NORTHEAST ENGINEERS & CONSULTANTS, INC.

Stormwater Runoff Analysis

"Wyndham Newport Hotel Phase 2"
(Formerly Seaview Inn / Cambria Suites)
Assessor's Map 115, Lot 54
240 Aquidneck Avenue
Middletown, RI

Prepared For
Seaview Inn LLC
240 Aquidneck Avenue
Middletown, RI 02842

Revised April 25, 2022

6 Valley Road ● Middletown, RI 02842 ● p. 401.849.0810 ● f. 401.846.4169 ● northeastengineers.com
Civil ● Site ● Land Development ● Waterfront ● Coastal Engineering ● Environmental ● Geotechnical ● Structural ● Renewable ● Surveying

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1.0 PROJECT NARRATIVE

1.1 SITE INFORMATION

City / Town:	Middletown, Rhode Island
Adjacent Roadways:	Valley Road (RI State Roadway), Aquidneck Avenue, John Clarke Road
Lot(s) identification:	A.P. 115 Lot 54
Zoning District:	OPA (Office Park – Traffic Sensitive)
Current Use:	Hotel & Conference Center
Site Area:	10.15 Acres
FEMA Zone and Map:	Zone "X (Panel 44005C0181J)

1.2 EXISTING IMPROVEMENTS AND SITE CONDITIONS

The existing Site includes Phase I of a hotel and conference center development. This development was permitted through RIDEM wetlands under file number 14-0053 in 2014. Phase I of the project, which included a single large hotel structure, the entirety of the infrastructure, and the majority of the parking, was subsequently modified in 2016 and again in 2018 under file no 2018-07-02. This permit has since expired without either of the Phase II structures or the final parking lot being constructed. These areas remain as maintained grass spaces in the existing conditions. The stormwater to manage Phase II, as well as the utility infrastructure for the two unbuilt buildings, are in place. The buildout for Phase I was largely completed per the approved plans with the exception of a few outdoor utility spaces, and vehicle drop off aisle on the north side of the building.

In addition to the 42,000 +/- square foot hotel and convention center, Phase I includes several surrounding paved parking lots, a solar field, and a large pervious paver overflow parking lot. Stormwater for both phases consists of a large sand filter along the Valley Road frontage, and a large subsurface water quality and detention system located under the pervious paver overflow parking. The remainder of the Phase I and Phase 2 disturbed area is maintained as lawns or vegetative space.

1.3 PROTECTED FEATURES

An unnamed stream (WBID: RI0007035R-05) runs through the south side of the property from a culvert under John Clarke Road to a culvert running under Valley Road and towards Easton Pond. This stream was last flagged in 2013. A 200-foot riverbank wetland area would typically be associated with this stream; however, a substantial portion of this space is currently, and has historically been, occupied by improvements. A vegetation line along the edge of these improvements has been established. This 200-foot region is included within the Town of Middletown Watershed Protection District Zone 1. The ultimate receiving waterbody for the property is North Easton Pond (Green End Pond) (WBID: RI0007035L-03). This waterway has been assessed with a TMDL for Chlorophyll-A, Total Phosphorous, and Total Organic Carbon.

1.4 SITE TERRAIN AND SOILS

In general, the site slopes from John Clarke Road towards the southwest. A portion of site slopes towards the stream and the culvert which runs into Easton Pond. The remainder of the site slopes towards the RIDOT swale along Valley Road. The only steep slopes present on the property are within the area designated for the Phase 2 structures. These areas are currently stabilized with maintained lawns. The soil types on site are mapped as PmB (Pittstown silt loam) and Se (Stissing Loams) by the USDA Natural Resource Conservation Service. The Pittstown loams are type C hydrologic soils common to Aquidneck Island while the Stissing soils are type D. Class IV soil evaluations performed in the areas of development confirmed these soils classifications.

1.5 PROPOSED IMPROVEMENTS

The owner intends to construct reduced buildout Phase 2 of the originally permitted project. Instead of two structures totaling 24,900 square feet, the owner proposes a single 12,000 square foot structure. This structure is to be located roughly where one of the original Phase 2 buildings was proposed, adjacent to the sand filter. This building will be served by utility infrastructure installed during Phase I construction. In place of the Phase 2 8,500 square foot paved parking lot, the owner has proposed a 16,000 square foot pervious paver parking lot. This paver parking lot is to be located where the second Phase 2 structure had been proposed. In order for this parking lot to be level with the existing parking loop, a ten-foot-tall retaining wall will be required. Several of the existing drain and sewer structures will need to be revised to meet the proposed elevation of this paver parking lot. The adjacent grassed areas will be graded to divert surface runoff from entering the paver parking lot. A concrete sidewalk will run alongside the paver parking lot and the proposed Phase 2 building.

In order to accommodate the proposed footprint of the Phase 2 building, the sand filter constructed during Phase I will need to be modified. This modification will be completed without the need to disturb the existing sand media or the underlying impervious membrane. While this modification will reduce the overall footprint of the sand filter, the overall impact to the final approved runoff conditions is minimal. This Is due to the reduced total impervious area when compared to the previously approved Phase 2 conditions and the additional storage provided in the pervious paver deep stone reservoir.

In addition to the Phase 2 buildout proposed above, the owner also intends to revise and expand the existing pervious pavement overflow parking. The proposed configuration will increase the capacity and bring the parking lot into dimensional conformance with town standards. The owner also intends to construct an outdoor pavilion with retractable sun shade in the area of an existing concrete patio adjacent to the Phase I hotel. The existing pavilion located in the grass (roofless) will be relocated, and pervious paver access paths will be added. Finally, the owner intends to expand the existing paved parking along the main entrance by adding additional paved spaces and overflow paver spaces.

2.0 PROPOSED ALTERATIONS AND STORMWATER CONSIDERATIONS

2.1 STORMWATER SYSTEM OBJECTIVES

The objectives of the project stormwater system are to accomplish the following:

- **Provide water quality treatment for stormwater runoff in accordance with the Rhode Island Stormwater Management, Design and Installation Rules (The Rules) 250-RICR-150-10-8.**
- **Maintain the overall drainage patterns from the site to the extent practicable.**
- **Ensure no increase in peak runoff to the downstream DOT right of way including approved Phase 2 impervious credits.**
- **Ensure no increase in total 24-hour volume runoff to the downstream DOT right of way including approved Phase 2 impervious credits.**
- **Modify the existing sand filter in such a way that the existing sand cell and underlying impermeable membrane are minimally disturbed.**

2.2 REDEVELOPMENT SITE

This project does not qualify as a "redevelopment site" per 250-RICR-150-10-8.12.

2.3 MINIMUM STORMWATER MANAGEMENT STANDARDS

2.3.1 MINIMUM STANDARD 1: LID SITE PLANNING AND DESIGN STRATEGIES

The proposed Phase II development utilizes LID designs conforming to 250-RICR-150-10-8.7. These elements are located immediately downstream of the new improvements and will directly treat the newly generated runoff with minimal interception of on-site clean runoff.

2.3.2 MINIMUM STANDARD 2: GROUNDWATER RECHARGE

This standard (250-RICR-150-10-8.8) was waived for the existing sand filter to be modified under the Phase 1 approval due to elevated water tables in the vicinity. This waiver would also be required for Phase 2 as the sand filter will not be appreciably modified. It should be noted that other stormwater devices constructed on this site, specifically the subsurface infiltration chambers, do provide sufficient recharge volume to accommodate Phase 1 and Phase 2.

2.3.3 MINIMUM STANDARD 3: WATER QUALITY

This standard (250-RICR-150-10-8.9) for the Phase 2 buildout shall be met by the revised sand filter. The only new elements of the development requiring water quality treatment include the Phase 2 hotel and the additional pavement for the parking expansion. All other improvements are either pervious (pavers) or are proposed on areas of existing concrete (pavilion with sun shade). Refer to Appendix E for the revised sand filter sizing. Per the HydroCAD analysis of the WQ storm (split pervious method) in Appendix F, the entirety of the water quality storm is routed through the filter and not through the overflow weir.

2.3.4 MINIMUM STANDARD 4: CONVEYANCE AND NATURAL CHANNEL PROTECTION

This standard (250-RICR-150-10-8.10) was not implemented in the original permitting of this project. As the existing stormwater device will be altered as minimally as possible, it is requested that this standard again not be applied.

2.3.5 MINIMUM STANDARD 5: OVERBANK FLOOD PROTECTION

In accordance with 250-RICR-150-10-8.11, the TR-20 HydroCAD model demonstrates that the proposed system will successfully mitigate the 100-year storm event. In the calculations provided in Appendix C, all pre-development land was characterized as "good condition" as required by this standard. No off-site components of runoff are present. The modeling also demonstrates that the structures and stormwater devices will safely pass the 100-year storm event without flooding or breaching.

2.3.6 MINIMUM STANDARD 6: REDEVELOPMENT AND INFILL PROJECTS

As stated in section 2.2 above, this project does not qualify as a re-development project.

2.3.7 MINIMUM STANDARD 7: POLLUTION PREVENTION

In accordance with 250-RICR-150-10-8.16, source controls and pollution prevention measures will be present during all phases of construction. A separate stormwater pollution prevention plan (Soil Erosion and Sediment Control Narrative) has been prepared.

2.3.8 MINIMUM STANDARD 8: LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS

As defined by 250-RICR-150-10-8.14, the use of this property does not quality as a LUHPPL and does not require any specific source controls, limited BMPs, or and additional state permitting.

2.3.9 MINIMUM STANDARD 9: ILLICIT DISCHARGES

Neither the using use nor any proposed uses will include any discharges considered to be "illicit" per 250-RICR-150-10-8.15.

2.3.10 MINIMUM STANDARD 10: SOILS EROSION AND SEDIMENT CONTROL

Soil erosion and sediment control measures will be implemented during all phases of construction. A SESC plan has been provided in the permitting plan set and a separate Soil Erosion and Sediment Control Narrative has been prepared.

2.3.11 MINIMUM STANDARD 11: STORMWATER MANAGEMENT OPERATIONS AND MAINTENANCE

An Operations and Maintenance (O&M) Document has been prepared. This document satisfies the minimum requirements 250-RICR-150-10-8.17.

2.4 OVERALL STORMWATER DESIGN FUNCTION

The overall design of the stormwater system is to provide a reduction in peak rate of runoff and total 24-hr volume runoff when compared to the existing conditions with approved Phase 2 impervious credits applied. The proposed design will meet the 11 minimum standards established in the 250-RICR-150-10-8 to the extent feasible. The function of the existing sand filter to be modified will be impacted as minimally as possible. The existing drainage patterns across the site will be minimally impacted. There will be no negative impact to the receiving state right of way.

2.5 POLLUTANT LOADING

As the proposed impervious buildout is less than the previously approved Phase 2 conditions (reduced building footprints and impervious parking), it is anticipated that the pollutants generated by the site will be reduced.

3.0 DESIGN MODELING METHODOLOGY

Runoff and routing calculations have been performed for the watershed areas affected by the proposed development. Time of concentration and runoff curve number calculations have been performed using the method described in NRCS Technical Release 55 – Urban Hydrology for Small Watersheds. The TR-20 based HydroCAD modeling software has been utilized to perform the more complex runoff and routing calculations, most of which are beyond the scope of the TR-55 method.

Design rainfall events have been modeled using the Soil Conservation Service (SCS) Type III hydrograph for 24-hour duration storms. The rainfall depth for each return period has been taken from 250-RICR-150-10-8.6.E. This performance standard splits the state into five regions for rainfall frequency based on county. The project site is located in the **Newport** County region. The required rainfall frequency values used in this drainage analysis are listed in the table below.

Rainfall Frequency Values for **Newport County** Rhode Island with 24-Hour Storm Duration					
Stormwater Design and Installation Standards (250-RICR-150-10-8.6.E)					
Frequency	1-Yr	2-Yr	10-Yr	25-Yr	100-Yr
Inches of Rainfall	2.8	3.3	4.9	6.1	8.6

The proposed conditions runoff calculations were analyzed for the 1, 2, 10, 25, and 100-year 24-hour design storms indicated above. The original runoff conditions were taken from the existing conditions calculations in the approved Phase I Stormwater report dated May 2018. The approved final runoff conditions were also taken from his report. The development shown under these conditions included the Phase I buildout, as well as the previous Phase 2 conditions. The stormwater system was modified to the extent necessary to accommodate the revised Phase 2 conditions. The resulting design effectively mitigates and treats runoff from newly developed areas of the site before allowing it to discharge in a non-erosive manner to downstream areas in accordance with the RISDISM.

3.1 ANALYSIS DESIGN POINTS AND OFF-SITE CONTRIBUTIONS

The proposed development contributes stormwater runoff to the following design points. These design points provide a direct comparison for pre-construction and post-construction runoff flows and runoff volumes.

1. Valley Road (RIDOT swale)
2. Riverbank wetland associated with the tributary to Easton Pond

All improvements to be constructed in the watershed contributing to design point 2 (riverbank wetland) consist either of pervious pavements having a runoff curve number less than the grass it replaces (CN 70 for pervious pavements with more than 9 inches of stone reservoir in Type C soils compared to CN 74 for short grass in Type C soils) or are open roof structures constructed on existing concrete (pavilion with retractable sun shade). **As such, no analysis has been performed for this design point. Only runoff to design point 1 has been reviewed.**

The following off-site areas contribute surface stormwater runoff to these design points. This runoff either drains through the project area or contributes in some manner which directly affects the design of the stormwater system and has been included in the design calculations. These areas are:

1. None.

4.0 STORMWATER RUNOFF COMPARISONS

A comparison of the existing conditions (with approved Phase 2 impervious credit) and the proposed runoff conditions during the design storms are provided in the tables below. These tables demonstrate that there will be no increase in peak rate of runoff and total volume runoff. All of the HydroCAD modeling worksheets are attached in Appendices C and D.

4.1 SUMMARY OF STORMWATER CALCULATIONS

Table 4.1. Comparison of Runoff Values at Valley Road (DP1-EX vs. DP1-PR)

Storm Return Period	Existing Conditions Peak Runoff (cfs)	Proposed Conditions Peak Runoff (cfs)	Existing Conditions Total 24-hr volume runoff (af)	Proposed Conditions Total 24-hr volume runoff (af)
1-year	1.01	0.94	0.559	0.545
2-year	1.18	1.11	0.699	0.680
10-year	6.80	6.77	1.140	1.100
25-year	14.42	13.49	1.475	1.420
100-year	25.85	23.03	2.184	2.091

5.0 LIMITATIONS AND SPECIAL TERMS AND CONDITIONS

1. NE&C's evaluation was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and NE&C observed the degree of care and skill generally exercised by other consultants under similar circumstances and conditions. No warrantee expressed or implied is made.

2. Any additional research conducted should be reviewed by Northeast Engineers & Consultants, Inc., such that the conclusions presented herein may be modified.

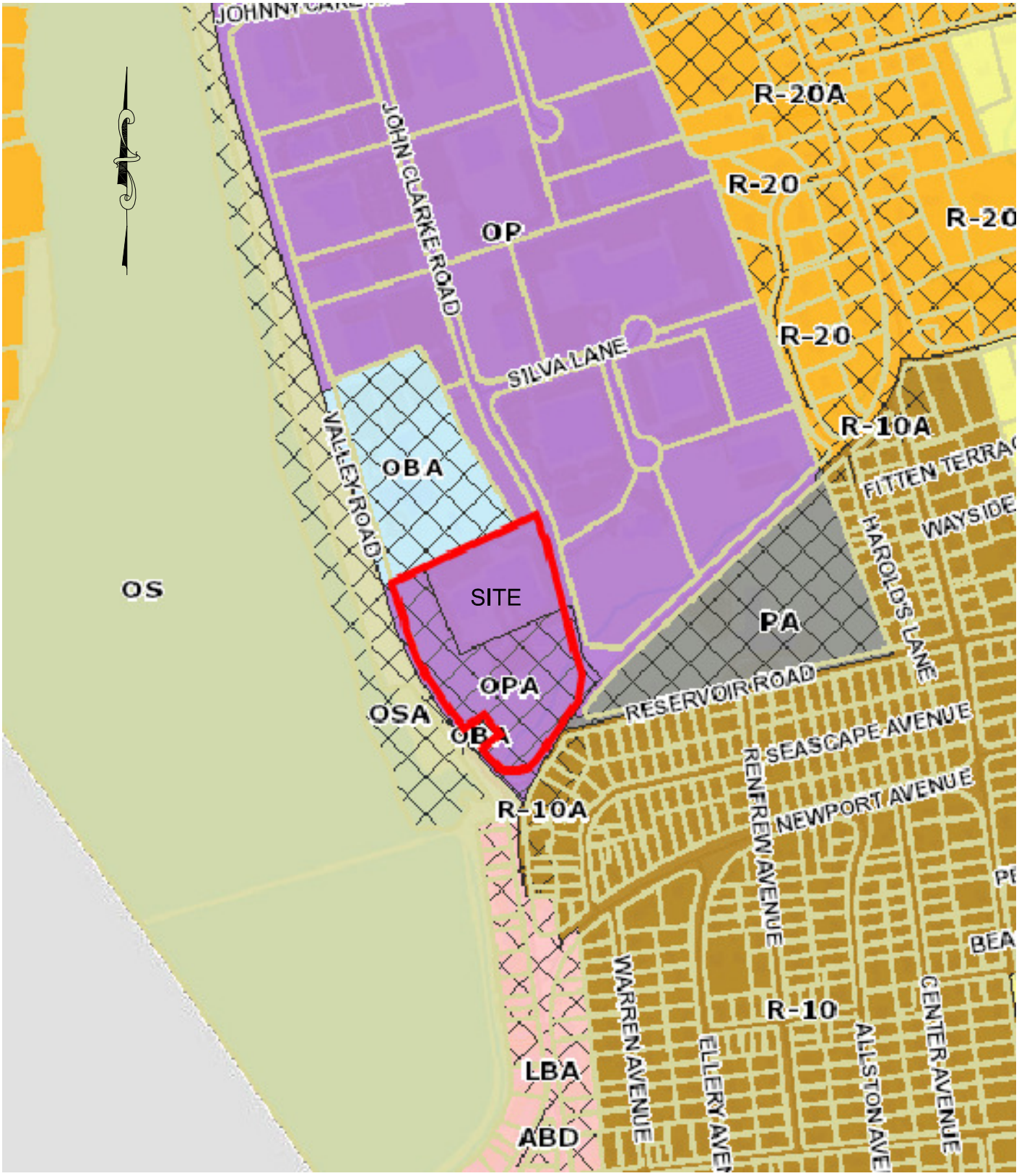
3. All observations documented in this report were performed under the existing conditions at the time of the assessment.

4. This report has been prepared on the behalf of and is for the exclusive use of the Client. This report and findings contained herein shall not, in whole or in part be disseminated or conveyed to any party, nor used by any other party in whole or in part, without the written consent of NE&C.

APPENDIX A FIGURES

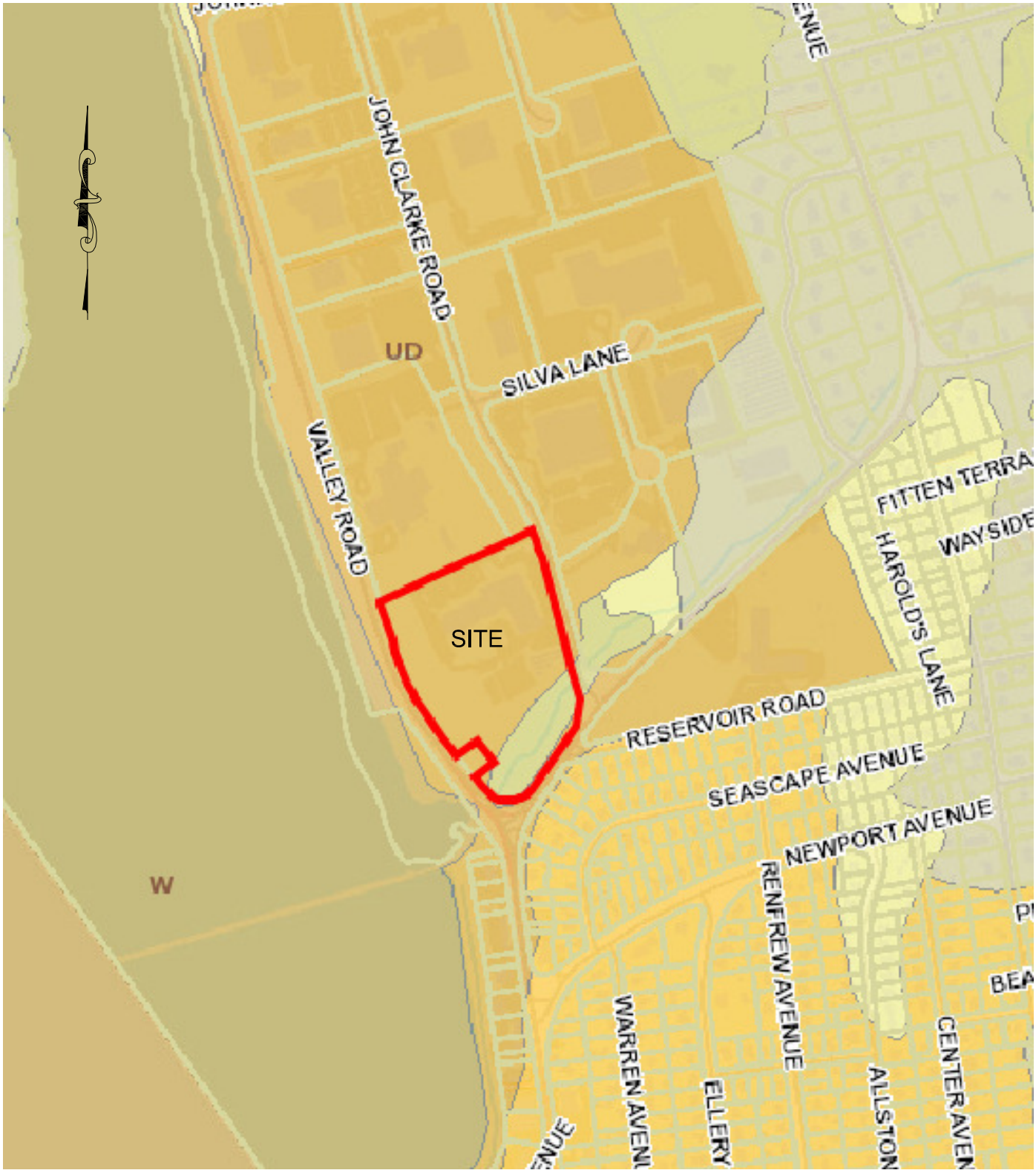
Scale: NTS	Date: 22NOV22	Designed By: JJR	Drawn By: JJR	Checked By: GES

Project Title:	Drawing Title:	
WYNDHAM NEWPORT HOTEL MIDDLETOWN, RHODE ISLAND	LOCUS MAP	
Issued for: PERMITTING	Drawing Number: FIG 1	Project Number: 09001.1



Scale: NTS	Date: 22NOV22	Designed By: JJR	Drawn By: JJR	Checked By: GES

Project Title:	Drawing Title:	
WYNDHAM NEWPORT HOTEL MIDDLETOWN, RHODE ISLAND	ZONING MAP	
Issued for: PERMITTING	Drawing Number: FIG 2	Project Number: 09001.1



Scale: NTS	Date: 22NOV22	Designed By: JJR	Drawn By: JJR	Checked By: GES

Project Title:	Drawing Title:	
WYNDHAM HOTEL NEWPORT MIDDLETOWN, RHODE ISLAND	SOILS MAP	
Issued for: PERMITTING	Drawing Number: FIG 3	Project Number: 09001.1

APPENDIX B WATERSHED MAPS

NORTHEAST ENGINEERS
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WWW.NORTHEASTENGINEERS.COM

AP 115, LOT 39
N/F BANK NEWPORT
BK 1258, PG 309 (OP)

AP 115, LOT 56
N/F BLACKSTONE PROPERTY MANAGEMENT LLC
BK 1650, PG 265 (OP)

JOHN CLARKE ROAD (PUBLIC, 50' WIDE)

AP 115, LOT 6A
SCHOOL DEPT BUSINESS MANAGER
BK 111, PG 522
(PA)

AQUIDNECK AVENUE, ROUTE 138A
(PUBLIC, VARIABLE WIDTH)
RIDOT HIGHWAY PLAT #164

AP 115, LOT 51
N/F TOWN OF MIDDLETOWN
BK 112, PG 490
(OP)

AP 115, LOT 1
N/F NEWPORT COUNTY REGIONAL YMCA
BK 1583, PG 8
(OBA)

AP 115SE, LOT 24
JOSEPH & TIFFANY WAITE
BK 1211, PG 189
(R10A)

AP 115SE, LOT 23
MATHEWS FAMILY REV LIVING TRUST
BK 1606, PG 8
(R10A)

AP 115SE, LOT 22
RATANA HOAN & LIM TITHDARANET
BK 1508, PG 185
(R10A)

AP 115, LOT 57
N/F NEWPORT WATER DPT
BK 141, PG 359
(OBA)

AP 115, LOT 1A
N/F CITY OF NEWPORT
WATER DEPARTMENT
(OSA)

HOTEL
AND CONVENTION
CENTER

E1.010
E1.030
E11.020
E1.040
E1.050
E1.055
E1.060
E1.070
E1.080
E5.020
E11.010

GRASS / VEGETATION
PAVEMENT
GRASS
SIDEWALK
PERVIOUS PAVERS
PAVERS
PAVEMENT OR EXISTING CONCRETE
GRASS LANDS.
PERMITTED PHASE II PARKING
PERMITTED PHASE II HOTEL
PERMITTED PAVEMENT

SUBCATCHMENT
101A

SUBCATCHMENT 101B

BASIN ESF (SAND FILTER)

VALLEY ROAD - ROUTE 214 (PUBLIC, VARIABLE WIDTH)
RIDOT HIGHWAY PLAT #1488

DESIGN POINT 1: VALLEY ROAD
EXISTING CONDITIONS WITH APPROVED PHASE II IMPROVEMENTS

1-YEAR	1.01 cfs	0.559 af
2-YEAR	1.18 cfs	0.699 af
10-YEAR	6.80 cfs	1.140 af
25-YEAR	14.42 cfs	1.475 af
100-YEAR	25.85 cfs	2.184 af

GRAPHIC SCALE
40 0 20 40 80 160
(in feet)
1 inch = 40 feet

No.	Revision	Date	App.

Designed By: JJR | Drawn by: JJR | Checked by: GES
Scale: 1"=40' | Date: 21APR23

Project Title:

WYNDHAM NEWPORT HOTEL (PHASE II)

A.P. 115 LOT 54
JOHN CLARKE ROAD & VALLEY ROAD
MIDDLETOWN
RHODE ISLAND

Client/Owner:

SEAVIEW INN LLC
240 AQUIDNECK AVENUE
MIDDLETOWN, RI 02842

Issued for:

PERMITTING

Drawing Title:

EXISTING WATERSHED WITH APPROVED PHASE II IMPROVEMENTS

Drawing Number: W-1
Sheet 1 of 1
Project Number: 09001.0
Survey Index: – –

P:\PROJECTS\2009\09001 KYRIAKIDES SEAVIEW INN\CALCULATIONS\CURRENT\PHASE II\09001,1 W1 PHASE 2.DWG

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BK 1508, PG 185
(R10A)

HOTEL
AND CONVENTION
CENTER

P11.010
P1.010
P1.030
P11.020
P1.040
P1.050
P1.055
P1.060
P1.070
P1.080
P5.020
201C
201A
PHASE II HOTEL
SUBCATCHMENT 201B

GRASS
PAVEMENT
SIDEWALK
GRASS / VEGETATION
LANDSCAPE
SIDEWALK LANDSCAPE
PERVIOUS PAVERS
PAVERS
PARKING PAVERS
GRASS PAVERS
PAVILION (NO ROOF)
GRASS /LANDS.
LINED PERVIOUS PAVERS (PVR)
PAVERS OVER EXISTING CONCRETE
BASIN PSF (SAND FILTER)

AP 115, LOT 1
N/F NEWPORT COUNTY REGIONAL YMCA
BK 1583, PG 8
(OBA)

AP 115, LOT 57
N/F NEWPORT WATER DPT
BK 141, PG 359
(OBA)

VALLEY ROAD - ROUTE 214 (PUBLIC, VARIABLE WIDTH)
RIDOT HIGHWAY PLAT #1488

AP 115, LOT 1A
N/F CITY OF NEWPORT
WATER DEPARTMENT
(OSA)

DESIGN POINT 1: VALLEY ROAD
PROPOSED PHASE II
RUNOFF FROM SITE TO
DESIGN POINT

1-YEAR	0.94 cfs	0.545 af
2-YEAR	1.11 cfs	0.680 af
10-YEAR	6.77 cfs	1.100 af
25-YEAR	13.49 cfs	1.420 af
100-YEAR	23.03 cfs	2.091 af

GRAPHIC SCALE
40 0 20 40 80 160
(in feet)
1 inch = 40 feet

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A.P. 115 LOT 54
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RHODE ISLAND

Client/Owner:
SEAVIEW INN LLC
240 AQUIDNECK AVENUE
MIDDLETOWN, RI 02842

Issued for:
PERMITTING

Drawing Title:
PROPOSED WATERSHED

Drawing Number: W-2
Sheet 1 of 1
Project Number: 09001.0
Survey Index: – –

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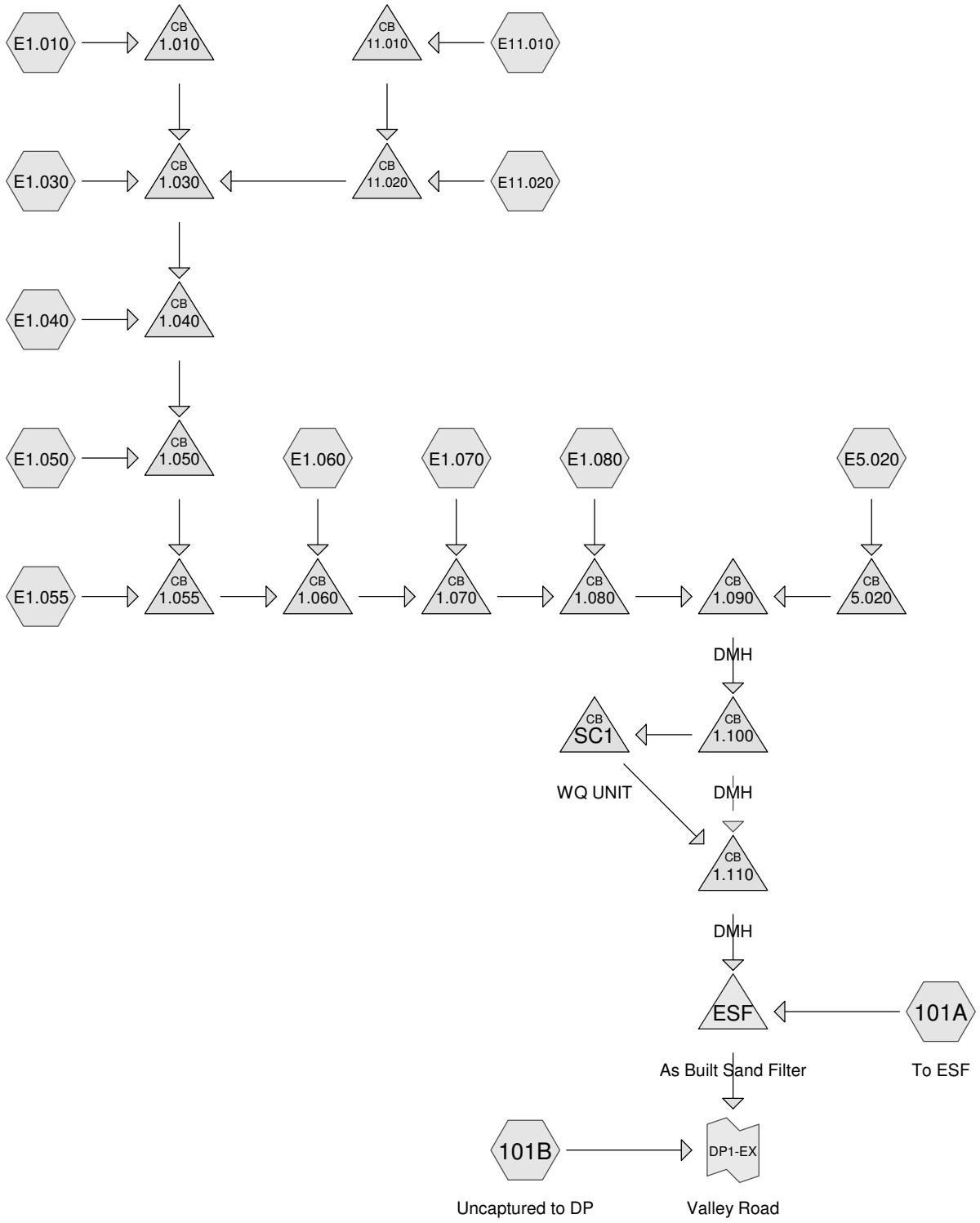
APPENDIX C EXISTING CONDITIONS HYDROCAD



