for 10 Year Event event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.011 af
Outflow = 0.17 cfs @ 12.08 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 1.89" for 10 Year Event event
Inflow = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af
Outflow = 7.72 cfs @ 12.21 hrs, Volume= 0.671 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 1.89" for 10 Year Event event
Inflow = 16.42 cfs @ 12.24 hrs, Volume= 1.508 af
Outflow = 16.42 cfs @ 12.24 hrs, Volume= 1.508 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 3.10" for 10 Year Event event
Inflow = 3.17 cfs @ 12.08 hrs, Volume= 0.218 af
Outflow = 1.02 cfs @ 11.90 hrs, Volume= 0.217 af, Atten= 68%, Lag= 0.0 min
Discarded = 1.02 cfs @ 11.90 hrs, Volume= 0.217 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.72' @ 12.38 hrs Surf.Area= 5,325 sf Storage= 1,718 cf

Plug-Flow detention time= 10.0 min calculated for 0.217 af (100% of inflow)
Center-of-Mass det. time= 9.6 min (778.6 - 769.0)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	96.30'	**11.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=1.02 cfs @ 11.90 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=95.40' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 Year Event event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af
Outflow = 0.08 cfs @ 11.95 hrs, Volume= 0.026 af, Atten= 77%, Lag= 0.0 min
Discarded = 0.08 cfs @ 11.95 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 91.73' @ 12.47 hrs Surf.Area= 392 sf Storage= 289 cf

Plug-Flow detention time= 23.1 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 22.8 min (757.6 - 734.9)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 11.95 hrs HW=91.01' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>4.97"
Tc=5.0 min CN=98 Runoff=0.42 cfs 0.031 af

Subcatchment 1E: Existing woods/field Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>2.64"
Flow Length=600' Tc=14.5 min CN=74 Runoff=10.84 cfs 0.938 af

Subcatchment 2B: Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>4.01"
Tc=5.0 min CN=88 Runoff=4.09 cfs 0.281 af

Subcatchment 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>2.64"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=23.06 cfs 2.110 af

Subcatchment 3B: landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>2.65"
Tc=5.0 min CN=74 Runoff=0.24 cfs 0.016 af

Reach 3R: 24" RCP Avg. Flow Depth=0.66' Max Vel=4.42 fps Inflow=4.09 cfs 0.281 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=4.04 cfs 0.281 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.24 cfs 0.016 af
Outflow=0.24 cfs 0.016 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=10.84 cfs 0.938 af
Outflow=10.84 cfs 0.938 af

Reach DCP 3: DCP 3 Wetlands Inflow=23.06 cfs 2.110 af
Outflow=23.06 cfs 2.110 af

Pond 1P: POND #1 Peak Elev=95.92' Storage=2,764 cf Inflow=4.04 cfs 0.281 af
Discarded=1.02 cfs 0.281 af Primary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.281 af

Pond 2P: RC Peak Elev=92.16' Storage=400 cf Inflow=0.42 cfs 0.031 af
Discarded=0.08 cfs 0.031 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.031 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 0.031 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 1E: Existing woods/field

Runoff = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 4.09 cfs @ 12.07 hrs, Volume= 0.281 af, Depth> 4.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 2E: Existing woods/field

Runoff = 23.06 cfs @ 12.24 hrs, Volume= 2.110 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	283,267	73	Woods, Fair, HSG C
	90,464	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	0	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	0	76	grass adj. to Monson St
*	0	98	drive adj. to Monson st
	417,719	74	Weighted Average
	412,789		98.82% Pervious Area
	4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	**Channel Flow, CHANNEL** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.016 af, Depth> 2.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

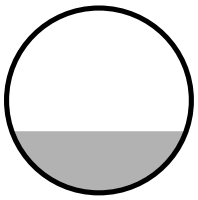
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 4.01" for 25 Year Event event
Inflow = 4.09 cfs @ 12.07 hrs, Volume= 0.281 af
Outflow = 4.04 cfs @ 12.08 hrs, Volume= 0.281 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.42 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 0.4 min

Peak Storage= 32 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
n= 0.013
Length= 35.0' Slope= 0.0057 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.19" for 25 Year Event event
Inflow = 0.24 cfs @ 12.08 hrs, Volume= 0.016 af
Outflow = 0.24 cfs @ 12.08 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 2.64" for 25 Year Event event
Inflow = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af
Outflow = 10.84 cfs @ 12.21 hrs, Volume= 0.938 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 2.64" for 25 Year Event event
Inflow = 23.06 cfs @ 12.24 hrs, Volume= 2.110 af
Outflow = 23.06 cfs @ 12.24 hrs, Volume= 2.110 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 4.01" for 25 Year Event event
Inflow = 4.04 cfs @ 12.08 hrs, Volume= 0.281 af
Outflow = 1.02 cfs @ 12.45 hrs, Volume= 0.281 af, Atten= 75%, Lag= 22.5 min
Discarded = 1.02 cfs @ 11.85 hrs, Volume= 0.281 af
Primary = 0.00 cfs @ 12.45 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 95.92' @ 12.45 hrs Surf.Area= 5,325 sf Storage= 2,764 cf

Plug-Flow detention time= 15.9 min calculated for 0.281 af (100% of inflow)
Center-of-Mass det. time= 15.5 min (778.4 - 762.9)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	96.30'	**11.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=1.02 cfs @ 11.85 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.00 cfs @ 12.45 hrs HW=95.92' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.47 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac,100.00% Impervious, Inflow Depth > 4.97" for 25 Year Event event
Inflow = 0.42 cfs @ 12.07 hrs, Volume= 0.031 af
Outflow = 0.08 cfs @ 14.45 hrs, Volume= 0.031 af, Atten= 81%, Lag= 142.8 min
Discarded = 0.08 cfs @ 14.45 hrs, Volume= 0.031 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 92.16' @ 12.53 hrs Surf.Area= 371 sf Storage= 400 cf

Plug-Flow detention time= 33.7 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 33.4 min (767.2 - 733.8)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 14.45 hrs HW=91.02' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

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

Subcatchment 1B: Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>6.06"
Tc=5.0 min CN=98 Runoff=0.51 cfs 0.038 af

Subcatchment 1E: Existing woods/field Runoff Area=185,628 sf 1.83% Impervious Runoff Depth>3.60"
Flow Length=600' Tc=14.5 min CN=74 Runoff=14.74 cfs 1.279 af

Subcatchment 2B: Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth>5.10"
Tc=5.0 min CN=88 Runoff=5.14 cfs 0.358 af

Subcatchment 2E: Existing woods/field Runoff Area=417,719 sf 1.18% Impervious Runoff Depth>3.60"
Flow Length=1,200' Tc=16.7 min CN=74 Runoff=31.37 cfs 2.875 af

Subcatchment 3B: landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth>3.61"
Tc=5.0 min CN=74 Runoff=0.33 cfs 0.022 af

Reach 3R: 24" RCP Avg. Flow Depth=0.75' Max Vel=4.71 fps Inflow=5.14 cfs 0.358 af
24.0" Round Pipe n=0.013 L=35.0' S=0.0057 '/' Capacity=17.10 cfs Outflow=5.07 cfs 0.358 af

Reach DCP 1: DCP 1 Achushnet Ave Inflow=0.32 cfs 0.030 af
Outflow=0.32 cfs 0.030 af

Reach DCP 2: DCP 2 Arnoff Street Inflow=14.74 cfs 1.279 af
Outflow=14.74 cfs 1.279 af

Reach DCP 3: DCP 3 Wetlands Inflow=31.37 cfs 2.875 af
Outflow=31.37 cfs 2.875 af

Pond 1P: POND #1 Peak Elev=96.15' Storage=3,989 cf Inflow=5.07 cfs 0.358 af
Discarded=1.02 cfs 0.349 af Primary=0.20 cfs 0.008 af Outflow=1.22 cfs 0.358 af

Pond 2P: RC Peak Elev=92.78' Storage=543 cf Inflow=0.51 cfs 0.038 af
Discarded=0.08 cfs 0.038 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.038 af

Summary for Subcatchment 1B: Bank Roof

Runoff = 0.51 cfs @ 12.07 hrs, Volume= 0.038 af, Depth> 6.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 1E: Existing woods/field

Runoff = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	130,145	73	Woods, Fair, HSG C
	49,442	76	Woods/grass comb., Fair, HSG C
*	0	74	Lawn adj. Phillips
*	1,290	98	Roofs Achushnet Ave
*	0	98	Roofs Phillips Ave west
*	0	98	Roofs Phillips Ave East
*	2,651	76	grass adj. to Monson St
*	2,100	98	drive adj. to Monson st
	185,628	74	Weighted Average
	182,238		98.17% Pervious Area
	3,390		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
4.0	550	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
14.5	600	Total			

Summary for Subcatchment 2B: Bank Parking Lot

Runoff = 5.14 cfs @ 12.07 hrs, Volume= 0.358 af, Depth> 5.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 2E: Existing woods/field

Runoff = 31.37 cfs @ 12.23 hrs, Volume= 2.875 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	283,267	73	Woods, Fair, HSG C
	90,464	76	Woods/grass comb., Fair, HSG C
*	39,058	74	Lawn adj. Phillips
*	0	98	Roofs Achushnet Ave
*	2,059	98	Roofs Phillips Ave west
*	2,871	98	Roofs Phillips Ave East
*	0	76	grass adj. to Monson St
*	0	98	drive adj. to Monson st
	417,719	74	Weighted Average
	412,789		98.82% Pervious Area
	4,930		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.0300	0.08		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
5.1	700	0.0200	2.28		**Shallow Concentrated Flow, SHALLOW** Unpaved Kv= 16.1 fps
1.1	450	0.0200	6.67	40.03	**Channel Flow, CHANNEL** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.026
16.7	1,200	Total			

Summary for Subcatchment 3B: landscape

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af, Depth> 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

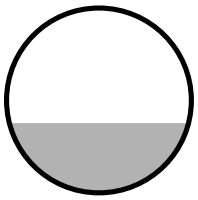
Summary for Reach 3R: 24" RCP

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 5.10" for 100 Year Event event
Inflow = 5.14 cfs @ 12.07 hrs, Volume= 0.358 af
Outflow = 5.07 cfs @ 12.08 hrs, Volume= 0.358 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.71 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.73 fps, Avg. Travel Time= 0.3 min

Peak Storage= 38 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.75'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 17.10 cfs

24.0" Round Pipe
n= 0.013
Length= 35.0' Slope= 0.0057 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



Summary for Reach DCP 1: DCP 1 Achushnet Ave

Inflow Area = 0.989 ac, 58.70% Impervious, Inflow Depth > 0.36" for 100 Year Event event
Inflow = 0.32 cfs @ 12.08 hrs, Volume= 0.030 af
Outflow = 0.32 cfs @ 12.08 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 2: DCP 2 Arnoff Street

Inflow Area = 4.261 ac, 1.83% Impervious, Inflow Depth > 3.60" for 100 Year Event event
Inflow = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af
Outflow = 14.74 cfs @ 12.20 hrs, Volume= 1.279 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach DCP 3: DCP 3 Wetlands

Inflow Area = 9.590 ac, 1.18% Impervious, Inflow Depth > 3.60" for 100 Year Event event
Inflow = 31.37 cfs @ 12.23 hrs, Volume= 2.875 af
Outflow = 31.37 cfs @ 12.23 hrs, Volume= 2.875 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 0.842 ac, 59.99% Impervious, Inflow Depth > 5.10" for 100 Year Event event
Inflow = 5.07 cfs @ 12.08 hrs, Volume= 0.358 af
Outflow = 1.22 cfs @ 12.46 hrs, Volume= 0.358 af, Atten= 76%, Lag= 23.1 min
Discarded = 1.02 cfs @ 11.75 hrs, Volume= 0.349 af
Primary = 0.20 cfs @ 12.46 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 96.15' @ 12.46 hrs Surf.Area= 5,325 sf Storage= 3,989 cf

Plug-Flow detention time= 22.2 min calculated for 0.358 af (100% of inflow)
Center-of-Mass det. time= 21.8 min (779.4 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	11,746 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		18,638 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Primary	95.90'	**8.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	96.30'	**11.0" Vert. Orifice/Grate** C= 0.600
#3	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=1.02 cfs @ 11.75 hrs HW=95.44' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.20 cfs @ 12.46 hrs HW=96.15' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 1.70 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 2P: RC