Subcat Reach Pond Link

Routing Diagram for 09000.1 PHASE 2 2023-04-21 EXISTING ONLY
Prepared by Northeast Engineers & Consultants, Inc., Printed 5/11/2023

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.387	74	>75% Grass cover, Good, HSG C (101A, 101B, E1.030, E1.040, E1.050, E1.055, E1.060, E1.080, E11.010, E11.020)
0.251	98	Lined Sand Filter (101A)
1.219	98	Pavement (E1.010, E1.030, E1.040, E1.050, E1.055, E1.060, E1.070, E1.080, E5.020)
0.572	98	Permitted Phase 2 Building (101A)
0.250	98	Permitted Phase 2 Pavement (101A)
0.092	98	Sidewalk (E1.050, E1.055, E1.060, E1.070, E1.080, E5.020)

Summary for Subcatchment 101A: To ESF

Runoff = 3.29 cfs @ 12.11 hrs, Volume= 0.247 af, Depth> 1.80"
Routed to Pond ESF : As Built Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	24,900	98	Permitted Phase 2 Building
*	10,904	98	Permitted Phase 2 Pavement
	24,916	74	>75% Grass cover, Good, HSG C
*	10,912	98	Lined Sand Filter
	71,632	90	Weighted Average
	24,916	74	34.78% Pervious Area
	46,716	98	65.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	72	0.0280	0.19		**Sheet Flow, Maintained lawns**
					Grass: Short n= 0.150 P2= 3.40"
1.0					**Direct Entry, Phase II pavement and piping**
7.4	72	Total			

Summary for Subcatchment 101B: Uncaptured to DP

Runoff = 0.27 cfs @ 12.20 hrs, Volume= 0.027 af, Depth> 0.78"
Routed to Link DP1-EX : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
17,870	74	>75% Grass cover, Good, HSG C
17,870	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0100	0.13		**Sheet Flow, Grass**
					Grass: Short n= 0.150 P2= 3.40"
0.4	43	0.0100	1.61		**Shallow Concentrated Flow, Lawns**
					Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Slope**
					Unpaved Kv= 16.1 fps
0.2	51	0.0580	3.88		**Shallow Concentrated Flow, Grass**
					Unpaved Kv= 16.1 fps
13.2	255	Total			

Summary for Subcatchment E1.010:

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 2.57"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment E1.030:

Runoff = 0.36 cfs @ 12.07 hrs, Volume= 0.024 af, Depth> 1.56"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment E1.040:

Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.047 af, Depth> 2.25"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment E1.050:

Runoff = 0.89 cfs @ 12.07 hrs, Volume= 0.063 af, Depth> 2.06"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment E1.055:

Runoff = 0.70 cfs @ 12.07 hrs, Volume= 0.050 af, Depth> 2.25"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	1,583	74	>75% Grass cover, Good, HSG C
	11,699	95	Weighted Average
	1,583	74	13.53% Pervious Area
	10,116	98	86.47% Impervious Area

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

Summary for Subcatchment E1.060:

Runoff = 0.29 cfs @ 12.07 hrs, Volume= 0.021 af, Depth> 2.46"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	159	74	>75% Grass cover, Good, HSG C
	4,558	97	Weighted Average
	159	74	3.49% Pervious Area
	4,399	98	96.51% Impervious Area

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

Summary for Subcatchment E1.070:

Runoff = 0.28 cfs @ 12.07 hrs, Volume= 0.021 af, Depth> 2.57"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	4,281	98	Weighted Average
	4,281	98	100.00% Impervious Area

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

Summary for Subcatchment E1.080:

Runoff = 0.39 cfs @ 12.07 hrs, Volume= 0.028 af, Depth> 2.25"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	889	74	>75% Grass cover, Good, HSG C
	6,571	95	Weighted Average
	889	74	13.53% Pervious Area
	5,682	98	86.47% Impervious Area

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

Summary for Subcatchment E11.010:

Runoff = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af, Depth> 0.78"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
	2,679	74	>75% Grass cover, Good, HSG C
	2,679	74	100.00% Pervious Area

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

Summary for Subcatchment E11.020:

Runoff = 0.09 cfs @ 12.08 hrs, Volume= 0.006 af, Depth> 0.78"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
	4,290	74	>75% Grass cover, Good, HSG C
	4,290	74	100.00% Pervious Area

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

Summary for Subcatchment E5.020:

Runoff = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 2.57"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
	3,956	98	Weighted Average
	3,956	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 2.57" for 1-YR event
Inflow = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af
Outflow = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.6 min
Primary = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.31' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.12 cfs @ 12.08 hrs HW=44.31' TW=38.27' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.12 cfs @ 1.39 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 1.35" for 1-YR event
Inflow = 0.61 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.6 min
Primary = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.27' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.09 hrs HW=38.27' TW=34.54' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.61 cfs @ 2.13 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 1.70" for 1-YR event
Inflow = 1.25 cfs @ 12.08 hrs, Volume= 0.090 af
Outflow = 1.25 cfs @ 12.09 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.6 min
Primary = 1.25 cfs @ 12.09 hrs, Volume= 0.090 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.54' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.25 cfs @ 12.09 hrs HW=34.54' TW=30.37' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.25 cfs @ 2.61 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 1.83" for 1-YR event
Inflow = 2.12 cfs @ 12.08 hrs, Volume= 0.153 af
Outflow = 2.12 cfs @ 12.09 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.6 min
Primary = 2.12 cfs @ 12.09 hrs, Volume= 0.153 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.37' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.12 cfs @ 12.09 hrs HW=30.37' TW=29.28' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 2.12 cfs @ 2.78 fps)

Summary for Pond 1.055:

Inflow Area = 1.270 ac, 70.05% Impervious, Inflow Depth > 1.92" for 1-YR event
Inflow = 2.80 cfs @ 12.09 hrs, Volume= 0.203 af
Outflow = 2.80 cfs @ 12.10 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.6 min
Primary = 2.80 cfs @ 12.10 hrs, Volume= 0.203 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.28' @ 12.10 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.80 cfs @ 12.10 hrs HW=29.28' TW=28.28' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 2.80 cfs @ 3.01 fps)

Summary for Pond 1.060:

Inflow Area = 1.375 ac, 72.06% Impervious, Inflow Depth > 1.96" for 1-YR event
Inflow = 3.07 cfs @ 12.10 hrs, Volume= 0.225 af
Outflow = 3.07 cfs @ 12.11 hrs, Volume= 0.225 af, Atten= 0%, Lag= 0.6 min
Primary = 3.07 cfs @ 12.11 hrs, Volume= 0.225 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.28' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.07 cfs @ 12.11 hrs HW=28.28' TW=27.63' (Dynamic Tailwater)
1=18" ADS (Barrel Controls 3.07 cfs @ 4.23 fps)

Summary for Pond 1.070:

Inflow Area = 1.473 ac, 73.93% Impervious, Inflow Depth > 2.00" for 1-YR event
Inflow = 3.32 cfs @ 12.10 hrs, Volume= 0.246 af
Outflow = 3.32 cfs @ 12.11 hrs, Volume= 0.246 af, Atten= 0%, Lag= 0.6 min
Primary = 3.32 cfs @ 12.11 hrs, Volume= 0.246 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.63' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.32 cfs @ 12.11 hrs HW=27.63' TW=26.35' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 3.32 cfs @ 3.16 fps)

Summary for Pond 1.080:

Inflow Area = 1.624 ac, 75.09% Impervious, Inflow Depth > 2.03" for 1-YR event
Inflow = 3.67 cfs @ 12.11 hrs, Volume= 0.274 af
Outflow = 3.67 cfs @ 12.12 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.6 min
Primary = 3.67 cfs @ 12.12 hrs, Volume= 0.274 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.37' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.54 cfs @ 12.12 hrs HW=26.36' TW=25.95' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 3.54 cfs @ 3.49 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.05" for 1-YR event
Inflow = 3.90 cfs @ 12.12 hrs, Volume= 0.293 af
Outflow = 3.90 cfs @ 12.13 hrs, Volume= 0.293 af, Atten= 0%, Lag= 0.6 min
Primary = 3.90 cfs @ 12.13 hrs, Volume= 0.293 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.97' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.69 cfs @ 12.13 hrs HW=25.96' TW=25.82' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 3.69 cfs @ 2.47 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.05" for 1-YR event
Inflow = 3.90 cfs @ 12.13 hrs, Volume= 0.293 af
Outflow = 3.90 cfs @ 12.14 hrs, Volume= 0.293 af, Atten= 0%, Lag= 0.6 min
Primary = 2.82 cfs @ 12.13 hrs, Volume= 0.284 af
Routed to Pond SC1 : WQ UNIT
Secondary = 1.07 cfs @ 12.14 hrs, Volume= 0.010 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.82' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Secondary	25.40'	**24.0" Round 24" ADS** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.81 cfs @ 12.13 hrs HW=25.82' TW=25.27' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.81 cfs @ 3.58 fps)

Secondary OutFlow Max=1.07 cfs @ 12.14 hrs HW=25.82' TW=24.59' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 1.07 cfs @ 2.21 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.05" for 1-YR event
Inflow = 3.90 cfs @ 12.14 hrs, Volume= 0.293 af
Outflow = 3.90 cfs @ 12.15 hrs, Volume= 0.293 af, Atten= 0%, Lag= 0.6 min
Primary = 3.90 cfs @ 12.15 hrs, Volume= 0.293 af
Routed to Pond ESF : As Built Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.60' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.90 cfs @ 12.15 hrs HW=24.60' TW=19.81' (Dynamic Tailwater)
↑—**1=24" ADS** (Barrel Controls 3.90 cfs @ 4.55 fps)

Summary for Pond 5.020:

Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth > 2.57" for 1-YR event
Inflow = 0.25 cfs @ 12.07 hrs, Volume= 0.019 af
Outflow = 0.25 cfs @ 12.08 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.6 min
Primary = 0.25 cfs @ 12.08 hrs, Volume= 0.019 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.25' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.25 cfs @ 12.08 hrs HW=29.25' TW=25.77' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 0.25 cfs @ 1.69 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 0.78" for 1-YR event
Inflow = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af
Outflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.6 min
Primary = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 40.42' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.05 cfs @ 12.09 hrs HW=40.42' TW=39.09' (Dynamic Tailwater)
↑—**1=8" ADS** (Barrel Controls 0.05 cfs @ 1.81 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 0.78" for 1-YR event
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.14 cfs @ 12.10 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.6 min
Primary = 0.14 cfs @ 12.10 hrs, Volume= 0.010 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.09' @ 12.10 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.10 hrs HW=39.09' TW=38.27' (Dynamic Tailwater)
└─**1=12" ADS** (Inlet Controls 0.14 cfs @ 1.45 fps)

Summary for Pond ESF: As Built Sand Filter

Inflow Area = 3.359 ac, 70.93% Impervious, Inflow Depth > 1.93" for 1-YR event
Inflow = 6.96 cfs @ 12.13 hrs, Volume= 0.540 af
Outflow = 0.80 cfs @ 12.89 hrs, Volume= 0.533 af, Atten= 89%, Lag= 45.7 min
Primary = 0.80 cfs @ 12.89 hrs, Volume= 0.533 af
Routed to Link DP1-EX : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.93' @ 12.89 hrs Surf.Area= 14,626 sf Storage= 10,006 cf
Flood Elev= 22.50' Surf.Area= 16,895 sf Storage= 23,637 cf

Plug-Flow detention time= 132.9 min calculated for 0.533 af (99% of inflow)
Center-of-Mass det. time= 124.8 min (925.9 - 801.1)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	7,587 cf	**Filter Media \ Stone \ Loam (Prismatic)** Listed below (Recalc) x 0.9 22,991 cf Overall x 33.0% Voids
#2	20.60'	16,050 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		23,637 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	7,860	0	0
20.60	7,860	25,545	25,545

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	7,860	0	0
22.50	10,912	17,833	17,833

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**4.0" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.60'	**90.0 deg x 15.0' long x 1.40' rise Overflow weir** Cv= 2.50 (C= 3.13)

Primary OutFlow Max=0.80 cfs @ 12.89 hrs HW=20.93' TW=0.00' (Dynamic Tailwater)
└─**1=4" PVC** (Barrel Controls 0.80 cfs @ 9.11 fps)
└─**2=Underdrain** (Passes 0.80 cfs of 1.55 cfs potential flow)
└─**3=Overflow weir** (Controls 0.00 cfs)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 1.99" for 1-YR event
Inflow = 2.82 cfs @ 12.13 hrs, Volume= 0.284 af
Outflow = 2.82 cfs @ 12.14 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.6 min
Primary = 2.82 cfs @ 12.14 hrs, Volume= 0.284 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 25.27' @ 12.14 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.82 cfs @ 12.14 hrs HW=25.27' TW=24.59' (Dynamic Tailwater)
↑—**1=12" ADS** (Barrel Controls 2.82 cfs @ 3.82 fps)

Summary for Link DP1-EX: Valley Road

Inflow Area = 3.770 ac, 63.21% Impervious, Inflow Depth > 1.78" for 1-YR event
Inflow = 1.01 cfs @ 12.25 hrs, Volume= 0.559 af
Primary = 1.01 cfs @ 12.26 hrs, Volume= 0.559 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 101A: To ESF

Runoff = 4.10 cfs @ 12.10 hrs, Volume= 0.309 af, Depth> 2.26"
Routed to Pond ESF : As Built Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	24,900	98	Permitted Phase 2 Building
*	10,904	98	Permitted Phase 2 Pavement
	24,916	74	>75% Grass cover, Good, HSG C
*	10,912	98	Lined Sand Filter
	71,632	90	Weighted Average
	24,916	74	34.78% Pervious Area
	46,716	98	65.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	72	0.0280	0.19		**Sheet Flow, Maintained lawns**
					Grass: Short n= 0.150 P2= 3.40"
1.0					**Direct Entry, Phase II pavement and piping**
7.4	72	Total			

Summary for Subcatchment 101B: Uncaptured to DP

Runoff = 0.40 cfs @ 12.19 hrs, Volume= 0.038 af, Depth> 1.10"
Routed to Link DP1-EX : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (sf)	CN	Description
17,870	74	>75% Grass cover, Good, HSG C
17,870	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0100	0.13		**Sheet Flow, Grass**
					Grass: Short n= 0.150 P2= 3.40"
0.4	43	0.0100	1.61		**Shallow Concentrated Flow, Lawns**
					Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Slope**
					Unpaved Kv= 16.1 fps
0.2	51	0.0580	3.88		**Shallow Concentrated Flow, Grass**
					Unpaved Kv= 16.1 fps
13.2	255	Total			

Summary for Subcatchment E1.010:

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af, Depth> 3.07"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment E1.030:

Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.031 af, Depth> 2.00"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment E1.040:

Runoff = 0.78 cfs @ 12.07 hrs, Volume= 0.057 af, Depth> 2.74"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment E1.050:

Runoff = 1.09 cfs @ 12.07 hrs, Volume= 0.077 af, Depth> 2.54"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment E1.055:

Runoff = 0.84 cfs @ 12.07 hrs, Volume= 0.061 af, Depth> 2.74"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	1,583	74	>75% Grass cover, Good, HSG C
	11,699	95	Weighted Average
	1,583	74	13.53% Pervious Area
	10,116	98	86.47% Impervious Area

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

Summary for Subcatchment E1.060:

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 2.95"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	159	74	>75% Grass cover, Good, HSG C
	4,558	97	Weighted Average
	159	74	3.49% Pervious Area
	4,399	98	96.51% Impervious Area

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

Summary for Subcatchment E1.070:

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.025 af, Depth> 3.07"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	4,281	98	Weighted Average
	4,281	98	100.00% Impervious Area

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

Summary for Subcatchment E1.080:

Runoff = 0.47 cfs @ 12.07 hrs, Volume= 0.034 af, Depth> 2.74"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	889	74	>75% Grass cover, Good, HSG C
	6,571	95	Weighted Average
	889	74	13.53% Pervious Area
	5,682	98	86.47% Impervious Area

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

Summary for Subcatchment E11.010:

Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Depth> 1.10"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
	2,679	74	>75% Grass cover, Good, HSG C
	2,679	74	100.00% Pervious Area

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

Summary for Subcatchment E11.020:

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.009 af, Depth> 1.10"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
	4,290	74	>75% Grass cover, Good, HSG C
	4,290	74	100.00% Pervious Area

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

Summary for Subcatchment E5.020:

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 0.023 af, Depth> 3.07"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
	3,956	98	Weighted Average
	3,956	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 3.06" for 2-YR event
Inflow = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af
Outflow = 0.14 cfs @ 12.08 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.6 min
Primary = 0.14 cfs @ 12.08 hrs, Volume= 0.011 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.32' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.08 hrs HW=44.32' TW=38.33' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 0.14 cfs @ 1.45 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 1.75" for 2-YR event
Inflow = 0.79 cfs @ 12.08 hrs, Volume= 0.057 af
Outflow = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.6 min
Primary = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.33' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.09 hrs HW=38.33' TW=34.62' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 0.79 cfs @ 2.29 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 2.13" for 2-YR event
Inflow = 1.56 cfs @ 12.08 hrs, Volume= 0.113 af
Outflow = 1.56 cfs @ 12.09 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.6 min
Primary = 1.56 cfs @ 12.09 hrs, Volume= 0.113 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.62' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.56 cfs @ 12.09 hrs HW=34.62' TW=30.45' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.56 cfs @ 2.79 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 2.28" for 2-YR event
Inflow = 2.63 cfs @ 12.08 hrs, Volume= 0.190 af
Outflow = 2.63 cfs @ 12.09 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.6 min
Primary = 2.63 cfs @ 12.09 hrs, Volume= 0.190 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.45' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.62 cfs @ 12.09 hrs HW=30.45' TW=29.38' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 2.62 cfs @ 2.95 fps)

Summary for Pond 1.055:

Inflow Area = 1.270 ac, 70.05% Impervious, Inflow Depth > 2.38" for 2-YR event
Inflow = 3.44 cfs @ 12.09 hrs, Volume= 0.252 af
Outflow = 3.44 cfs @ 12.10 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.6 min
Primary = 3.44 cfs @ 12.10 hrs, Volume= 0.252 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.38' @ 12.10 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.44 cfs @ 12.10 hrs HW=29.38' TW=28.39' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 3.44 cfs @ 3.19 fps)

Summary for Pond 1.060:

Inflow Area = 1.375 ac, 72.06% Impervious, Inflow Depth > 2.42" for 2-YR event
Inflow = 3.77 cfs @ 12.10 hrs, Volume= 0.277 af
Outflow = 3.77 cfs @ 12.11 hrs, Volume= 0.277 af, Atten= 0%, Lag= 0.6 min
Primary = 3.77 cfs @ 12.11 hrs, Volume= 0.277 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.39' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.76 cfs @ 12.11 hrs HW=28.39' TW=27.74' (Dynamic Tailwater)
1=18" ADS (Barrel Controls 3.76 cfs @ 4.40 fps)

Summary for Pond 1.070:

Inflow Area = 1.473 ac, 73.93% Impervious, Inflow Depth > 2.46" for 2-YR event
Inflow = 4.06 cfs @ 12.10 hrs, Volume= 0.303 af
Outflow = 4.06 cfs @ 12.11 hrs, Volume= 0.303 af, Atten= 0%, Lag= 0.6 min
Primary = 4.06 cfs @ 12.11 hrs, Volume= 0.303 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.74' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=4.06 cfs @ 12.11 hrs HW=27.74' TW=26.49' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 4.06 cfs @ 3.35 fps)

Summary for Pond 1.080:

Inflow Area = 1.624 ac, 75.09% Impervious, Inflow Depth > 2.49" for 2-YR event
Inflow = 4.48 cfs @ 12.11 hrs, Volume= 0.337 af
Outflow = 4.48 cfs @ 12.12 hrs, Volume= 0.337 af, Atten= 0%, Lag= 0.6 min
Primary = 4.48 cfs @ 12.12 hrs, Volume= 0.337 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.51' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.32 cfs @ 12.12 hrs HW=26.50' TW=26.09' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 4.32 cfs @ 3.54 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.52" for 2-YR event
Inflow = 4.75 cfs @ 12.12 hrs, Volume= 0.360 af
Outflow = 4.75 cfs @ 12.13 hrs, Volume= 0.360 af, Atten= 0%, Lag= 0.6 min
Primary = 4.75 cfs @ 12.13 hrs, Volume= 0.360 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.12' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.52 cfs @ 12.13 hrs HW=26.11' TW=25.94' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 4.52 cfs @ 2.64 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.52" for 2-YR event
Inflow = 4.75 cfs @ 12.13 hrs, Volume= 0.360 af
Outflow = 4.75 cfs @ 12.14 hrs, Volume= 0.360 af, Atten= 0%, Lag= 0.6 min
Primary = 2.98 cfs @ 12.13 hrs, Volume= 0.341 af
Routed to Pond SC1 : WQ UNIT
Secondary = 1.77 cfs @ 12.14 hrs, Volume= 0.019 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.95' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Secondary	25.40'	**24.0" Round 24" ADS** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.96 cfs @ 12.13 hrs HW=25.94' TW=25.33' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.96 cfs @ 3.77 fps)

Secondary OutFlow Max=1.77 cfs @ 12.14 hrs HW=25.95' TW=24.70' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 1.77 cfs @ 2.52 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.52" for 2-YR event
Inflow = 4.75 cfs @ 12.14 hrs, Volume= 0.360 af
Outflow = 4.75 cfs @ 12.15 hrs, Volume= 0.360 af, Atten= 0%, Lag= 0.6 min
Primary = 4.75 cfs @ 12.15 hrs, Volume= 0.360 af
Routed to Pond ESF : As Built Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.70' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.75 cfs @ 12.15 hrs HW=24.70' TW=20.54' (Dynamic Tailwater)
1=24" ADS (Barrel Controls 4.75 cfs @ 4.72 fps)

Summary for Pond 5.020:

Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth > 3.06" for 2-YR event
Inflow = 0.30 cfs @ 12.07 hrs, Volume= 0.023 af
Outflow = 0.30 cfs @ 12.08 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.6 min
Primary = 0.30 cfs @ 12.08 hrs, Volume= 0.023 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.27' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.30 cfs @ 12.08 hrs HW=29.27' TW=25.92' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.30 cfs @ 1.77 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-YR event
Inflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.6 min
Primary = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 40.45' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 12.09 hrs HW=40.45' TW=39.13' (Dynamic Tailwater)
1=8" ADS (Inlet Controls 0.08 cfs @ 1.32 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-YR event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.20 cfs @ 12.10 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.6 min
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.015 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.13' @ 12.10 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.20 cfs @ 12.10 hrs HW=39.13' TW=38.33' (Dynamic Tailwater)
└─**1=12" ADS** (Inlet Controls 0.20 cfs @ 1.60 fps)

Summary for Pond ESF: As Built Sand Filter

Inflow Area = 3.359 ac, 70.93% Impervious, Inflow Depth > 2.39" for 2-YR event
Inflow = 8.56 cfs @ 12.13 hrs, Volume= 0.669 af
Outflow = 0.84 cfs @ 13.04 hrs, Volume= 0.661 af, Atten= 90%, Lag= 54.3 min
Primary = 0.84 cfs @ 13.04 hrs, Volume= 0.661 af
Routed to Link DP1-EX : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.32' @ 13.04 hrs Surf.Area= 15,185 sf Storage= 13,032 cf
Flood Elev= 22.50' Surf.Area= 16,895 sf Storage= 23,637 cf

Plug-Flow detention time= 161.7 min calculated for 0.661 af (99% of inflow)
Center-of-Mass det. time= 154.2 min (950.0 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	7,587 cf	**Filter Media \ Stone \ Loam (Prismatic)** Listed below (Recalc) x 0.9 22,991 cf Overall x 33.0% Voids
#2	20.60'	16,050 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		23,637 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	7,860	0	0
20.60	7,860	25,545	25,545

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	7,860	0	0
22.50	10,912	17,833	17,833

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**4.0" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.60'	**90.0 deg x 15.0' long x 1.40' rise Overflow weir** Cv= 2.50 (C= 3.13)

Primary OutFlow Max=0.84 cfs @ 13.04 hrs HW=21.32' TW=0.00' (Dynamic Tailwater)
└─**1=4" PVC** (Barrel Controls 0.84 cfs @ 9.57 fps)
└─**2=Underdrain** (Passes 0.84 cfs of 1.64 cfs potential flow)
└─**3=Overflow weir** (Controls 0.00 cfs)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 2.39" for 2-YR event
Inflow = 2.98 cfs @ 12.13 hrs, Volume= 0.341 af
Outflow = 2.98 cfs @ 12.14 hrs, Volume= 0.341 af, Atten= 0%, Lag= 0.6 min
Primary = 2.98 cfs @ 12.14 hrs, Volume= 0.341 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 25.33' @ 12.14 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.98 cfs @ 12.14 hrs HW=25.33' TW=24.70' (Dynamic Tailwater)
↑**1=12" ADS** (Barrel Controls 2.98 cfs @ 3.89 fps)

Summary for Link DP1-EX: Valley Road

Inflow Area = 3.770 ac, 63.21% Impervious, Inflow Depth > 2.22" for 2-YR event
Inflow = 1.18 cfs @ 12.21 hrs, Volume= 0.699 af
Primary = 1.18 cfs @ 12.22 hrs, Volume= 0.699 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 101A: To ESF

Runoff = 6.71 cfs @ 12.10 hrs, Volume= 0.517 af, Depth> 3.78"
Routed to Pond ESF : As Built Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	24,900	98	Permitted Phase 2 Building
*	10,904	98	Permitted Phase 2 Pavement
	24,916	74	>75% Grass cover, Good, HSG C
*	10,912	98	Lined Sand Filter
	71,632	90	Weighted Average
	24,916	74	34.78% Pervious Area
	46,716	98	65.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	72	0.0280	0.19		**Sheet Flow, Maintained lawns**
					Grass: Short n= 0.150 P2= 3.40"
1.0					**Direct Entry, Phase II pavement and piping**
7.4	72	Total			

Summary for Subcatchment 101B: Uncaptured to DP

Runoff = 0.87 cfs @ 12.19 hrs, Volume= 0.078 af, Depth> 2.28"
Routed to Link DP1-EX : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

Area (sf)	CN	Description
17,870	74	>75% Grass cover, Good, HSG C
17,870	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0100	0.13		**Sheet Flow, Grass**
					Grass: Short n= 0.150 P2= 3.40"
0.4	43	0.0100	1.61		**Shallow Concentrated Flow, Lawns**
					Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Slope**
					Unpaved Kv= 16.1 fps
0.2	51	0.0580	3.88		**Shallow Concentrated Flow, Grass**
					Unpaved Kv= 16.1 fps
13.2	255	Total			

Summary for Subcatchment E1.010:

Runoff = 0.21 cfs @ 12.07 hrs, Volume= 0.016 af, Depth> 4.66"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment E1.030:

Runoff = 0.78 cfs @ 12.07 hrs, Volume= 0.054 af, Depth> 3.47"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment E1.040:

Runoff = 1.20 cfs @ 12.07 hrs, Volume= 0.089 af, Depth> 4.32"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment E1.050:

Runoff = 1.71 cfs @ 12.07 hrs, Volume= 0.124 af, Depth> 4.10"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment E1.055:

Runoff = 1.30 cfs @ 12.07 hrs, Volume= 0.097 af, Depth> 4.32"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	1,583	74	>75% Grass cover, Good, HSG C
	11,699	95	Weighted Average
	1,583	74	13.53% Pervious Area
	10,116	98	86.47% Impervious Area

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

Summary for Subcatchment E1.060:

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 0.040 af, Depth> 4.54"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	159	74	>75% Grass cover, Good, HSG C
	4,558	97	Weighted Average
	159	74	3.49% Pervious Area
	4,399	98	96.51% Impervious Area

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

Summary for Subcatchment E1.070:

Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.038 af, Depth> 4.66"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	4,281	98	Weighted Average
	4,281	98	100.00% Impervious Area

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

Summary for Subcatchment E1.080:

Runoff = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af, Depth> 4.32"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	889	74	>75% Grass cover, Good, HSG C
	6,571	95	Weighted Average
	889	74	13.53% Pervious Area
	5,682	98	86.47% Impervious Area

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

Summary for Subcatchment E11.010:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af, Depth> 2.28"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
	2,679	74	>75% Grass cover, Good, HSG C
	2,679	74	100.00% Pervious Area

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

Summary for Subcatchment E11.020:

Runoff = 0.27 cfs @ 12.08 hrs, Volume= 0.019 af, Depth> 2.28"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
	4,290	74	>75% Grass cover, Good, HSG C
	4,290	74	100.00% Pervious Area

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

Summary for Subcatchment E5.020:

Runoff = 0.45 cfs @ 12.07 hrs, Volume= 0.035 af, Depth> 4.66"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
	3,956	98	Weighted Average
	3,956	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 4.66" for 10-YR event
Inflow = 0.21 cfs @ 12.07 hrs, Volume= 0.016 af
Outflow = 0.21 cfs @ 12.08 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.6 min
Primary = 0.21 cfs @ 12.08 hrs, Volume= 0.016 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.36' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.21 cfs @ 12.08 hrs HW=44.36' TW=38.51' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.21 cfs @ 1.61 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 3.11" for 10-YR event
Inflow = 1.42 cfs @ 12.08 hrs, Volume= 0.101 af
Outflow = 1.42 cfs @ 12.09 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.6 min
Primary = 1.42 cfs @ 12.09 hrs, Volume= 0.101 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.51' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.42 cfs @ 12.09 hrs HW=38.51' TW=34.91' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.42 cfs @ 2.71 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 3.58" for 10-YR event
Inflow = 2.59 cfs @ 12.08 hrs, Volume= 0.190 af
Outflow = 2.59 cfs @ 12.09 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.6 min
Primary = 2.59 cfs @ 12.09 hrs, Volume= 0.190 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.91' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.59 cfs @ 12.09 hrs HW=34.91' TW=30.70' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.59 cfs @ 3.34 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 3.77" for 10-YR event
Inflow = 4.27 cfs @ 12.08 hrs, Volume= 0.314 af
Outflow = 4.27 cfs @ 12.09 hrs, Volume= 0.314 af, Atten= 0%, Lag= 0.6 min
Primary = 4.27 cfs @ 12.09 hrs, Volume= 0.314 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.70' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=4.26 cfs @ 12.09 hrs HW=30.70' TW=29.70' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 4.26 cfs @ 3.40 fps)