Inflow Area = 0.076 ac,100.00% Impervious, Inflow Depth > 6.06" for 100 Year Event event
Inflow = 0.51 cfs @ 12.07 hrs, Volume= 0.038 af
Outflow = 0.08 cfs @ 11.80 hrs, Volume= 0.038 af, Atten= 84%, Lag= 0.0 min
Discarded = 0.08 cfs @ 11.80 hrs, Volume= 0.038 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 92.78' @ 12.62 hrs Surf.Area= 323 sf Storage= 543 cf

Plug-Flow detention time= 52.5 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 52.0 min (784.9 - 732.9)

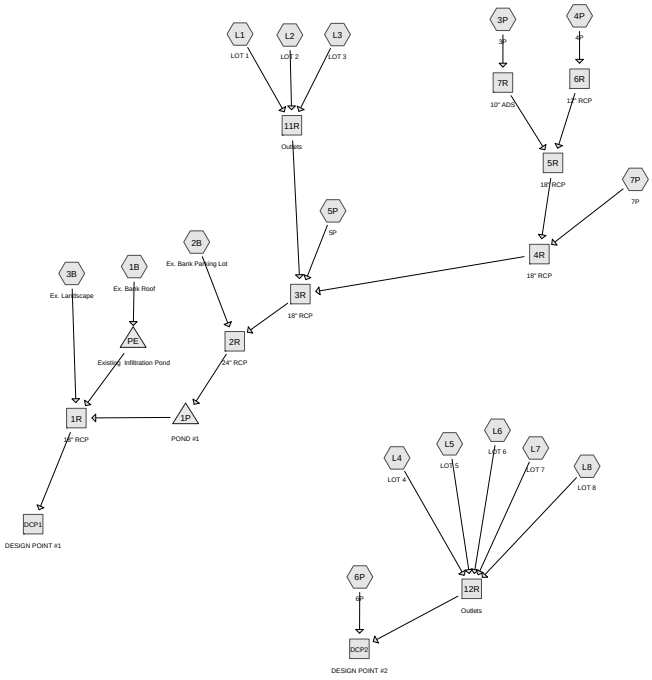
Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

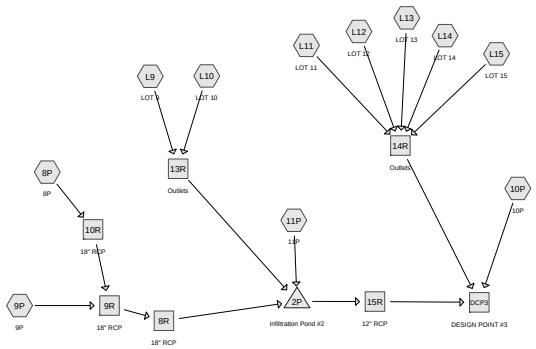
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 11.80 hrs HW=91.00' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=90.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)





Subcat Reach Pond Link

Routing Diagram for STONEY BROOK FARM 5-23-2017
Prepared by Microsoft, Printed 5/23/2017

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1B: Ex. Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.24 cfs 816 cf

Subcatchment 2B: Ex. Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=2.00"
Tc=5.0 min CN=88 Runoff=1.96 cfs 6,102 cf

Subcatchment 3B: Ex. Landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=1.04"
Tc=5.0 min CN=74 Runoff=0.08 cfs 270 cf

Subcatchment 3P: 3P Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=1.15"
Tc=5.0 min CN=76 Runoff=0.87 cfs 2,763 cf

Subcatchment 4P: 4P Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=1.76"
Tc=5.0 min CN=85 Runoff=0.59 cfs 1,824 cf

Subcatchment 5P: 5P Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=1.04"
Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=0.49 cfs 2,117 cf

Subcatchment 6P: 6P Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=1.04"
Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=3.33 cfs 14,718 cf

Subcatchment 7P: 7P Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=1.91"
Tc=5.0 min CN=87 Runoff=1.06 cfs 3,290 cf

Subcatchment 8P: 8P Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=1.76"
Tc=5.0 min CN=85 Runoff=1.13 cfs 3,487 cf

Subcatchment 9P: 9P Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=1.91"
Tc=5.0 min CN=87 Runoff=1.29 cfs 3,994 cf

Subcatchment 10P: 10P Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=1.04"
Flow Length=850' Tc=19.0 min CN=74 Runoff=4.08 cfs 19,604 cf

Subcatchment 11P: 11P Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=1.04"
Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=1.12 cfs 4,211 cf

Subcatchment L1: LOT 1 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L10: LOT 10 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L11: LOT 11 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L12: LOT 12 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L13: LOT 13 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L14: LOT 14 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L15: LOT 15 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L2: LOT 2 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L3: LOT 3 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L4: LOT 4 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L5: LOT 5 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L6: LOT 6 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L7: LOT 7 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L8: LOT 8 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Subcatchment L9: LOT 9 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.11 cfs 371 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.08' Max Vel=2.13 fps Inflow=0.08 cfs 299 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=0.08 cfs 299 cf

Reach 2R: 24" RCP Avg. Flow Depth=0.68' Max Vel=4.89 fps Inflow=4.64 cfs 17,209 cf
24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=4.63 cfs 17,209 cf

Reach 3R: 18" RCP Avg. Flow Depth=0.61' Max Vel=4.24 fps Inflow=2.88 cfs 11,106 cf
18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=2.87 cfs 11,106 cf

Reach 4R: 18" RCP Avg. Flow Depth=0.57' Max Vel=3.70 fps Inflow=2.32 cfs 7,877 cf
18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=2.23 cfs 7,877 cf

Reach 5R: 18" RCP Avg. Flow Depth=0.53' Max Vel=2.49 fps Inflow=1.40 cfs 4,586 cf
18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=1.33 cfs 4,586 cf

Reach 6R: 12" RCP Avg. Flow Depth=0.37' Max Vel=2.17 fps Inflow=0.59 cfs 1,824 cf
12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=0.55 cfs 1,824 cf

Reach 7R: 10" ADS Avg. Flow Depth=0.23' Max Vel=7.06 fps Inflow=0.87 cfs 2,763 cf
10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=0.86 cfs 2,763 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.53' Max Vel=4.08 fps Inflow=2.27 cfs 7,481 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=2.26 cfs 7,481 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.58' Max Vel=3.74 fps Inflow=2.40 cfs 7,481 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=2.27 cfs 7,481 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.37' Max Vel=3.35 fps Inflow=1.13 cfs 3,487 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=1.12 cfs 3,487 cf

Reach 11R: Outlets Inflow=0.32 cfs 1,113 cf
Outflow=0.32 cfs 1,113 cf

Reach 12R: Outlets Inflow=0.54 cfs 1,855 cf
Outflow=0.54 cfs 1,855 cf

Reach 13R: Outlets Inflow=0.22 cfs 742 cf
Outflow=0.22 cfs 742 cf

Reach 14R: Outlets Inflow=0.54 cfs 1,855 cf
Outflow=0.54 cfs 1,855 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.09' Max Vel=2.75 fps Inflow=0.10 cfs 136 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=0.10 cfs 136 cf

Reach DCP1: DESIGN POINT #1 Inflow=0.08 cfs 299 cf
Outflow=0.08 cfs 299 cf

Reach DCP2: DESIGN POINT #2 Inflow=3.60 cfs 16,572 cf
Outflow=3.60 cfs 16,572 cf

Reach DCP3: DESIGN POINT #3 Inflow=4.29 cfs 21,595 cf
Outflow=4.29 cfs 21,595 cf

Pond 1P: POND #1 Peak Elev=96.64' Storage=4,345 cf Inflow=4.63 cfs 17,209 cf
Discarded=1.02 cfs 17,180 cf Primary=0.04 cfs 29 cf Outflow=1.06 cfs 17,209 cf

Pond 2P: Infiltration Pond #2 Peak Elev=93.62' Storage=3,543 cf Inflow=3.50 cfs 12,435 cf
Discarded=0.77 cfs 12,298 cf Primary=0.10 cfs 136 cf Outflow=0.87 cfs 12,435 cf

Pond PE: Existing Infiltration Pond Peak Elev=91.26' Storage=156 cf Inflow=0.24 cfs 816 cf
Discarded=0.08 cfs 816 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 816 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 816 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 1.96 cfs @ 12.08 hrs, Volume= 6,102 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 270 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

Summary for Subcatchment 3P: 3P

Runoff = 0.87 cfs @ 12.08 hrs, Volume= 2,763 cf, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

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

Summary for Subcatchment 4P: 4P

Runoff = 0.59 cfs @ 12.08 hrs, Volume= 1,824 cf, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

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

Summary for Subcatchment 5P: 5P

Runoff = 0.49 cfs @ 12.22 hrs, Volume= 2,117 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

Area (sf)	CN	Description
24,485	74	>75% Grass cover, Good, HSG C
24,485		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		**Sheet Flow, sheet flow** Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		**Shallow Concentrated Flow, Channel flow** Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 3.33 cfs @ 12.23 hrs, Volume= 14,718 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,290	98	Exisitng houses
	87,260	74	>75% Grass cover, Good, HSG C
	81,670	73	Woods, Fair, HSG C
	170,220	74	Weighted Average
	168,930		99.24% Pervious Area
	1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		**Shallow Concentrated Flow, shallow** Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 1.06 cfs @ 12.08 hrs, Volume= 3,290 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	0	98	Exisitng houses
	9,732	74	>75% Grass cover, Good, HSG C
*	5,787	98	Roadway
*	5,100	98	Sidewalks & Drives
	20,619	87	Weighted Average
	9,732		47.20% Pervious Area
	10,887		52.80% Impervious Area

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

Summary for Subcatchment 8P: 8P

Runoff = 1.13 cfs @ 12.08 hrs, Volume= 3,487 cf, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	13,057	74	>75% Grass cover, Good, HSG C
*	5,722	98	Roadway
*	3,790	98	Drives
*	1,240	98	Sidewalks
	23,809	85	Weighted Average
	13,057		54.84% Pervious Area
	10,752		45.16% Impervious Area

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

Summary for Subcatchment 9P: 9P

Runoff = 1.29 cfs @ 12.08 hrs, Volume= 3,994 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
	11,501	74	>75% Grass cover, Good, HSG C
*	8,588	98	Roadway
*	3,970	98	Drives
*	971	98	Sidewalks
	25,030	87	Weighted Average
	11,501		45.95% Pervious Area
	13,529		54.05% Impervious Area

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

Summary for Subcatchment 10P: 10P

Runoff = 4.08 cfs @ 12.29 hrs, Volume= 19,604 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	2,032	98	Exisitng houses
	83,173	74	>75% Grass cover, Good, HSG C
	141,528	73	Woods, Fair, HSG C
	226,733	74	Weighted Average
	224,701		99.10% Pervious Area
	2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		**Shallow Concentrated Flow, Shallow** Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	**Channel Flow, River Flow** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 1.12 cfs @ 12.15 hrs, Volume= 4,211 cf, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	48,707	74	grass
	48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		**Shallow Concentrated Flow, shallow** Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L10: LOT 10

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L11: LOT 11

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L12: LOT 12

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L13: LOT 13

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L14: LOT 14

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L15: LOT 15

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L2: LOT 2

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L3: LOT 3

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L4: LOT 4

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L5: LOT 5

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L6: LOT 6

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L7: LOT 7

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L8: LOT 8

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L9: LOT 9

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 371 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Event Rainfall=3.20"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

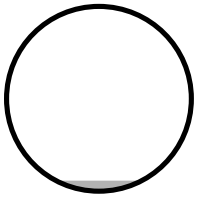
Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.03" for 2 Year Event event
Inflow = 0.08 cfs @ 12.09 hrs, Volume= 299 cf
Outflow = 0.08 cfs @ 12.10 hrs, Volume= 299 cf, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.13 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 1.2 min

Peak Storage= 2 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 94.00', Outlet Invert= 93.00'



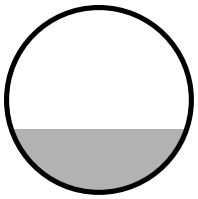
Summary for Reach 2R: 24" RCP

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 1.62" for 2 Year Event event
Inflow = 4.64 cfs @ 12.11 hrs, Volume= 17,209 cf
Outflow = 4.63 cfs @ 12.11 hrs, Volume= 17,209 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.89 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.45 fps, Avg. Travel Time= 0.3 min

Peak Storage= 28 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.68'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



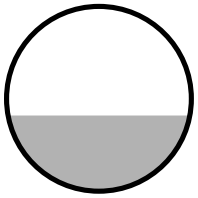
Summary for Reach 3R: 18" RCP

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 1.47" for 2 Year Event event
Inflow = 2.88 cfs @ 12.13 hrs, Volume= 11,106 cf
Outflow = 2.87 cfs @ 12.14 hrs, Volume= 11,106 cf, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.24 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.29 fps, Avg. Travel Time= 0.8 min

Peak Storage= 44 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '/'
Inlet Invert= 96.10', Outlet Invert= 95.70'



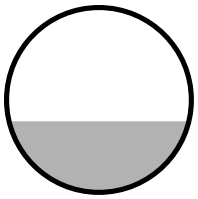
Summary for Reach 4R: 18" RCP

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 1.53" for 2 Year Event event
Inflow = 2.32 cfs @ 12.10 hrs, Volume= 7,877 cf
Outflow = 2.23 cfs @ 12.13 hrs, Volume= 7,877 cf, Atten= 4%, Lag= 1.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.70 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 2.4 min

Peak Storage= 112 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/'
Inlet Invert= 97.00', Outlet Invert= 96.10'



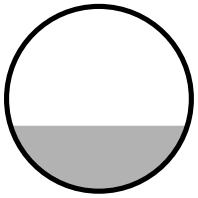
Summary for Reach 5R: 18" RCP

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 1.33" for 2 Year Event event
Inflow = 1.40 cfs @ 12.10 hrs, Volume= 4,586 cf
Outflow = 1.33 cfs @ 12.13 hrs, Volume= 4,586 cf, Atten= 5%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.49 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 2.5 min

Peak Storage= 72 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/'
Inlet Invert= 97.32', Outlet Invert= 97.00'



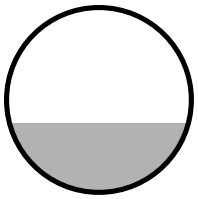
Summary for Reach 6R: 12" RCP

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 1.76" for 2 Year Event event
Inflow = 0.59 cfs @ 12.08 hrs, Volume= 1,824 cf
Outflow = 0.55 cfs @ 12.12 hrs, Volume= 1,824 cf, Atten= 6%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.17 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.75 fps, Avg. Travel Time= 4.2 min

Peak Storage= 51 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/'
Inlet Invert= 97.90', Outlet Invert= 97.33'



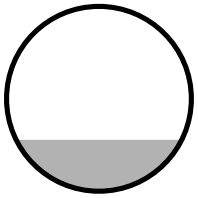
Summary for Reach 7R: 10" ADS

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 1.15" for 2 Year Event event
Inflow = 0.87 cfs @ 12.08 hrs, Volume= 2,763 cf
Outflow = 0.86 cfs @ 12.09 hrs, Volume= 2,763 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.06 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.69 fps, Avg. Travel Time= 0.6 min

Peak Storage= 12 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/'
Inlet Invert= 100.50', Outlet Invert= 97.33'



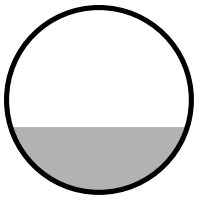
Summary for Reach 8R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 1.84" for 2 Year Event event
Inflow = 2.27 cfs @ 12.12 hrs, Volume= 7,481 cf
Outflow = 2.26 cfs @ 12.12 hrs, Volume= 7,481 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.40 fps, Avg. Travel Time= 0.4 min

Peak Storage= 17 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'



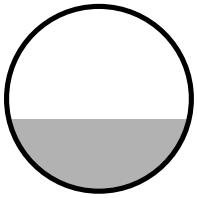
Summary for Reach 9R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 1.84" for 2 Year Event event
Inflow = 2.40 cfs @ 12.08 hrs, Volume= 7,481 cf
Outflow = 2.27 cfs @ 12.12 hrs, Volume= 7,481 cf, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.74 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 3.7 min

Peak Storage= 178 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'



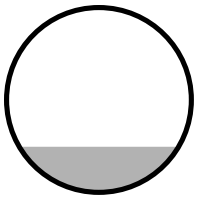
Summary for Reach 10R: 18" RCP

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 1.76" for 2 Year Event event
Inflow = 1.13 cfs @ 12.08 hrs, Volume= 3,487 cf
Outflow = 1.12 cfs @ 12.09 hrs, Volume= 3,487 cf, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.35 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.9 min

Peak Storage= 20 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '/'
Inlet Invert= 94.70', Outlet Invert= 94.30'



Summary for Reach 11R: Outlets

Inflow Area = 4,500 sf,100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
Inflow = 0.32 cfs @ 12.07 hrs, Volume= 1,113 cf
Outflow = 0.32 cfs @ 12.07 hrs, Volume= 1,113 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 1,855 cf
Outflow = 0.54 cfs @ 12.07 hrs, Volume= 1,855 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf,100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
Inflow = 0.22 cfs @ 12.07 hrs, Volume= 742 cf
Outflow = 0.22 cfs @ 12.07 hrs, Volume= 742 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 1,855 cf
Outflow = 0.54 cfs @ 12.07 hrs, Volume= 1,855 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

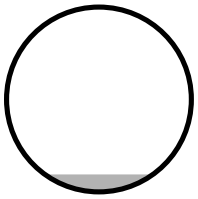
Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 0.02" for 2 Year Event event
Inflow = 0.10 cfs @ 12.57 hrs, Volume= 136 cf
Outflow = 0.10 cfs @ 12.57 hrs, Volume= 136 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.75 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.04 fps, Avg. Travel Time= 0.2 min

Peak Storage= 1 cf @ 12.57 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 92.50', Outlet Invert= 92.00'



Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.03" for 2 Year Event event
Inflow = 0.08 cfs @ 12.10 hrs, Volume= 299 cf
Outflow = 0.08 cfs @ 12.10 hrs, Volume= 299 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 1.12" for 2 Year Event event
Inflow = 3.60 cfs @ 12.22 hrs, Volume= 16,572 cf
Outflow = 3.60 cfs @ 12.22 hrs, Volume= 16,572 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 0.77" for 2 Year Event event
Inflow = 4.29 cfs @ 12.28 hrs, Volume= 21,595 cf
Outflow = 4.29 cfs @ 12.28 hrs, Volume= 21,595 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 1.62" for 2 Year Event event
Inflow = 4.63 cfs @ 12.11 hrs, Volume= 17,209 cf
Outflow = 1.06 cfs @ 12.61 hrs, Volume= 17,209 cf, Atten= 77%, Lag= 29.9 min
Discarded = 1.02 cfs @ 11.80 hrs, Volume= 17,180 cf
Primary = 0.04 cfs @ 12.61 hrs, Volume= 29 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 96.64' @ 12.61 hrs Surf.Area= 5,325 sf Storage= 4,345 cf

Plug-Flow detention time= 25.9 min calculated for 17,209 cf (100% of inflow)
Center-of-Mass det. time= 25.9 min (854.6 - 828.7)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	96.60'	**1.3' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.80 hrs HW=95.44' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=0.04 cfs @ 12.61 hrs HW=96.64' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.04 cfs @ 0.66 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 1.48" for 2 Year Event event
Inflow = 3.50 cfs @ 12.13 hrs, Volume= 12,435 cf
Outflow = 0.87 cfs @ 12.57 hrs, Volume= 12,435 cf, Atten= 75%, Lag= 26.6 min
Discarded = 0.77 cfs @ 12.57 hrs, Volume= 12,298 cf
Primary = 0.10 cfs @ 12.57 hrs, Volume= 136 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 93.62' @ 12.57 hrs Surf.Area= 4,003 sf Storage= 3,543 cf

Plug-Flow detention time= 35.9 min calculated for 12,411 cf (100% of inflow)
Center-of-Mass det. time= 35.9 min (870.9 - 835.1)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	19,107 cf	**Custom Stage Data (Irregular)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**0.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.50'	**8.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.77 cfs @ 12.57 hrs HW=93.62' (Free Discharge)
└**2=Exfiltration** (Controls 0.77 cfs)

Primary OutFlow Max=0.10 cfs @ 12.57 hrs HW=93.62' (Free Discharge)
└**1=Sharp-Crested Rectangular Weir** (Weir Controls 0.10 cfs @ 1.12 fps)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf,100.00% Impervious, Inflow Depth = 2.97" for 2 Year Event event
Inflow = 0.24 cfs @ 12.07 hrs, Volume= 816 cf
Outflow = 0.08 cfs @ 12.85 hrs, Volume= 816 cf, Atten= 67%, Lag= 46.8 min
Discarded = 0.08 cfs @ 12.85 hrs, Volume= 816 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 91.26' @ 12.35 hrs Surf.Area= 408 sf Storage= 156 cf

Plug-Flow detention time= 12.4 min calculated for 814 cf (100% of inflow)
Center-of-Mass det. time= 12.4 min (767.9 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 12.85 hrs HW=91.01' (Free Discharge)
↑└**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

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

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1B: Ex. Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,200 cf

Subcatchment 2B: Ex. Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=3.29"
Tc=5.0 min CN=88 Runoff=3.21 cfs 10,055 cf

Subcatchment 3B: Ex. Landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=2.05"
Tc=5.0 min CN=74 Runoff=0.17 cfs 534 cf

Subcatchment 3P: 3P Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=2.21"
Tc=5.0 min CN=76 Runoff=1.71 cfs 5,300 cf

Subcatchment 4P: 4P Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=3.00"
Tc=5.0 min CN=85 Runoff=1.00 cfs 3,113 cf

Subcatchment 5P: 5P Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=1.02 cfs 4,182 cf

Subcatchment 6P: 6P Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=2.05"
Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=6.96 cfs 29,073 cf

Subcatchment 7P: 7P Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=3.19"
Tc=5.0 min CN=87 Runoff=1.76 cfs 5,485 cf

Subcatchment 8P: 8P Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=3.00"
Tc=5.0 min CN=85 Runoff=1.92 cfs 5,953 cf

Subcatchment 9P: 9P Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=3.19"
Tc=5.0 min CN=87 Runoff=2.13 cfs 6,658 cf

Subcatchment 10P: 10P Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=2.05"
Flow Length=850' Tc=19.0 min CN=74 Runoff=8.49 cfs 38,725 cf

Subcatchment 11P: 11P Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=2.05"
Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=2.31 cfs 8,319 cf

Subcatchment L1: LOT 1 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L10: LOT 10 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L11: LOT 11 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L12: LOT 12 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L13: LOT 13 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L14: LOT 14 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L15: LOT 15 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L2: LOT 2 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L3: LOT 3 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L4: LOT 4 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L5: LOT 5 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L6: LOT 6 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L7: LOT 7 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L8: LOT 8 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Subcatchment L9: LOT 9 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=4.36"
Tc=5.0 min CN=98 Runoff=0.16 cfs 545 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.44' Max Vel=5.86 fps Inflow=2.50 cfs 5,997 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=2.50 cfs 5,997 cf

Reach 2R: 24" RCP Avg. Flow Depth=0.93' Max Vel=5.69 fps Inflow=8.14 cfs 29,771 cf
24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=8.12 cfs 29,771 cf

Reach 3R: 18" RCP Avg. Flow Depth=0.87' Max Vel=4.92 fps Inflow=5.29 cfs 19,716 cf
18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=5.22 cfs 19,716 cf

Reach 4R: 18" RCP Avg. Flow Depth=0.80' Max Vel=4.32 fps Inflow=4.18 cfs 13,898 cf
18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=4.06 cfs 13,898 cf

Reach 5R: 18" RCP Avg. Flow Depth=0.75' Max Vel=2.95 fps Inflow=2.62 cfs 8,413 cf
18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=2.53 cfs 8,413 cf