Summary for Pond 1.055:

Inflow Area = 1.270 ac, 70.05% Impervious, Inflow Depth > 3.88" for 10-YR event
Inflow = 5.52 cfs @ 12.09 hrs, Volume= 0.411 af
Outflow = 5.52 cfs @ 12.10 hrs, Volume= 0.411 af, Atten= 0%, Lag= 0.6 min
Primary = 5.52 cfs @ 12.10 hrs, Volume= 0.411 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.72' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.43 cfs @ 12.10 hrs HW=29.71' TW=28.75' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 5.43 cfs @ 4.86 fps)

Summary for Pond 1.060:

Inflow Area = 1.375 ac, 72.06% Impervious, Inflow Depth > 3.93" for 10-YR event
Inflow = 6.00 cfs @ 12.10 hrs, Volume= 0.451 af
Outflow = 6.00 cfs @ 12.11 hrs, Volume= 0.451 af, Atten= 0%, Lag= 0.6 min
Primary = 6.00 cfs @ 12.11 hrs, Volume= 0.451 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.77' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.90 cfs @ 12.11 hrs HW=28.76' TW=28.08' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 5.90 cfs @ 4.67 fps)

Summary for Pond 1.070:

Inflow Area = 1.473 ac, 73.93% Impervious, Inflow Depth > 3.98" for 10-YR event
Inflow = 6.45 cfs @ 12.10 hrs, Volume= 0.489 af
Outflow = 6.45 cfs @ 12.11 hrs, Volume= 0.489 af, Atten= 0%, Lag= 0.6 min
Primary = 6.45 cfs @ 12.11 hrs, Volume= 0.489 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.09' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.43 cfs @ 12.11 hrs HW=28.09' TW=26.89' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 6.43 cfs @ 3.91 fps)

Summary for Pond 1.080:

Inflow Area = 1.624 ac, 75.09% Impervious, Inflow Depth > 4.01" for 10-YR event
Inflow = 7.08 cfs @ 12.11 hrs, Volume= 0.543 af
Outflow = 7.08 cfs @ 12.12 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.6 min
Primary = 7.08 cfs @ 12.12 hrs, Volume= 0.543 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.94' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=6.71 cfs @ 12.12 hrs HW=26.91' TW=26.51' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 6.71 cfs @ 3.66 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 4.05" for 10-YR event
Inflow = 7.48 cfs @ 12.12 hrs, Volume= 0.578 af
Outflow = 7.48 cfs @ 12.13 hrs, Volume= 0.578 af, Atten= 0%, Lag= 0.6 min
Primary = 7.48 cfs @ 12.13 hrs, Volume= 0.578 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.55' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=7.17 cfs @ 12.13 hrs HW=26.53' TW=26.29' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 7.17 cfs @ 2.36 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 4.05" for 10-YR event
Inflow = 7.48 cfs @ 12.13 hrs, Volume= 0.578 af
Outflow = 7.48 cfs @ 12.14 hrs, Volume= 0.578 af, Atten= 0%, Lag= 0.6 min
Primary = 3.21 cfs @ 12.09 hrs, Volume= 0.510 af
Routed to Pond SC1 : WQ UNIT
Secondary = 4.43 cfs @ 12.14 hrs, Volume= 0.068 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.30' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Secondary	25.40'	**24.0" Round 24" ADS** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.07 cfs @ 12.09 hrs HW=26.15' TW=25.49' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.07 cfs @ 3.91 fps)

Secondary OutFlow Max=4.42 cfs @ 12.14 hrs HW=26.30' TW=25.01' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 4.42 cfs @ 3.23 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 4.04" for 10-YR event
Inflow = 7.53 cfs @ 12.14 hrs, Volume= 0.578 af
Outflow = 7.53 cfs @ 12.15 hrs, Volume= 0.578 af, Atten= 0%, Lag= 0.6 min
Primary = 7.53 cfs @ 12.15 hrs, Volume= 0.578 af
Routed to Pond ESF : As Built Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.01' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=7.52 cfs @ 12.15 hrs HW=25.01' TW=21.38' (Dynamic Tailwater)
↑—**1=24" ADS** (Barrel Controls 7.52 cfs @ 5.15 fps)

Summary for Pond 5.020:

Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth > 4.66" for 10-YR event
Inflow = 0.45 cfs @ 12.07 hrs, Volume= 0.035 af
Outflow = 0.45 cfs @ 12.08 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.6 min
Primary = 0.45 cfs @ 12.08 hrs, Volume= 0.035 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.33' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.45 cfs @ 12.08 hrs HW=29.33' TW=26.28' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 0.45 cfs @ 1.97 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 2.28" for 10-YR event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af
Outflow = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.6 min
Primary = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 40.53' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.17 cfs @ 12.09 hrs HW=40.53' TW=39.24' (Dynamic Tailwater)
↑—**1=8" ADS** (Inlet Controls 0.17 cfs @ 1.62 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 2.28" for 10-YR event
Inflow = 0.44 cfs @ 12.08 hrs, Volume= 0.030 af
Outflow = 0.44 cfs @ 12.09 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.6 min
Primary = 0.44 cfs @ 12.09 hrs, Volume= 0.030 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.24' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.44 cfs @ 12.09 hrs HW=39.24' TW=38.51' (Dynamic Tailwater)
└─**1=12" ADS** (Outlet Controls 0.44 cfs @ 2.86 fps)

Summary for Pond ESF: As Built Sand Filter

Inflow Area = 3.359 ac, 70.93% Impervious, Inflow Depth > 3.91" for 10-YR event
Inflow = 13.74 cfs @ 12.13 hrs, Volume= 1.095 af
Outflow = 6.17 cfs @ 12.33 hrs, Volume= 1.063 af, Atten= 55%, Lag= 12.2 min
Primary = 6.17 cfs @ 12.33 hrs, Volume= 1.063 af
Routed to Link DP1-EX : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.83' @ 12.33 hrs Surf.Area= 15,928 sf Storage= 17,395 cf
Flood Elev= 22.50' Surf.Area= 16,895 sf Storage= 23,637 cf

Plug-Flow detention time= 159.2 min calculated for 1.062 af (97% of inflow)
Center-of-Mass det. time= 141.4 min (925.3 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	7,587 cf	**Filter Media \ Stone \ Loam (Prismatic)** Listed below (Recalc) x 0.9 22,991 cf Overall x 33.0% Voids
#2	20.60'	16,050 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		23,637 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	7,860	0	0
20.60	7,860	25,545	25,545

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	7,860	0	0
22.50	10,912	17,833	17,833

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**4.0" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.60'	**90.0 deg x 15.0' long x 1.40' rise Overflow weir** Cv= 2.50 (C= 3.13)

Primary OutFlow Max=6.17 cfs @ 12.33 hrs HW=21.83' TW=0.00' (Dynamic Tailwater)
├─**1=4" PVC** (Barrel Controls 0.89 cfs @ 10.15 fps)
│ └─**2=Underdrain** (Passes 0.89 cfs of 1.75 cfs potential flow)
└─**3=Overflow weir** (Weir Controls 5.28 cfs @ 1.50 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 3.57" for 10-YR event
Inflow = 3.21 cfs @ 12.09 hrs, Volume= 0.510 af
Outflow = 3.21 cfs @ 12.10 hrs, Volume= 0.510 af, Atten= 0%, Lag= 0.6 min
Primary = 3.21 cfs @ 12.10 hrs, Volume= 0.510 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 25.66' @ 12.14 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.09 cfs @ 12.10 hrs HW=25.55' TW=24.88' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.09 cfs @ 3.94 fps)

Summary for Link DP1-EX: Valley Road

Inflow Area = 3.770 ac, 63.21% Impervious, Inflow Depth > 3.63" for 10-YR event
Inflow = 6.80 cfs @ 12.33 hrs, Volume= 1.140 af
Primary = 6.80 cfs @ 12.34 hrs, Volume= 1.140 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 101A: To ESF

Runoff = 8.65 cfs @ 12.10 hrs, Volume= 0.677 af, Depth> 4.94"
Routed to Pond ESF : As Built Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	24,900	98	Permitted Phase 2 Building
*	10,904	98	Permitted Phase 2 Pavement
	24,916	74	>75% Grass cover, Good, HSG C
*	10,912	98	Lined Sand Filter
	71,632	90	Weighted Average
	24,916	74	34.78% Pervious Area
	46,716	98	65.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	72	0.0280	0.19		**Sheet Flow, Maintained lawns**
					Grass: Short n= 0.150 P2= 3.40"
1.0					**Direct Entry, Phase II pavement and piping**
7.4	72	Total			

Summary for Subcatchment 101B: Uncaptured to DP

Runoff = 1.25 cfs @ 12.18 hrs, Volume= 0.111 af, Depth> 3.26"
Routed to Link DP1-EX : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

Area (sf)	CN	Description
17,870	74	>75% Grass cover, Good, HSG C
17,870	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0100	0.13		**Sheet Flow, Grass**
					Grass: Short n= 0.150 P2= 3.40"
0.4	43	0.0100	1.61		**Shallow Concentrated Flow, Lawns**
					Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Slope**
					Unpaved Kv= 16.1 fps
0.2	51	0.0580	3.88		**Shallow Concentrated Flow, Grass**
					Unpaved Kv= 16.1 fps
13.2	255	Total			

Summary for Subcatchment E1.010:

Runoff = 0.26 cfs @ 12.07 hrs, Volume= 0.021 af, Depth> 5.86"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment E1.030:

Runoff = 1.02 cfs @ 12.07 hrs, Volume= 0.072 af, Depth> 4.61"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment E1.040:

Runoff = 1.51 cfs @ 12.07 hrs, Volume= 0.114 af, Depth> 5.51"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment E1.050:

Runoff = 2.17 cfs @ 12.07 hrs, Volume= 0.160 af, Depth> 5.28"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment E1.055:

Runoff = 1.63 cfs @ 12.07 hrs, Volume= 0.123 af, Depth> 5.51"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	1,583	74	>75% Grass cover, Good, HSG C
	11,699	95	Weighted Average
	1,583	74	13.53% Pervious Area
	10,116	98	86.47% Impervious Area

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

Summary for Subcatchment E1.060:

Runoff = 0.64 cfs @ 12.07 hrs, Volume= 0.050 af, Depth> 5.74"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	159	74	>75% Grass cover, Good, HSG C
	4,558	97	Weighted Average
	159	74	3.49% Pervious Area
	4,399	98	96.51% Impervious Area

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

Summary for Subcatchment E1.070:

Runoff = 0.61 cfs @ 12.07 hrs, Volume= 0.048 af, Depth> 5.86"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	4,281	98	Weighted Average
	4,281	98	100.00% Impervious Area

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

Summary for Subcatchment E1.080:

Runoff = 0.92 cfs @ 12.07 hrs, Volume= 0.069 af, Depth> 5.51"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	889	74	>75% Grass cover, Good, HSG C
	6,571	95	Weighted Average
	889	74	13.53% Pervious Area
	5,682	98	86.47% Impervious Area

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

Summary for Subcatchment E11.010:

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.017 af, Depth> 3.27"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
	2,679	74	>75% Grass cover, Good, HSG C
	2,679	74	100.00% Pervious Area

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

Summary for Subcatchment E11.020:

Runoff = 0.39 cfs @ 12.08 hrs, Volume= 0.027 af, Depth> 3.27"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
	4,290	74	>75% Grass cover, Good, HSG C
	4,290	74	100.00% Pervious Area

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

Summary for Subcatchment E5.020:

Runoff = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af, Depth> 5.86"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
	3,956	98	Weighted Average
	3,956	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 5.86" for 25-YR event
Inflow = 0.26 cfs @ 12.07 hrs, Volume= 0.021 af
Outflow = 0.26 cfs @ 12.08 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.6 min
Primary = 0.26 cfs @ 12.08 hrs, Volume= 0.021 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.39' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.26 cfs @ 12.08 hrs HW=44.39' TW=38.64' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.26 cfs @ 1.70 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 4.19" for 25-YR event
Inflow = 1.90 cfs @ 12.08 hrs, Volume= 0.136 af
Outflow = 1.90 cfs @ 12.09 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.6 min
Primary = 1.90 cfs @ 12.09 hrs, Volume= 0.136 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.64' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.90 cfs @ 12.09 hrs HW=38.64' TW=35.25' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.90 cfs @ 2.97 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 4.70" for 25-YR event
Inflow = 3.38 cfs @ 12.08 hrs, Volume= 0.250 af
Outflow = 3.38 cfs @ 12.09 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.6 min
Primary = 3.38 cfs @ 12.09 hrs, Volume= 0.250 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 35.25' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.38 cfs @ 12.09 hrs HW=35.25' TW=30.88' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.38 cfs @ 4.31 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 4.91" for 25-YR event
Inflow = 5.50 cfs @ 12.08 hrs, Volume= 0.410 af
Outflow = 5.50 cfs @ 12.09 hrs, Volume= 0.410 af, Atten= 0%, Lag= 0.6 min
Primary = 5.50 cfs @ 12.09 hrs, Volume= 0.410 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.88' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.49 cfs @ 12.09 hrs HW=30.88' TW=29.98' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 5.49 cfs @ 3.69 fps)

Summary for Pond 1.055:

Inflow Area = 1.270 ac, 70.05% Impervious, Inflow Depth > 5.04" for 25-YR event
Inflow = 7.08 cfs @ 12.09 hrs, Volume= 0.533 af
Outflow = 7.08 cfs @ 12.10 hrs, Volume= 0.533 af, Atten= 0%, Lag= 0.6 min
Primary = 7.08 cfs @ 12.10 hrs, Volume= 0.533 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.07' @ 12.12 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.66 cfs @ 12.10 hrs HW=30.01' TW=29.17' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 6.66 cfs @ 4.65 fps)

Summary for Pond 1.060:

Inflow Area = 1.375 ac, 72.06% Impervious, Inflow Depth > 5.09" for 25-YR event
Inflow = 7.69 cfs @ 12.10 hrs, Volume= 0.583 af
Outflow = 7.69 cfs @ 12.11 hrs, Volume= 0.583 af, Atten= 0%, Lag= 0.6 min
Primary = 7.69 cfs @ 12.11 hrs, Volume= 0.583 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.25' @ 12.12 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=7.49 cfs @ 12.11 hrs HW=29.22' TW=28.44' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 7.49 cfs @ 4.24 fps)

Summary for Pond 1.070:

Inflow Area = 1.473 ac, 73.93% Impervious, Inflow Depth > 5.14" for 25-YR event
Inflow = 8.24 cfs @ 12.10 hrs, Volume= 0.631 af
Outflow = 8.24 cfs @ 12.11 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.6 min
Primary = 8.24 cfs @ 12.11 hrs, Volume= 0.631 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.46' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=8.22 cfs @ 12.11 hrs HW=28.45' TW=27.20' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 8.22 cfs @ 4.65 fps)

Summary for Pond 1.080:

Inflow Area = 1.624 ac, 75.09% Impervious, Inflow Depth > 5.17" for 25-YR event
Inflow = 9.04 cfs @ 12.11 hrs, Volume= 0.700 af
Outflow = 9.04 cfs @ 12.12 hrs, Volume= 0.700 af, Atten= 0%, Lag= 0.6 min
Primary = 9.04 cfs @ 12.12 hrs, Volume= 0.700 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.28' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=8.40 cfs @ 12.12 hrs HW=27.23' TW=26.84' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 8.40 cfs @ 3.65 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 5.21" for 25-YR event
Inflow = 9.54 cfs @ 12.12 hrs, Volume= 0.744 af
Outflow = 9.54 cfs @ 12.13 hrs, Volume= 0.744 af, Atten= 0%, Lag= 0.6 min
Primary = 9.54 cfs @ 12.13 hrs, Volume= 0.744 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.89' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=9.23 cfs @ 12.13 hrs HW=26.87' TW=26.50' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 9.23 cfs @ 2.94 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 5.21" for 25-YR event
Inflow = 9.54 cfs @ 12.13 hrs, Volume= 0.744 af
Outflow = 9.54 cfs @ 12.14 hrs, Volume= 0.744 af, Atten= 0%, Lag= 0.6 min
Primary = 3.23 cfs @ 12.07 hrs, Volume= 0.626 af
Routed to Pond SC1 : WQ UNIT
Secondary = 6.47 cfs @ 12.14 hrs, Volume= 0.118 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.51' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Secondary	25.40'	**24.0" Round 24" ADS** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.07 cfs @ 12.07 hrs HW=26.20' TW=25.54' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.07 cfs @ 3.91 fps)

Secondary OutFlow Max=6.46 cfs @ 12.14 hrs HW=26.51' TW=25.22' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 6.46 cfs @ 3.59 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 5.21" for 25-YR event
Inflow = 9.58 cfs @ 12.14 hrs, Volume= 0.744 af
Outflow = 9.58 cfs @ 12.15 hrs, Volume= 0.744 af, Atten= 0%, Lag= 0.6 min
Primary = 9.58 cfs @ 12.15 hrs, Volume= 0.744 af
Routed to Pond ESF : As Built Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.22' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=9.58 cfs @ 12.15 hrs HW=25.22' TW=21.90' (Dynamic Tailwater)
↑—**1=24" ADS** (Barrel Controls 9.58 cfs @ 5.39 fps)

Summary for Pond 5.020:

Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth > 5.86" for 25-YR event
Inflow = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af
Outflow = 0.56 cfs @ 12.08 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.6 min
Primary = 0.56 cfs @ 12.08 hrs, Volume= 0.044 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.38' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.56 cfs @ 12.08 hrs HW=29.38' TW=26.52' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 0.56 cfs @ 2.09 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 3.27" for 25-YR event
Inflow = 0.24 cfs @ 12.08 hrs, Volume= 0.017 af
Outflow = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.6 min
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 40.58' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.24 cfs @ 12.09 hrs HW=40.58' TW=39.32' (Dynamic Tailwater)
↑—**1=8" ADS** (Inlet Controls 0.24 cfs @ 1.79 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 3.27" for 25-YR event
Inflow = 0.63 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.63 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.6 min
Primary = 0.63 cfs @ 12.09 hrs, Volume= 0.044 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.33' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.63 cfs @ 12.09 hrs HW=39.33' TW=38.64' (Dynamic Tailwater)
└─**1=12" ADS** (Outlet Controls 0.63 cfs @ 3.03 fps)

Summary for Pond ESF: As Built Sand Filter

Inflow Area = 3.359 ac, 70.93% Impervious, Inflow Depth > 5.08" for 25-YR event
Inflow = 17.59 cfs @ 12.13 hrs, Volume= 1.421 af
Outflow = 13.20 cfs @ 12.21 hrs, Volume= 1.364 af, Atten= 25%, Lag= 5.0 min
Primary = 13.20 cfs @ 12.21 hrs, Volume= 1.364 af
Routed to Link DP1-EX : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.00' @ 12.21 hrs Surf.Area= 16,178 sf Storage= 18,944 cf
Flood Elev= 22.50' Surf.Area= 16,895 sf Storage= 23,637 cf

Plug-Flow detention time= 139.6 min calculated for 1.364 af (96% of inflow)
Center-of-Mass det. time= 116.6 min (894.3 - 777.7)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	7,587 cf	**Filter Media \ Stone \ Loam (Prismatic)** Listed below (Recalc) x 0.9 22,991 cf Overall x 33.0% Voids
#2	20.60'	16,050 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		23,637 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	7,860	0	0
20.60	7,860	25,545	25,545

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	7,860	0	0
22.50	10,912	17,833	17,833

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**4.0" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.60'	**90.0 deg x 15.0' long x 1.40' rise Overflow weir** Cv= 2.50 (C= 3.13)

Primary OutFlow Max=13.18 cfs @ 12.21 hrs HW=22.00' TW=0.00' (Dynamic Tailwater)
├─**1=4" PVC** (Barrel Controls 0.90 cfs @ 10.34 fps)
│ └─**2=Underdrain** (Passes 0.90 cfs of 1.78 cfs potential flow)
└─**3=Overflow weir** (Weir Controls 12.28 cfs @ 1.98 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 4.38" for 25-YR event
Inflow = 3.23 cfs @ 12.07 hrs, Volume= 0.626 af
Outflow = 3.23 cfs @ 12.08 hrs, Volume= 0.626 af, Atten= 0%, Lag= 0.6 min
Primary = 3.23 cfs @ 12.08 hrs, Volume= 0.626 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 25.88' @ 12.14 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.09 cfs @ 12.08 hrs HW=25.60' TW=24.93' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.09 cfs @ 3.94 fps)

Summary for Link DP1-EX: Valley Road

Inflow Area = 3.770 ac, 63.21% Impervious, Inflow Depth > 4.70" for 25-YR event
Inflow = 14.42 cfs @ 12.21 hrs, Volume= 1.475 af
Primary = 14.42 cfs @ 12.22 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 101A: To ESF

Runoff = 12.65 cfs @ 12.10 hrs, Volume= 1.013 af, Depth> 7.39"
Routed to Pond ESF : As Built Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	24,900	98	Permitted Phase 2 Building
*	10,904	98	Permitted Phase 2 Pavement
	24,916	74	>75% Grass cover, Good, HSG C
*	10,912	98	Lined Sand Filter
	71,632	90	Weighted Average
	24,916	74	34.78% Pervious Area
	46,716	98	65.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	72	0.0280	0.19		**Sheet Flow, Maintained lawns**
					Grass: Short n= 0.150 P2= 3.40"
1.0					**Direct Entry, Phase II pavement and piping**
7.4	72	Total			

Summary for Subcatchment 101B: Uncaptured to DP

Runoff = 2.08 cfs @ 12.18 hrs, Volume= 0.186 af, Depth> 5.45"
Routed to Link DP1-EX : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

Area (sf)	CN	Description
17,870	74	>75% Grass cover, Good, HSG C
17,870	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0100	0.13		**Sheet Flow, Grass**
					Grass: Short n= 0.150 P2= 3.40"
0.4	43	0.0100	1.61		**Shallow Concentrated Flow, Lawns**
					Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Slope**
					Unpaved Kv= 16.1 fps
0.2	51	0.0580	3.88		**Shallow Concentrated Flow, Grass**
					Unpaved Kv= 16.1 fps
13.2	255	Total			

Summary for Subcatchment E1.010:

Runoff = 0.37 cfs @ 12.07 hrs, Volume= 0.029 af, Depth> 8.35"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment E1.030:

Runoff = 1.52 cfs @ 12.07 hrs, Volume= 0.110 af, Depth> 7.03"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment E1.040:

Runoff = 2.15 cfs @ 12.07 hrs, Volume= 0.165 af, Depth> 7.99"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment E1.050:

Runoff = 3.12 cfs @ 12.07 hrs, Volume= 0.235 af, Depth> 7.75"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment E1.055:

Runoff = 2.33 cfs @ 12.07 hrs, Volume= 0.179 af, Depth> 7.99"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	1,583	74	>75% Grass cover, Good, HSG C
	11,699	95	Weighted Average
	1,583	74	13.53% Pervious Area
	10,116	98	86.47% Impervious Area

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

Summary for Subcatchment E1.060:

Runoff = 0.91 cfs @ 12.07 hrs, Volume= 0.072 af, Depth> 8.23"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	159	74	>75% Grass cover, Good, HSG C
	4,558	97	Weighted Average
	159	74	3.49% Pervious Area
	4,399	98	96.51% Impervious Area

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

Summary for Subcatchment E1.070:

Runoff = 0.86 cfs @ 12.07 hrs, Volume= 0.068 af, Depth> 8.35"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	4,281	98	Weighted Average
	4,281	98	100.00% Impervious Area

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

Summary for Subcatchment E1.080:

Runoff = 1.31 cfs @ 12.07 hrs, Volume= 0.100 af, Depth> 7.99"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	889	74	>75% Grass cover, Good, HSG C
	6,571	95	Weighted Average
	889	74	13.53% Pervious Area
	5,682	98	86.47% Impervious Area

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

Summary for Subcatchment E11.010:

Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.028 af, Depth> 5.46"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
	2,679	74	>75% Grass cover, Good, HSG C
	2,679	74	100.00% Pervious Area

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

Summary for Subcatchment E11.020:

Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.045 af, Depth> 5.46"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
	4,290	74	>75% Grass cover, Good, HSG C
	4,290	74	100.00% Pervious Area

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

Summary for Subcatchment E5.020:

Runoff = 0.79 cfs @ 12.07 hrs, Volume= 0.063 af, Depth> 8.35"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
	3,956	98	Weighted Average
	3,956	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 8.35" for 100-YR event
Inflow = 0.37 cfs @ 12.07 hrs, Volume= 0.029 af
Outflow = 0.37 cfs @ 12.08 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.6 min
Primary = 0.37 cfs @ 12.08 hrs, Volume= 0.029 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.44' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.37 cfs @ 12.08 hrs HW=44.44' TW=38.97' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.37 cfs @ 1.86 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 6.53" for 100-YR event
Inflow = 2.93 cfs @ 12.08 hrs, Volume= 0.212 af
Outflow = 2.93 cfs @ 12.09 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.6 min
Primary = 2.93 cfs @ 12.09 hrs, Volume= 0.212 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.98' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.92 cfs @ 12.09 hrs HW=38.98' TW=36.22' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.92 cfs @ 3.72 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 7.10" for 100-YR event
Inflow = 5.04 cfs @ 12.08 hrs, Volume= 0.377 af
Outflow = 5.04 cfs @ 12.09 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.6 min
Primary = 5.04 cfs @ 12.09 hrs, Volume= 0.377 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 36.23' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.04 cfs @ 12.09 hrs HW=36.22' TW=32.52' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 5.04 cfs @ 6.41 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 7.33" for 100-YR event
Inflow = 8.09 cfs @ 12.08 hrs, Volume= 0.612 af
Outflow = 8.09 cfs @ 12.09 hrs, Volume= 0.612 af, Atten= 0%, Lag= 0.6 min
Primary = 8.09 cfs @ 12.09 hrs, Volume= 0.612 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 33.64' @ 12.14 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.16 cfs @ 12.09 hrs HW=32.61' TW=32.09' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 6.16 cfs @ 3.48 fps)

Summary for Pond 1.055:

Inflow Area = 1.270 ac, 70.05% Impervious, Inflow Depth > 7.47" for 100-YR event
Inflow = 10.33 cfs @ 12.09 hrs, Volume= 0.791 af
Outflow = 10.33 cfs @ 12.10 hrs, Volume= 0.791 af, Atten= 0%, Lag= 0.6 min
Primary = 10.33 cfs @ 12.10 hrs, Volume= 0.791 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 32.98' @ 12.13 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=9.13 cfs @ 12.10 hrs HW=32.25' TW=31.09' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 9.13 cfs @ 5.17 fps)

Summary for Pond 1.060:

Inflow Area = 1.375 ac, 72.06% Impervious, Inflow Depth > 7.53" for 100-YR event
Inflow = 11.19 cfs @ 12.10 hrs, Volume= 0.863 af
Outflow = 11.19 cfs @ 12.11 hrs, Volume= 0.863 af, Atten= 0%, Lag= 0.6 min
Primary = 11.19 cfs @ 12.11 hrs, Volume= 0.863 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.78' @ 12.13 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=10.18 cfs @ 12.11 hrs HW=31.36' TW=29.92' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 10.18 cfs @ 5.76 fps)

Summary for Pond 1.070:

Inflow Area = 1.473 ac, 73.93% Impervious, Inflow Depth > 7.58" for 100-YR event
Inflow = 11.97 cfs @ 12.10 hrs, Volume= 0.931 af
Outflow = 11.97 cfs @ 12.11 hrs, Volume= 0.931 af, Atten= 0%, Lag= 0.6 min
Primary = 11.97 cfs @ 12.11 hrs, Volume= 0.931 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.27' @ 12.13 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=11.46 cfs @ 12.11 hrs HW=30.09' TW=28.23' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 11.46 cfs @ 6.48 fps)

Summary for Pond 1.080:

Inflow Area = 1.624 ac, 75.09% Impervious, Inflow Depth > 7.62" for 100-YR event
Inflow = 13.11 cfs @ 12.11 hrs, Volume= 1.032 af
Outflow = 13.11 cfs @ 12.12 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.6 min
Primary = 13.11 cfs @ 12.12 hrs, Volume= 1.032 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.42' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=12.28 cfs @ 12.12 hrs HW=28.31' TW=27.66' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 12.28 cfs @ 3.91 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 7.66" for 100-YR event
Inflow = 13.81 cfs @ 12.12 hrs, Volume= 1.095 af
Outflow = 13.81 cfs @ 12.13 hrs, Volume= 1.095 af, Atten= 0%, Lag= 0.6 min
Primary = 13.81 cfs @ 12.13 hrs, Volume= 1.095 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.72' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=13.51 cfs @ 12.13 hrs HW=27.70' TW=26.90' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 13.51 cfs @ 4.30 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 7.66" for 100-YR event
Inflow = 13.81 cfs @ 12.13 hrs, Volume= 1.095 af
Outflow = 13.81 cfs @ 12.14 hrs, Volume= 1.095 af, Atten= 0%, Lag= 0.6 min
Primary = 3.29 cfs @ 12.08 hrs, Volume= 0.854 af
Routed to Pond SC1 : WQ UNIT
Secondary = 10.75 cfs @ 12.14 hrs, Volume= 0.241 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.92' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Secondary	25.40'	**24.0" Round 24" ADS** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.11 cfs @ 12.08 hrs HW=26.60' TW=25.92' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.11 cfs @ 3.96 fps)

Secondary OutFlow Max=10.74 cfs @ 12.14 hrs HW=26.92' TW=25.64' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 10.74 cfs @ 4.20 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 7.66" for 100-YR event
Inflow = 13.87 cfs @ 12.14 hrs, Volume= 1.094 af
Outflow = 13.87 cfs @ 12.15 hrs, Volume= 1.094 af, Atten= 0%, Lag= 0.6 min
Primary = 13.87 cfs @ 12.15 hrs, Volume= 1.094 af
Routed to Pond ESF : As Built Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.65' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=13.86 cfs @ 12.15 hrs HW=25.65' TW=22.20' (Dynamic Tailwater)
↑—**1=24" ADS** (Barrel Controls 13.86 cfs @ 5.80 fps)

Summary for Pond 5.020:

Inflow Area = 0.091 ac,100.00% Impervious, Inflow Depth > 8.35" for 100-YR event
Inflow = 0.79 cfs @ 12.07 hrs, Volume= 0.063 af
Outflow = 0.79 cfs @ 12.08 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.6 min
Primary = 0.79 cfs @ 12.08 hrs, Volume= 0.063 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.45' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.08 hrs HW=29.45' TW=27.14' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 0.79 cfs @ 2.29 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 5.46" for 100-YR event
Inflow = 0.41 cfs @ 12.07 hrs, Volume= 0.028 af
Outflow = 0.41 cfs @ 12.08 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.6 min
Primary = 0.41 cfs @ 12.08 hrs, Volume= 0.028 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 40.67' @ 12.08 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.41 cfs @ 12.08 hrs HW=40.67' TW=39.51' (Dynamic Tailwater)
↑—**1=8" ADS** (Inlet Controls 0.41 cfs @ 2.06 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 5.46" for 100-YR event
Inflow = 1.06 cfs @ 12.08 hrs, Volume= 0.073 af
Outflow = 1.06 cfs @ 12.09 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.6 min
Primary = 1.06 cfs @ 12.09 hrs, Volume= 0.073 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.52' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.09 hrs HW=39.51' TW=38.98' (Dynamic Tailwater)
└─**1=12" ADS** (Outlet Controls 1.04 cfs @ 3.02 fps)

Summary for Pond ESF: As Built Sand Filter

Inflow Area = 3.359 ac, 70.93% Impervious, Inflow Depth > 7.53" for 100-YR event
Inflow = 25.55 cfs @ 12.13 hrs, Volume= 2.107 af
Outflow = 23.77 cfs @ 12.17 hrs, Volume= 1.998 af, Atten= 7%, Lag= 2.5 min
Primary = 23.77 cfs @ 12.17 hrs, Volume= 1.998 af
Routed to Link DP1-EX : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.21' @ 12.17 hrs Surf.Area= 16,470 sf Storage= 20,816 cf
Flood Elev= 22.50' Surf.Area= 16,895 sf Storage= 23,637 cf

Plug-Flow detention time= 112.4 min calculated for 1.997 af (95% of inflow)
Center-of-Mass det. time= 83.2 min (852.2 - 768.9)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	7,587 cf	**Filter Media \ Stone \ Loam (Prismatic)** Listed below (Recalc) x 0.9 22,991 cf Overall x 33.0% Voids
#2	20.60'	16,050 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		23,637 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	7,860	0	0
20.60	7,860	25,545	25,545

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	7,860	0	0
22.50	10,912	17,833	17,833

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**4.0" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.60'	**90.0 deg x 15.0' long x 1.40' rise Overflow weir** Cv= 2.50 (C= 3.13)

Primary OutFlow Max=23.76 cfs @ 12.17 hrs HW=22.21' TW=0.00' (Dynamic Tailwater)
├─**1=4" PVC** (Barrel Controls 0.92 cfs @ 10.55 fps)
│ └─**2=Underdrain** (Passes 0.92 cfs of 1.82 cfs potential flow)
└─**3=Overflow weir** (Weir Controls 22.84 cfs @ 2.41 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.715 ac, 76.41% Impervious, Inflow Depth > 5.97" for 100-YR event
Inflow = 3.29 cfs @ 12.08 hrs, Volume= 0.853 af
Outflow = 3.29 cfs @ 12.09 hrs, Volume= 0.853 af, Atten= 0%, Lag= 0.6 min
Primary = 3.29 cfs @ 12.09 hrs, Volume= 0.853 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 26.29' @ 12.15 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

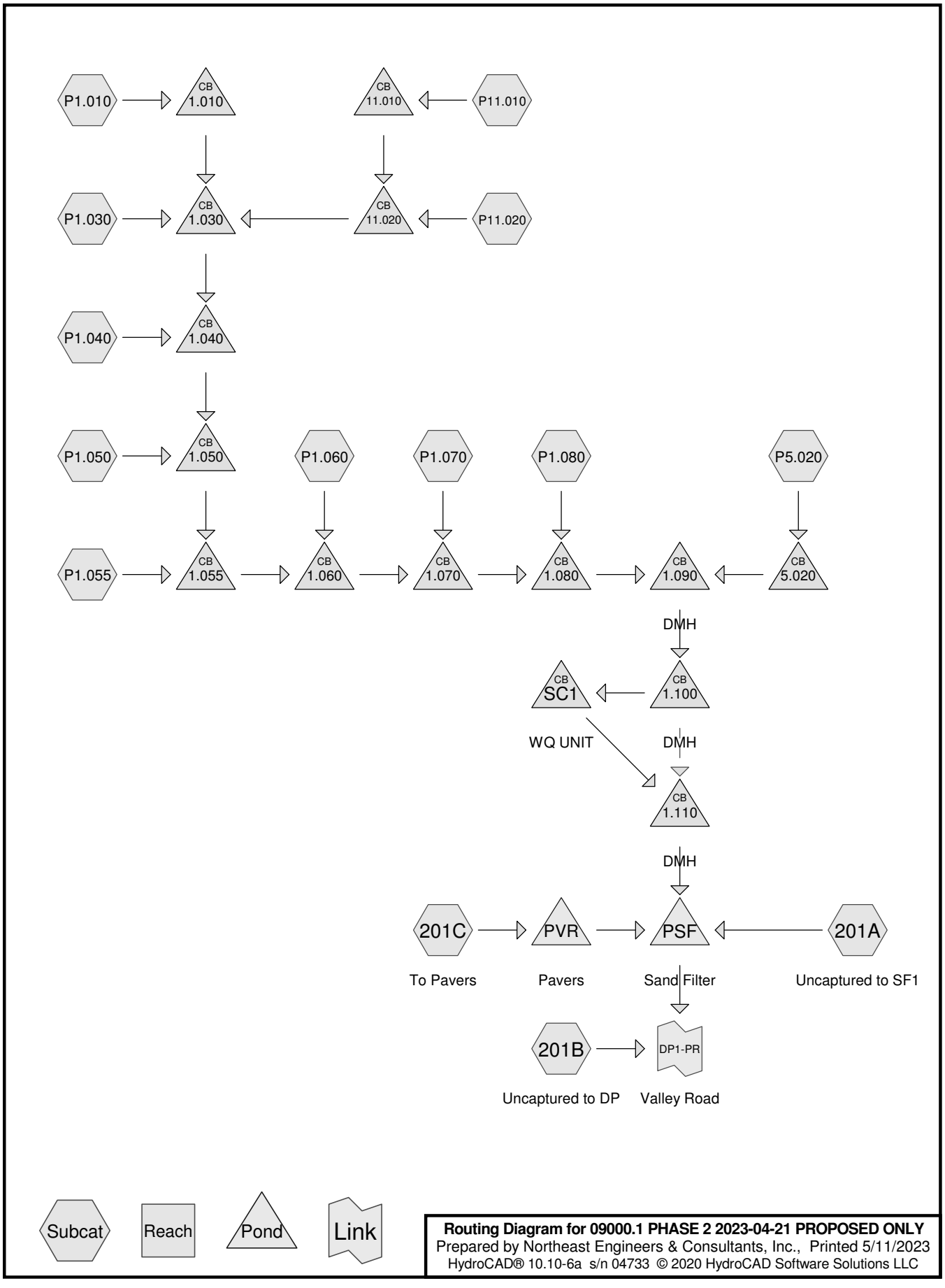
Primary OutFlow Max=3.11 cfs @ 12.09 hrs HW=26.00' TW=25.32' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.11 cfs @ 3.96 fps)

Summary for Link DP1-EX: Valley Road

Inflow Area = 3.770 ac, 63.21% Impervious, Inflow Depth > 6.95" for 100-YR event
Inflow = 25.85 cfs @ 12.17 hrs, Volume= 2.184 af
Primary = 25.85 cfs @ 12.18 hrs, Volume= 2.184 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

APPENDIX D PROPOSED CONDITIONS HYDROCAD



Routing Diagram for 09000.1 PHASE 2 2023-04-21 PROPOSED ONLY
Prepared by Northeast Engineers & Consultants, Inc., Printed 5/11/2023

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.320	74	>75% Grass cover, Good, HSG C (201A, 201B, 201C, P1.030, P1.040, P1.050, P1.055, P1.060, P1.070, P1.080, P11.010, P11.020)
0.234	98	Lined Sand Filter (201A)
0.040	98	New Parking Pavers (201C, P1.080)
0.067	98	New Pavement (201C, P1.080, P5.020)
0.084	98	New Sidewalk (201C, P1.055, P1.060, P1.070, P1.080)
0.013	98	New Walking Pavers (201A, P1.080)
1.219	98	Pavement (P1.010, P1.030, P1.040, P1.050, P1.055, P1.060, P1.070, P1.080, P5.020)
0.361	98	Pervious Pavers (201C)
0.275	98	Rooftop (201A)
0.092	98	Sidewalk (P1.050, P1.055, P1.060, P1.070, P1.080, P5.020)

Summary for Subcatchment 201A: Uncaptured to SF1

Runoff = 1.36 cfs @ 12.16 hrs, Volume= 0.116 af, Depth> 1.72"
Routed to Pond PSF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	12,000	98	Rooftop
	12,649	74	>75% Grass cover, Good, HSG C
*	10,200	98	Lined Sand Filter
*	347	98	New Walking Pavers
	35,196	89	Weighted Average
	12,649	74	35.94% Pervious Area
	22,547	98	64.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0150	0.16		**Sheet Flow, Maintained lawns** Grass: Short n= 0.150 P2= 3.40"
0.5	59	0.0160	2.04		**Shallow Concentrated Flow, Lawns** Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Grass Slope** Unpaved Kv= 16.1 fps
11.3	220	Total			

Summary for Subcatchment 201B: Uncaptured to DP

Runoff = 0.31 cfs @ 12.20 hrs, Volume= 0.030 af, Depth> 0.78"
Routed to Link DP1-PR : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
20,215	74	>75% Grass cover, Good, HSG C
20,215	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2					**Direct Entry, Same as Existing**

Summary for Subcatchment 201C: To Pavers

Runoff = 1.23 cfs @ 12.07 hrs, Volume= 0.088 af, Depth> 2.25"
Routed to Pond PVR : Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	1,254	98	New Sidewalk
*	256	98	New Parking Pavers
*	15,706	98	Pervious Pavers
	2,604	74	>75% Grass cover, Good, HSG C
*	604	98	New Pavement
	20,424	95	Weighted Average
	2,604	74	12.75% Pervious Area
	17,820	98	87.25% Impervious Area

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

Summary for Subcatchment P1.010:

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 2.57"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment P1.030:

Runoff = 0.36 cfs @ 12.07 hrs, Volume= 0.024 af, Depth> 1.56"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment P1.040:

Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.047 af, Depth> 2.25"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment P1.050:

Runoff = 0.89 cfs @ 12.07 hrs, Volume= 0.063 af, Depth> 2.06"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment P1.055:

Runoff = 0.75 cfs @ 12.07 hrs, Volume= 0.053 af, Depth> 2.16"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	2,100	74	>75% Grass cover, Good, HSG C
*	734	98	New Sidewalk
	12,950	94	Weighted Average
	2,100	74	16.22% Pervious Area
	10,850	98	83.78% Impervious Area

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

Summary for Subcatchment P1.060:

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.024 af, Depth> 2.35"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	489	74	>75% Grass cover, Good, HSG C
*	485	98	New Sidewalk
	5,373	96	Weighted Average
	489	74	9.10% Pervious Area
	4,884	98	90.90% Impervious Area

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

Summary for Subcatchment P1.070:

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.024 af, Depth> 2.46"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	287	74	>75% Grass cover, Good, HSG C
*	585	98	New Sidewalk
	5,153	97	Weighted Average
	287	74	5.57% Pervious Area
	4,866	98	94.43% Impervious Area

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

Summary for Subcatchment P1.080:

Runoff = 0.64 cfs @ 12.13 hrs, Volume= 0.051 af, Depth> 1.88"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	4,164	74	>75% Grass cover, Good, HSG C
*	1,946	98	New Pavement
*	610	98	New Sidewalk
*	205	98	New Walking Pavers
*	1,500	98	New Parking Pavers
	14,107	91	Weighted Average
	4,164	74	29.52% Pervious Area
	9,943	98	70.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	95	0.0250	0.19		**Sheet Flow, Maintained Lawns** Grass: Short n= 0.150 P2= 3.40"
0.7	105	0.0150	2.49		**Shallow Concentrated Flow, Pavers and pavement** Paved Kv= 20.3 fps
9.0	200	Total			

Summary for Subcatchment P11.010:

Runoff = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af, Depth> 0.78"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
2,679	74	>75% Grass cover, Good, HSG C
2,679	74	100.00% Pervious Area

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

Summary for Subcatchment P11.020:

Runoff = 0.09 cfs @ 12.08 hrs, Volume= 0.006 af, Depth> 0.78"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
4,290	74	>75% Grass cover, Good, HSG C
4,290	74	100.00% Pervious Area

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

Summary for Subcatchment P5.020:

Runoff = 0.28 cfs @ 12.07 hrs, Volume= 0.021 af, Depth> 2.57"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
*	382	98	New Pavement
	4,338	98	Weighted Average
	4,338	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 2.57" for 1-YR event
Inflow = 0.12 cfs @ 12.07 hrs, Volume= 0.009 af
Outflow = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.6 min
Primary = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.31' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.12 cfs @ 12.08 hrs HW=44.31' TW=38.27' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.12 cfs @ 1.39 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 1.35" for 1-YR event
Inflow = 0.61 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.6 min
Primary = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.27' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.09 hrs HW=38.27' TW=34.54' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.61 cfs @ 2.13 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 1.70" for 1-YR event
Inflow = 1.25 cfs @ 12.08 hrs, Volume= 0.090 af
Outflow = 1.25 cfs @ 12.09 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.6 min
Primary = 1.25 cfs @ 12.09 hrs, Volume= 0.090 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.54' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.25 cfs @ 12.09 hrs HW=34.54' TW=30.37' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.25 cfs @ 2.61 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 1.83" for 1-YR event
Inflow = 2.12 cfs @ 12.08 hrs, Volume= 0.153 af
Outflow = 2.12 cfs @ 12.09 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.6 min
Primary = 2.12 cfs @ 12.09 hrs, Volume= 0.153 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.37' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.12 cfs @ 12.09 hrs HW=30.37' TW=29.29' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 2.12 cfs @ 2.78 fps)

Summary for Pond 1.055:

Inflow Area = 1.299 ac, 69.80% Impervious, Inflow Depth > 1.91" for 1-YR event
Inflow = 2.85 cfs @ 12.09 hrs, Volume= 0.206 af
Outflow = 2.85 cfs @ 12.10 hrs, Volume= 0.206 af, Atten= 0%, Lag= 0.6 min
Primary = 2.85 cfs @ 12.10 hrs, Volume= 0.206 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.29' @ 12.10 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.85 cfs @ 12.10 hrs HW=29.29' TW=28.29' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 2.85 cfs @ 3.02 fps)

Summary for Pond 1.060:

Inflow Area = 1.422 ac, 71.63% Impervious, Inflow Depth > 1.94" for 1-YR event
Inflow = 3.16 cfs @ 12.10 hrs, Volume= 0.231 af
Outflow = 3.16 cfs @ 12.11 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.6 min
Primary = 3.16 cfs @ 12.11 hrs, Volume= 0.231 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.30' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.16 cfs @ 12.11 hrs HW=28.29' TW=27.65' (Dynamic Tailwater)
1=18" ADS (Barrel Controls 3.16 cfs @ 4.25 fps)

Summary for Pond 1.070:

Inflow Area = 1.541 ac, 73.38% Impervious, Inflow Depth > 1.98" for 1-YR event
Inflow = 3.46 cfs @ 12.10 hrs, Volume= 0.255 af
Outflow = 3.46 cfs @ 12.11 hrs, Volume= 0.255 af, Atten= 0%, Lag= 0.6 min
Primary = 3.46 cfs @ 12.11 hrs, Volume= 0.255 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.65' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.46 cfs @ 12.11 hrs HW=27.65' TW=26.41' (Dynamic Tailwater)
└**1=18" ADS** (Inlet Controls 3.46 cfs @ 3.20 fps)

Summary for Pond 1.080:

Inflow Area = 1.864 ac, 72.88% Impervious, Inflow Depth > 1.97" for 1-YR event
Inflow = 4.10 cfs @ 12.11 hrs, Volume= 0.305 af
Outflow = 4.10 cfs @ 12.12 hrs, Volume= 0.305 af, Atten= 0%, Lag= 0.6 min
Primary = 4.10 cfs @ 12.12 hrs, Volume= 0.305 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.45' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.95 cfs @ 12.12 hrs HW=26.43' TW=26.02' (Dynamic Tailwater)
└**1=24" ADS** (Outlet Controls 3.95 cfs @ 3.51 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.00" for 1-YR event
Inflow = 4.34 cfs @ 12.12 hrs, Volume= 0.327 af
Outflow = 4.34 cfs @ 12.13 hrs, Volume= 0.327 af, Atten= 0%, Lag= 0.6 min
Primary = 4.34 cfs @ 12.13 hrs, Volume= 0.327 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.05' @ 12.15 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.13 cfs @ 12.13 hrs HW=26.04' TW=25.88' (Dynamic Tailwater)
└**1=24" ADS** (Outlet Controls 4.13 cfs @ 2.56 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.00" for 1-YR event
Inflow = 4.34 cfs @ 12.13 hrs, Volume= 0.327 af
Outflow = 4.34 cfs @ 12.14 hrs, Volume= 0.327 af, Atten= 0%, Lag= 0.6 min
Primary = 2.91 cfs @ 12.13 hrs, Volume= 0.312 af
Routed to Pond SC1 : WQ UNIT
Secondary = 1.43 cfs @ 12.14 hrs, Volume= 0.015 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.89' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900

n= 0.012, Flow Area= 0.79 sf
#2 Secondary 25.40' **24.0" Round 24" ADS** L= 18.0' Ke= 0.500
Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900
n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.89 cfs @ 12.13 hrs HW=25.89' TW=25.30' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.89 cfs @ 3.68 fps)

Secondary OutFlow Max=1.43 cfs @ 12.14 hrs HW=25.89' TW=24.65' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 1.43 cfs @ 2.39 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.00" for 1-YR event
Inflow = 4.35 cfs @ 12.14 hrs, Volume= 0.327 af
Outflow = 4.35 cfs @ 12.15 hrs, Volume= 0.327 af, Atten= 0%, Lag= 0.6 min
Primary = 4.35 cfs @ 12.15 hrs, Volume= 0.327 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.65' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.34 cfs @ 12.15 hrs HW=24.65' TW=19.94' (Dynamic Tailwater)
1=24" ADS (Barrel Controls 4.34 cfs @ 4.64 fps)

Summary for Pond 5.020:

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 2.57" for 1-YR event
Inflow = 0.28 cfs @ 12.07 hrs, Volume= 0.021 af
Outflow = 0.28 cfs @ 12.08 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.6 min
Primary = 0.28 cfs @ 12.08 hrs, Volume= 0.021 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.26' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.28 cfs @ 12.08 hrs HW=29.26' TW=25.83' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.28 cfs @ 1.73 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 0.78" for 1-YR event
Inflow = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af
Outflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.6 min
Primary = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 40.42' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.05 cfs @ 12.09 hrs HW=40.42' TW=39.09' (Dynamic Tailwater)
1=8" ADS (Barrel Controls 0.05 cfs @ 1.81 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 0.78" for 1-YR event
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.14 cfs @ 12.10 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.6 min
Primary = 0.14 cfs @ 12.10 hrs, Volume= 0.010 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.09' @ 12.10 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.10 hrs HW=39.09' TW=38.27' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.14 cfs @ 1.45 fps)

Summary for Pond PSF: Sand Filter

Inflow Area = 3.241 ac, 73.59% Impervious, Inflow Depth > 1.92" for 1-YR event
Inflow = 5.87 cfs @ 12.15 hrs, Volume= 0.520 af
Outflow = 0.69 cfs @ 13.17 hrs, Volume= 0.514 af, Atten= 88%, Lag= 60.9 min
Primary = 0.69 cfs @ 13.17 hrs, Volume= 0.514 af
Routed to Link DP1-PR : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.20' @ 13.17 hrs Surf.Area= 11,047 sf Storage= 8,664 cf
Flood Elev= 23.00' Surf.Area= 14,184 sf Storage= 22,388 cf

Plug-Flow detention time= 132.7 min calculated for 0.514 af (99% of inflow)
Center-of-Mass det. time= 126.8 min (947.2 - 820.5)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	5,367 cf	**Filter Media** \ **Stone** \ **Loam (Prismatic)** Listed below (Recalc) x 0.9 16,263 cf Overall x 33.0% Voids
#2	20.60'	17,021 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		22,388 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	5,560	0	0
20.60	5,560	18,070	18,070

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	5,560	0	0
23.00	10,200	18,912	18,912

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**3.7" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.07 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.75'	**90.0 deg x 15.3' long x 1.25' rise Modified Overflow weir** Cv= 2.50 (C= 3.13)
#4	Primary	22.15'	**127.0 deg x 10.0' long x 0.85' rise New Stone Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.69 cfs @ 13.17 hrs HW=21.20' TW=0.00' (Dynamic Tailwater)
- **1=4" PVC** (Barrel Controls 0.69 cfs @ 9.22 fps)
  - **2=Underdrain** (Passes 0.69 cfs of 1.61 cfs potential flow)
- **3=Modified Overflow weir** (Controls 0.00 cfs)
- **4=New Stone Weir** (Controls 0.00 cfs)

Summary for Pond PVR: Pavers

Inflow Area = 0.469 ac, 87.25% Impervious, Inflow Depth > 2.25" for 1-YR event
Inflow = 1.23 cfs @ 12.07 hrs, Volume= 0.088 af
Outflow = 0.19 cfs @ 12.55 hrs, Volume= 0.077 af, Atten= 84%, Lag= 28.5 min
Primary = 0.19 cfs @ 12.55 hrs, Volume= 0.077 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.01' @ 12.55 hrs Surf.Area= 15,706 sf Storage= 1,928 cf
Flood Elev= 33.30' Surf.Area= 15,706 sf Storage= 13,787 cf

Plug-Flow detention time= 192.2 min calculated for 0.077 af (88% of inflow)
Center-of-Mass det. time= 137.3 min (921.0 - 783.7)

Volume	Invert	Avail.Storage	Storage Description
#1	30.64'	13,942 cf	**Media storage (Prismatic)** Listed below (Recalc) 42,249 cf Overall x 33.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.64	15,706	0	0
33.33	15,706	42,249	42,249

Device	Routing	Invert	Outlet Devices
#1	Primary	23.60'	**4.0" Round 4" PVC** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 23.60' / 23.50' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	30.64'	**4.0" Vert. 4" UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 12.55 hrs HW=31.01' TW=21.09' (Dynamic Tailwater)
- **1=4" PVC** (Passes 0.19 cfs of 1.13 cfs potential flow)
  - **2=4" UNDERDRAIN** (Orifice Controls 0.19 cfs @ 2.18 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 1.91" for 1-YR event
Inflow = 2.91 cfs @ 12.13 hrs, Volume= 0.312 af
Outflow = 2.91 cfs @ 12.14 hrs, Volume= 0.312 af, Atten= 0%, Lag= 0.6 min
Primary = 2.91 cfs @ 12.14 hrs, Volume= 0.312 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.31' @ 12.14 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.91 cfs @ 12.14 hrs HW=25.30' TW=24.65' (Dynamic Tailwater)
↑—**1=12" ADS** (Barrel Controls 2.91 cfs @ 3.86 fps)

Summary for Link DP1-PR: Valley Road

Inflow Area = 3.705 ac, 64.37% Impervious, Inflow Depth > 1.76" for 1-YR event
Inflow = 0.94 cfs @ 12.22 hrs, Volume= 0.545 af
Primary = 0.94 cfs @ 12.23 hrs, Volume= 0.545 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 201A: Uncaptured to SF1

Runoff = 1.72 cfs @ 12.15 hrs, Volume= 0.146 af, Depth> 2.17"
Routed to Pond PSF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	12,000	98	Rooftop
	12,649	74	>75% Grass cover, Good, HSG C
*	10,200	98	Lined Sand Filter
*	347	98	New Walking Pavers
	35,196	89	Weighted Average
	12,649	74	35.94% Pervious Area
	22,547	98	64.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0150	0.16		**Sheet Flow, Maintained lawns** Grass: Short n= 0.150 P2= 3.40"
0.5	59	0.0160	2.04		**Shallow Concentrated Flow, Lawns** Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Grass Slope** Unpaved Kv= 16.1 fps
11.3	220	Total			

Summary for Subcatchment 201B: Uncaptured to DP

Runoff = 0.45 cfs @ 12.19 hrs, Volume= 0.043 af, Depth> 1.10"
Routed to Link DP1-PR : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (sf)	CN	Description
20,215	74	>75% Grass cover, Good, HSG C
20,215	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2					**Direct Entry, Same as Existing**

Summary for Subcatchment 201C: To Pavers

Runoff = 1.47 cfs @ 12.07 hrs, Volume= 0.107 af, Depth> 2.74"
Routed to Pond PVR : Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	1,254	98	New Sidewalk
*	256	98	New Parking Pavers
*	15,706	98	Pervious Pavers
	2,604	74	>75% Grass cover, Good, HSG C
*	604	98	New Pavement
	20,424	95	Weighted Average
	2,604	74	12.75% Pervious Area
	17,820	98	87.25% Impervious Area

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

Summary for Subcatchment P1.010:

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af, Depth> 3.07"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment P1.030:

Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.031 af, Depth> 2.00"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment P1.040:

Runoff = 0.78 cfs @ 12.07 hrs, Volume= 0.057 af, Depth> 2.74"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment P1.050:

Runoff = 1.09 cfs @ 12.07 hrs, Volume= 0.077 af, Depth> 2.54"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment P1.055:

Runoff = 0.91 cfs @ 12.07 hrs, Volume= 0.065 af, Depth> 2.64"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	2,100	74	>75% Grass cover, Good, HSG C
*	734	98	New Sidewalk
	12,950	94	Weighted Average
	2,100	74	16.22% Pervious Area
	10,850	98	83.78% Impervious Area

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

Summary for Subcatchment P1.060:

Runoff = 0.40 cfs @ 12.07 hrs, Volume= 0.029 af, Depth> 2.85"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	489	74	>75% Grass cover, Good, HSG C
*	485	98	New Sidewalk
	5,373	96	Weighted Average
	489	74	9.10% Pervious Area
	4,884	98	90.90% Impervious Area

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

Summary for Subcatchment P1.070:

Runoff = 0.39 cfs @ 12.07 hrs, Volume= 0.029 af, Depth> 2.95"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	287	74	>75% Grass cover, Good, HSG C
*	585	98	New Sidewalk
	5,153	97	Weighted Average
	287	74	5.57% Pervious Area
	4,866	98	94.43% Impervious Area

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

Summary for Subcatchment P1.080:

Runoff = 0.79 cfs @ 12.13 hrs, Volume= 0.063 af, Depth> 2.35"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	4,164	74	>75% Grass cover, Good, HSG C
*	1,946	98	New Pavement
*	610	98	New Sidewalk
*	205	98	New Walking Pavers
*	1,500	98	New Parking Pavers
	14,107	91	Weighted Average
	4,164	74	29.52% Pervious Area
	9,943	98	70.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	95	0.0250	0.19		**Sheet Flow, Maintained Lawns** Grass: Short n= 0.150 P2= 3.40"
0.7	105	0.0150	2.49		**Shallow Concentrated Flow, Pavers and pavement** Paved Kv= 20.3 fps
9.0	200	Total			

Summary for Subcatchment P11.010:

Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Depth> 1.10"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (sf)	CN	Description
2,679	74	>75% Grass cover, Good, HSG C
2,679	74	100.00% Pervious Area

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

Summary for Subcatchment P11.020:

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.009 af, Depth> 1.10"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (sf)	CN	Description
4,290	74	>75% Grass cover, Good, HSG C
4,290	74	100.00% Pervious Area

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

Summary for Subcatchment P5.020:

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.025 af, Depth> 3.07"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
*	382	98	New Pavement
	4,338	98	Weighted Average
	4,338	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 3.06" for 2-YR event
Inflow = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af
Outflow = 0.14 cfs @ 12.08 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.6 min
Primary = 0.14 cfs @ 12.08 hrs, Volume= 0.011 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.32' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.08 hrs HW=44.32' TW=38.33' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.14 cfs @ 1.45 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 1.75" for 2-YR event
Inflow = 0.79 cfs @ 12.08 hrs, Volume= 0.057 af
Outflow = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.6 min
Primary = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.33' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.09 hrs HW=38.33' TW=34.62' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.79 cfs @ 2.29 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 2.13" for 2-YR event
Inflow = 1.56 cfs @ 12.08 hrs, Volume= 0.113 af
Outflow = 1.56 cfs @ 12.09 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.6 min
Primary = 1.56 cfs @ 12.09 hrs, Volume= 0.113 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.62' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.56 cfs @ 12.09 hrs HW=34.62' TW=30.45' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.56 cfs @ 2.79 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 2.28" for 2-YR event
Inflow = 2.63 cfs @ 12.08 hrs, Volume= 0.190 af
Outflow = 2.63 cfs @ 12.09 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.6 min
Primary = 2.63 cfs @ 12.09 hrs, Volume= 0.190 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.45' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.62 cfs @ 12.09 hrs HW=30.45' TW=29.39' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 2.62 cfs @ 2.95 fps)

Summary for Pond 1.055:

Inflow Area = 1.299 ac, 69.80% Impervious, Inflow Depth > 2.36" for 2-YR event
Inflow = 3.51 cfs @ 12.09 hrs, Volume= 0.256 af
Outflow = 3.51 cfs @ 12.10 hrs, Volume= 0.256 af, Atten= 0%, Lag= 0.6 min
Primary = 3.51 cfs @ 12.10 hrs, Volume= 0.256 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.39' @ 12.10 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.50 cfs @ 12.10 hrs HW=29.39' TW=28.41' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 3.50 cfs @ 3.21 fps)

Summary for Pond 1.060:

Inflow Area = 1.422 ac, 71.63% Impervious, Inflow Depth > 2.40" for 2-YR event
Inflow = 3.88 cfs @ 12.10 hrs, Volume= 0.285 af
Outflow = 3.88 cfs @ 12.11 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.6 min
Primary = 3.88 cfs @ 12.11 hrs, Volume= 0.285 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.41' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.88 cfs @ 12.11 hrs HW=28.41' TW=27.76' (Dynamic Tailwater)
1=18" ADS (Barrel Controls 3.88 cfs @ 4.43 fps)

Summary for Pond 1.070:

Inflow Area = 1.541 ac, 73.38% Impervious, Inflow Depth > 2.45" for 2-YR event
Inflow = 4.24 cfs @ 12.10 hrs, Volume= 0.314 af
Outflow = 4.24 cfs @ 12.11 hrs, Volume= 0.314 af, Atten= 0%, Lag= 0.6 min
Primary = 4.24 cfs @ 12.11 hrs, Volume= 0.314 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.77' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=4.23 cfs @ 12.11 hrs HW=27.77' TW=26.56' (Dynamic Tailwater)
└**1=18" ADS** (Inlet Controls 4.23 cfs @ 3.40 fps)

Summary for Pond 1.080:

Inflow Area = 1.864 ac, 72.88% Impervious, Inflow Depth > 2.43" for 2-YR event
Inflow = 5.03 cfs @ 12.11 hrs, Volume= 0.377 af
Outflow = 5.03 cfs @ 12.12 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.6 min
Primary = 5.03 cfs @ 12.12 hrs, Volume= 0.377 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.60' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.84 cfs @ 12.12 hrs HW=26.59' TW=26.18' (Dynamic Tailwater)
└**1=24" ADS** (Outlet Controls 4.84 cfs @ 3.58 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.46" for 2-YR event
Inflow = 5.31 cfs @ 12.12 hrs, Volume= 0.403 af
Outflow = 5.31 cfs @ 12.13 hrs, Volume= 0.403 af, Atten= 0%, Lag= 0.6 min
Primary = 5.31 cfs @ 12.13 hrs, Volume= 0.403 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.21' @ 12.15 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.07 cfs @ 12.13 hrs HW=26.20' TW=26.02' (Dynamic Tailwater)
└**1=24" ADS** (Outlet Controls 5.07 cfs @ 2.75 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.46" for 2-YR event
Inflow = 5.31 cfs @ 12.13 hrs, Volume= 0.403 af
Outflow = 5.31 cfs @ 12.14 hrs, Volume= 0.403 af, Atten= 0%, Lag= 0.6 min
Primary = 3.06 cfs @ 12.13 hrs, Volume= 0.375 af
Routed to Pond SC1 : WQ UNIT
Secondary = 2.28 cfs @ 12.15 hrs, Volume= 0.027 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.03' @ 12.15 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900

n= 0.012, Flow Area= 0.79 sf
#2 Secondary 25.40' **24.0" Round 24" ADS** L= 18.0' Ke= 0.500
Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900
n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.03 cfs @ 12.13 hrs HW=26.02' TW=25.37' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.03 cfs @ 3.86 fps)