Reach 6R: 12" RCP Avg. Flow Depth=0.50' Max Vel=2.49 fps Inflow=1.00 cfs 3,113 cf
12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=0.95 cfs 3,113 cf

Reach 7R: 10" ADS Avg. Flow Depth=0.33' Max Vel=8.52 fps Inflow=1.71 cfs 5,300 cf
10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=1.70 cfs 5,300 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.70' Max Vel=4.70 fps Inflow=3.83 cfs 12,611 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=3.81 cfs 12,611 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.78' Max Vel=4.28 fps Inflow=4.00 cfs 12,611 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=3.83 cfs 12,611 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.48' Max Vel=3.88 fps Inflow=1.92 cfs 5,953 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=1.89 cfs 5,953 cf

Reach 11R: Outlets Inflow=0.47 cfs 1,636 cf
Outflow=0.47 cfs 1,636 cf

Reach 12R: Outlets Inflow=0.78 cfs 2,727 cf
Outflow=0.78 cfs 2,727 cf

Reach 13R: Outlets Inflow=0.31 cfs 1,091 cf
Outflow=0.31 cfs 1,091 cf

Reach 14R: Outlets Inflow=0.78 cfs 2,727 cf
Outflow=0.78 cfs 2,727 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.32' Max Vel=5.77 fps Inflow=1.26 cfs 3,690 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=1.25 cfs 3,690 cf

Reach DCP1: DESIGN POINT #1 Inflow=2.50 cfs 5,997 cf
Outflow=2.50 cfs 5,997 cf

Reach DCP2: DESIGN POINT #2 Inflow=7.33 cfs 31,800 cf
Outflow=7.33 cfs 31,800 cf

Reach DCP3: DESIGN POINT #3 Inflow=9.83 cfs 45,143 cf
Outflow=9.83 cfs 45,143 cf

Pond 1P: POND #1 Peak Elev=97.34' Storage=7,203 cf Inflow=8.12 cfs 29,771 cf
Discarded=1.02 cfs 24,308 cf Primary=2.44 cfs 5,463 cf Outflow=3.46 cfs 29,771 cf

Pond 2P: Infiltration Pond #2 Peak Elev=94.18' Storage=6,045 cf Inflow=6.32 cfs 22,021 cf
Discarded=1.00 cfs 18,331 cf Primary=1.26 cfs 3,690 cf Outflow=2.25 cfs 22,021 cf

Pond PE: Existing Infiltration Pond Peak Elev=91.73' Storage=289 cf Inflow=0.34 cfs 1,200 cf
Discarded=0.08 cfs 1,200 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,200 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,200 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 3.21 cfs @ 12.07 hrs, Volume= 10,055 cf, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 534 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

Summary for Subcatchment 3P: 3P

Runoff = 1.71 cfs @ 12.08 hrs, Volume= 5,300 cf, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

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

Summary for Subcatchment 4P: 4P

Runoff = 1.00 cfs @ 12.07 hrs, Volume= 3,113 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

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

Summary for Subcatchment 5P: 5P

Runoff = 1.02 cfs @ 12.21 hrs, Volume= 4,182 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

Area (sf)	CN	Description
24,485	74	>75% Grass cover, Good, HSG C
24,485		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		**Sheet Flow, sheet flow** Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		**Shallow Concentrated Flow, Channel flow** Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 6.96 cfs @ 12.22 hrs, Volume= 29,073 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,290	98	Exisitng houses
	87,260	74	>75% Grass cover, Good, HSG C
	81,670	73	Woods, Fair, HSG C
	170,220	74	Weighted Average
	168,930		99.24% Pervious Area
	1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		**Shallow Concentrated Flow, shallow** Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 1.76 cfs @ 12.07 hrs, Volume= 5,485 cf, Depth= 3.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	0	98	Exisitng houses
	9,732	74	>75% Grass cover, Good, HSG C
*	5,787	98	Roadway
*	5,100	98	Sidewalks & Drives
	20,619	87	Weighted Average
	9,732		47.20% Pervious Area
	10,887		52.80% Impervious Area

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

Summary for Subcatchment 8P: 8P

Runoff = 1.92 cfs @ 12.07 hrs, Volume= 5,953 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	13,057	74	>75% Grass cover, Good, HSG C
*	5,722	98	Roadway
*	3,790	98	Drives
*	1,240	98	Sidewalks
	23,809	85	Weighted Average
	13,057		54.84% Pervious Area
	10,752		45.16% Impervious Area

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

Summary for Subcatchment 9P: 9P

Runoff = 2.13 cfs @ 12.07 hrs, Volume= 6,658 cf, Depth= 3.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
	11,501	74	>75% Grass cover, Good, HSG C
*	8,588	98	Roadway
*	3,970	98	Drives
*	971	98	Sidewalks
	25,030	87	Weighted Average
	11,501		45.95% Pervious Area
	13,529		54.05% Impervious Area

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

Summary for Subcatchment 10P: 10P

Runoff = 8.49 cfs @ 12.27 hrs, Volume= 38,725 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	2,032	98	Exisitng houses
	83,173	74	>75% Grass cover, Good, HSG C
	141,528	73	Woods, Fair, HSG C
	226,733	74	Weighted Average
	224,701		99.10% Pervious Area
	2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		**Shallow Concentrated Flow, Shallow** Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	**Channel Flow, River Flow** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 2.31 cfs @ 12.15 hrs, Volume= 8,319 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	48,707	74	grass
	48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		**Shallow Concentrated Flow, shallow** Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L10: LOT 10

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L11: LOT 11

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L12: LOT 12

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L13: LOT 13

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L14: LOT 14

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L15: LOT 15

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L2: LOT 2

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L3: LOT 3

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L4: LOT 4

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L5: LOT 5

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L6: LOT 6

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L7: LOT 7

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L8: LOT 8

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L9: LOT 9

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 545 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Event Rainfall=4.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

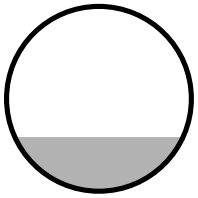
Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.54" for 10 Year Event event
Inflow = 2.50 cfs @ 12.40 hrs, Volume= 5,997 cf
Outflow = 2.50 cfs @ 12.40 hrs, Volume= 5,997 cf, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.86 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.25 fps, Avg. Travel Time= 0.8 min

Peak Storage= 26 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.44'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 94.00', Outlet Invert= 93.00'



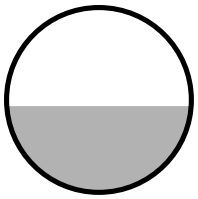
Summary for Reach 2R: 24" RCP

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 2.80" for 10 Year Event event
Inflow = 8.14 cfs @ 12.10 hrs, Volume= 29,771 cf
Outflow = 8.12 cfs @ 12.11 hrs, Volume= 29,771 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.69 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 0.3 min

Peak Storage= 43 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



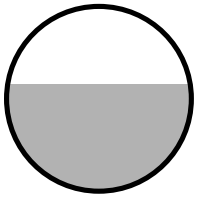
Summary for Reach 3R: 18" RCP

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 2.60" for 10 Year Event event
Inflow = 5.29 cfs @ 12.12 hrs, Volume= 19,716 cf
Outflow = 5.22 cfs @ 12.13 hrs, Volume= 19,716 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.92 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 0.7 min

Peak Storage= 69 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.87'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '/'
Inlet Invert= 96.10', Outlet Invert= 95.70'



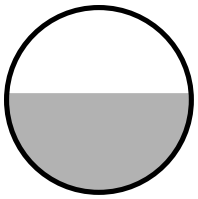
Summary for Reach 4R: 18" RCP

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 2.70" for 10 Year Event event
Inflow = 4.18 cfs @ 12.10 hrs, Volume= 13,898 cf
Outflow = 4.06 cfs @ 12.12 hrs, Volume= 13,898 cf, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.32 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.44 fps, Avg. Travel Time= 2.1 min

Peak Storage= 174 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/'
Inlet Invert= 97.00', Outlet Invert= 96.10'



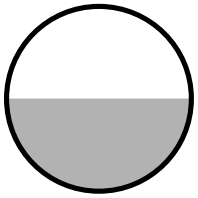
Summary for Reach 5R: 18" RCP

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 2.45" for 10 Year Event event
Inflow = 2.62 cfs @ 12.10 hrs, Volume= 8,413 cf
Outflow = 2.53 cfs @ 12.12 hrs, Volume= 8,413 cf, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.95 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 2.2 min

Peak Storage= 115 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.75'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/'
Inlet Invert= 97.32', Outlet Invert= 97.00'



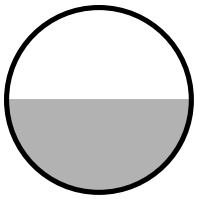
Summary for Reach 6R: 12" RCP

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 3.00" for 10 Year Event event
Inflow = 1.00 cfs @ 12.07 hrs, Volume= 3,113 cf
Outflow = 0.95 cfs @ 12.11 hrs, Volume= 3,113 cf, Atten= 6%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.49 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 3.7 min

Peak Storage= 75 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/'
Inlet Invert= 97.90', Outlet Invert= 97.33'



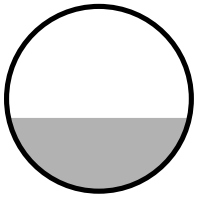
Summary for Reach 7R: 10" ADS

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 2.21" for 10 Year Event event
Inflow = 1.71 cfs @ 12.08 hrs, Volume= 5,300 cf
Outflow = 1.70 cfs @ 12.09 hrs, Volume= 5,300 cf, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.52 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.12 fps, Avg. Travel Time= 0.5 min

Peak Storage= 19 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/'
Inlet Invert= 100.50', Outlet Invert= 97.33'



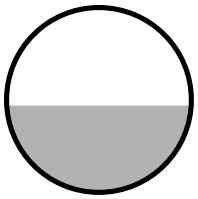
Summary for Reach 8R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 3.10" for 10 Year Event event
Inflow = 3.83 cfs @ 12.11 hrs, Volume= 12,611 cf
Outflow = 3.81 cfs @ 12.11 hrs, Volume= 12,611 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.70 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 0.3 min

Peak Storage= 24 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'



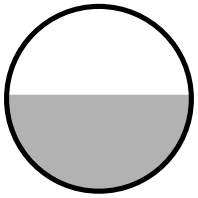
Summary for Reach 9R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 3.10" for 10 Year Event event
Inflow = 4.00 cfs @ 12.08 hrs, Volume= 12,611 cf
Outflow = 3.83 cfs @ 12.11 hrs, Volume= 12,611 cf, Atten= 4%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.28 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 3.3 min

Peak Storage= 261 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'



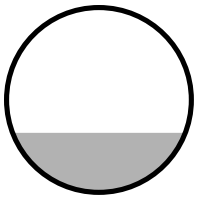
Summary for Reach 10R: 18" RCP

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 3.00" for 10 Year Event event
Inflow = 1.92 cfs @ 12.07 hrs, Volume= 5,953 cf
Outflow = 1.89 cfs @ 12.08 hrs, Volume= 5,953 cf, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.88 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 0.8 min

Peak Storage= 29 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '/'
Inlet Invert= 94.70', Outlet Invert= 94.30'



Summary for Reach 11R: Outlets

Inflow Area = 4,500 sf,100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
Inflow = 0.47 cfs @ 12.07 hrs, Volume= 1,636 cf
Outflow = 0.47 cfs @ 12.07 hrs, Volume= 1,636 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
Inflow = 0.78 cfs @ 12.07 hrs, Volume= 2,727 cf
Outflow = 0.78 cfs @ 12.07 hrs, Volume= 2,727 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf,100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,091 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,091 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
Inflow = 0.78 cfs @ 12.07 hrs, Volume= 2,727 cf
Outflow = 0.78 cfs @ 12.07 hrs, Volume= 2,727 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

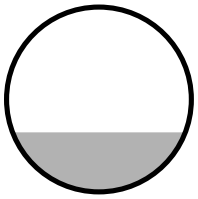
Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 0.44" for 10 Year Event event
Inflow = 1.26 cfs @ 12.45 hrs, Volume= 3,690 cf
Outflow = 1.25 cfs @ 12.46 hrs, Volume= 3,690 cf, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.77 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.90 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 92.50', Outlet Invert= 92.00'



Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 0.54" for 10 Year Event event
Inflow = 2.50 cfs @ 12.40 hrs, Volume= 5,997 cf
Outflow = 2.50 cfs @ 12.40 hrs, Volume= 5,997 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 2.15" for 10 Year Event event
Inflow = 7.33 cfs @ 12.21 hrs, Volume= 31,800 cf
Outflow = 7.33 cfs @ 12.21 hrs, Volume= 31,800 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 1.62" for 10 Year Event event
Inflow = 9.83 cfs @ 12.28 hrs, Volume= 45,143 cf
Outflow = 9.83 cfs @ 12.28 hrs, Volume= 45,143 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 2.80" for 10 Year Event event
Inflow = 8.12 cfs @ 12.11 hrs, Volume= 29,771 cf
Outflow = 3.46 cfs @ 12.40 hrs, Volume= 29,771 cf, Atten= 57%, Lag= 17.8 min
Discarded = 1.02 cfs @ 11.65 hrs, Volume= 24,308 cf
Primary = 2.44 cfs @ 12.40 hrs, Volume= 5,463 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 97.34' @ 12.40 hrs Surf.Area= 5,325 sf Storage= 7,203 cf

Plug-Flow detention time= 29.5 min calculated for 29,771 cf (100% of inflow)
Center-of-Mass det. time= 29.5 min (844.3 - 814.8)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	96.60'	**1.3' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.65 hrs HW=95.44' (Free Discharge)
1=Exfiltration (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=2.44 cfs @ 12.40 hrs HW=97.34' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 2.44 cfs @ 2.86 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 2.63" for 10 Year Event event
Inflow = 6.32 cfs @ 12.12 hrs, Volume= 22,021 cf
Outflow = 2.25 cfs @ 12.45 hrs, Volume= 22,021 cf, Atten= 64%, Lag= 19.9 min
Discarded = 1.00 cfs @ 12.45 hrs, Volume= 18,331 cf
Primary = 1.26 cfs @ 12.45 hrs, Volume= 3,690 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 94.18' @ 12.45 hrs Surf.Area= 5,141 sf Storage= 6,045 cf

Plug-Flow detention time= 38.1 min calculated for 21,979 cf (100% of inflow)
Center-of-Mass det. time= 38.1 min (858.5 - 820.4)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	19,107 cf	**Custom Stage Data (Irregular)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**0.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.50'	**8.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=1.00 cfs @ 12.45 hrs HW=94.18' (Free Discharge)
2=Exfiltration (Controls 1.00 cfs)

Primary OutFlow Max=1.26 cfs @ 12.45 hrs HW=94.18' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 1.26 cfs @ 2.78 fps)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf,100.00% Impervious, Inflow Depth = 4.36" for 10 Year Event event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,200 cf
Outflow = 0.08 cfs @ 11.95 hrs, Volume= 1,200 cf, Atten= 77%, Lag= 0.0 min
Discarded = 0.08 cfs @ 11.95 hrs, Volume= 1,200 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 91.73' @ 12.47 hrs Surf.Area= 392 sf Storage= 289 cf

Plug-Flow detention time= 21.4 min calculated for 1,198 cf (100% of inflow)
Center-of-Mass det. time= 21.4 min (769.9 - 748.5)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 11.95 hrs HW=91.01' (Free Discharge)
↑└**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

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

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1B: Ex. Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.42 cfs 1,475 cf

Subcatchment 2B: Ex. Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=4.24"
Tc=5.0 min CN=88 Runoff=4.09 cfs 12,961 cf

Subcatchment 3B: Ex. Landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=2.85"
Tc=5.0 min CN=74 Runoff=0.24 cfs 743 cf

Subcatchment 3P: 3P Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=3.04"
Tc=5.0 min CN=76 Runoff=2.36 cfs 7,285 cf

Subcatchment 4P: 4P Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=3.93"
Tc=5.0 min CN=85 Runoff=1.30 cfs 4,074 cf

Subcatchment 5P: 5P Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=2.85"
Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=1.43 cfs 5,818 cf

Subcatchment 6P: 6P Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=2.85"
Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=9.78 cfs 40,449 cf

Subcatchment 7P: 7P Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=4.14"
Tc=5.0 min CN=87 Runoff=2.25 cfs 7,106 cf

Subcatchment 8P: 8P Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=3.93"
Tc=5.0 min CN=85 Runoff=2.49 cfs 7,790 cf

Subcatchment 9P: 9P Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=4.14"
Tc=5.0 min CN=87 Runoff=2.73 cfs 8,626 cf

Subcatchment 10P: 10P Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=2.85"
Flow Length=850' Tc=19.0 min CN=74 Runoff=11.93 cfs 53,878 cf

Subcatchment 11P: 11P Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=2.85"
Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=3.24 cfs 11,574 cf

Subcatchment L1: LOT 1 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L10: LOT 10 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L11: LOT 11 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L12: LOT 12 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L13: LOT 13 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L14: LOT 14 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L15: LOT 15 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L2: LOT 2 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L3: LOT 3 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L4: LOT 4 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L5: LOT 5 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L6: LOT 6 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L7: LOT 7 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L8: LOT 8 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Subcatchment L9: LOT 9 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=0.19 cfs 670 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.60' Max Vel=6.94 fps Inflow=4.64 cfs 11,269 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=4.63 cfs 11,269 cf

Reach 2R: 24" RCP Avg. Flow Depth=1.09' Max Vel=6.10 fps Inflow=10.72 cfs 39,255 cf
24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=10.70 cfs 39,255 cf

Reach 3R: 18" RCP Avg. Flow Depth=1.07' Max Vel=5.22 fps Inflow=7.07 cfs 26,294 cf
18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=6.97 cfs 26,294 cf

Reach 4R: 18" RCP Avg. Flow Depth=0.97' Max Vel=4.61 fps Inflow=5.57 cfs 18,465 cf
18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=5.41 cfs 18,465 cf

Reach 5R: 18" RCP Avg. Flow Depth=0.91' Max Vel=3.17 fps Inflow=3.54 cfs 11,359 cf
18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=3.44 cfs 11,359 cf

Reach 6R: 12" RCP Avg. Flow Depth=0.59' Max Vel=2.65 fps Inflow=1.30 cfs 4,074 cf
12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=1.23 cfs 4,074 cf

Reach 7R: 10" ADS Avg. Flow Depth=0.39' Max Vel=9.26 fps Inflow=2.36 cfs 7,285 cf
10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=2.34 cfs 7,285 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.82' Max Vel=5.02 fps Inflow=4.95 cfs 16,416 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=4.92 cfs 16,416 cf

Reach 9R: 18" RCP Avg. Flow Depth=0.92' Max Vel=4.54 fps Inflow=5.16 cfs 16,416 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=4.95 cfs 16,416 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.55' Max Vel=4.17 fps Inflow=2.49 cfs 7,790 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=2.46 cfs 7,790 cf

Reach 11R: Outlets Inflow=0.57 cfs 2,011 cf
Outflow=0.57 cfs 2,011 cf

Reach 12R: Outlets Inflow=0.95 cfs 3,351 cf
Outflow=0.95 cfs 3,351 cf

Reach 13R: Outlets Inflow=0.38 cfs 1,341 cf
Outflow=0.38 cfs 1,341 cf

Reach 14R: Outlets Inflow=0.95 cfs 3,351 cf
Outflow=0.95 cfs 3,351 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.42' Max Vel=6.63 fps Inflow=2.08 cfs 7,145 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=2.08 cfs 7,145 cf

Reach DCP1: DESIGN POINT #1 Inflow=4.63 cfs 11,269 cf
Outflow=4.63 cfs 11,269 cf

Reach DCP2: DESIGN POINT #2 Inflow=10.23 cfs 43,800 cf
Outflow=10.23 cfs 43,800 cf

Reach DCP3: DESIGN POINT #3 Inflow=14.20 cfs 64,374 cf
Outflow=14.20 cfs 64,374 cf

Pond 1P: POND #1 Peak Elev=97.77' Storage=8,771 cf Inflow=10.70 cfs 39,255 cf
Discarded=1.02 cfs 28,730 cf Primary=4.54 cfs 10,525 cf Outflow=5.56 cfs 39,255 cf

Pond 2P: Infiltration Pond #2 Peak Elev=94.52' Storage=7,989 cf Inflow=8.40 cfs 29,331 cf
Discarded=1.15 cfs 22,186 cf Primary=2.08 cfs 7,145 cf Outflow=3.23 cfs 29,331 cf

Pond PE: Existing Infiltration Pond Peak Elev=92.16' Storage=400 cf Inflow=0.42 cfs 1,475 cf
Discarded=0.08 cfs 1,475 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,475 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 1,475 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 4.09 cfs @ 12.07 hrs, Volume= 12,961 cf, Depth= 4.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 743 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

Summary for Subcatchment 3P: 3P

Runoff = 2.36 cfs @ 12.08 hrs, Volume= 7,285 cf, Depth= 3.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

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

Summary for Subcatchment 4P: 4P

Runoff = 1.30 cfs @ 12.07 hrs, Volume= 4,074 cf, Depth= 3.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

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

Summary for Subcatchment 5P: 5P

Runoff = 1.43 cfs @ 12.20 hrs, Volume= 5,818 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

Area (sf)	CN	Description
24,485	74	>75% Grass cover, Good, HSG C
24,485		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		**Sheet Flow, sheet flow** Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		**Shallow Concentrated Flow, Channel flow** Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 9.78 cfs @ 12.21 hrs, Volume= 40,449 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,290	98	Exisitng houses
	87,260	74	>75% Grass cover, Good, HSG C
	81,670	73	Woods, Fair, HSG C
	170,220	74	Weighted Average
	168,930		99.24% Pervious Area
	1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		**Shallow Concentrated Flow, shallow** Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 2.25 cfs @ 12.07 hrs, Volume= 7,106 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	0	98	Exisitng houses
	9,732	74	>75% Grass cover, Good, HSG C
*	5,787	98	Roadway
*	5,100	98	Sidewalks & Drives
	20,619	87	Weighted Average
	9,732		47.20% Pervious Area
	10,887		52.80% Impervious Area

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

Summary for Subcatchment 8P: 8P

Runoff = 2.49 cfs @ 12.07 hrs, Volume= 7,790 cf, Depth= 3.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	13,057	74	>75% Grass cover, Good, HSG C
*	5,722	98	Roadway
*	3,790	98	Drives
*	1,240	98	Sidewalks
	23,809	85	Weighted Average
	13,057		54.84% Pervious Area
	10,752		45.16% Impervious Area

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

Summary for Subcatchment 9P: 9P

Runoff = 2.73 cfs @ 12.07 hrs, Volume= 8,626 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
	11,501	74	>75% Grass cover, Good, HSG C
*	8,588	98	Roadway
*	3,970	98	Drives
*	971	98	Sidewalks
	25,030	87	Weighted Average
	11,501		45.95% Pervious Area
	13,529		54.05% Impervious Area

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

Summary for Subcatchment 10P: 10P

Runoff = 11.93 cfs @ 12.27 hrs, Volume= 53,878 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	2,032	98	Exisitng houses
	83,173	74	>75% Grass cover, Good, HSG C
	141,528	73	Woods, Fair, HSG C
	226,733	74	Weighted Average
	224,701		99.10% Pervious Area
	2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		**Shallow Concentrated Flow, Shallow** Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	**Channel Flow, River Flow** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 3.24 cfs @ 12.14 hrs, Volume= 11,574 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	48,707	74	grass
	48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		**Shallow Concentrated Flow, shallow** Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L10: LOT 10

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L11: LOT 11

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L12: LOT 12

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L13: LOT 13

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L14: LOT 14

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L15: LOT 15

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L2: LOT 2

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L3: LOT 3

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L4: LOT 4

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L5: LOT 5

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L6: LOT 6

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L7: LOT 7

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L8: LOT 8

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L9: LOT 9

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 670 cf, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Event Rainfall=5.60"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

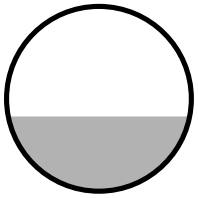
Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 1.01" for 25 Year Event event
Inflow = 4.64 cfs @ 12.32 hrs, Volume= 11,269 cf
Outflow = 4.63 cfs @ 12.33 hrs, Volume= 11,269 cf, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.94 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 0.7 min