Secondary OutFlow Max=2.28 cfs @ 12.15 hrs HW=26.03' TW=24.77' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 2.28 cfs @ 2.70 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.46" for 2-YR event
Inflow = 5.35 cfs @ 12.15 hrs, Volume= 0.403 af
Outflow = 5.35 cfs @ 12.16 hrs, Volume= 0.403 af, Atten= 0%, Lag= 0.6 min
Primary = 5.35 cfs @ 12.16 hrs, Volume= 0.403 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.77' @ 12.16 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.33 cfs @ 12.16 hrs HW=24.77' TW=20.67' (Dynamic Tailwater)
1=24" ADS (Barrel Controls 5.33 cfs @ 4.83 fps)

Summary for Pond 5.020:

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 3.06" for 2-YR event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 0.025 af
Outflow = 0.33 cfs @ 12.08 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.6 min
Primary = 0.33 cfs @ 12.08 hrs, Volume= 0.025 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.28' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.08 hrs HW=29.28' TW=25.98' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.33 cfs @ 1.81 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-YR event
Inflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.6 min
Primary = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 40.45' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 12.09 hrs HW=40.45' TW=39.13' (Dynamic Tailwater)
1=8" ADS (Inlet Controls 0.08 cfs @ 1.32 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-YR event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.20 cfs @ 12.10 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.6 min
Primary = 0.20 cfs @ 12.10 hrs, Volume= 0.015 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.13' @ 12.10 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.20 cfs @ 12.10 hrs HW=39.13' TW=38.33' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.20 cfs @ 1.60 fps)

Summary for Pond PSF: Sand Filter

Inflow Area = 3.241 ac, 73.59% Impervious, Inflow Depth > 2.39" for 2-YR event
Inflow = 7.25 cfs @ 12.16 hrs, Volume= 0.644 af
Outflow = 0.72 cfs @ 13.58 hrs, Volume= 0.637 af, Atten= 90%, Lag= 85.4 min
Primary = 0.72 cfs @ 13.58 hrs, Volume= 0.637 af
Routed to Link DP1-PR : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.63' @ 13.58 hrs Surf.Area= 11,802 sf Storage= 11,449 cf
Flood Elev= 23.00' Surf.Area= 14,184 sf Storage= 22,388 cf

Plug-Flow detention time= 167.5 min calculated for 0.637 af (99% of inflow)
Center-of-Mass det. time= 160.9 min (976.1 - 815.1)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	5,367 cf	**Filter Media** \ **Stone** \ **Loam (Prismatic)** Listed below (Recalc) x 0.9 16,263 cf Overall x 33.0% Voids
#2	20.60'	17,021 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		22,388 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	5,560	0	0
20.60	5,560	18,070	18,070

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	5,560	0	0
23.00	10,200	18,912	18,912

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**3.7" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.07 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.75'	**90.0 deg x 15.3' long x 1.25' rise Modified Overflow weir** Cv= 2.50 (C= 3.13)
#4	Primary	22.15'	**127.0 deg x 10.0' long x 0.85' rise New Stone Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.72 cfs @ 13.58 hrs HW=21.63' TW=0.00' (Dynamic Tailwater)
- **1=4" PVC** (Barrel Controls 0.72 cfs @ 9.70 fps)
  - **2=Underdrain** (Passes 0.72 cfs of 1.70 cfs potential flow)
- **3=Modified Overflow weir** (Controls 0.00 cfs)
- **4=New Stone Weir** (Controls 0.00 cfs)

Summary for Pond PVR: Pavers

Inflow Area = 0.469 ac, 87.25% Impervious, Inflow Depth > 2.74" for 2-YR event
Inflow = 1.47 cfs @ 12.07 hrs, Volume= 0.107 af
Outflow = 0.22 cfs @ 12.55 hrs, Volume= 0.096 af, Atten= 85%, Lag= 28.8 min
Primary = 0.22 cfs @ 12.55 hrs, Volume= 0.096 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.09' @ 12.55 hrs Surf.Area= 15,706 sf Storage= 2,325 cf
Flood Elev= 33.30' Surf.Area= 15,706 sf Storage= 13,787 cf

Plug-Flow detention time= 187.5 min calculated for 0.096 af (89% of inflow)
Center-of-Mass det. time= 136.9 min (915.5 - 778.6)

Volume	Invert	Avail.Storage	Storage Description
#1	30.64'	13,942 cf	**Media storage (Prismatic)** Listed below (Recalc) 42,249 cf Overall x 33.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.64	15,706	0	0
33.33	15,706	42,249	42,249

Device	Routing	Invert	Outlet Devices
#1	Primary	23.60'	**4.0" Round 4" PVC** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 23.60' / 23.50' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	30.64'	**4.0" Vert. 4" UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 12.55 hrs HW=31.09' TW=21.47' (Dynamic Tailwater)
- **1=4" PVC** (Passes 0.22 cfs of 1.14 cfs potential flow)
  - **2=4" UNDERDRAIN** (Orifice Controls 0.22 cfs @ 2.56 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 2.29" for 2-YR event
Inflow = 3.06 cfs @ 12.13 hrs, Volume= 0.375 af
Outflow = 3.06 cfs @ 12.14 hrs, Volume= 0.375 af, Atten= 0%, Lag= 0.6 min
Primary = 3.06 cfs @ 12.14 hrs, Volume= 0.375 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.41' @ 12.15 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.02 cfs @ 12.14 hrs HW=25.40' TW=24.76' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.02 cfs @ 3.85 fps)

Summary for Link DP1-PR: Valley Road

Inflow Area = 3.705 ac, 64.37% Impervious, Inflow Depth > 2.20" for 2-YR event
Inflow = 1.11 cfs @ 12.21 hrs, Volume= 0.680 af
Primary = 1.11 cfs @ 12.22 hrs, Volume= 0.680 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 201A: Uncaptured to SF1

Runoff = 2.85 cfs @ 12.15 hrs, Volume= 0.247 af, Depth> 3.67"
Routed to Pond PSF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	12,000	98	Rooftop
	12,649	74	>75% Grass cover, Good, HSG C
*	10,200	98	Lined Sand Filter
*	347	98	New Walking Pavers
	35,196	89	Weighted Average
	12,649	74	35.94% Pervious Area
	22,547	98	64.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0150	0.16		**Sheet Flow, Maintained lawns** Grass: Short n= 0.150 P2= 3.40"
0.5	59	0.0160	2.04		**Shallow Concentrated Flow, Lawns** Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Grass Slope** Unpaved Kv= 16.1 fps
11.3	220	Total			

Summary for Subcatchment 201B: Uncaptured to DP

Runoff = 0.98 cfs @ 12.19 hrs, Volume= 0.088 af, Depth> 2.28"
Routed to Link DP1-PR : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

Area (sf)	CN	Description
20,215	74	>75% Grass cover, Good, HSG C
20,215	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2					**Direct Entry, Same as Existing**

Summary for Subcatchment 201C: To Pavers

Runoff = 2.26 cfs @ 12.07 hrs, Volume= 0.169 af, Depth> 4.32"
Routed to Pond PVR : Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	1,254	98	New Sidewalk
*	256	98	New Parking Pavers
*	15,706	98	Pervious Pavers
	2,604	74	>75% Grass cover, Good, HSG C
*	604	98	New Pavement
	20,424	95	Weighted Average
	2,604	74	12.75% Pervious Area
	17,820	98	87.25% Impervious Area

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

Summary for Subcatchment P1.010:

Runoff = 0.21 cfs @ 12.07 hrs, Volume= 0.016 af, Depth> 4.66"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment P1.030:

Runoff = 0.78 cfs @ 12.07 hrs, Volume= 0.054 af, Depth> 3.47"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment P1.040:

Runoff = 1.20 cfs @ 12.07 hrs, Volume= 0.089 af, Depth> 4.32"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment P1.050:

Runoff = 1.71 cfs @ 12.07 hrs, Volume= 0.124 af, Depth> 4.10"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment P1.055:

Runoff = 1.42 cfs @ 12.07 hrs, Volume= 0.104 af, Depth> 4.21"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	2,100	74	>75% Grass cover, Good, HSG C
*	734	98	New Sidewalk
	12,950	94	Weighted Average
	2,100	74	16.22% Pervious Area
	10,850	98	83.78% Impervious Area

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

Summary for Subcatchment P1.060:

Runoff = 0.60 cfs @ 12.07 hrs, Volume= 0.046 af, Depth> 4.43"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	489	74	>75% Grass cover, Good, HSG C
*	485	98	New Sidewalk
	5,373	96	Weighted Average
	489	74	9.10% Pervious Area
	4,884	98	90.90% Impervious Area

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

Summary for Subcatchment P1.070:

Runoff = 0.58 cfs @ 12.07 hrs, Volume= 0.045 af, Depth> 4.54"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	287	74	>75% Grass cover, Good, HSG C
*	585	98	New Sidewalk
	5,153	97	Weighted Average
	287	74	5.57% Pervious Area
	4,866	98	94.43% Impervious Area

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

Summary for Subcatchment P1.080:

Runoff = 1.28 cfs @ 12.12 hrs, Volume= 0.105 af, Depth> 3.88"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	4,164	74	>75% Grass cover, Good, HSG C
*	1,946	98	New Pavement
*	610	98	New Sidewalk
*	205	98	New Walking Pavers
*	1,500	98	New Parking Pavers
	14,107	91	Weighted Average
	4,164	74	29.52% Pervious Area
	9,943	98	70.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	95	0.0250	0.19		**Sheet Flow, Maintained Lawns** Grass: Short n= 0.150 P2= 3.40"
0.7	105	0.0150	2.49		**Shallow Concentrated Flow, Pavers and pavement** Paved Kv= 20.3 fps
9.0	200	Total			

Summary for Subcatchment P11.010:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af, Depth> 2.28"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

Area (sf)	CN	Description
2,679	74	>75% Grass cover, Good, HSG C
2,679	74	100.00% Pervious Area

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

Summary for Subcatchment P11.020:

Runoff = 0.27 cfs @ 12.08 hrs, Volume= 0.019 af, Depth> 2.28"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

Area (sf)	CN	Description
4,290	74	>75% Grass cover, Good, HSG C
4,290	74	100.00% Pervious Area

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

Summary for Subcatchment P5.020:

Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.039 af, Depth> 4.66"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.90"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
*	382	98	New Pavement
	4,338	98	Weighted Average
	4,338	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 4.66" for 10-YR event
Inflow = 0.21 cfs @ 12.07 hrs, Volume= 0.016 af
Outflow = 0.21 cfs @ 12.08 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.6 min
Primary = 0.21 cfs @ 12.08 hrs, Volume= 0.016 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.36' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.21 cfs @ 12.08 hrs HW=44.36' TW=38.51' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.21 cfs @ 1.61 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 3.11" for 10-YR event
Inflow = 1.42 cfs @ 12.08 hrs, Volume= 0.101 af
Outflow = 1.42 cfs @ 12.09 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.6 min
Primary = 1.42 cfs @ 12.09 hrs, Volume= 0.101 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.51' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.42 cfs @ 12.09 hrs HW=38.51' TW=34.91' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.42 cfs @ 2.71 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 3.58" for 10-YR event
Inflow = 2.59 cfs @ 12.08 hrs, Volume= 0.190 af
Outflow = 2.59 cfs @ 12.09 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.6 min
Primary = 2.59 cfs @ 12.09 hrs, Volume= 0.190 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.91' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.59 cfs @ 12.09 hrs HW=34.91' TW=30.70' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.59 cfs @ 3.34 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 3.77" for 10-YR event
Inflow = 4.27 cfs @ 12.08 hrs, Volume= 0.314 af
Outflow = 4.27 cfs @ 12.09 hrs, Volume= 0.314 af, Atten= 0%, Lag= 0.6 min
Primary = 4.27 cfs @ 12.09 hrs, Volume= 0.314 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.70' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=4.26 cfs @ 12.09 hrs HW=30.70' TW=29.73' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 4.26 cfs @ 3.40 fps)

Summary for Pond 1.055:

Inflow Area = 1.299 ac, 69.80% Impervious, Inflow Depth > 3.87" for 10-YR event
Inflow = 5.63 cfs @ 12.09 hrs, Volume= 0.419 af
Outflow = 5.63 cfs @ 12.10 hrs, Volume= 0.419 af, Atten= 0%, Lag= 0.6 min
Primary = 5.63 cfs @ 12.10 hrs, Volume= 0.419 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.74' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.53 cfs @ 12.10 hrs HW=29.73' TW=28.79' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 5.53 cfs @ 4.83 fps)

Summary for Pond 1.060:

Inflow Area = 1.422 ac, 71.63% Impervious, Inflow Depth > 3.92" for 10-YR event
Inflow = 6.20 cfs @ 12.10 hrs, Volume= 0.464 af
Outflow = 6.20 cfs @ 12.11 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.6 min
Primary = 6.20 cfs @ 12.11 hrs, Volume= 0.464 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.81' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.09 cfs @ 12.11 hrs HW=28.81' TW=28.13' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 6.09 cfs @ 4.66 fps)

Summary for Pond 1.070:

Inflow Area = 1.541 ac, 73.38% Impervious, Inflow Depth > 3.96" for 10-YR event
Inflow = 6.73 cfs @ 12.10 hrs, Volume= 0.509 af
Outflow = 6.73 cfs @ 12.11 hrs, Volume= 0.509 af, Atten= 0%, Lag= 0.6 min
Primary = 6.73 cfs @ 12.11 hrs, Volume= 0.509 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.14' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.72 cfs @ 12.11 hrs HW=28.14' TW=27.01' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 6.72 cfs @ 3.98 fps)

Summary for Pond 1.080:

Inflow Area = 1.864 ac, 72.88% Impervious, Inflow Depth > 3.95" for 10-YR event
Inflow = 8.01 cfs @ 12.11 hrs, Volume= 0.614 af
Outflow = 8.01 cfs @ 12.12 hrs, Volume= 0.614 af, Atten= 0%, Lag= 0.6 min
Primary = 8.01 cfs @ 12.12 hrs, Volume= 0.614 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.09' @ 12.15 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=7.56 cfs @ 12.12 hrs HW=27.05' TW=26.65' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 7.56 cfs @ 3.69 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 3.98" for 10-YR event
Inflow = 8.44 cfs @ 12.12 hrs, Volume= 0.652 af
Outflow = 8.44 cfs @ 12.13 hrs, Volume= 0.652 af, Atten= 0%, Lag= 0.6 min
Primary = 8.44 cfs @ 12.13 hrs, Volume= 0.652 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.70' @ 12.15 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=8.08 cfs @ 12.13 hrs HW=26.68' TW=26.39' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 8.08 cfs @ 2.57 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 3.98" for 10-YR event
Inflow = 8.44 cfs @ 12.13 hrs, Volume= 0.652 af
Outflow = 8.44 cfs @ 12.14 hrs, Volume= 0.652 af, Atten= 0%, Lag= 0.6 min
Primary = 3.24 cfs @ 12.08 hrs, Volume= 0.560 af
Routed to Pond SC1 : WQ UNIT
Secondary = 5.38 cfs @ 12.14 hrs, Volume= 0.092 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.40' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900

n= 0.012, Flow Area= 0.79 sf
#2 Secondary 25.40' **24.0" Round 24" ADS** L= 18.0' Ke= 0.500
Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900
n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.07 cfs @ 12.08 hrs HW=26.17' TW=25.51' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.07 cfs @ 3.91 fps)

Secondary OutFlow Max=5.36 cfs @ 12.14 hrs HW=26.40' TW=25.10' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 5.36 cfs @ 3.41 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 3.98" for 10-YR event
Inflow = 8.48 cfs @ 12.14 hrs, Volume= 0.652 af
Outflow = 8.48 cfs @ 12.15 hrs, Volume= 0.652 af, Atten= 0%, Lag= 0.6 min
Primary = 8.48 cfs @ 12.15 hrs, Volume= 0.652 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.11' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=8.47 cfs @ 12.15 hrs HW=25.11' TW=21.48' (Dynamic Tailwater)
1=24" ADS (Barrel Controls 8.47 cfs @ 5.27 fps)

Summary for Pond 5.020:

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 4.66" for 10-YR event
Inflow = 0.49 cfs @ 12.07 hrs, Volume= 0.039 af
Outflow = 0.49 cfs @ 12.08 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.6 min
Primary = 0.49 cfs @ 12.08 hrs, Volume= 0.039 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.35' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=29.35' TW=26.36' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.49 cfs @ 2.02 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 2.28" for 10-YR event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af
Outflow = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.6 min
Primary = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 40.53' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.17 cfs @ 12.09 hrs HW=40.53' TW=39.24' (Dynamic Tailwater)
1=8" ADS (Inlet Controls 0.17 cfs @ 1.62 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 2.28" for 10-YR event
Inflow = 0.44 cfs @ 12.08 hrs, Volume= 0.030 af
Outflow = 0.44 cfs @ 12.09 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.6 min
Primary = 0.44 cfs @ 12.09 hrs, Volume= 0.030 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.24' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.44 cfs @ 12.09 hrs HW=39.24' TW=38.51' (Dynamic Tailwater)
1=12" ADS (Outlet Controls 0.44 cfs @ 2.86 fps)

Summary for Pond PSF: Sand Filter

Inflow Area = 3.241 ac, 73.59% Impervious, Inflow Depth > 3.90" for 10-YR event
Inflow = 11.59 cfs @ 12.15 hrs, Volume= 1.054 af
Outflow = 6.04 cfs @ 12.32 hrs, Volume= 1.012 af, Atten= 48%, Lag= 10.3 min
Primary = 6.04 cfs @ 12.32 hrs, Volume= 1.012 af
Routed to Link DP1-PR : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.98' @ 12.32 hrs Surf.Area= 12,407 sf Storage= 13,918 cf
Flood Elev= 23.00' Surf.Area= 14,184 sf Storage= 22,388 cf

Plug-Flow detention time= 148.6 min calculated for 1.012 af (96% of inflow)
Center-of-Mass det. time= 126.2 min (930.4 - 804.1)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	5,367 cf	**Filter Media** \ **Stone** \ **Loam (Prismatic)** Listed below (Recalc) x 0.9 16,263 cf Overall x 33.0% Voids
#2	20.60'	17,021 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		22,388 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	5,560	0	0
20.60	5,560	18,070	18,070

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	5,560	0	0
23.00	10,200	18,912	18,912

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**3.7" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.07 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.75'	**90.0 deg x 15.3' long x 1.25' rise Modified Overflow weir** Cv= 2.50 (C= 3.13)
#4	Primary	22.15'	**127.0 deg x 10.0' long x 0.85' rise New Stone Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=6.03 cfs @ 12.32 hrs HW=21.98' TW=0.00' (Dynamic Tailwater)
- **1=4" PVC** (Barrel Controls 0.75 cfs @ 10.07 fps)
  - **2=Underdrain** (Passes 0.75 cfs of 1.78 cfs potential flow)
- **3=Modified Overflow weir** (Weir Controls 5.28 cfs @ 1.49 fps)
- **4=New Stone Weir** (Controls 0.00 cfs)

Summary for Pond PVR: Pavers

Inflow Area = 0.469 ac, 87.25% Impervious, Inflow Depth > 4.32" for 10-YR event
Inflow = 2.26 cfs @ 12.07 hrs, Volume= 0.169 af
Outflow = 0.31 cfs @ 12.57 hrs, Volume= 0.155 af, Atten= 87%, Lag= 30.2 min
Primary = 0.31 cfs @ 12.57 hrs, Volume= 0.155 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.33' @ 12.57 hrs Surf.Area= 15,706 sf Storage= 3,595 cf
Flood Elev= 33.30' Surf.Area= 15,706 sf Storage= 13,787 cf

Plug-Flow detention time= 185.8 min calculated for 0.155 af (92% of inflow)
Center-of-Mass det. time= 143.6 min (910.9 - 767.3)

Volume	Invert	Avail.Storage	Storage Description
#1	30.64'	13,942 cf	**Media storage (Prismatic)** Listed below (Recalc) 42,249 cf Overall x 33.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.64	15,706	0	0
33.33	15,706	42,249	42,249

Device	Routing	Invert	Outlet Devices
#1	Primary	23.60'	**4.0" Round 4" PVC** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 23.60' / 23.50' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	30.64'	**4.0" Vert. 4" UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.31 cfs @ 12.57 hrs HW=31.33' TW=21.90' (Dynamic Tailwater)
- **1=4" PVC** (Passes 0.31 cfs of 1.16 cfs potential flow)
  - **2=4" UNDERDRAIN** (Orifice Controls 0.31 cfs @ 3.50 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 3.42" for 10-YR event
Inflow = 3.24 cfs @ 12.08 hrs, Volume= 0.560 af
Outflow = 3.24 cfs @ 12.09 hrs, Volume= 0.560 af, Atten= 0%, Lag= 0.6 min
Primary = 3.24 cfs @ 12.09 hrs, Volume= 0.560 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.76' @ 12.15 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.10 cfs @ 12.09 hrs HW=25.58' TW=24.91' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.10 cfs @ 3.95 fps)

Summary for Link DP1-PR: Valley Road

Inflow Area = 3.705 ac, 64.37% Impervious, Inflow Depth > 3.56" for 10-YR event
Inflow = 6.77 cfs @ 12.32 hrs, Volume= 1.100 af
Primary = 6.77 cfs @ 12.33 hrs, Volume= 1.100 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 201A: Uncaptured to SF1

Runoff = 3.70 cfs @ 12.15 hrs, Volume= 0.325 af, Depth> 4.82"
Routed to Pond PSF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	12,000	98	Rooftop
	12,649	74	>75% Grass cover, Good, HSG C
*	10,200	98	Lined Sand Filter
*	347	98	New Walking Pavers
	35,196	89	Weighted Average
	12,649	74	35.94% Pervious Area
	22,547	98	64.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0150	0.16		**Sheet Flow, Maintained lawns** Grass: Short n= 0.150 P2= 3.40"
0.5	59	0.0160	2.04		**Shallow Concentrated Flow, Lawns** Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Grass Slope** Unpaved Kv= 16.1 fps
11.3	220	Total			

Summary for Subcatchment 201B: Uncaptured to DP

Runoff = 1.41 cfs @ 12.18 hrs, Volume= 0.126 af, Depth> 3.26"
Routed to Link DP1-PR : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

Area (sf)	CN	Description
20,215	74	>75% Grass cover, Good, HSG C
20,215	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2					**Direct Entry, Same as Existing**

Summary for Subcatchment 201C: To Pavers

Runoff = 2.85 cfs @ 12.07 hrs, Volume= 0.215 af, Depth> 5.51"
Routed to Pond PVR : Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	1,254	98	New Sidewalk
*	256	98	New Parking Pavers
*	15,706	98	Pervious Pavers
	2,604	74	>75% Grass cover, Good, HSG C
*	604	98	New Pavement
	20,424	95	Weighted Average
	2,604	74	12.75% Pervious Area
	17,820	98	87.25% Impervious Area

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

Summary for Subcatchment P1.010:

Runoff = 0.26 cfs @ 12.07 hrs, Volume= 0.021 af, Depth> 5.86"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment P1.030:

Runoff = 1.02 cfs @ 12.07 hrs, Volume= 0.072 af, Depth> 4.61"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment P1.040:

Runoff = 1.51 cfs @ 12.07 hrs, Volume= 0.114 af, Depth> 5.51"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment P1.050:

Runoff = 2.17 cfs @ 12.07 hrs, Volume= 0.160 af, Depth> 5.28"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment P1.055:

Runoff = 1.79 cfs @ 12.07 hrs, Volume= 0.134 af, Depth> 5.39"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	2,100	74	>75% Grass cover, Good, HSG C
*	734	98	New Sidewalk
	12,950	94	Weighted Average
	2,100	74	16.22% Pervious Area
	10,850	98	83.78% Impervious Area

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

Summary for Subcatchment P1.060:

Runoff = 0.76 cfs @ 12.07 hrs, Volume= 0.058 af, Depth> 5.62"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	489	74	>75% Grass cover, Good, HSG C
*	485	98	New Sidewalk
	5,373	96	Weighted Average
	489	74	9.10% Pervious Area
	4,884	98	90.90% Impervious Area

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

Summary for Subcatchment P1.070:

Runoff = 0.73 cfs @ 12.07 hrs, Volume= 0.057 af, Depth> 5.74"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	287	74	>75% Grass cover, Good, HSG C
*	585	98	New Sidewalk
	5,153	97	Weighted Average
	287	74	5.57% Pervious Area
	4,866	98	94.43% Impervious Area

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

Summary for Subcatchment P1.080:

Runoff = 1.64 cfs @ 12.12 hrs, Volume= 0.136 af, Depth> 5.05"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	4,164	74	>75% Grass cover, Good, HSG C
*	1,946	98	New Pavement
*	610	98	New Sidewalk
*	205	98	New Walking Pavers
*	1,500	98	New Parking Pavers
	14,107	91	Weighted Average
	4,164	74	29.52% Pervious Area
	9,943	98	70.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	95	0.0250	0.19		**Sheet Flow, Maintained Lawns** Grass: Short n= 0.150 P2= 3.40"
0.7	105	0.0150	2.49		**Shallow Concentrated Flow, Pavers and pavement** Paved Kv= 20.3 fps
9.0	200	Total			

Summary for Subcatchment P11.010:

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.017 af, Depth> 3.27"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

Area (sf)	CN	Description
2,679	74	>75% Grass cover, Good, HSG C
2,679	74	100.00% Pervious Area

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

Summary for Subcatchment P11.020:

Runoff = 0.39 cfs @ 12.08 hrs, Volume= 0.027 af, Depth> 3.27"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

Area (sf)	CN	Description
4,290	74	>75% Grass cover, Good, HSG C
4,290	74	100.00% Pervious Area

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

Summary for Subcatchment P5.020:

Runoff = 0.62 cfs @ 12.07 hrs, Volume= 0.049 af, Depth> 5.86"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.10"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
*	382	98	New Pavement
	4,338	98	Weighted Average
	4,338	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 5.86" for 25-YR event
Inflow = 0.26 cfs @ 12.07 hrs, Volume= 0.021 af
Outflow = 0.26 cfs @ 12.08 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.6 min
Primary = 0.26 cfs @ 12.08 hrs, Volume= 0.021 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.39' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.26 cfs @ 12.08 hrs HW=44.39' TW=38.64' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.26 cfs @ 1.70 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 4.19" for 25-YR event
Inflow = 1.90 cfs @ 12.08 hrs, Volume= 0.136 af
Outflow = 1.90 cfs @ 12.09 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.6 min
Primary = 1.90 cfs @ 12.09 hrs, Volume= 0.136 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.64' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.90 cfs @ 12.09 hrs HW=38.64' TW=35.25' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 1.90 cfs @ 2.97 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 4.70" for 25-YR event
Inflow = 3.38 cfs @ 12.08 hrs, Volume= 0.250 af
Outflow = 3.38 cfs @ 12.09 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.6 min
Primary = 3.38 cfs @ 12.09 hrs, Volume= 0.250 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 35.25' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.38 cfs @ 12.09 hrs HW=35.25' TW=30.88' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.38 cfs @ 4.31 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 4.91" for 25-YR event
Inflow = 5.50 cfs @ 12.08 hrs, Volume= 0.410 af
Outflow = 5.50 cfs @ 12.09 hrs, Volume= 0.410 af, Atten= 0%, Lag= 0.6 min
Primary = 5.50 cfs @ 12.09 hrs, Volume= 0.410 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.88' @ 12.11 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.49 cfs @ 12.09 hrs HW=30.88' TW=30.05' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 5.49 cfs @ 3.69 fps)

Summary for Pond 1.055:

Inflow Area = 1.299 ac, 69.80% Impervious, Inflow Depth > 5.02" for 25-YR event
Inflow = 7.23 cfs @ 12.09 hrs, Volume= 0.543 af
Outflow = 7.23 cfs @ 12.10 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.6 min
Primary = 7.23 cfs @ 12.10 hrs, Volume= 0.543 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.16' @ 12.12 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.74 cfs @ 12.10 hrs HW=30.08' TW=29.31' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 6.74 cfs @ 4.48 fps)

Summary for Pond 1.060:

Inflow Area = 1.422 ac, 71.63% Impervious, Inflow Depth > 5.07" for 25-YR event
Inflow = 7.94 cfs @ 12.10 hrs, Volume= 0.601 af
Outflow = 7.94 cfs @ 12.11 hrs, Volume= 0.601 af, Atten= 0%, Lag= 0.6 min
Primary = 7.94 cfs @ 12.11 hrs, Volume= 0.601 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.39' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=7.75 cfs @ 12.11 hrs HW=29.36' TW=28.53' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 7.75 cfs @ 4.38 fps)

Summary for Pond 1.070:

Inflow Area = 1.541 ac, 73.38% Impervious, Inflow Depth > 5.12" for 25-YR event
Inflow = 8.61 cfs @ 12.10 hrs, Volume= 0.658 af
Outflow = 8.61 cfs @ 12.11 hrs, Volume= 0.658 af, Atten= 0%, Lag= 0.6 min
Primary = 8.61 cfs @ 12.11 hrs, Volume= 0.658 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.54' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=8.60 cfs @ 12.11 hrs HW=28.54' TW=27.38' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 8.60 cfs @ 4.86 fps)

Summary for Pond 1.080:

Inflow Area = 1.864 ac, 72.88% Impervious, Inflow Depth > 5.11" for 25-YR event
Inflow = 10.24 cfs @ 12.11 hrs, Volume= 0.794 af
Outflow = 10.24 cfs @ 12.12 hrs, Volume= 0.794 af, Atten= 0%, Lag= 0.6 min
Primary = 10.24 cfs @ 12.12 hrs, Volume= 0.794 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.54' @ 12.15 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=9.49 cfs @ 12.12 hrs HW=27.46' TW=27.06' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 9.49 cfs @ 3.02 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 5.15" for 25-YR event
Inflow = 10.78 cfs @ 12.12 hrs, Volume= 0.842 af
Outflow = 10.78 cfs @ 12.13 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.6 min
Primary = 10.78 cfs @ 12.13 hrs, Volume= 0.842 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.12' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=10.47 cfs @ 12.13 hrs HW=27.10' TW=26.62' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 10.47 cfs @ 3.33 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 5.15" for 25-YR event
Inflow = 10.78 cfs @ 12.13 hrs, Volume= 0.842 af
Outflow = 10.78 cfs @ 12.14 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.6 min
Primary = 3.25 cfs @ 12.08 hrs, Volume= 0.688 af
Routed to Pond SC1 : WQ UNIT
Secondary = 7.71 cfs @ 12.14 hrs, Volume= 0.154 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.64' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900

n= 0.012, Flow Area= 0.79 sf
#2 Secondary 25.40' **24.0" Round 24" ADS** L= 18.0' Ke= 0.500
Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900
n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.10 cfs @ 12.08 hrs HW=26.37' TW=25.70' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.10 cfs @ 3.94 fps)

Secondary OutFlow Max=7.69 cfs @ 12.14 hrs HW=26.63' TW=25.34' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 7.69 cfs @ 3.78 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 5.15" for 25-YR event
Inflow = 10.83 cfs @ 12.14 hrs, Volume= 0.842 af
Outflow = 10.83 cfs @ 12.15 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.6 min
Primary = 10.83 cfs @ 12.15 hrs, Volume= 0.842 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.34' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=10.81 cfs @ 12.15 hrs HW=25.34' TW=22.01' (Dynamic Tailwater)
1=24" ADS (Barrel Controls 10.81 cfs @ 5.52 fps)

Summary for Pond 5.020:

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 5.86" for 25-YR event
Inflow = 0.62 cfs @ 12.07 hrs, Volume= 0.049 af
Outflow = 0.62 cfs @ 12.08 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.6 min
Primary = 0.62 cfs @ 12.08 hrs, Volume= 0.049 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.39' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.62 cfs @ 12.08 hrs HW=29.39' TW=26.64' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.62 cfs @ 2.14 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 3.27" for 25-YR event
Inflow = 0.24 cfs @ 12.08 hrs, Volume= 0.017 af
Outflow = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.6 min
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 40.58' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.24 cfs @ 12.09 hrs HW=40.58' TW=39.32' (Dynamic Tailwater)
1=8" ADS (Inlet Controls 0.24 cfs @ 1.79 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 3.27" for 25-YR event
Inflow = 0.63 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.63 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.6 min
Primary = 0.63 cfs @ 12.09 hrs, Volume= 0.044 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.33' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.63 cfs @ 12.09 hrs HW=39.33' TW=38.64' (Dynamic Tailwater)
1=12" ADS (Outlet Controls 0.63 cfs @ 3.03 fps)

Summary for Pond PSF: Sand Filter

Inflow Area = 3.241 ac, 73.59% Impervious, Inflow Depth > 5.06" for 25-YR event
Inflow = 14.83 cfs @ 12.15 hrs, Volume= 1.366 af
Outflow = 12.13 cfs @ 12.22 hrs, Volume= 1.294 af, Atten= 18%, Lag= 4.1 min
Primary = 12.13 cfs @ 12.22 hrs, Volume= 1.294 af
Routed to Link DP1-PR : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.13' @ 12.22 hrs Surf.Area= 12,668 sf Storage= 15,050 cf
Flood Elev= 23.00' Surf.Area= 14,184 sf Storage= 22,388 cf

Plug-Flow detention time= 129.2 min calculated for 1.294 af (95% of inflow)
Center-of-Mass det. time= 100.3 min (899.5 - 799.1)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	5,367 cf	**Filter Media** \ **Stone** \ **Loam (Prismatic)** Listed below (Recalc) x 0.9 16,263 cf Overall x 33.0% Voids
#2	20.60'	17,021 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		22,388 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	5,560	0	0
20.60	5,560	18,070	18,070

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	5,560	0	0
23.00	10,200	18,912	18,912

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**3.7" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.07 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.75'	**90.0 deg x 15.3' long x 1.25' rise Modified Overflow weir** Cv= 2.50 (C= 3.13)
#4	Primary	22.15'	**127.0 deg x 10.0' long x 0.85' rise New Stone Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=12.13 cfs @ 12.22 hrs HW=22.13' TW=0.00' (Dynamic Tailwater)
- **1=4" PVC** (Barrel Controls 0.76 cfs @ 10.23 fps)
  - **2=Underdrain** (Passes 0.76 cfs of 1.80 cfs potential flow)
- **3=Modified Overflow weir** (Weir Controls 11.36 cfs @ 1.91 fps)
- **4=New Stone Weir** (Controls 0.00 cfs)

Summary for Pond PVR: Pavers

Inflow Area = 0.469 ac, 87.25% Impervious, Inflow Depth > 5.51" for 25-YR event
Inflow = 2.85 cfs @ 12.07 hrs, Volume= 0.215 af
Outflow = 0.35 cfs @ 12.60 hrs, Volume= 0.200 af, Atten= 88%, Lag= 31.7 min
Primary = 0.35 cfs @ 12.60 hrs, Volume= 0.200 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.52' @ 12.60 hrs Surf.Area= 15,706 sf Storage= 4,552 cf
Flood Elev= 33.30' Surf.Area= 15,706 sf Storage= 13,787 cf

Plug-Flow detention time= 189.6 min calculated for 0.199 af (93% of inflow)
Center-of-Mass det. time= 151.0 min (912.8 - 761.8)

Volume	Invert	Avail.Storage	Storage Description
#1	30.64'	13,942 cf	**Media storage (Prismatic)** Listed below (Recalc) 42,249 cf Overall x 33.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.64	15,706	0	0
33.33	15,706	42,249	42,249

Device	Routing	Invert	Outlet Devices
#1	Primary	23.60'	**4.0" Round 4" PVC** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 23.60' / 23.50' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	30.64'	**4.0" Vert. 4" UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 12.60 hrs HW=31.52' TW=21.92' (Dynamic Tailwater)
- **1=4" PVC** (Passes 0.35 cfs of 1.17 cfs potential flow)
  - **2=4" UNDERDRAIN** (Orifice Controls 0.35 cfs @ 4.06 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 4.20" for 25-YR event
Inflow = 3.25 cfs @ 12.08 hrs, Volume= 0.688 af
Outflow = 3.25 cfs @ 12.09 hrs, Volume= 0.688 af, Atten= 0%, Lag= 0.6 min
Primary = 3.25 cfs @ 12.09 hrs, Volume= 0.688 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.00' @ 12.15 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.11 cfs @ 12.09 hrs HW=25.77' TW=25.09' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.11 cfs @ 3.95 fps)

Summary for Link DP1-PR: Valley Road

Inflow Area = 3.705 ac, 64.37% Impervious, Inflow Depth > 4.60" for 25-YR event
Inflow = 13.49 cfs @ 12.22 hrs, Volume= 1.420 af
Primary = 13.49 cfs @ 12.23 hrs, Volume= 1.420 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 201A: Uncaptured to SF1

Runoff = 5.44 cfs @ 12.15 hrs, Volume= 0.489 af, Depth> 7.26"
Routed to Pond PSF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	12,000	98	Rooftop
	12,649	74	>75% Grass cover, Good, HSG C
*	10,200	98	Lined Sand Filter
*	347	98	New Walking Pavers
	35,196	89	Weighted Average
	12,649	74	35.94% Pervious Area
	22,547	98	64.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0150	0.16		**Sheet Flow, Maintained lawns** Grass: Short n= 0.150 P2= 3.40"
0.5	59	0.0160	2.04		**Shallow Concentrated Flow, Lawns** Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Grass Slope** Unpaved Kv= 16.1 fps
11.3	220	Total			

Summary for Subcatchment 201B: Uncaptured to DP

Runoff = 2.35 cfs @ 12.18 hrs, Volume= 0.211 af, Depth> 5.45"
Routed to Link DP1-PR : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

Area (sf)	CN	Description
20,215	74	>75% Grass cover, Good, HSG C
20,215	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2					**Direct Entry, Same as Existing**

Summary for Subcatchment 201C: To Pavers

Runoff = 4.06 cfs @ 12.07 hrs, Volume= 0.312 af, Depth> 7.99"
Routed to Pond PVR : Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	1,254	98	New Sidewalk
*	256	98	New Parking Pavers
*	15,706	98	Pervious Pavers
	2,604	74	>75% Grass cover, Good, HSG C
*	604	98	New Pavement
	20,424	95	Weighted Average
	2,604	74	12.75% Pervious Area
	17,820	98	87.25% Impervious Area

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

Summary for Subcatchment P1.010:

Runoff = 0.37 cfs @ 12.07 hrs, Volume= 0.029 af, Depth> 8.35"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment P1.030:

Runoff = 1.52 cfs @ 12.07 hrs, Volume= 0.110 af, Depth> 7.03"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment P1.040:

Runoff = 2.15 cfs @ 12.07 hrs, Volume= 0.165 af, Depth> 7.99"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment P1.050:

Runoff = 3.12 cfs @ 12.07 hrs, Volume= 0.235 af, Depth> 7.75"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment P1.055:

Runoff = 2.56 cfs @ 12.07 hrs, Volume= 0.195 af, Depth> 7.87"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	2,100	74	>75% Grass cover, Good, HSG C
*	734	98	New Sidewalk
	12,950	94	Weighted Average
	2,100	74	16.22% Pervious Area
	10,850	98	83.78% Impervious Area

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

Summary for Subcatchment P1.060:

Runoff = 1.07 cfs @ 12.07 hrs, Volume= 0.083 af, Depth> 8.11"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	489	74	>75% Grass cover, Good, HSG C
*	485	98	New Sidewalk
	5,373	96	Weighted Average
	489	74	9.10% Pervious Area
	4,884	98	90.90% Impervious Area

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

Summary for Subcatchment P1.070:

Runoff = 1.03 cfs @ 12.07 hrs, Volume= 0.081 af, Depth> 8.23"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	287	74	>75% Grass cover, Good, HSG C
*	585	98	New Sidewalk
	5,153	97	Weighted Average
	287	74	5.57% Pervious Area
	4,866	98	94.43% Impervious Area

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

Summary for Subcatchment P1.080:

Runoff = 2.38 cfs @ 12.12 hrs, Volume= 0.203 af, Depth> 7.51"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	4,164	74	>75% Grass cover, Good, HSG C
*	1,946	98	New Pavement
*	610	98	New Sidewalk
*	205	98	New Walking Pavers
*	1,500	98	New Parking Pavers
	14,107	91	Weighted Average
	4,164	74	29.52% Pervious Area
	9,943	98	70.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	95	0.0250	0.19		**Sheet Flow, Maintained Lawns** Grass: Short n= 0.150 P2= 3.40"
0.7	105	0.0150	2.49		**Shallow Concentrated Flow, Pavers and pavement** Paved Kv= 20.3 fps
9.0	200	Total			

Summary for Subcatchment P11.010:

Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.028 af, Depth> 5.46"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

Area (sf)	CN	Description
2,679	74	>75% Grass cover, Good, HSG C
2,679	74	100.00% Pervious Area

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

Summary for Subcatchment P11.020:

Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.045 af, Depth> 5.46"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

Area (sf)	CN	Description
4,290	74	>75% Grass cover, Good, HSG C
4,290	74	100.00% Pervious Area

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

Summary for Subcatchment P5.020:

Runoff = 0.87 cfs @ 12.07 hrs, Volume= 0.069 af, Depth> 8.35"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.60"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
*	382	98	New Pavement
	4,338	98	Weighted Average
	4,338	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 8.35" for 100-YR event
Inflow = 0.37 cfs @ 12.07 hrs, Volume= 0.029 af
Outflow = 0.37 cfs @ 12.08 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.6 min
Primary = 0.37 cfs @ 12.08 hrs, Volume= 0.029 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.44' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.37 cfs @ 12.08 hrs HW=44.44' TW=38.97' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.37 cfs @ 1.86 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 6.53" for 100-YR event
Inflow = 2.93 cfs @ 12.08 hrs, Volume= 0.212 af
Outflow = 2.93 cfs @ 12.09 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.6 min
Primary = 2.93 cfs @ 12.09 hrs, Volume= 0.212 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.98' @ 12.09 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.92 cfs @ 12.09 hrs HW=38.98' TW=36.22' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 2.92 cfs @ 3.72 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 7.10" for 100-YR event
Inflow = 5.04 cfs @ 12.08 hrs, Volume= 0.377 af
Outflow = 5.04 cfs @ 12.09 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.6 min
Primary = 5.04 cfs @ 12.09 hrs, Volume= 0.377 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 36.32' @ 12.14 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=5.04 cfs @ 12.09 hrs HW=36.22' TW=32.83' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 5.04 cfs @ 6.41 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 7.33" for 100-YR event
Inflow = 8.09 cfs @ 12.08 hrs, Volume= 0.612 af
Outflow = 8.09 cfs @ 12.09 hrs, Volume= 0.612 af, Atten= 0%, Lag= 0.6 min
Primary = 8.09 cfs @ 12.09 hrs, Volume= 0.612 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.43' @ 12.14 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.65 cfs @ 12.09 hrs HW=32.93' TW=32.49' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 5.65 cfs @ 3.20 fps)

Summary for Pond 1.055:

Inflow Area = 1.299 ac, 69.80% Impervious, Inflow Depth > 7.46" for 100-YR event
Inflow = 10.56 cfs @ 12.09 hrs, Volume= 0.807 af
Outflow = 10.56 cfs @ 12.10 hrs, Volume= 0.807 af, Atten= 0%, Lag= 0.6 min
Primary = 10.56 cfs @ 12.10 hrs, Volume= 0.807 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 33.79' @ 12.13 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=8.68 cfs @ 12.10 hrs HW=32.74' TW=31.69' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 8.68 cfs @ 4.91 fps)

Summary for Pond 1.060:

Inflow Area = 1.422 ac, 71.63% Impervious, Inflow Depth > 7.51" for 100-YR event
Inflow = 11.57 cfs @ 12.10 hrs, Volume= 0.891 af
Outflow = 11.57 cfs @ 12.11 hrs, Volume= 0.891 af, Atten= 0%, Lag= 0.6 min
Primary = 11.57 cfs @ 12.11 hrs, Volume= 0.891 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 32.57' @ 12.13 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=10.40 cfs @ 12.11 hrs HW=32.01' TW=30.52' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 10.40 cfs @ 5.88 fps)

Summary for Pond 1.070:

Inflow Area = 1.541 ac, 73.38% Impervious, Inflow Depth > 7.57" for 100-YR event
Inflow = 12.51 cfs @ 12.10 hrs, Volume= 0.972 af
Outflow = 12.51 cfs @ 12.11 hrs, Volume= 0.972 af, Atten= 0%, Lag= 0.6 min
Primary = 12.51 cfs @ 12.11 hrs, Volume= 0.972 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.99' @ 12.13 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=11.86 cfs @ 12.11 hrs HW=30.73' TW=28.73' (Dynamic Tailwater)
1=18" ADS (Outlet Controls 11.86 cfs @ 6.71 fps)

Summary for Pond 1.080:

Inflow Area = 1.864 ac, 72.88% Impervious, Inflow Depth > 7.56" for 100-YR event
Inflow = 14.89 cfs @ 12.11 hrs, Volume= 1.174 af
Outflow = 14.89 cfs @ 12.12 hrs, Volume= 1.174 af, Atten= 0%, Lag= 0.6 min
Primary = 14.89 cfs @ 12.12 hrs, Volume= 1.174 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.03' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=14.00 cfs @ 12.12 hrs HW=28.90' TW=28.04' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 14.00 cfs @ 4.46 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 7.60" for 100-YR event
Inflow = 15.64 cfs @ 12.12 hrs, Volume= 1.243 af
Outflow = 15.64 cfs @ 12.13 hrs, Volume= 1.243 af, Atten= 0%, Lag= 0.6 min
Primary = 15.64 cfs @ 12.13 hrs, Volume= 1.243 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.13' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=15.33 cfs @ 12.13 hrs HW=28.10' TW=27.07' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 15.33 cfs @ 4.88 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 7.60" for 100-YR event
Inflow = 15.64 cfs @ 12.13 hrs, Volume= 1.243 af
Outflow = 15.64 cfs @ 12.14 hrs, Volume= 1.243 af, Atten= 0%, Lag= 0.6 min
Primary = 3.31 cfs @ 12.08 hrs, Volume= 0.941 af
Routed to Pond SC1 : WQ UNIT
Secondary = 12.60 cfs @ 12.15 hrs, Volume= 0.303 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.10' @ 12.15 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900

n= 0.012, Flow Area= 0.79 sf
#2 Secondary 25.40' **24.0" Round 24" ADS** L= 18.0' Ke= 0.500
Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900
n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.12 cfs @ 12.08 hrs HW=26.73' TW=26.05' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 3.12 cfs @ 3.97 fps)

Secondary OutFlow Max=12.57 cfs @ 12.15 hrs HW=27.09' TW=25.83' (Dynamic Tailwater)
2=24" ADS (Inlet Controls 12.57 cfs @ 4.43 fps)

Summary for Pond 1.110: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 7.59" for 100-YR event
Inflow = 15.72 cfs @ 12.14 hrs, Volume= 1.243 af
Outflow = 15.72 cfs @ 12.15 hrs, Volume= 1.243 af, Atten= 0%, Lag= 0.6 min
Primary = 15.72 cfs @ 12.15 hrs, Volume= 1.243 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.84' @ 12.15 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=15.70 cfs @ 12.15 hrs HW=25.83' TW=22.25' (Dynamic Tailwater)
1=24" ADS (Barrel Controls 15.70 cfs @ 5.96 fps)

Summary for Pond 5.020:

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 8.35" for 100-YR event
Inflow = 0.87 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.87 cfs @ 12.08 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.6 min
Primary = 0.87 cfs @ 12.08 hrs, Volume= 0.069 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.48' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.87 cfs @ 12.08 hrs HW=29.48' TW=27.37' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.87 cfs @ 2.35 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 5.46" for 100-YR event
Inflow = 0.41 cfs @ 12.07 hrs, Volume= 0.028 af
Outflow = 0.41 cfs @ 12.08 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.6 min
Primary = 0.41 cfs @ 12.08 hrs, Volume= 0.028 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 40.67' @ 12.08 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.41 cfs @ 12.08 hrs HW=40.67' TW=39.51' (Dynamic Tailwater)
1=8" ADS (Inlet Controls 0.41 cfs @ 2.06 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 5.46" for 100-YR event
Inflow = 1.06 cfs @ 12.08 hrs, Volume= 0.073 af
Outflow = 1.06 cfs @ 12.09 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.6 min
Primary = 1.06 cfs @ 12.09 hrs, Volume= 0.073 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.52' @ 12.09 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.09 hrs HW=39.51' TW=38.98' (Dynamic Tailwater)
1=12" ADS (Outlet Controls 1.04 cfs @ 3.02 fps)

Summary for Pond PSF: Sand Filter

Inflow Area = 3.241 ac, 73.59% Impervious, Inflow Depth > 7.50" for 100-YR event
Inflow = 21.54 cfs @ 12.15 hrs, Volume= 2.025 af
Outflow = 20.68 cfs @ 12.18 hrs, Volume= 1.881 af, Atten= 4%, Lag= 1.9 min
Primary = 20.68 cfs @ 12.18 hrs, Volume= 1.881 af
Routed to Link DP1-PR : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.27' @ 12.18 hrs Surf.Area= 12,918 sf Storage= 16,170 cf
Flood Elev= 23.00' Surf.Area= 14,184 sf Storage= 22,388 cf

Plug-Flow detention time= 101.8 min calculated for 1.880 af (93% of inflow)
Center-of-Mass det. time= 64.2 min (856.8 - 792.7)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	5,367 cf	**Filter Media** \ **Stone** \ **Loam (Prismatic)** Listed below (Recalc) x 0.9 16,263 cf Overall x 33.0% Voids
#2	20.60'	17,021 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		22,388 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	5,560	0	0
20.60	5,560	18,070	18,070

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	5,560	0	0
23.00	10,200	18,912	18,912

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**3.7" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.07 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.75'	**90.0 deg x 15.3' long x 1.25' rise Modified Overflow weir** Cv= 2.50 (C= 3.13)
#4	Primary	22.15'	**127.0 deg x 10.0' long x 0.85' rise New Stone Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=20.65 cfs @ 12.18 hrs HW=22.27' TW=0.00' (Dynamic Tailwater)
- **1=4" PVC** (Barrel Controls 0.77 cfs @ 10.37 fps)
  - **2=Underdrain** (Passes 0.77 cfs of 1.83 cfs potential flow)
- **3=Modified Overflow weir** (Weir Controls 18.53 cfs @ 2.24 fps)
- **4=New Stone Weir** (Weir Controls 1.35 cfs @ 1.08 fps)

Summary for Pond PVR: Pavers

Inflow Area = 0.469 ac, 87.25% Impervious, Inflow Depth > 7.99" for 100-YR event
Inflow = 4.06 cfs @ 12.07 hrs, Volume= 0.312 af
Outflow = 0.44 cfs @ 12.69 hrs, Volume= 0.293 af, Atten= 89%, Lag= 37.3 min
Primary = 0.44 cfs @ 12.69 hrs, Volume= 0.293 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.91' @ 12.69 hrs Surf.Area= 15,706 sf Storage= 6,583 cf
Flood Elev= 33.30' Surf.Area= 15,706 sf Storage= 13,787 cf

Plug-Flow detention time= 202.1 min calculated for 0.293 af (94% of inflow)
Center-of-Mass det. time= 167.3 min (921.4 - 754.1)

Volume	Invert	Avail.Storage	Storage Description
#1	30.64'	13,942 cf	**Media storage (Prismatic)** Listed below (Recalc) 42,249 cf Overall x 33.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.64	15,706	0	0
33.33	15,706	42,249	42,249

Device	Routing	Invert	Outlet Devices
#1	Primary	23.60'	**4.0" Round 4" PVC** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 23.60' / 23.50' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	30.64'	**4.0" Vert. 4" UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.44 cfs @ 12.69 hrs HW=31.91' TW=21.92' (Dynamic Tailwater)
- **1=4" PVC** (Passes 0.44 cfs of 1.20 cfs potential flow)
  - **2=4" UNDERDRAIN** (Orifice Controls 0.44 cfs @ 5.06 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 5.75" for 100-YR event
Inflow = 3.31 cfs @ 12.08 hrs, Volume= 0.940 af
Outflow = 3.31 cfs @ 12.09 hrs, Volume= 0.940 af, Atten= 0%, Lag= 0.6 min
Primary = 3.31 cfs @ 12.09 hrs, Volume= 0.940 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.48' @ 12.15 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.11 cfs @ 12.09 hrs HW=26.14' TW=25.46' (Dynamic Tailwater)
↑—**1=12" ADS** (Inlet Controls 3.11 cfs @ 3.96 fps)

Summary for Link DP1-PR: Valley Road

Inflow Area = 3.705 ac, 64.37% Impervious, Inflow Depth > 6.77" for 100-YR event
Inflow = 23.03 cfs @ 12.18 hrs, Volume= 2.091 af
Primary = 23.03 cfs @ 12.19 hrs, Volume= 2.091 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

APPENDIX E SUPPLEMENTARY CALCULATIONS

Northeast Engineers
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Water Quality Storage Requirements: Design Point 1 (Valley Road)

Wyndham Newport Hotel Phase II

The catchment encompasses the following impervious areas:

Existing Pavement =	53,100	ft^2	=	1.219 acres
Existing Sidewalks =	4,008	ft^2	=	0.092 acres
New Buildings =	12,000	ft^2	=	0.275 acres
New Pavement =	2,919	ft^2	=	0.067 acres
New Impervious Pavers =	2,309	ft^2		0.053 acres
Total Impervious Area req WQ=	74,334	ft^2	=	1.706 acres

Required Water Quality Volume Calculation:

The required water quality volume for non-redevelopment sites, according to 250-RICR-150-10-8.9.E, is calculated as follows:

$$WQ_V = 1 \text{ inch} \times \frac{1 \text{ foot}}{12 \text{ inches}} \times 74{,}334 \ ft^2$$

WQ_V = 6,195 cu. ft.

Required Ground Water Recharge Calculation:

The required water recharge volume, according to 250-RICR-150-10-8.8.E, is obtained by multiplying the contributing impermeable area by one-inch and by a Recharge Factor.

HSG	Recharge Factor
A	0.60
B	0.35
C	0.25
D	0.10

Therefore, for a HSG Group of C:

$$R_e = 1 \text{ inch} \times \frac{1 \text{ foot}}{12 \text{ inches}} \times 74{,}334 \times 0.25$$

R_e = 1,549 cu. ft.

The WQ and Recharge Volumes Provided by BMPs are:

Sand Filter: **WQ_V = 9,350 cu. ft.** **R_e = 0 cu. ft.**

Total Water Quality Volume Provided is 9,350 cu. ft.

Total Recharge Volume Provided is 0 cu. ft.

Northeast Engineers
& Consultants, Inc.

Revised Surface Sand Filter: Design Point 1 (Valley Road)

Wyndham Newport Hotel Phase II

Provided Water Quality Volume Calculation:

Per 250-RICR-150-10-8.23.D.1, the storage volume of the systen must accommodate 75% of the WQ volume (including pretreatment) .

75% X 6,195 = **4,646** cf

A =	Surface area of filter bed (ft^2)	5,250	ft^2
d_f =	Filter bed depth (ft)	2	ft
V_R =	media void ratio	33%	
V_{PRE} =	volume of pretreatment	63	cf

$(A X d_f X V_R) + V_{PRE}$ = 3,528 cf

The total provided volume is this volume, plus the storage in the mulch layer plus the volume under the outlet elevation.

V_M =	storage volume in media	3,528	cf
A =	Surface area of filter bed (ft^2)	5,250	ft^2
d_M =	depth of loam	0.33	ft
h_o =	storage height below outlet	1.00	ft

Total WQ volume provided by this BMP:

WQ_V = $V_M + (A X d_M X V_R) + (A X h_o)$ = **9,350 cf**

Per 250-RICR-150-10.8.23.D.6, the minimum area of the filter is calculated using the following equation:

$$A_R = (WQ_{V)} X (d_f) / [(k) X (h_f + d_f) X (t_f)]$$

Where,

WQ_V =	Total Required Water Quality Volume	6,195	cf
d_f =	Filter bed depth (ft)	2	ft
k =	Coefficient of permeability of filter meda (ft/day)	3.5	ft/day
h_f =	Average height of water above surface of practice (i.e. height of the uppermost mulch layer (ft)	0.5	ft
t_f =	Design filter bed drain time (days)	0.3	

Therefore, the minimum surface areas is:

A_R = 4,720 sf

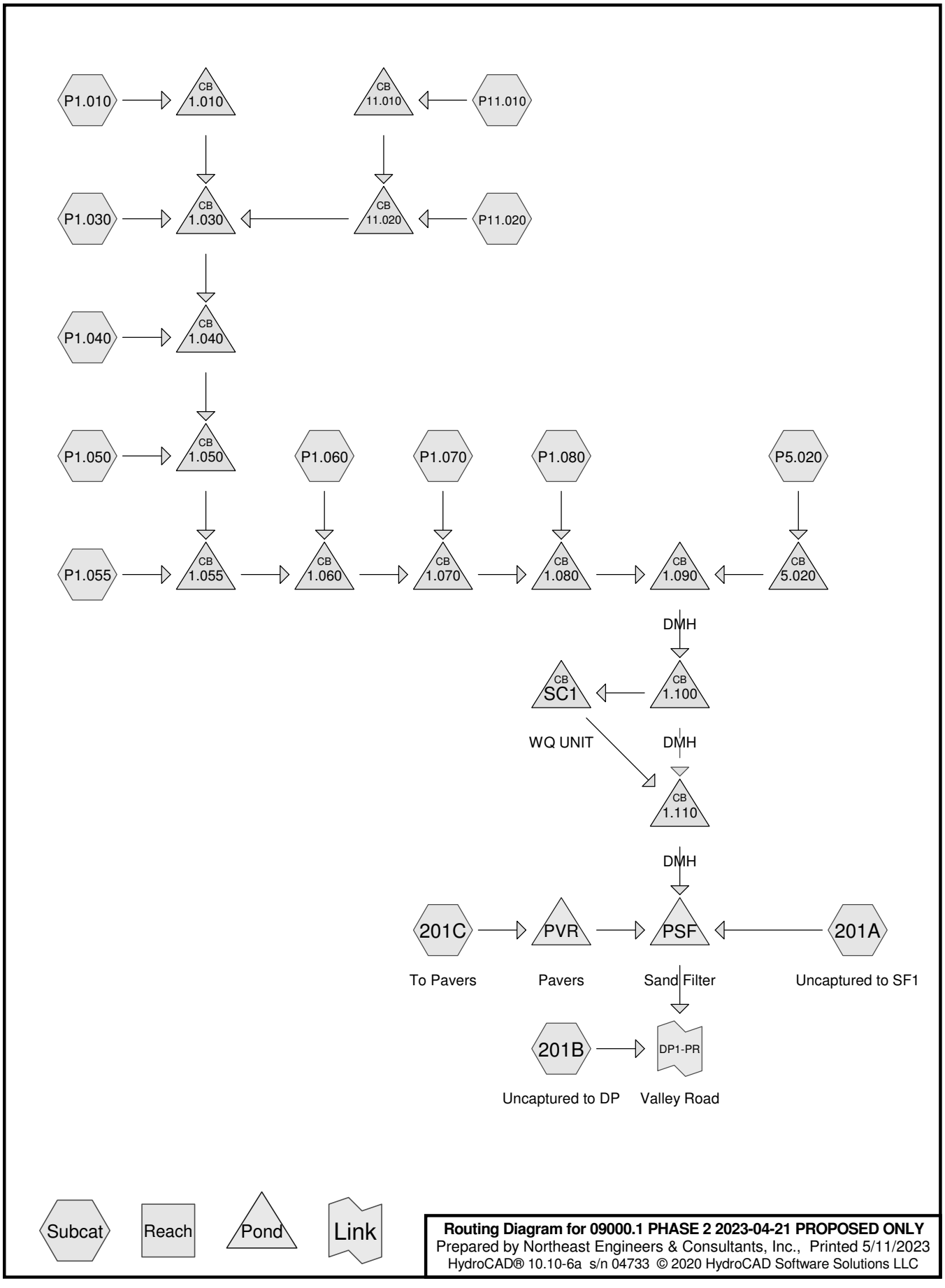
A = 5,250 sf exceeds this minimum.

Provided Groundwater Recharge:

The filter is lined due to elevated water tables. No groundwater recharge credit is provided.

R_e = 0 cu. ft.