Peak Storage= 40 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 94.00', Outlet Invert= 93.00'



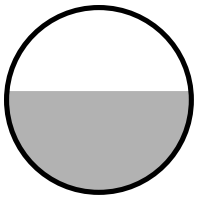
Summary for Reach 2R: 24" RCP

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 3.69" for 25 Year Event event
Inflow = 10.72 cfs @ 12.10 hrs, Volume= 39,255 cf
Outflow = 10.70 cfs @ 12.11 hrs, Volume= 39,255 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.10 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.85 fps, Avg. Travel Time= 0.3 min

Peak Storage= 53 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.09'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



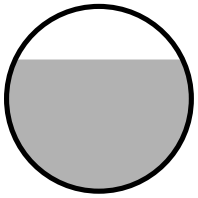
Summary for Reach 3R: 18" RCP

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 3.47" for 25 Year Event event
Inflow = 7.07 cfs @ 12.12 hrs, Volume= 26,294 cf
Outflow = 6.97 cfs @ 12.13 hrs, Volume= 26,294 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.22 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.65 fps, Avg. Travel Time= 0.7 min

Peak Storage= 88 cf @ 12.12 hrs
Average Depth at Peak Storage= 1.07'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '/'
Inlet Invert= 96.10', Outlet Invert= 95.70'



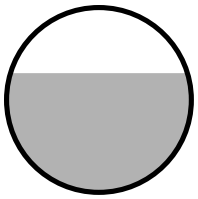
Summary for Reach 4R: 18" RCP

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 3.58" for 25 Year Event event
Inflow = 5.57 cfs @ 12.10 hrs, Volume= 18,465 cf
Outflow = 5.41 cfs @ 12.12 hrs, Volume= 18,465 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.61 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 1.9 min

Peak Storage= 217 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.97'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/'
Inlet Invert= 97.00', Outlet Invert= 96.10'



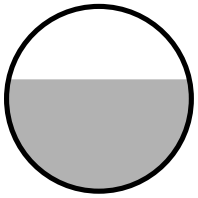
Summary for Reach 5R: 18" RCP

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 3.31" for 25 Year Event event
Inflow = 3.54 cfs @ 12.09 hrs, Volume= 11,359 cf
Outflow = 3.44 cfs @ 12.11 hrs, Volume= 11,359 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.17 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 2.0 min

Peak Storage= 145 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.91'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/'
Inlet Invert= 97.32', Outlet Invert= 97.00'



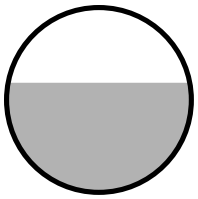
Summary for Reach 6R: 12" RCP

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 3.93" for 25 Year Event event
Inflow = 1.30 cfs @ 12.07 hrs, Volume= 4,074 cf
Outflow = 1.23 cfs @ 12.11 hrs, Volume= 4,074 cf, Atten= 5%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.65 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 3.5 min

Peak Storage= 92 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/'
Inlet Invert= 97.90', Outlet Invert= 97.33'



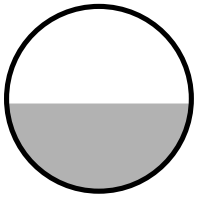
Summary for Reach 7R: 10" ADS

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 3.04" for 25 Year Event event
Inflow = 2.36 cfs @ 12.08 hrs, Volume= 7,285 cf
Outflow = 2.34 cfs @ 12.08 hrs, Volume= 7,285 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.26 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.36 fps, Avg. Travel Time= 0.5 min

Peak Storage= 24 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/'
Inlet Invert= 100.50', Outlet Invert= 97.33'



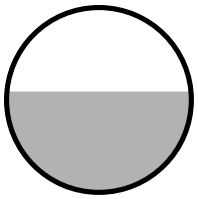
Summary for Reach 8R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 4.03" for 25 Year Event event
Inflow = 4.95 cfs @ 12.11 hrs, Volume= 16,416 cf
Outflow = 4.92 cfs @ 12.11 hrs, Volume= 16,416 cf, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.02 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 0.3 min

Peak Storage= 30 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.82'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'



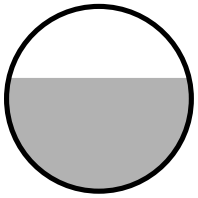
Summary for Reach 9R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 4.03" for 25 Year Event event
Inflow = 5.16 cfs @ 12.08 hrs, Volume= 16,416 cf
Outflow = 4.95 cfs @ 12.11 hrs, Volume= 16,416 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.54 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 3.1 min

Peak Storage= 317 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.92'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'



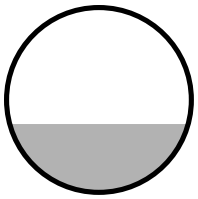
Summary for Reach 10R: 18" RCP

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 3.93" for 25 Year Event event
Inflow = 2.49 cfs @ 12.07 hrs, Volume= 7,790 cf
Outflow = 2.46 cfs @ 12.08 hrs, Volume= 7,790 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.17 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 0.7 min

Peak Storage= 35 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '/'
Inlet Invert= 94.70', Outlet Invert= 94.30'



Summary for Reach 11R: Outlets

Inflow Area = 4,500 sf,100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
Inflow = 0.57 cfs @ 12.07 hrs, Volume= 2,011 cf
Outflow = 0.57 cfs @ 12.07 hrs, Volume= 2,011 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
Inflow = 0.95 cfs @ 12.07 hrs, Volume= 3,351 cf
Outflow = 0.95 cfs @ 12.07 hrs, Volume= 3,351 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf,100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
Inflow = 0.38 cfs @ 12.07 hrs, Volume= 1,341 cf
Outflow = 0.38 cfs @ 12.07 hrs, Volume= 1,341 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
Inflow = 0.95 cfs @ 12.07 hrs, Volume= 3,351 cf
Outflow = 0.95 cfs @ 12.07 hrs, Volume= 3,351 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

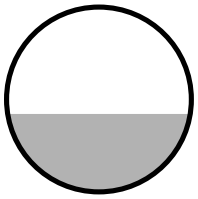
Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 0.85" for 25 Year Event event
Inflow = 2.08 cfs @ 12.42 hrs, Volume= 7,145 cf
Outflow = 2.08 cfs @ 12.42 hrs, Volume= 7,145 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.63 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.41 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 92.50', Outlet Invert= 92.00'



Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 1.01" for 25 Year Event event
Inflow = 4.63 cfs @ 12.33 hrs, Volume= 11,269 cf
Outflow = 4.63 cfs @ 12.33 hrs, Volume= 11,269 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 2.96" for 25 Year Event event
Inflow = 10.23 cfs @ 12.21 hrs, Volume= 43,800 cf
Outflow = 10.23 cfs @ 12.21 hrs, Volume= 43,800 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 2.31" for 25 Year Event event
Inflow = 14.20 cfs @ 12.27 hrs, Volume= 64,374 cf
Outflow = 14.20 cfs @ 12.27 hrs, Volume= 64,374 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 3.69" for 25 Year Event event
Inflow = 10.70 cfs @ 12.11 hrs, Volume= 39,255 cf
Outflow = 5.56 cfs @ 12.32 hrs, Volume= 39,255 cf, Atten= 48%, Lag= 13.0 min
Discarded = 1.02 cfs @ 11.55 hrs, Volume= 28,730 cf
Primary = 4.54 cfs @ 12.32 hrs, Volume= 10,525 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 97.77' @ 12.32 hrs Surf.Area= 5,325 sf Storage= 8,771 cf

Plug-Flow detention time= 28.7 min calculated for 39,180 cf (100% of inflow)
Center-of-Mass det. time= 28.6 min (836.3 - 807.7)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	96.60'	**1.3' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.55 hrs HW=95.44' (Free Discharge)
1=Exfiltration (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=4.51 cfs @ 12.32 hrs HW=97.76' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 4.51 cfs @ 3.63 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 3.50" for 25 Year Event event
Inflow = 8.40 cfs @ 12.12 hrs, Volume= 29,331 cf
Outflow = 3.23 cfs @ 12.42 hrs, Volume= 29,331 cf, Atten= 62%, Lag= 18.0 min
Discarded = 1.15 cfs @ 12.42 hrs, Volume= 22,186 cf
Primary = 2.08 cfs @ 12.42 hrs, Volume= 7,145 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 94.52' @ 12.42 hrs Surf.Area= 5,909 sf Storage= 7,989 cf

Plug-Flow detention time= 38.3 min calculated for 29,275 cf (100% of inflow)
Center-of-Mass det. time= 38.2 min (851.3 - 813.1)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	19,107 cf	**Custom Stage Data (Irregular)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**0.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.50'	**8.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=1.15 cfs @ 12.42 hrs HW=94.51' (Free Discharge)
2=Exfiltration (Controls 1.15 cfs)

Primary OutFlow Max=2.08 cfs @ 12.42 hrs HW=94.51' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 2.08 cfs @ 3.43 fps)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf,100.00% Impervious, Inflow Depth = 5.36" for 25 Year Event event
Inflow = 0.42 cfs @ 12.07 hrs, Volume= 1,475 cf
Outflow = 0.08 cfs @ 14.45 hrs, Volume= 1,475 cf, Atten= 81%, Lag= 142.8 min
Discarded = 0.08 cfs @ 14.45 hrs, Volume= 1,475 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 92.16' @ 12.53 hrs Surf.Area= 371 sf Storage= 400 cf

Plug-Flow detention time= 31.2 min calculated for 1,472 cf (100% of inflow)
Center-of-Mass det. time= 31.2 min (776.4 - 745.3)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 14.45 hrs HW=91.02' (Free Discharge)
↑└**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

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

Time span=0.00-26.00 hrs, dt=0.05 hrs, 521 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1B: Ex. Bank Roof Runoff Area=3,300 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.51 cfs 1,804 cf

Subcatchment 2B: Ex. Bank Parking Lot Runoff Area=36,670 sf 59.99% Impervious Runoff Depth=5.40"
Tc=5.0 min CN=88 Runoff=5.14 cfs 16,499 cf

Subcatchment 3B: Ex. Landscape Runoff Area=3,128 sf 0.00% Impervious Runoff Depth=3.87"
Tc=5.0 min CN=74 Runoff=0.33 cfs 1,008 cf

Subcatchment 3P: 3P Runoff Area=28,778 sf 7.13% Impervious Runoff Depth=4.08"
Tc=5.0 min CN=76 Runoff=3.16 cfs 9,784 cf

Subcatchment 4P: 4P Runoff Area=12,451 sf 47.31% Impervious Runoff Depth=5.06"
Tc=5.0 min CN=85 Runoff=1.66 cfs 5,252 cf

Subcatchment 5P: 5P Runoff Area=24,485 sf 0.00% Impervious Runoff Depth=3.87"
Flow Length=200' Slope=0.0100 '/' Tc=14.4 min CN=74 Runoff=1.95 cfs 7,893 cf

Subcatchment 6P: 6P Runoff Area=170,220 sf 0.76% Impervious Runoff Depth=3.87"
Flow Length=440' Slope=0.0200 '/' Tc=15.2 min CN=74 Runoff=13.30 cfs 54,871 cf

Subcatchment 7P: 7P Runoff Area=20,619 sf 52.80% Impervious Runoff Depth=5.29"
Tc=5.0 min CN=87 Runoff=2.84 cfs 9,083 cf

Subcatchment 8P: 8P Runoff Area=23,809 sf 45.16% Impervious Runoff Depth=5.06"
Tc=5.0 min CN=85 Runoff=3.18 cfs 10,043 cf

Subcatchment 9P: 9P Runoff Area=25,030 sf 54.05% Impervious Runoff Depth=5.29"
Tc=5.0 min CN=87 Runoff=3.45 cfs 11,026 cf

Subcatchment 10P: 10P Runoff Area=226,733 sf 0.90% Impervious Runoff Depth=3.87"
Flow Length=850' Tc=19.0 min CN=74 Runoff=16.22 cfs 73,088 cf