APPENDIX F WQ STORM ANALYSIS (SPLIT PERVIOUS METHOD)



Routing Diagram for 09000.1 PHASE 2 2023-04-21 PROPOSED ONLY
Prepared by Northeast Engineers & Consultants, Inc., Printed 5/11/2023

Summary for Subcatchment 201A: Uncaptured to SF1

Runoff = 0.39 cfs @ 12.15 hrs, Volume= 0.035 af, Depth> 0.51"
Routed to Pond PSF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	12,000	98	Rooftop
	12,649	74	>75% Grass cover, Good, HSG C
*	10,200	98	Lined Sand Filter
*	347	98	New Walking Pavers
	35,196	89	Weighted Average
	12,649	74	35.94% Pervious Area
	22,547	98	64.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0150	0.16		**Sheet Flow, Maintained lawns** Grass: Short n= 0.150 P2= 3.40"
0.5	59	0.0160	2.04		**Shallow Concentrated Flow, Lawns** Unpaved Kv= 16.1 fps
0.1	61	0.3300	9.25		**Shallow Concentrated Flow, Grass Slope** Unpaved Kv= 16.1 fps
11.3	220	Total			

Summary for Subcatchment 201B: Uncaptured to DP

Runoff = 0.00 cfs @ 14.89 hrs, Volume= 0.001 af, Depth> 0.02"
Routed to Link DP1-PR : Valley Road

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
20,215	74	>75% Grass cover, Good, HSG C
20,215	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2					**Direct Entry, Same as Existing**

Summary for Subcatchment 201C: To Pavers

Runoff = 0.38 cfs @ 12.07 hrs, Volume= 0.027 af, Depth> 0.69"
Routed to Pond PVR : Pavers

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	1,254	98	New Sidewalk
*	256	98	New Parking Pavers
*	15,706	98	Pervious Pavers
	2,604	74	>75% Grass cover, Good, HSG C
*	604	98	New Pavement
	20,424	95	Weighted Average
	2,604	74	12.75% Pervious Area
	17,820	98	87.25% Impervious Area

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

Summary for Subcatchment P1.010:

Runoff = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af, Depth> 0.79"
Routed to Pond 1.010 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	1,832	98	Pavement
	1,832	98	100.00% Impervious Area

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

Summary for Subcatchment P1.030:

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af, Depth> 0.45"
Routed to Pond 1.030 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
	3,658	74	>75% Grass cover, Good, HSG C
*	4,507	98	Pavement
	8,165	87	Weighted Average
	3,658	74	44.80% Pervious Area
	4,507	98	55.20% Impervious Area

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

Summary for Subcatchment P1.040:

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 0.014 af, Depth> 0.69"
Routed to Pond 1.040 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	9,458	98	Pavement
	1,345	74	>75% Grass cover, Good, HSG C
	10,803	95	Weighted Average
	1,345	74	12.45% Pervious Area
	9,458	98	87.55% Impervious Area

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

Summary for Subcatchment P1.050:

Runoff = 0.27 cfs @ 12.07 hrs, Volume= 0.020 af, Depth> 0.64"
Routed to Pond 1.050 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	12,219	98	Pavement
*	629	98	Sidewalk
	3,017	74	>75% Grass cover, Good, HSG C
	15,865	93	Weighted Average
	3,017	74	19.02% Pervious Area
	12,848	98	80.98% Impervious Area

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

Summary for Subcatchment P1.055:

Runoff = 0.23 cfs @ 12.07 hrs, Volume= 0.016 af, Depth> 0.67"
Routed to Pond 1.055 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	9,169	98	Pavement
*	947	98	Sidewalk
	2,100	74	>75% Grass cover, Good, HSG C
*	734	98	New Sidewalk
	12,950	94	Weighted Average
	2,100	74	16.22% Pervious Area
	10,850	98	83.78% Impervious Area

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

Summary for Subcatchment P1.060:

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af, Depth> 0.72"
Routed to Pond 1.060 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	3,632	98	Pavement
*	767	98	Sidewalk
	489	74	>75% Grass cover, Good, HSG C
*	485	98	New Sidewalk
	5,373	96	Weighted Average
	489	74	9.10% Pervious Area
	4,884	98	90.90% Impervious Area

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

Summary for Subcatchment P1.070:

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af, Depth> 0.75"
Routed to Pond 1.070 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	3,654	98	Pavement
*	627	98	Sidewalk
	287	74	>75% Grass cover, Good, HSG C
*	585	98	New Sidewalk
	5,153	97	Weighted Average
	287	74	5.57% Pervious Area
	4,866	98	94.43% Impervious Area

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

Summary for Subcatchment P1.080:

Runoff = 0.18 cfs @ 12.12 hrs, Volume= 0.015 af, Depth> 0.56"
Routed to Pond 1.080 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	4,982	98	Pavement
*	700	98	Sidewalk
	4,164	74	>75% Grass cover, Good, HSG C
*	1,946	98	New Pavement
*	610	98	New Sidewalk
*	205	98	New Walking Pavers
*	1,500	98	New Parking Pavers
	14,107	91	Weighted Average
	4,164	74	29.52% Pervious Area
	9,943	98	70.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	95	0.0250	0.19		**Sheet Flow, Maintained Lawns** Grass: Short n= 0.150 P2= 3.40"
0.7	105	0.0150	2.49		**Shallow Concentrated Flow, Pavers and pavement** Paved Kv= 20.3 fps
9.0	200	Total			

Summary for Subcatchment P11.010:

Runoff = 0.00 cfs @ 14.75 hrs, Volume= 0.000 af, Depth> 0.02"
Routed to Pond 11.010 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
2,679	74	>75% Grass cover, Good, HSG C
2,679	74	100.00% Pervious Area

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

Summary for Subcatchment P11.020:

Runoff = 0.00 cfs @ 14.75 hrs, Volume= 0.000 af, Depth> 0.02"
Routed to Pond 11.020 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
4,290	74	>75% Grass cover, Good, HSG C
4,290	74	100.00% Pervious Area

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

Summary for Subcatchment P5.020:

Runoff = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af, Depth> 0.79"
Routed to Pond 5.020 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	3,636	98	Pavement
*	320	98	Sidewalk
*	382	98	New Pavement
	4,338	98	Weighted Average
	4,338	98	100.00% Impervious Area

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

Summary for Pond 1.010:

Inflow Area = 0.042 ac,100.00% Impervious, Inflow Depth > 0.79" for WQ event
Inflow = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af
Outflow = 0.04 cfs @ 12.08 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.6 min
Primary = 0.04 cfs @ 12.08 hrs, Volume= 0.003 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 44.23' @ 12.08 hrs
Flood Elev= 48.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.14'	**12.0" Round 12" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 44.14' / 40.34' S= 0.0458 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.04 cfs @ 12.08 hrs HW=44.23' TW=38.06' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.04 cfs @ 1.04 fps)

Summary for Pond 1.030:

Inflow Area = 0.389 ac, 37.36% Impervious, Inflow Depth > 0.31" for WQ event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 0.010 af
Outflow = 0.13 cfs @ 12.08 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.6 min
Primary = 0.13 cfs @ 12.08 hrs, Volume= 0.010 af
Routed to Pond 1.040 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.06' @ 12.08 hrs
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	37.88'	**12.0" Round 12" ADS** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 37.88' / 34.20' S= 0.0304 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.13 cfs @ 12.08 hrs HW=38.06' TW=34.23' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.13 cfs @ 1.43 fps)

Summary for Pond 1.040:

Inflow Area = 0.637 ac, 56.89% Impervious, Inflow Depth > 0.46" for WQ event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.024 af
Outflow = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.6 min
Primary = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af
Routed to Pond 1.050 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 34.23' @ 12.09 hrs
Flood Elev= 38.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.95'	**12.0" Round 12" ADS** L= 105.0' Ke= 0.500 Inlet / Outlet Invert= 33.95' / 30.20' S= 0.0357 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.09 hrs HW=34.23' TW=30.04' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.33 cfs @ 1.81 fps)

Summary for Pond 1.050:

Inflow Area = 1.002 ac, 65.65% Impervious, Inflow Depth > 0.53" for WQ event
Inflow = 0.60 cfs @ 12.08 hrs, Volume= 0.044 af
Outflow = 0.60 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.6 min
Primary = 0.60 cfs @ 12.09 hrs, Volume= 0.044 af
Routed to Pond 1.055 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.04' @ 12.09 hrs
Flood Elev= 33.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.70'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 29.70' / 28.75' S= 0.0237 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.60 cfs @ 12.09 hrs HW=30.04' TW=28.90' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 0.60 cfs @ 1.99 fps)

Summary for Pond 1.055:

Inflow Area = 1.299 ac, 69.80% Impervious, Inflow Depth > 0.56" for WQ event
Inflow = 0.83 cfs @ 12.08 hrs, Volume= 0.060 af
Outflow = 0.83 cfs @ 12.09 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.6 min
Primary = 0.83 cfs @ 12.09 hrs, Volume= 0.060 af
Routed to Pond 1.060 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.90' @ 12.09 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**18.0" Round 18" ADS** L= 83.0' Ke= 0.500 Inlet / Outlet Invert= 28.50' / 27.67' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.82 cfs @ 12.09 hrs HW=28.90' TW=27.85' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 0.82 cfs @ 2.16 fps)

Summary for Pond 1.060:

Inflow Area = 1.422 ac, 71.63% Impervious, Inflow Depth > 0.57" for WQ event
Inflow = 0.93 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.93 cfs @ 12.10 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.6 min
Primary = 0.93 cfs @ 12.10 hrs, Volume= 0.068 af
Routed to Pond 1.070 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.85' @ 12.10 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.42'	**18.0" Round 18" ADS** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 27.42' / 27.02' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.92 cfs @ 12.10 hrs HW=27.85' TW=27.22' (Dynamic Tailwater)
1=18" ADS (Barrel Controls 0.92 cfs @ 3.30 fps)

Summary for Pond 1.070:

Inflow Area = 1.541 ac, 73.38% Impervious, Inflow Depth > 0.59" for WQ event
Inflow = 1.02 cfs @ 12.10 hrs, Volume= 0.075 af
Outflow = 1.02 cfs @ 12.11 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.6 min
Primary = 1.02 cfs @ 12.11 hrs, Volume= 0.075 af
Routed to Pond 1.080 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.22' @ 12.11 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.77'	**18.0" Round 18" ADS** L= 87.0' Ke= 0.500 Inlet / Outlet Invert= 26.77' / 25.90' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=1.02 cfs @ 12.11 hrs HW=27.22' TW=25.85' (Dynamic Tailwater)
1=18" ADS (Inlet Controls 1.02 cfs @ 2.29 fps)

Summary for Pond 1.080:

Inflow Area = 1.864 ac, 72.88% Impervious, Inflow Depth > 0.58" for WQ event
Inflow = 1.20 cfs @ 12.11 hrs, Volume= 0.090 af
Outflow = 1.20 cfs @ 12.12 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.6 min
Primary = 1.20 cfs @ 12.12 hrs, Volume= 0.090 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.85' @ 12.12 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.40'	**24.0" Round 24" ADS** L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.93' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.20 cfs @ 12.12 hrs HW=25.85' TW=25.25' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 1.20 cfs @ 2.28 fps)

Summary for Pond 1.090: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 0.59" for WQ event
Inflow = 1.28 cfs @ 12.12 hrs, Volume= 0.097 af
Outflow = 1.28 cfs @ 12.13 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.6 min
Primary = 1.28 cfs @ 12.13 hrs, Volume= 0.097 af
Routed to Pond 1.100 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.26' @ 12.14 hrs
Flood Elev= 32.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.68'	**24.0" Round 24" ADS** L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 24.68' / 24.65' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.25 cfs @ 12.13 hrs HW=25.25' TW=25.10' (Dynamic Tailwater)
1=24" ADS (Outlet Controls 1.25 cfs @ 2.51 fps)

Summary for Pond 1.100: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 0.59" for WQ event
Inflow = 1.28 cfs @ 12.13 hrs, Volume= 0.097 af
Outflow = 1.28 cfs @ 12.14 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.6 min
Primary = 1.28 cfs @ 12.14 hrs, Volume= 0.097 af
Routed to Pond SC1 : WQ UNIT
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.10' @ 12.14 hrs
Flood Elev= 32.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.40'	**12.0" Round 12" ADS** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 24.40' / 24.33' S= 0.0100 '/' Cc= 0.900

n= 0.012, Flow Area= 0.79 sf

#2	Secondary	25.40'	**24.0" Round 24" ADS** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 25.40' / 24.75' S= 0.0361 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.28 cfs @ 12.14 hrs HW=25.10' TW=24.77' (Dynamic Tailwater)
1=12" ADS (Barrel Controls 1.28 cfs @ 3.07 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.40' TW=23.75' (Dynamic Tailwater)
2=24" ADS (Controls 0.00 cfs)

Summary for Pond 1.110: DMH

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 0.59" for WQ event
Inflow = 1.28 cfs @ 12.15 hrs, Volume= 0.097 af
Outflow = 1.28 cfs @ 12.16 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.6 min
Primary = 1.28 cfs @ 12.16 hrs, Volume= 0.097 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.21' @ 12.16 hrs
Flood Elev= 32.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.75'	**24.0" Round 24" ADS** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 23.75' / 23.25' S= 0.0116 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.28 cfs @ 12.16 hrs HW=24.21' TW=18.03' (Dynamic Tailwater)
1=24" ADS (Inlet Controls 1.28 cfs @ 2.32 fps)

Summary for Pond 5.020:

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth > 0.79" for WQ event
Inflow = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af
Outflow = 0.09 cfs @ 12.08 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.6 min
Primary = 0.09 cfs @ 12.08 hrs, Volume= 0.007 af
Routed to Pond 1.090 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 29.15' @ 12.08 hrs
Flood Elev= 34.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**12.0" Round 12" ADS** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 29.00' / 26.40' S= 0.0464 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.09 cfs @ 12.08 hrs HW=29.15' TW=25.20' (Dynamic Tailwater)
1=12" ADS (Inlet Controls 0.09 cfs @ 1.30 fps)

Summary for Pond 11.010:

Inflow Area = 0.062 ac, 0.00% Impervious, Inflow Depth > 0.02" for WQ event
Inflow = 0.00 cfs @ 14.75 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 14.76 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.6 min
Primary = 0.00 cfs @ 14.76 hrs, Volume= 0.000 af
Routed to Pond 11.020 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 40.31' @ 14.76 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.30'	**8.0" Round 8" ADS** L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 40.30' / 39.24' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.00 cfs @ 14.76 hrs HW=40.31' TW=38.92' (Dynamic Tailwater)
↑**1=8" ADS** (Barrel Controls 0.00 cfs @ 0.33 fps)

Summary for Pond 11.020:

Inflow Area = 0.160 ac, 0.00% Impervious, Inflow Depth > 0.02" for WQ event
Inflow = 0.00 cfs @ 14.76 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 14.77 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.6 min
Primary = 0.00 cfs @ 14.77 hrs, Volume= 0.000 af
Routed to Pond 1.030 :

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 38.92' @ 14.77 hrs
Flood Elev= 43.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.91'	**12.0" Round 12" ADS** L= 78.0' Ke= 0.500 Inlet / Outlet Invert= 38.91' / 38.13' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 14.77 hrs HW=38.92' TW=37.92' (Dynamic Tailwater)
↑**1=12" ADS** (Barrel Controls 0.00 cfs @ 0.42 fps)

Summary for Pond PSF: Sand Filter

Inflow Area = 3.241 ac, 73.59% Impervious, Inflow Depth > 0.56" for WQ event
Inflow = 1.70 cfs @ 12.16 hrs, Volume= 0.152 af
Outflow = 0.40 cfs @ 12.59 hrs, Volume= 0.149 af, Atten= 77%, Lag= 26.0 min
Primary = 0.40 cfs @ 12.59 hrs, Volume= 0.149 af
Routed to Link DP1-PR : Valley Road

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 18.50' @ 12.59 hrs Surf.Area= 5,004 sf Storage= 1,899 cf
Flood Elev= 23.00' Surf.Area= 14,184 sf Storage= 22,388 cf

Plug-Flow detention time= 57.3 min calculated for 0.149 af (98% of inflow)
Center-of-Mass det. time= 46.2 min (864.9 - 818.7)

Volume	Invert	Avail.Storage	Storage Description
#1	17.35'	5,367 cf	**Filter Media** \ **Stone** \ **Loam (Prismatic)** Listed below (Recalc) x 0.9 16,263 cf Overall x 33.0% Voids
#2	20.60'	17,021 cf	**Sand Filter (Prismatic)** Listed below (Recalc) x 0.9
		22,388 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.35	5,560	0	0
20.60	5,560	18,070	18,070

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.60	5,560	0	0
23.00	10,200	18,912	18,912

Device	Routing	Invert	Outlet Devices
#1	Primary	17.10'	**3.7" Round 4" PVC** L= 17.5' Ke= 0.500 Inlet / Outlet Invert= 17.10' / 16.85' S= 0.0143 '/' Cc= 0.900 n= 0.010, Flow Area= 0.07 sf
#2	Device 1	17.35'	**4.0" Vert. Underdrain X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Primary	21.75'	**90.0 deg x 15.3' long x 1.25' rise Modified Overflow weir** Cv= 2.50 (C= 3.13)
#4	Primary	22.15'	**127.0 deg x 10.0' long x 0.85' rise New Stone Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.40 cfs @ 12.59 hrs HW=18.50' TW=0.00' (Dynamic Tailwater)
- **1=4" PVC** (Barrel Controls 0.40 cfs @ 5.31 fps)
  - **2=Underdrain** (Passes 0.40 cfs of 0.83 cfs potential flow)
- **3=Modified Overflow weir** (Controls 0.00 cfs)
- **4=New Stone Weir** (Controls 0.00 cfs)

Summary for Pond PVR: Pavers

Inflow Area = 0.469 ac, 87.25% Impervious, Inflow Depth > 0.69" for WQ event
Inflow = 0.38 cfs @ 12.07 hrs, Volume= 0.027 af
Outflow = 0.04 cfs @ 12.81 hrs, Volume= 0.020 af, Atten= 90%, Lag= 44.3 min
Primary = 0.04 cfs @ 12.81 hrs, Volume= 0.020 af
Routed to Pond PSF : Sand Filter

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 30.77' @ 12.81 hrs Surf.Area= 15,706 sf Storage= 671 cf
Flood Elev= 33.30' Surf.Area= 15,706 sf Storage= 13,787 cf

Plug-Flow detention time= 273.8 min calculated for 0.020 af (75% of inflow)
Center-of-Mass det. time= 189.2 min (976.8 - 787.5)

Volume	Invert	Avail.Storage	Storage Description
#1	30.64'	13,942 cf	**Media storage (Prismatic)** Listed below (Recalc) 42,249 cf Overall x 33.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.64	15,706	0	0
33.33	15,706	42,249	42,249

Device	Routing	Invert	Outlet Devices
#1	Primary	23.60'	**4.0" Round 4" PVC** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 23.60' / 23.50' S= 0.0200 '/' Cc= 0.900 n= 0.010, Flow Area= 0.09 sf
#2	Device 1	30.64'	**4.0" Vert. 4" UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 12.81 hrs HW=30.77' TW=18.45' (Dynamic Tailwater)
- **1=4" PVC** (Passes 0.04 cfs of 1.11 cfs potential flow)
  - **2=4" UNDERDRAIN** (Orifice Controls 0.04 cfs @ 1.22 fps)

Summary for Pond SC1: WQ UNIT

Inflow Area = 1.964 ac, 74.25% Impervious, Inflow Depth > 0.59" for WQ event
Inflow = 1.28 cfs @ 12.14 hrs, Volume= 0.097 af
Outflow = 1.28 cfs @ 12.15 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.6 min
Primary = 1.28 cfs @ 12.15 hrs, Volume= 0.097 af
Routed to Pond 1.110 : DMH

Routing by Sim-Route method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.78' @ 12.15 hrs
Flood Elev= 32.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	**12.0" Round 12" ADS** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 24.08' / 24.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.28 cfs @ 12.15 hrs HW=24.78' TW=24.21' (Dynamic Tailwater)
↑—**1=12" ADS** (Barrel Controls 1.28 cfs @ 3.10 fps)

Summary for Link DP1-PR: Valley Road

Inflow Area = 3.705 ac, 64.37% Impervious, Inflow Depth > 0.49" for WQ event
Inflow = 0.40 cfs @ 12.59 hrs, Volume= 0.150 af
Primary = 0.40 cfs @ 12.60 hrs, Volume= 0.150 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

APPENDIX G SOIL EVALUATIONS

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment System Program

Site Evaluation Form
Part A – Soil Profile Description Application Number N/A

Property Owner: SEAVIEW INN, LLC
Property Location: VALLEY RD. & AQUIDNECK AVE, AP 115, LOTS 5, 53, 55, MIDDLETOWN
Date of Test Hole: 5-21-14
Soil Evaluator: KATHLEEN P. MANGAN License Number: D4025
Weather: SUNNY; ± 70°F Shaded: Yes ☑ No ☐ Time: 7:50 - 12:30

TH 1 Horizon	Depth (in.)	Horizon Boundaries: Dist	Horizon Boundaries: Topo	Soil Colors: Matrix	Soil Colors: Re-Dox Features	Re-Dox: Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
FILL	30-0	d	w				sil			
Ap	0-7	a	s	10YR 2/2	7.5YR 3/4	c,F,d	sil	1fgr	vFr	5
Bw	7-19	a	i	2.5Y 4/3	5Y 5/2	c,F,F	sil	1fsbk	fr	5
Cd	19-78	—	—	5Y 3/2	10YR 3/4	m,F,d	gsil	Ø-m	Fi	8m

TH 2 Horizon	Depth (in.)	Horizon Boundaries: Dist	Horizon Boundaries: Topo	Soil Colors: Matrix	Soil Colors: Re-Dox Features	Re-Dox: Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
FILL	43-0	a	w				sil			
Cd	0-70	—	—	5Y 3/2	10YR 3/4 5Y 4/1	f,F,p c,F,F	gsil	Ø-m	Fi	8m

TH 1 Soil Class A Total Depth 9'0" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth 78" SHWT 30" (og)

TH 2 Soil Class A Total Depth 9'5" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 43" (og)

Comments: SOIL EVALUATIONS ARE FOR PROPOSED DRAINAGE DESIGN - ESHWT'S ARE BELOW EXISTING GRADE

Part B – TH's 1 & 2

Site Evaluation – to be completed by Soil Evaluator or Class II or III Designer

Please use the area below to locate:

1. Test holes and bedrock test holes,
2. Approximate direction of due north,
3. Offsets from all test holes to fixed points such as street, utility pole, or other permanent, marked object *

***OFFSETS MUST BE SHOWN**

Key:
- Approximate location of test holes
- Approximate location of bedrock test holes
- x% — Estimated gradient and direction of slope
- N — Approximate direction of due north

SEE ATTACHED

Bedrock THs	
TH	Depth

1. Relief and Slope: 3 TO 15% ON-SITE
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes? If yes, locate on above sketch. NO ☐ YES ☑
3. Restrictive Layer or Bedrock within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above. NO ☑ YES ☐
4. Presence of existing or proposed private drinking water wells within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
5. Public drinking water wells within 500 feet of test holes? If yes, locate on above sketch NO ☑ YES ☐
6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 38? NO ☐ YES ☑
7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch. NO ☐ YES ☑
8. Site's potential for flooding or ponding: NONE ☑ SLIGHT ☐ MODERATE ☐ SEVERE ☐
9. Landscape position: _____
10. Vegetation. TH1 - GRASS ; TH2 - FIELD GRASSES & WILDFLOWERS
11. Indicate approximate location of property lines and roadways.
12. Additional comments, site constraints or additional information regarding site: _____

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: Kathryn L. Mang (Signature) D4025 (License #) Part B prepared by: Kathryn L. Mang (Signature) D4025 (License #)

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur ☐ Inconclusive ☐ Disclaim ☐

Unwitnessed Soil Evaluations Decision: Accept ☐ Inconclusive ☐ Disclaim ☐

Wet Season Determination required ☐ Additional Field Review Required ☐

Explanation: _____

Signature Authorized Agent _____ Date _____

Revised 1/31/14

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment System Program

Site Evaluation Form
Part A – Soil Profile Description Application Number N/A

Property Owner: SEAVIEW INN LLC
Property Location: VALLEY RD. & AQUIDNECK AVE., AP 115, LOTS 5, 53, 55, MIDDLETOWN
Date of Test Hole: 5-21-14
Soil Evaluator: KATHLEEN P. MANGAN License Number: D4025
Weather: SUNNY; ±70°F Shaded: Yes ☑ No ☐ Time: 7:50 - 12:30

TH 3 Horizon	Depth (in.)	Horizon Boundaries: Dist	Horizon Boundaries: Topo	Soil Colors: Matrix	Soil Colors: Re-Dox Features	Re-Dox: Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
FILL	123-0	—	—	5Y 3/2			(mostly) gsil			

TH 4 Horizon	Depth (in.)	Horizon Boundaries: Dist	Horizon Boundaries: Topo	Soil Colors: Matrix	Soil Colors: Re-Dox Features	Re-Dox: Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
Ap	0-9	a	s	10YR 3/2	—	—	sil	1fgr	vfr	5
Bw1	9-21	g	s	2.5Y 4/3	—	—	sil	1fsbk	fr	5
Bw2	21-42	a	i	2.5Y 5/3	7.5YR 5/8 5PB 5/1	m,c,p m,c,p	sil	1fsbk	fr	5
Cd	42-104	—	—	5Y 2.5/1	10YR 3/4 5PB 4/1	c,f,p c,c,p	gsil	Ø-m	vFi	9m

TH 3 Soil Class FILL Total Depth 10'3" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 60" (og)
TH 4 Soil Class A Total Depth 8'8" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 21" (og)

Comments: SOIL EVALUATIONS ARE FOR PROPOSED DRAINAGE DESIGN
- ESHWT'S ARE BELOW EXISTING GRADE
- NOTE: TH3 UNSTABLE BEYOND 5'0". SHWT IS LIKELY DEEPER THAN 5'0"

Part B (TH's 3 & 4)

Site Evaluation – to be completed by Soil Evaluator or Class II or III Designer

Please use the area below to locate:

1. Test holes and bedrock test holes,
2. Approximate direction of due north,
3. Offsets from all test holes to fixed points such as street, utility pole, or other permanent, marked object.*
   *OFFSETS MUST BE SHOWN

Key:
- Approximate location of test holes
- Approximate location of bedrock test holes
- x% — Estimated gradient and direction of slope
- N — Approximate direction of due north

SEE ATTACHED

Bedrock THs	
TH	Depth

1. Relief and Slope: 3 TO 15% SLOPE ON-SITE
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes? If yes, locate on above sketch. NO ☐ YES ☑
3. Restrictive Layer or Bedrock within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above. NO ☑ YES ☐
4. Presence of existing or proposed private drinking water wells within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
5. Public drinking water wells within 500 feet of test holes? If yes, locate on above sketch NO ☑ YES ☐
6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 38? NO ☐ YES ☑
7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch. NO ☐ YES ☑
8. Site's potential for flooding or ponding: NONE ☑ (TH3) SLIGHT ☑ (TH4) MODERATE ☐ SEVERE ☐
9. Landscape position: TH3 - BACKSLOPE ; TH4 - FOOTSLOPE
10. Vegetation: TH3 - LAWN ; TH4 - FIELD GRASSES FERNS
11. Indicate approximate location of property lines and roadways.
12. Additional comments, site constraints or additional information regarding site:

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: Kaysh May (Signature) D4025 (License #) Part B prepared by: Kaysh May (Signature) D4025 (License #)

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur ☐ Inconclusive ☐ Disclaim ☐

Unwitnessed Soil Evaluations Decision: Accept ☐ Inconclusive ☐ Disclaim ☐

Wet Season Determination required ☐ Additional Field Review Required ☐

Explanation:

Signature Authorized Agent Date

Revised 1/31/14

NORTHEAST ENGINEERS
& CONSULTANTS, INC.
A KNOLL FOOF CORPORATION

TH4 (±75' FROM TH3)

TH3

±200'

TH2

TH1

±50'

Scale:	1"=100'	Date:	19MAY14	Designed By:	Drawn By:	Checked By:

Project Title:

SEAVEW INN
MIDDLETOWN, RI

Drawing Title:

TEST HOLE LOCATION PLAN

Issued for: AP 115, LOTS 53, 5, 55

Drawing Number: TH-1

Project Number: 09001.0

APPENDIX H RISDISM STORMWATER CHECKLIST (APPENDIX A)

APPENDIX A: STORMWATER MANAGEMENT PLAN CHECKLIST AND LID PLANNING REPORT – STORMWATER DESIGN SUMMARY

PROJECT NAME: Wyndham Newport Hotel Phase II (formerly Seaview Inn / Cambria Suites)	**(RIDEM USE ONLY)** **STW/WQC File #:**
TOWN: Middletown RI	**Date Received:**
BRIEF PROJECT DESCRIPTION: Construction of Phase II of a Hotel and Convention Center, previously permitted in 2014 and modified in 2018. Phase II includes one new building and expanded pervious paver parking.	

Stormwater Management Plan (SMP) Elements – Minimum Standards

When submitting a SMP,[1] submit four separately bound documents: Appendix A Checklist; Stormwater Site Planning, Analysis and Design Report with Plan Set/Drawings; Soil Erosion and Sediment Control (SESC) Plan, and Post Construction Operations and Maintenance (O&M) Plan. Please refer to Suggestions to Promote Brevity.

Note: **All stormwater construction projects must create a Stormwater Management Plan (SMP). However, not every element listed below is required per the RIDEM Stormwater Rules and the RIPDES Construction General Permit (CGP). This checklist will help identify the required elements to be submitted with an Application for Stormwater Construction Permit & Water Quality Certification.**

PART 1. PROJECT AND SITE INFORMATION

PROJECT TYPE (Check all that apply)

☐ Residential	☒ Commercial	☐ Federal	☐ Retrofit	☐ Restoration
☐ Road	☐ Utility	☐ Fill	☐ Dredge	☐ Mine
☐ Other (specify):				

SITE INFORMATION

☒ Vicinity Map

INITIAL DISCHARGE LOCATION(S): The WQv discharges to: (You may choose more than one answer if several discharge points are associated with the project.)

☐ **Groundwater**	☒ **Surface Water**	☒ **MS4**
☐ GAA	☐ Isolated Wetland	☒ RIDOT
☐ GA	☐ Named Waterbody	☐ RIDOT Alteration Permit is Approved
☐ GB	☒ Unnamed Waterbody Connected to Named Waterbody	☐ Town
		☐ Other (specify):

ULTIMATE RECEIVING WATERBODY LOCATION(S): Include pertinent information that applies to both WQ_v and flow from larger storm events including overflows. Choose all that apply, and repeat table for each waterbody.

☒ Groundwater or Disconnected Wetland	☐ SRWP		
☒ Waterbody Name: North Easton Pond (Green End Pond)	☐ Coldwater	☐ Warmwater	☐ Unassessed
☒ Waterbody ID: RI0007035L-03	☐ 4th order stream of pond 50 acres or more		
☒ TMDL for: Chlorophyll-A, Total Carbon, Total Phosphorous	☐ Watershed of flood prone river (e.g., Pocasset River)		
☐ Contributes to a priority outfall listed in the TMDL	☐ Contributes stormwater to a public beach		
☒ 303(d) list – Impairment(s) for: Chlorophll-A, phosphorous, carbon	☐ Contributes to shellfishing grounds		

[1] Applications for a Construction General Permit that do not require any other permits from RIDEM and will disturb less than 5 acres over the entire course of the project do not need to submit a SMP. The Appendix A checklist must still be submitted.

PROJECT HISTORY		
☐ RIDEM Pre- Application Meeting	Meeting Date:	☐ Minutes Attached
☐ Municipal Master Plan Approval	Approval Date:	☐ Minutes Attached
☐ Subdivision Suitability Required	Approval #:	
☐ Previous Enforcement Action has been taken on the property	Enforcement #:	

FLOODPLAIN & FLOODWAY See Guidance Pertaining to Floodplain and Floodways	
☒ Riverine 100-year floodplain: **FEMA FLOODPLAIN FIRMETTE** has been reviewed and the 100-year floodplain is on site	
☒ Delineated from FEMA Maps	
NOTE: Per Rule 250-RICR-150-10-8-1.1(B)(5)(d)(3), provide volumetric floodplain compensation calculations for cut and fill/displacement calculated by qualified professional	
☐ Calculated by Professional Engineer	
☐ Calculations are provided for cut vs. fill/displacement volumes proposed within the 100-year floodplain	Amount of Fill (CY):
	Amount of Cut (CY):
☐ Restrictions or modifications are proposed to the flow path or velocities in a floodway	
☐ Floodplain storage capacity is impacted	
☒ Project area is not within 100-year floodplain as defined by RIDEM	

CRMC JURISDICTION
☐ CRMC Assent required
☐ Property subject to a Special Area Management Plan (SAMP). If so, specify which SAMP:
☐ Sea level rise mitigation has been designed into this project

LUHPPL IDENTIFICATION - MINIMUM STANDARD 8:			
1. OFFICE OF Land Revitalization and Sustainable Materials Management (OLRSMM)			
	☐ Known or suspected releases of HAZARDOUS MATERIAL are present at the site (Hazardous Material is defined in Rule 1.4(A)(33) of 250-140-30-1 of the RIDEM Rules and Regulations for Investigation and Remediation of Hazardous Materials (the Remediation Regulations))		**RIDEM CONTACT:**
	☐ Known or suspected releases of PETROLEUM PRODUCT are present at the site (Petroleum Product as defined in Rule 1.5(A)(84) of 250-140-25-1 of the RIDEM Rules and Regulations for Underground Storage Facilities Used for Regulated Substances and Hazardous Materials)		
	☐ This site is identified on the RIDEM Environmental Resources Map as one of the following regulated facilities		**SITE ID#**:
		☐ CERCLIS/Superfund (NPL)	
		☐ State Hazardous Waste Site (SHWS)	
		☐ Environmental Land Usage Restriction (ELUR)	
		☐ Leaking Underground Storage Tank (LUST)	
		☐ Closed Landfill	
Note: If any boxes in 1 above are checked, the applicant must contact the RIDEM OLRSMM Project Manager associated with the Site to determine if subsurface infiltration of stormwater is allowable for the project. Indicate if the infiltration corresponds to "Red," "Yellow" or "Green" as described in Section 3.2.8 of the RISDISM Guidance (Subsurface Contamination Guidance). Also, note and reference approval in PART 3, Minimum Standard 2: Groundwater Recharge/Infiltration**.**			
2. PER MINIMUM STANDARD 8 of RICR 8.14.C.1-6 "LUHPPLS," THE SITE IS/HAS:			
	☐ Industrial Site with RIPDES MSGP, except where No Exposure Certification exists. http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/status.php		
	☐ Auto Fueling Facility (e.g., gas station)		
	☐ Exterior Vehicles Service, Maintenance, or Equipment Cleaning Area		

	☐ Road Salt Storage and Loading Areas (exposed to rainwater)	
	☐ Outdoor Storage and Loading/Unloading of Hazardous Substances	
3.	**STORMWATER INDUSTRIAL PERMITTING**	
	☐ The site is associated with existing or proposed activities that are considered Land Uses with Higher Potential Pollutant Loads (LUHPPLS) (see RICR 8.14.C)	Activities: Sector:
	☐ Construction is proposed on a site that is subject to THE MULTI-SECTOR GENERAL PERMIT (MSGP) UNDER RULE 31(B)15 OF THE RIPDES REGULATIONS.	MSGP permit #
	☐ Additional stormwater treatment is required by the MSGP Explain:	

REDEVELOPMENT STANDARD – MINIMUM STANDARD 6 (NOT APPLICABLE – NOT REDEVELOPMENT)		
☐ Pre Construction Impervious Area		
	☐ Total Pre-Construction Impervious Area (**TIA**):	
	☐ Total Site Area (**TSA**) 10.15 ACRES	
	☐ Jurisdictional Wetlands (**JW**)	
	☐ Conservation Land (**CL**)	
☐ Calculate the Site Size (defined as contiguous properties under same ownership)		
	☐ Site Size (**SS**) = (**TSA**) – (**JW**) – (**CL**)	
	☐ (**TIA**) / (**SS**) < **0.4** ?	☐ (**TIA**) / (**SS**) >**0.4**?
☐ YES, Redevelopment		

PART 2. LOW IMPACT DEVELOPMENT ASSESSMENT – MINIMUM STANDARD 1

.