Subcatchment 11P: 11P Runoff Area=48,707 sf 0.00% Impervious Runoff Depth=3.87"
Flow Length=300' Slope=0.0200 '/' Tc=9.8 min CN=74 Runoff=4.40 cfs 15,701 cf

Subcatchment L1: LOT 1 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L10: LOT 10 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L11: LOT 11 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L12: LOT 12 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L13: LOT 13 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L14: LOT 14 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L15: LOT 15 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L2: LOT 2 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L3: LOT 3 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L4: LOT 4 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L5: LOT 5 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L6: LOT 6 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L7: LOT 7 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L8: LOT 8 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Subcatchment L9: LOT 9 Runoff Area=1,500 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.23 cfs 820 cf

Reach 1R: 18" RCP Avg. Flow Depth=0.82' Max Vel=7.93 fps Inflow=7.86 cfs 18,343 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=13.56 cfs Outflow=7.81 cfs 18,343 cf

Reach 2R: 24" RCP Avg. Flow Depth=1.24' Max Vel=6.38 fps Inflow=13.08 cfs 50,971 cf
24.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=18.47 cfs Outflow=13.08 cfs 50,971 cf

Reach 3R: 18" RCP Avg. Flow Depth=1.50' Max Vel=5.27 fps Inflow=9.24 cfs 34,472 cf
18.0" Round Pipe n=0.013 L=65.0' S=0.0062 '/' Capacity=8.24 cfs Outflow=8.25 cfs 34,472 cf

Reach 4R: 18" RCP Avg. Flow Depth=1.19' Max Vel=4.79 fps Inflow=7.24 cfs 24,119 cf
18.0" Round Pipe n=0.013 L=180.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=7.03 cfs 24,119 cf

Reach 5R: 18" RCP Avg. Flow Depth=1.11' Max Vel=3.34 fps Inflow=4.67 cfs 15,036 cf
18.0" Round Pipe n=0.013 L=130.0' S=0.0025 '/' Capacity=5.21 cfs Outflow=4.54 cfs 15,036 cf

Reach 6R: 12" RCP Avg. Flow Depth=0.70' Max Vel=2.78 fps Inflow=1.66 cfs 5,252 cf
12.0" Round Pipe n=0.013 L=190.0' S=0.0030 '/' Capacity=1.95 cfs Outflow=1.57 cfs 5,252 cf

Reach 7R: 10" ADS Avg. Flow Depth=0.47' Max Vel=9.95 fps Inflow=3.16 cfs 9,784 cf
10.0" Round Pipe n=0.010 L=95.0' S=0.0334 '/' Capacity=5.20 cfs Outflow=3.14 cfs 9,784 cf

Reach 8R: 18" RCP Avg. Flow Depth=0.95' Max Vel=5.30 fps Inflow=6.29 cfs 21,069 cf
18.0" Round Pipe n=0.013 L=30.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=6.26 cfs 21,069 cf

Reach 9R: 18" RCP Avg. Flow Depth=1.09' Max Vel=4.74 fps Inflow=6.55 cfs 21,069 cf
18.0" Round Pipe n=0.013 L=280.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=6.29 cfs 21,069 cf

Reach 10R: 18" RCP Avg. Flow Depth=0.63' Max Vel=4.45 fps Inflow=3.18 cfs 10,043 cf
18.0" Round Pipe n=0.013 L=60.0' S=0.0067 '/' Capacity=8.58 cfs Outflow=3.13 cfs 10,043 cf

Reach 11R: Outlets Inflow=0.69 cfs 2,460 cf
Outflow=0.69 cfs 2,460 cf

Reach 12R: Outlets Inflow=1.16 cfs 4,101 cf
Outflow=1.16 cfs 4,101 cf

Reach 13R: Outlets Inflow=0.46 cfs 1,640 cf
Outflow=0.46 cfs 1,640 cf

Reach 14R: Outlets Inflow=1.16 cfs 4,101 cf
Outflow=1.16 cfs 4,101 cf

Reach 15R: 12" RCP Avg. Flow Depth=0.53' Max Vel=7.32 fps Inflow=3.06 cfs 11,886 cf
12.0" Round Pipe n=0.013 L=20.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=3.06 cfs 11,886 cf

Reach DCP1: DESIGN POINT #1 Inflow=7.81 cfs 18,343 cf
Outflow=7.81 cfs 18,343 cf

Reach DCP2: DESIGN POINT #2 Inflow=13.86 cfs 58,972 cf
Outflow=13.86 cfs 58,972 cf

Reach DCP3: DESIGN POINT #3 Inflow=19.58 cfs 89,075 cf
Outflow=19.58 cfs 89,075 cf

Pond 1P: POND #1 Peak Elev=98.39' Storage=10,511 cf Inflow=13.08 cfs 50,971 cf
Discarded=1.02 cfs 33,637 cf Primary=7.72 cfs 17,335 cf Outflow=8.74 cfs 50,971 cf

Pond 2P: Infiltration Pond #2 Peak Elev=94.94' Storage=10,446 cf Inflow=10.95 cfs 38,410 cf
Discarded=1.34 cfs 26,524 cf Primary=3.06 cfs 11,886 cf Outflow=4.39 cfs 38,410 cf

Pond PE: Existing Infiltration Pond Peak Elev=92.78' Storage=543 cf Inflow=0.51 cfs 1,804 cf
Discarded=0.08 cfs 1,804 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 1,804 cf

Summary for Subcatchment 1B: Ex. Bank Roof

Runoff = 0.51 cfs @ 12.07 hrs, Volume= 1,804 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	3,300	98	Bank Roof
	3,300		100.00% Impervious Area

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

Summary for Subcatchment 2B: Ex. Bank Parking Lot

Runoff = 5.14 cfs @ 12.07 hrs, Volume= 16,499 cf, Depth= 5.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
22,000	98	Paved parking & roofs
14,670	74	>75% Grass cover, Good, HSG C
36,670	88	Weighted Average
14,670		40.01% Pervious Area
22,000		59.99% Impervious Area

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

Summary for Subcatchment 3B: Ex. Landscape

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 1,008 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
3,128	74	>75% Grass cover, Good, HSG C
3,128		100.00% Pervious Area

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

Summary for Subcatchment 3P: 3P

Runoff = 3.16 cfs @ 12.08 hrs, Volume= 9,784 cf, Depth= 4.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	2,051	98	Exisitng houses
	26,727	74	>75% Grass cover, Good, HSG C
*	0	98	Roadway
*	0	98	Sidewalks
	28,778	76	Weighted Average
	26,727		92.87% Pervious Area
	2,051		7.13% Impervious Area

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

Summary for Subcatchment 4P: 4P

Runoff = 1.66 cfs @ 12.07 hrs, Volume= 5,252 cf, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	6,560	74	>75% Grass cover, Good, HSG C
*	5,891	98	Roadway & Sidewalks
	12,451	85	Weighted Average
	6,560		52.69% Pervious Area
	5,891		47.31% Impervious Area

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

Summary for Subcatchment 5P: 5P

Runoff = 1.95 cfs @ 12.20 hrs, Volume= 7,893 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

Area (sf)	CN	Description
24,485	74	>75% Grass cover, Good, HSG C
24,485		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		**Sheet Flow, sheet flow** Grass: Dense n= 0.240 P2= 3.20"
3.6	150	0.0100	0.70		**Shallow Concentrated Flow, Channel flow** Short Grass Pasture Kv= 7.0 fps
14.4	200	Total			

Summary for Subcatchment 6P: 6P

Runoff = 13.30 cfs @ 12.21 hrs, Volume= 54,871 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,290	98	Exisitng houses
	87,260	74	>75% Grass cover, Good, HSG C
	81,670	73	Woods, Fair, HSG C
	170,220	74	Weighted Average
	168,930		99.24% Pervious Area
	1,290		0.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 3.20"
2.9	390	0.0200	2.28		**Shallow Concentrated Flow, shallow** Unpaved Kv= 16.1 fps
15.2	440	Total			

Summary for Subcatchment 7P: 7P

Runoff = 2.84 cfs @ 12.07 hrs, Volume= 9,083 cf, Depth= 5.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	0	98	Exisitng houses
	9,732	74	>75% Grass cover, Good, HSG C
*	5,787	98	Roadway
*	5,100	98	Sidewalks & Drives
	20,619	87	Weighted Average
	9,732		47.20% Pervious Area
	10,887		52.80% Impervious Area

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

Summary for Subcatchment 8P: 8P

Runoff = 3.18 cfs @ 12.07 hrs, Volume= 10,043 cf, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	13,057	74	>75% Grass cover, Good, HSG C
*	5,722	98	Roadway
*	3,790	98	Drives
*	1,240	98	Sidewalks
	23,809	85	Weighted Average
	13,057		54.84% Pervious Area
	10,752		45.16% Impervious Area

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

Summary for Subcatchment 9P: 9P

Runoff = 3.45 cfs @ 12.07 hrs, Volume= 11,026 cf, Depth= 5.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
	11,501	74	>75% Grass cover, Good, HSG C
*	8,588	98	Roadway
*	3,970	98	Drives
*	971	98	Sidewalks
	25,030	87	Weighted Average
	11,501		45.95% Pervious Area
	13,529		54.05% Impervious Area

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

Summary for Subcatchment 10P: 10P

Runoff = 16.22 cfs @ 12.26 hrs, Volume= 73,088 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	2,032	98	Exisitng houses
	83,173	74	>75% Grass cover, Good, HSG C
	141,528	73	Woods, Fair, HSG C
	226,733	74	Weighted Average
	224,701		99.10% Pervious Area
	2,032		0.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0100	0.11		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
10.1	430	0.0200	0.71		**Shallow Concentrated Flow, Shallow** Woodland Kv= 5.0 fps
1.5	370	0.0100	4.09	24.53	**Channel Flow, River Flow** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.030 Earth, grassed & winding
19.0	850	Total			

Summary for Subcatchment 11P: 11P

Runoff = 4.40 cfs @ 12.14 hrs, Volume= 15,701 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	48,707	74	grass
	48,707		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 3.20"
4.2	250	0.0200	0.99		**Shallow Concentrated Flow, shallow** Short Grass Pasture Kv= 7.0 fps
9.8	300	Total			

Summary for Subcatchment L1: LOT 1

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L10: LOT 10

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L11: LOT 11

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L12: LOT 12

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L13: LOT 13

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L14: LOT 14

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L15: LOT 15

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L2: LOT 2

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L3: LOT 3

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L4: LOT 4

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L5: LOT 5

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L6: LOT 6

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L7: LOT 7

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L8: LOT 8

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

Summary for Subcatchment L9: LOT 9

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 820 cf, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Event Rainfall=6.80"

	Area (sf)	CN	Description
*	1,500	98	
	1,500		100.00% Impervious Area

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

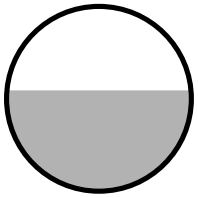
Summary for Reach 1R: 18" RCP

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 1.64" for 100 Year Event event
Inflow = 7.86 cfs @ 12.27 hrs, Volume= 18,343 cf
Outflow = 7.81 cfs @ 12.28 hrs, Volume= 18,343 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.93 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.57 fps, Avg. Travel Time= 0.6 min

Peak Storage= 59 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.82'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.56 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 94.00', Outlet Invert= 93.00'



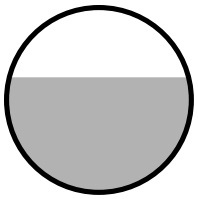
Summary for Reach 2R: 24" RCP

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 4.80" for 100 Year Event event
Inflow = 13.08 cfs @ 12.10 hrs, Volume= 50,971 cf
Outflow = 13.08 cfs @ 12.10 hrs, Volume= 50,971 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.38 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 0.2 min

Peak Storage= 62 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.24'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 18.47 cfs

24.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 95.65', Outlet Invert= 95.45'



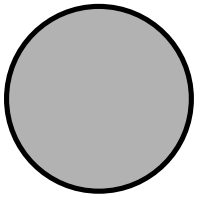
Summary for Reach 3R: 18" RCP

Inflow Area = 90,833 sf, 25.68% Impervious, Inflow Depth = 4.55" for 100 Year Event event
Inflow = 9.24 cfs @ 12.12 hrs, Volume= 34,472 cf
Outflow = 8.25 cfs @ 12.18 hrs, Volume= 34,472 cf, Atten= 11%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.27 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.78 fps, Avg. Travel Time= 0.6 min

Peak Storage= 115 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.24 cfs

18.0" Round Pipe
n= 0.013
Length= 65.0' Slope= 0.0062 '/'
Inlet Invert= 96.10', Outlet Invert= 95.70'



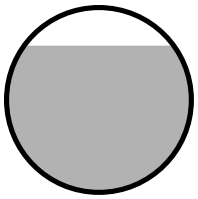
Summary for Reach 4R: 18" RCP

Inflow Area = 61,848 sf, 30.44% Impervious, Inflow Depth = 4.68" for 100 Year Event event
Inflow = 7.24 cfs @ 12.10 hrs, Volume= 24,119 cf
Outflow = 7.03 cfs @ 12.11 hrs, Volume= 24,119 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.79 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.65 fps, Avg. Travel Time= 1.8 min

Peak Storage= 271 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.19'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 180.0' Slope= 0.0050 '/'
Inlet Invert= 97.00', Outlet Invert= 96.10'



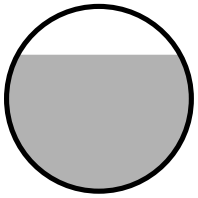
Summary for Reach 5R: 18" RCP

Inflow Area = 41,229 sf, 19.26% Impervious, Inflow Depth = 4.38" for 100 Year Event event
Inflow = 4.67 cfs @ 12.09 hrs, Volume= 15,036 cf
Outflow = 4.54 cfs @ 12.11 hrs, Volume= 15,036 cf, Atten= 3%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.34 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 1.9 min

Peak Storage= 182 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.11'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 5.21 cfs

18.0" Round Pipe
n= 0.013
Length= 130.0' Slope= 0.0025 '/'
Inlet Invert= 97.32', Outlet Invert= 97.00'



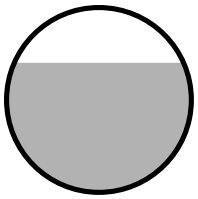
Summary for Reach 6R: 12" RCP

Inflow Area = 12,451 sf, 47.31% Impervious, Inflow Depth = 5.06" for 100 Year Event event
Inflow = 1.66 cfs @ 12.07 hrs, Volume= 5,252 cf
Outflow = 1.57 cfs @ 12.11 hrs, Volume= 5,252 cf, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.78 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 3.3 min

Peak Storage= 112 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 1.95 cfs

12.0" Round Pipe
n= 0.013
Length= 190.0' Slope= 0.0030 '/'
Inlet Invert= 97.90', Outlet Invert= 97.33'



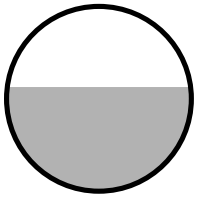
Summary for Reach 7R: 10" ADS

Inflow Area = 28,778 sf, 7.13% Impervious, Inflow Depth = 4.08" for 100 Year Event event
Inflow = 3.16 cfs @ 12.08 hrs, Volume= 9,784 cf
Outflow = 3.14 cfs @ 12.08 hrs, Volume= 9,784 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.95 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.58 fps, Avg. Travel Time= 0.4 min

Peak Storage= 30 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 5.20 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 95.0' Slope= 0.0334 '/'
Inlet Invert= 100.50', Outlet Invert= 97.33'



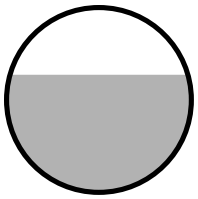
Summary for Reach 8R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 5.18" for 100 Year Event event
Inflow = 6.29 cfs @ 12.11 hrs, Volume= 21,069 cf
Outflow = 6.26 cfs @ 12.11 hrs, Volume= 21,069 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.30 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.79 fps, Avg. Travel Time= 0.3 min

Peak Storage= 36 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.95'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 30.0' Slope= 0.0067 '/'
Inlet Invert= 92.90', Outlet Invert= 92.70'



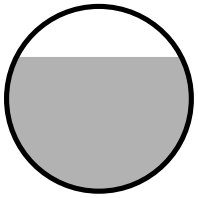
Summary for Reach 9R: 18" RCP

Inflow Area = 48,839 sf, 49.72% Impervious, Inflow Depth = 5.18" for 100 Year Event event
Inflow = 6.55 cfs @ 12.08 hrs, Volume= 21,069 cf
Outflow = 6.29 cfs @ 12.11 hrs, Volume= 21,069 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.74 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 2.9 min

Peak Storage= 385 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.09'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013
Length= 280.0' Slope= 0.0050 '/'
Inlet Invert= 94.30', Outlet Invert= 92.90'



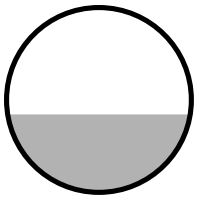
Summary for Reach 10R: 18" RCP

Inflow Area = 23,809 sf, 45.16% Impervious, Inflow Depth = 5.06" for 100 Year Event event
Inflow = 3.18 cfs @ 12.07 hrs, Volume= 10,043 cf
Outflow = 3.13 cfs @ 12.08 hrs, Volume= 10,043 cf, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.45 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.7 min

Peak Storage= 42 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.63'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.58 cfs

18.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0067 '/'
Inlet Invert= 94.70', Outlet Invert= 94.30'



Summary for Reach 11R: Outlets

Inflow Area = 4,500 sf,100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
Inflow = 0.69 cfs @ 12.07 hrs, Volume= 2,460 cf
Outflow = 0.69 cfs @ 12.07 hrs, Volume= 2,460 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 12R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
Inflow = 1.16 cfs @ 12.07 hrs, Volume= 4,101 cf
Outflow = 1.16 cfs @ 12.07 hrs, Volume= 4,101 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 13R: Outlets

Inflow Area = 3,000 sf,100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
Inflow = 0.46 cfs @ 12.07 hrs, Volume= 1,640 cf
Outflow = 0.46 cfs @ 12.07 hrs, Volume= 1,640 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach 14R: Outlets

Inflow Area = 7,500 sf,100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
Inflow = 1.16 cfs @ 12.07 hrs, Volume= 4,101 cf
Outflow = 1.16 cfs @ 12.07 hrs, Volume= 4,101 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

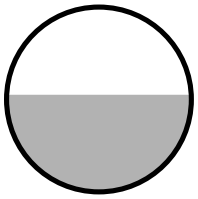
Summary for Reach 15R: 12" RCP

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 1.42" for 100 Year Event event
Inflow = 3.06 cfs @ 12.40 hrs, Volume= 11,886 cf
Outflow = 3.06 cfs @ 12.40 hrs, Volume= 11,886 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.32 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.62 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 92.50', Outlet Invert= 92.00'



Summary for Reach DCP1: DESIGN POINT #1

Inflow Area = 133,931 sf, 36.31% Impervious, Inflow Depth = 1.64" for 100 Year Event event
Inflow = 7.81 cfs @ 12.28 hrs, Volume= 18,343 cf
Outflow = 7.81 cfs @ 12.28 hrs, Volume= 18,343 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP2: DESIGN POINT #2

Inflow Area = 177,720 sf, 4.95% Impervious, Inflow Depth = 3.98" for 100 Year Event event
Inflow = 13.86 cfs @ 12.21 hrs, Volume= 58,972 cf
Outflow = 13.86 cfs @ 12.21 hrs, Volume= 58,972 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Reach DCP3: DESIGN POINT #3

Inflow Area = 334,779 sf, 11.00% Impervious, Inflow Depth = 3.19" for 100 Year Event event
Inflow = 19.58 cfs @ 12.27 hrs, Volume= 89,075 cf
Outflow = 19.58 cfs @ 12.27 hrs, Volume= 89,075 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POND #1

Inflow Area = 127,503 sf, 35.55% Impervious, Inflow Depth = 4.80" for 100 Year Event event
Inflow = 13.08 cfs @ 12.10 hrs, Volume= 50,971 cf
Outflow = 8.74 cfs @ 12.27 hrs, Volume= 50,971 cf, Atten= 33%, Lag= 10.5 min
Discarded = 1.02 cfs @ 11.25 hrs, Volume= 33,637 cf
Primary = 7.72 cfs @ 12.27 hrs, Volume= 17,335 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 98.39' @ 12.27 hrs Surf.Area= 5,325 sf Storage= 10,511 cf

Plug-Flow detention time= 27.7 min calculated for 50,971 cf (100% of inflow)
Center-of-Mass det. time= 27.7 min (828.8 - 801.1)

Volume	Invert	Avail.Storage	Storage Description
#1	95.40'	4,699 cf	**Custom Stage Data (Irregular)**Listed below 18,638 cf Overall - 6,891 cf Embedded = 11,746 cf x 40.0% Voids
#2	95.90'	6,891 cf	**StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		11,590 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
95.40	5,325	292.0	0	0	5,325
98.90	5,325	292.0	18,638	18,638	6,347

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.40'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	96.60'	**1.3' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 5.0' Crest Height

Discarded OutFlow Max=1.02 cfs @ 11.25 hrs HW=95.44' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.02 cfs)

Primary OutFlow Max=7.61 cfs @ 12.27 hrs HW=98.37' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 7.61 cfs @ 4.54 fps)

Summary for Pond 2P: Infiltration Pond #2

Inflow Area = 100,546 sf, 27.13% Impervious, Inflow Depth = 4.58" for 100 Year Event event
Inflow = 10.95 cfs @ 12.12 hrs, Volume= 38,410 cf
Outflow = 4.39 cfs @ 12.40 hrs, Volume= 38,410 cf, Atten= 60%, Lag= 16.8 min
Discarded = 1.34 cfs @ 12.40 hrs, Volume= 26,524 cf
Primary = 3.06 cfs @ 12.40 hrs, Volume= 11,886 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 94.94' @ 12.40 hrs Surf.Area= 6,879 sf Storage= 10,446 cf

Plug-Flow detention time= 38.7 min calculated for 38,336 cf (100% of inflow)
Center-of-Mass det. time= 38.6 min (844.7 - 806.1)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	19,107 cf	**Custom Stage Data (Irregular)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.50	2,105	235.0	0	0	2,105
93.00	2,850	255.0	1,234	1,234	2,894
94.00	4,720	306.0	3,746	4,980	5,188
95.00	7,025	360.0	5,834	10,814	8,070
96.00	9,629	412.0	8,293	19,107	11,287

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**0.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 3.0' Crest Height
#2	Discarded	92.50'	**8.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=1.34 cfs @ 12.40 hrs HW=94.94' (Free Discharge)
└**2=Exfiltration** (Controls 1.34 cfs)

Primary OutFlow Max=3.06 cfs @ 12.40 hrs HW=94.94' (Free Discharge)
└**1=Sharp-Crested Rectangular Weir** (Weir Controls 3.06 cfs @ 4.15 fps)

Summary for Pond PE: Existing Infiltration Pond

Inflow Area = 3,300 sf,100.00% Impervious, Inflow Depth = 6.56" for 100 Year Event event
Inflow = 0.51 cfs @ 12.07 hrs, Volume= 1,804 cf
Outflow = 0.08 cfs @ 11.80 hrs, Volume= 1,804 cf, Atten= 84%, Lag= 0.0 min
Discarded = 0.08 cfs @ 11.80 hrs, Volume= 1,804 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-26.00 hrs, dt= 0.05 hrs
Peak Elev= 92.78' @ 12.62 hrs Surf.Area= 323 sf Storage= 543 cf

Plug-Flow detention time= 48.3 min calculated for 1,801 cf (100% of inflow)
Center-of-Mass det. time= 48.3 min (790.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	90.00'	320 cf	**Custom Stage Data (Irregular)**Listed below 800 cf Overall x 40.0% Voids
#2	91.00'	368 cf	**StormTech SC-740** x 8 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		688 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
90.00	200	60.0	0	0	200
94.00	200	60.0	800	800	440

Device	Routing	Invert	Outlet Devices
#1	Primary	93.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#2	Discarded	90.00'	**8.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 11.80 hrs HW=91.00' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

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