Note: A written description must be provided specifying why each method is not being used or is not applicable at the Site. Appropriate answers may include:

- Town requires … (state the specific local requirement)
- Meets Town's dimensional requirement of …
- Not practical for site because …
- Applying for waiver/variance to achieve this (pending/approved/denied)
- Applying for wavier/variance to seek relief from this (pending/approved/denied)

A) PRESERVATION OF UNDISTURBED AREAS, BUFFERS, AND FLOODPLAINS ☒ Sensitive resource areas and site constraints are identified (required) ☒ Local development regulations have been reviewed (required) ☒ All vegetated buffers and coastal and freshwater wetlands will be protected during and after construction ☐ Conservation Development or another site design technique has been incorporated to protect open space and pre-development hydrology. **Note:** If Conservation Development has been used, check box and skip to Subpart C ☒ As much natural vegetation and pre-development hydrology as possible has been maintained	No sensitive areas or buffers present on site.

B) LOCATE DEVELOPMENT IN LESS SENSITIVE AREAS AND WORK WITH THE NATURAL LANDSCAPE CONDITIONS, HYDROLOGY, AND SOILS ☒ Development sites and building envelopes have been appropriately distanced from wetlands and waterbodies ☐ Development and stormwater systems have been located in areas with greatest infiltration capacity (e.g., soil groups A and B) ☐ Plans show measures to prevent soil compaction in areas designated as Qualified Pervious Areas (QPA's) ☐ Development sites and building envelopes have been positioned outside of floodplains ☒ Site design positions buildings, roadways and parking areas in a manner that avoids impacts to surface water features ☐ Development sites and building envelopes have been located to minimize impacts to steep slopes (≥15%) ☐ Other (describe):	All work to be completed in existing disturbed areas. This is Phase 2 of a previously permitted development.
C) MINIMIZE CLEARING AND GRADING ☒ Site clearing has been restricted to <u>minimum area needed</u> for building footprints, development activities, construction access, and safety. ☐ Site has been designed to position buildings, roadways, and parking areas in a manner that minimizes grading (cut and fill quantities) ☐ Protection for stands of trees and individual trees and their root zones to be preserved has been specified, and such protection extends at least to the tree canopy drip line(s) ☐ Plan notes specify that public trees removed or damaged during construction shall be replaced with equivalent	No clearing required. All work restricted to previously approved Phase 2 areas.
D) REDUCE IMPERVIOUS COVER ☐ Reduced roadway widths (≤22 feet for ADT ≤ 400; ≤ 26 feet for ADT 400 - 2,000) ☐ Reduced driveway areas (length minimized via reduced ROW width (≤ 45 ft.) and/or reduced (or absolute minimum) front yard setback; width minimized to ≤ 9 ft. wide one lane; ≤ 18 ft. wide two lanes; shared driveways; pervious surface) ☒ Reduced building footprint: Explain approach: ☐ Reduced sidewalk area (≤ 4 ft. wide; one side of the street; unpaved path; pervious surface) ☐ Reduced cul-de-sacs (radius < 45 ft; vegetated island; alternative turn-around) ☐ Reduced parking lot area: Explain approach ☒ Use of pervious surfaces for driveways, sidewalks, parking areas/overflow parking areas, etc. ☐ Minimized impervious surfaces (project meets or is less than maximum specified by Zoning Ordinance) ☐ Other (describe):	Building size has been reduced from previously approved Phase 2. Previously approved Phase 2 paved parking lot not to be constructed. Pervious paver parking proposed extensively.
E) DISCONNECT IMPERVIOUS AREA ☐ Impervious surfaces have been disconnected, and runoff has been diverted to QPAs to the maximum extent possible ☐ Residential street edges allow side-of-the-road drainage into vegetated open swales ☐ Parking lot landscaping breaks up impervious expanse AND accepts runoff ☐ Other (describe):	No QPAs possible due to mapped soils types.
F) MITIGATE RUNOFF AT THE POINT OF GENERATION ☐ Small-scale BMPs have been designated to treat runoff as close as possible to the source	BMPs to be used were previously approved and have been constructed.

G) PROVIDE LOW-MAINTENANCE NATIVE VEGETATION ☒ Low-maintenance landscaping has been proposed using native species and cultivars ☐ Plantings of native trees and shrubs in areas previously cleared of native vegetation are shown on site plan ☒ Lawn areas have been limited/minimized, and yards have been kept undisturbed to the maximum extent practicable on residential lots	
H) RESTORE STREAMS/WETLANDS ☐ Historic drainage patterns have been restored by removing closed drainage systems, daylighting buried streams, and/or restoring degraded stream channels and/or wetlands ☐ Removal of invasive species ☐ Other	N/A

PART 3. SUMMARY OF REMAINING STANDARDS

GROUNDWATER RECHARGE – MINIMUM STANDARD 2		
YES	**NO**	
☐	☒	The project has been designed to meet the groundwater recharge standard.
☒	☐	If "No," the justification for groundwater recharge criterion waiver has been explained in the Narrative (e.g., threat of groundwater contamination or physical limitation), if applicable (see RICR 8.8.D);
☒	☐	Your waiver request has been explained in the Narrative, if applicable.
☐	☒	Is this site identified as a Regulated Facility in Part 1, Minimum Standard 8: LUHPPL Identification?
☐	☐	If "Yes," has approval for infiltration by the OLRSMM Site Project Manager, per Part 1, Minimum Standard 8, been requested?

TABLE 2-1: Summary of Recharge (see RISDISM Section 3.3.2)

Design Point	**Impervious Area Treated (sf)**	**Total Re_v Required (cu ft)**	**LID Stormwater Credits (see RISDISM Section 4.6.1)**	**Recharge Required by Remaining BMPs (cu ft)**	**Recharge Provided by BMPs (cu ft)**
			Portion of Re_v directed to a QPA (cu ft)		
DP-1: Valley Road	77,972	1,624	0	1,624	0
DP-2: RB wetland *	70,916	1,477	0	1,477	7,325
DP-3:					
DP-4:					
TOTALS:	148,888	3,101	0	3,101	7,325

Notes:
1. Only BMPs listed in RISDISM Table 3-5 "List of BMPs Acceptable for Recharge" may be used to meet the recharge requirement.
2. Recharge requirement must be satisfied for each waterbody ID.

☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.):

*** Per Approved Phase I documented under File No. 14-0053**
Stormwater Report: Appendix E "Supplementary Calculations"

WATER QUALITY – MINIMUM STANDARD 3		
YES	**NO**	
☒	☐	Does this project meet or exceed the required water quality volume WQv (see RICR 8.9.E-I)?
☒	☐	Is the proposed final impervious cover greater than 20% of the disturbed area (see RICR 8.9.E-I)?
☒	☐	If "Yes," either the Modified Curve Number Method or the Split Pervious/Impervious method in Hydro-CAD was used to calculate WQv; or,
☒	☐	If "Yes," either TR-55 or TR-20 was used to calculate WQv; and,
☐	☐	If "No," the project meets the minimum WQv of 0.2 watershed inches over the entire disturbed area.
☐	☐	Not Applicable
☒	☐	Does this project meet or exceed the ability to treat required water quality flow WQf (see RICR 8.9.I.1-3)?
☒	☐	Does this project propose an increase of impervious cover to a receiving water body with impairments? If "Yes," please indicate below the method that was used to address the water quality requirements of no further degradation to a low-quality water. **BMPs have been designed in accordance with the manual. WQ provided exceeds that which is required. Downstream water body is impaired for bacteria per TMDL. Imperious surfaces dramatically reduced from previously approved Phase 2 due to smaller/reduced number of buildings, elimination of paved parking lot.**
☐	☒	RICR 8.36. A Pollutant Loading Analysis is needed and has been completed.
☒	☐	The Water Quality Guidance Document (Water Quality Goals and Pollutant Loading Analysis Guidance for Discharges to Impaired Waters) has been followed as applicable.
☒	☐	BMPs are proposed that are on the approved technology list . If "Yes," please provide all required worksheets from the manufacturer.
☐	☒	Additional pollutant-specific requirements and/or pollutant removal efficiencies are applicable to the site as the result of a TMDL, SAMP, or other watershed-specific requirements. If "Yes," please describe:

TABLE 3-1: Summary of Water Quality (see RICR 8.9)

Design Point	Impervious area treated (sf)	Total WQ_v Required (cu ft)	LID Stormwater Credits (see RICR 8.18) WQv directed to a QPA (cu ft)	Water Quality Treatment Remaining (cu ft)	Water Quality Provided by BMPs (cu ft)
DP-1: Valley Road	74,334	6,195	0	6,195	9,350
DP-2: RB Wetland *	70,916	5,909	0	5,909	7,325
DP-3:					
DP-4:					
TOTALS:	148,888	12,104	0	12,104	16,675

Notes:
1. Only BMPs listed in RICR 8.20 and 8.25 or the Approved Technologies List of BMPs is Acceptable for Water Quality treatment.
2. For each Design Point, the Water Quality Volume Standard must be met for each Waterbody ID.

☒ YES ☐ NO	This project has met the setback requirements for each BMP. If "No," please explain:

☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): *** Per Approved Phase I documented under File No. 14-0053 Stormwater Report: Appendix E "Supplementary Calculations"**

CONVEYANCE AND NATURAL CHANNEL PROTECTION (RICR 8.10) – MINIMUM STANDARD 4		
YES	**NO**	
☐	☒	Is this standard waived? If "Yes," please indicate one or more of the reasons below:
		☐ The project directs discharge to a large river (i.e., 4th-order stream or larger. See RISDISM Appendix I for State-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters. ☒ The project is a small facility with impervious cover of less than or equal to 1 acre. ☐ The project has a post-development peak discharge rate from the facility that is less than 2 cfs for the 1-year, 24-hour Type III design storm event (prior to any attenuation). (Note: LID design strategies can greatly reduce the peak discharge rate).
☐	☒	Conveyance and natural channel protection for the site have been met. If "No,' explain why: Original approved design (2014) and modification (2018) did not incorporate CPV. Stormwater devices have already been built. Not possible to add CPV at this time.

OVERBANK FLOOD PROTECTION (RICR 8.11) AND OTHER POTENTIAL HIGH FLOWS – MINIMUM STANDARD 5			
YES	**NO**		
☐	☒	Is this standard waived? If yes, please indicate one or more of the reasons below:	
		☐	The project directs discharge to a large river (i.e., 4th-order stream or larger. See Appendix I for state-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters.
		☐	A Downstream Analysis (see RICR 8.11.D and E) indicates that peak discharge control would not be beneficial or would exacerbate peak flows in a downstream tributary of a particular site (e.g., through coincident peaks).
☒	☐	Does the project flow to an MS4 system or subject to other stormwater requirements? If "Yes," indicate as follows:	
		☒	RIDOT
		☐	Other (specify):
Note: The project could be approved by RIDEM but not meet RIDOT or Town standards. RIDOT's regulations indicate that post-volumes must be **less** than pre-volumes for the 10-yr storm at the design point entering the RIDOT system. If you have not already received approval for the discharge to an MS4, please explain below your strategy to comply with RIDEM and the MS4.			
		Indicate below which model was used for your analysis. ☐ TR-55 ☐ TR-20 ☒ HydroCAD ☐ Bentley/Haestad ☐ Intellisolve ☐ Other (Specify):	
YES	**NO**		
☒	☐	Does the drainage design demonstrate that flows from the 100-year storm event through a BMP will safely manage and convey the 100-year storm? If "No," please explain briefly below and reference where in the application further documentation can be found (i.e., name of report/document, page numbers, appendices, etc.):	
☐	☒	Do off-site areas contribute to the sub-watersheds and design points? If "Yes,"	
☐	☐	Are the areas modeled as "present condition" for both pre- and post-development analysis?	
☐	☐	Are the off-site areas shown on the subwatershed maps?	
☒	☐	Does the drainage design confirm safe passage of the 100-year flow through the site for off-site runoff?	
☐	☒	Is a Downstream Analysis required (see RICR 8.11.E.1)?	
☒	☐	Calculate the following:	
		☒	Area of disturbance within the sub-watershed (areas) 2.2 acres
		☒	Impervious cover (%) 17.8%
☐	☒	Is a dam breach analysis required (earthen embankments over six (6) feet in height, or a capacity of 15 acre-feet or more, and contributes to a significant or high hazard dam)?	
☒	☐	Does this project meet the overbank flood protection standard?	

Table 5-1 Hydraulic Analysis Summary								
Subwatershed (Design Point)	**1.2" Peak Flow** (cfs) **		**1-yr Peak Flow** (cfs)		**10-yr Peak Flow** (cfs)		**100-yr Peak Flow** (cfs)	
	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)
DP-1: Valley Road	0.44	0.40	1.01	0.94	6.80	6.77	25.85	23.03
DP-2: RB Wetland	As	Approved	In	Phase 1		No	Change	
DP-3:								
DP-4:								
TOTALS:								

** Utilize modified curve number method or split pervious /impervious method in HydroCAD.

Note: The hydraulic analysis must demonstrate no impact to each individual subwatershed DP unless each DP discharges to the same wetland or water resource.

Indicate as follows where the pertinent calculations and/or information for the items above are provided	**Name of report/document, page numbers, appendices, etc.**
Existing conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, and water surface elevations showing methodologies used and supporting calculations.	**Stormwater Report Appendix C**
Proposed conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, water surface elevations, and routing showing the methodologies used and supporting calculations.	**Stormwater Report Appendix D**
Final sizing calculations for structural stormwater BMPs, including contributing drainage area, storage, and outlet configuration.	**Stormwater Report Appendix E**
Stage-storage, inflow and outflow hydrographs for storage facilities (e.g., detention, retention, or infiltration facilities).	n/a

Table 5-2 Summary of Best Management Practices											
BMP ID	**DP #**	**BMP Type** (e.g., bioretention, tree filter)	**BMP Functions**					**Bypass Type**	**Horizontal Setback Criteria are met per RICR 8.21.B.10, 8.22.D.11, and 8.35.B.4**		
			Pre-Treatment (Y/N/NA)	Re_v	WQ_v	CP_v (Y/N/NA)	Overbank Flood Reduction (Y/N/NA)	External (E) Internal (I) or NA	Yes/No	Technical Justification (Design Report page number)	Distance Provided
SF-1	1	Sand Filter	Y	0	9,350 cf	N	N	N/A	Y	(lined)	N/A
		TOTALS:									

Table 5.3 Summary of Soils to Evaluate Each BMP									
DP #	**BMP ID**	**BMP Type** (e.g., bioretention, tree filter)	**Soils Analysis for Each BMP**						
			Test Pit ID# and Ground Elevation		SHWT Elevation (ft)	Bottom of Practice Elevation* (ft)	Separation Distance Provided (ft)	Hydrologic Soil Group (A, B, C, D)	Exfiltration Rate Applied (in/hr)
			Primary	Secondary					
1	SF-1	Sand Filter			Lined	Lined	N/A	C	N/A
		TOTALS:							

* For underground infiltration systems (UICs) bottom equals bottom of stone, for surface infiltration basins bottom equals bottom of basin, for filters bottom equals interface of storage and top of filter layer

LAND USES WITH HIGHER POTENTIAL POLLUTANTS LOADS (LUHPPLs) – MINIMUM STANDARD 8			
YES	**NO**	**N/A**	
☐	☐	☒	Describe any LUHPPLs identified in Part 1, Minimum Standard 8, Section 2. If not applicable, continue to Minimum Standard 9.
☐	☐	☒	Are these activities already covered under an MSGP? If "No," please explain if you have applied for an MSGP or intend to do so?
☐	☐	☒	List the specific BMPs that are proposed for this project that receive stormwater from LUHPPL drainage areas. These BMP types must be listed in RISDISM Table 3-3, "Acceptable BMPs for Use at LUHPPLs." Please list BMPs:
☐	☐	☒	Additional BMPs, or additional pretreatment BMP's if any, that meet RIPDES MSGP requirements; Please list BMPs:
			Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.).

ILLICIT DISCHARGES – MINIMUM STANDARD 9			
Illicit discharges are defined as unpermitted discharges to Waters of the State that do not consist entirely of stormwater or uncontaminated groundwater, except for certain discharges identified in the RIPDES Phase II Stormwater General Permit.			
YES	**NO**	**N/A**	
☒	☐	☐	Have you checked for illicit discharges?
☐	☒	☐	Have any been found and/or corrected? If "Yes," please identify.
☒	☐	☐	Does your report explain preventative measures that keep non-stormwater discharges out of the Waters of the State (during and after construction)?

SOIL EROSION AND SEDIMENT CONTROL (SESC) – MINIMUM STANDARD 10				
YES	**NO**	**N/A**		
☒	☐	☐	Have you included a Soil Erosion and Sediment Control Plan Set and/or Complete Construction Plan Set?	
☒	☐	☐	Have you provided a **separately-bound** document based upon the SESC Template? If yes, proceed to Minimum Standard 11 (the following items can be assumed to be addressed).	
			If "No," include a document with your submittal that addresses the following elements of an SESC Plan:	
			☐	Soil Erosion and Sediment Control Plan Project Narrative, including a description of how the fifteen (15) Performance Criteria have been met:
			☐	Provide Natural Buffers and Maintain Existing Vegetation
			☐	Minimize Area of Disturbance
			☐	Minimize the Disturbance of Steep Slopes
			☐	Preserve Topsoil
			☐	Stabilize Soils
			☐	Protect Storm Drain Inlets
			☐	Protect Storm Drain Outlets
			☐	Establish Temporary Controls for the Protection of Post-Construction Stormwater Control Measures
			☐	Establish Perimeter Controls and Sediment Barriers
			☐	Divert or Manage Run-On from Up-Gradient Areas
			☐	Properly Design Constructed Stormwater Conveyance Channels
			☐	Retain Sediment On-Site
			☐	Control Temporary Increases in Stormwater Velocity, Volume, and Peak Flows
			☐	Apply Construction Activity Pollution Prevention Control Measures
			☐	Install, Inspect, and Maintain Control Measures and Take Corrective Actions
			☐	Qualified SESC Plan Preparer's Information and Certification
			☐	Operator's Information and Certification; if not known at the time of application, the Operator must certify the SESC Plan upon selection and prior to initiating site activities
			☐	Description of Control Measures, such as Temporary Sediment Trapping and Conveyance Practices, including design calculations and supporting documentation, as required

STORMWATER MANAGEMENT SYSTEM OPERATION, MAINTENANCE, AND POLLUTION PREVENTION PLAN – MINIMUM STANDARDS 7 AND 9		
Operation and Maintenance Section		
YES	**NO**	
☒	☐	Have you minimized all sources of pollutant contact with stormwater runoff, to the maximum extent practicable?
☒	☐	Have you provided a **separately-bound** Operation and Maintenance Plan for the site and for all of the BMPs, and does it address each element of RICR 8.17 and RISDISM Appendix C and E?
☒	☐	Lawn, Garden, and Landscape Management meet the requirements of RISDISM Section G.7? If "No," why not?
☒	☐	Is the property owner or homeowner's association responsible for the stormwater maintenance of all BMP's? If "No," you must provide a legally binding and enforceable maintenance agreement (see RISDISM Appendix E, page 26) that identifies the entity that will be responsible for maintenance of the stormwater. Indicate where this agreement can be found in your report (i.e., name of report/document, page numbers, appendices, etc.).
☒	☐	Do you anticipate that you will need legal agreements related to the stormwater structures? (e.g. off-site easements, deed restrictions, covenants, or ELUR per the Remediation Regulations). If "Yes," have you obtained them? Or please explain your plan to obtain them:

☐	☒	Is stormwater being directed from public areas to private property? If "Yes," note the following: Note: This is not allowed unless a funding mechanism is in place to provide the finances for the long-term maintenance of the BMP and drainage, or a funding mechanism is demonstrated that can guarantee the long-term maintenance of a stormwater BMP by an individual homeowner.
Pollution Prevention Section		
☒	☐	Designated snow stockpile locations?
☒	☐	Trash racks to prevent floatables, trash, and debris from discharging to Waters of the State?
☐	☒	Asphalt-only based sealants?
☐	☒	Pet waste stations? (Note: If a receiving water has a bacterial impairment, and the project involves housing units, then this could be an important part of your pollution prevention plan).
☒	☐	Regular sweeping? Please describe: (Sweeping of pavement recommended. Vacuum sweeping with regenerative sweeping for pervious pavers. Refer to O&M document)
☐	☒	De-icing specifications, in accordance with RISDISM Appendix G. (NOTE: If the groundwater is GAA, or this area contributes to a drinking water supply, then this could be an important part of your pollution prevention plan).
☐	☒	A prohibition of phosphate-based fertilizers? (Note: If the site discharges to a phosphorus impaired waterbody, then this could be an important part of your pollution prevention plan).

PART 4. SUBWATERSHED MAPPING AND SITE-PLAN DETAILS

Existing and Proposed Subwatershed Mapping (REQUIRED)			
YES	**NO**		
☒	☐		Existing and proposed drainage area delineations
☒	☐		Locations of all streams and drainage swales
☒	☐		Drainage flow paths, mapped according to the DEM *Guidance for Preparation of Drainage Area Maps* (included in RISDISM Appendix K)
☒	☐		Complete drainage area boundaries; include off-site areas in both mapping and analyses, as applicable
☒	☐		Logs of borings and/or test pit investigations along with supporting soils/geotechnical report
☒	☐		Mapped seasonal high-water-table test pit locations
☒	☐		Mapped locations of the site-specific borings and/or test pits and soils information from the test pits at the locations of the BMPs
☒	☐		Mapped locations of the BMPs, with the BMPs consistently identified on the Site Construction Plans
☐	☒		Mapped bedrock outcrops adjacent to any infiltration BMP
☒	☐		Soils were logged by a:
		☒	DEM-licensed Class IV soil evaluator Name: Ed Avizinis
		☐	RI-registered P.E. Name:

Subwatershed and Impervious Area Summary				
Subwatershed (area to each design point)	**First Receiving Water ID or MS4**	**Area Disturbed (ac)**	**Existing Impervious (ac)**	**Proposed Impervious (ac)**
DP-1: Valley Road	RIDOT	2.2	1.25	1.71
DP-2: RB Wetland	**As**	**Approved**	**In**	**Phase 1**
DP-3:				
TOTALS:				

Site Construction Plans (Indicate that the following applicable specifications are provided)		
YES	**NO**	
☒	☐	Existing and proposed plans (scale not greater than 1" = 40') with North arrow
☒	☐	Existing and proposed site topography (with 1 or 2-foot contours); 10-foot contours accepted for off-site areas
☒	☐	Boundaries of existing predominant vegetation and proposed limits of clearing
☒	☐	Site Location clarification
☒	☐	Location and field-verified boundaries of resource protection areas such as: ▸ freshwater and coastal wetlands, including lakes and ponds ▸ coastal shoreline features Perennial and intermittent streams, in addition to Areas Subject to Storm Flowage (ASSFs)
☒	☐	All required setbacks (e.g., buffers, water-supply wells, septic systems)
☒	☐	Representative cross-section and profile drawings, and notes and details of structural stormwater management practices and conveyances (i.e., storm drains, open channels, swales, etc.), which include: ▸ Location and size of the stormwater treatment practices (type of practice, depth, area). Stormwater treatment practices (BMPs) must have labels that correspond to RISDISM Table 5-2; ▸ Design water surface elevations (applicable storms); ▸ Structural details of outlet structures, embankments, spillways, stilling basins, grade-control structures, conveyance channels, etc.; ▸ Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.); ▸ Location of floodplain and, if applicable, floodway limits and relationship of site to upstream and downstream properties or drainage that could be affected by work in the floodplain; ▸ Planting plans for structural stormwater BMPs, including species, size, planting methods, and maintenance requirements of proposed planting
☒	☐	Logs of borings and/or test pit investigations along with supporting soils/geotechnical report and corresponding water tables
☐	☒	Mapping of any OLRSMM-approved remedial actions/systems (including ELURs)
☒	☐	Location of existing and proposed roads, buildings, and other structures including limits of disturbance; ▸ Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements; ▸ Location of existing and proposed conveyance systems, such as grass channels, swales, and storm drains, and location(s) of final discharge point(s) (wetland, waterbody, etc.); ▸ Cross sections of roadways, with edge details such as curbs and sidewalks; ▸ Location and dimensions of channel modifications, such as bridge or culvert crossings
☐	☒	Locations, cross sections, and profiles of all stream or wetland crossings and their method of stabilization

APPENDIX I PERVIOUS PAVER DRAIN DOWN TABLE

Hydrograph for Pond PVR: Pavers

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	30.64	0.00
0.20	0.00	0	30.64	0.00
0.40	0.00	0	30.64	0.00
0.60	0.00	0	30.64	0.00
0.80	0.00	0	30.64	0.00
1.00	0.00	0	30.64	0.00
1.20	0.00	0	30.64	0.00
1.40	0.00	0	30.64	0.00
1.60	0.00	0	30.64	0.00
1.80	0.00	0	30.64	0.00
2.00	0.00	0	30.64	0.00
2.20	0.00	0	30.64	0.00
2.40	0.00	0	30.64	0.00
2.60	0.00	0	30.64	0.00
2.80	0.00	0	30.64	0.00
3.00	0.00	0	30.64	0.00
3.20	0.00	0	30.64	0.00
3.40	0.00	0	30.64	0.00
3.60	0.00	0	30.64	0.00
3.80	0.00	0	30.64	0.00
4.00	0.00	0	30.64	0.00
4.20	0.00	0	30.64	0.00
4.40	0.00	0	30.64	0.00
4.60	0.00	1	30.64	0.00
4.80	0.00	1	30.64	0.00
5.00	0.00	1	30.64	0.00
5.20	0.00	2	30.64	0.00
5.40	0.00	3	30.64	0.00
5.60	0.00	4	30.64	0.00
5.80	0.00	5	30.64	0.00
6.00	0.00	6	30.64	0.00
6.20	0.00	7	30.64	0.00
6.40	0.00	8	30.64	0.00
6.60	0.00	10	30.64	0.00
6.80	0.00	12	30.64	0.00
7.00	0.00	14	30.64	0.00
7.20	0.00	16	30.64	0.00
7.40	0.00	18	30.64	0.00
7.60	0.00	21	30.64	0.00
7.80	0.00	24	30.64	0.00
8.00	0.00	27	30.65	0.00
8.20	0.01	31	30.65	0.00
8.40	0.01	35	30.65	0.00
8.60	0.01	39	30.65	0.00
8.80	0.01	44	30.65	0.00
9.00	0.01	50	30.65	0.00
9.20	0.01	56	30.65	0.00
9.40	0.01	63	30.65	0.00
9.60	0.01	70	30.65	0.00
9.80	0.01	78	30.66	0.00
10.00	0.01	86	30.66	0.00
10.20	0.01	96	30.66	0.00
10.40	0.02	106	30.66	0.00
10.60	0.02	117	30.66	0.00
10.80	0.02	130	30.67	0.00
11.00	0.02	144	30.67	0.00
11.20	0.03	159	30.67	0.00
11.40	0.03	179	30.67	0.00
11.60	0.05	203	30.68	0.00
11.80	0.11	255	30.69	0.01
12.00	**0.25**	356	30.71	0.01
12.20	**0.19**	559	30.75	0.03
12.40	0.11	640	30.76	0.04
12.60	0.05	668	30.77	0.04
12.80	0.04	**671**	**30.77**	**0.04**
13.00	0.03	**669**	**30.77**	**0.04**
13.20	0.03	662	30.77	0.04
13.40	0.03	655	30.77	0.04
13.60	0.02	647	30.76	0.04
13.80	0.02	638	30.76	0.03
14.00	0.02	628	30.76	0.03
14.20	0.02	618	30.76	0.03
14.40	0.02	608	30.76	0.03
14.60	0.02	598	30.76	0.03
14.80	0.02	588	30.75	0.03
15.00	0.02	578	30.75	0.03
15.20	0.01	568	30.75	0.03
15.40	0.01	559	30.75	0.03
15.60	0.01	549	30.75	0.03
15.80	0.01	539	30.74	0.03
16.00	0.01	529	30.74	0.02
16.20	0.01	519	30.74	0.02
16.40	0.01	509	30.74	0.02
16.60	0.01	500	30.74	0.02
16.80	0.01	491	30.73	0.02
17.00	0.01	482	30.73	0.02
17.20	0.01	474	30.73	0.02
17.40	0.01	465	30.73	0.02
17.60	0.01	457	30.73	0.02
17.80	0.01	449	30.73	0.02
18.00	0.01	441	30.73	0.02
18.20	0.01	434	30.72	0.02
18.40	0.01	426	30.72	0.02
18.60	0.01	419	30.72	0.02
18.80	0.01	412	30.72	0.02
19.00	0.01	406	30.72	0.01
19.20	0.01	399	30.72	0.01
19.40	0.01	393	30.72	0.01
19.60	0.01	387	30.71	0.01
19.80	0.01	382	30.71	0.01
20.00	0.01	376	30.71	0.01
20.20	0.01	371	30.71	0.01
20.40	0.01	366	30.71	0.01
20.60	0.01	361	30.71	0.01
20.80	0.00	356	30.71	0.01
21.00	0.00	351	30.71	0.01
21.20	0.00	347	30.71	0.01
21.40	0.00	342	30.71	0.01
21.60	0.00	338	30.71	0.01
21.80	0.00	334	30.70	0.01
22.00	0.00	330	30.70	0.01
22.20	0.00	326	30.70	0.01
22.40	0.00	322	30.70	0.01
22.60	0.00	318	30.70	0.01
22.80	0.00	314	30.70	0.01
23.00	0.00	311	30.70	0.01
23.20	0.00	307	30.70	0.01
23.40	0.00	304	30.70	0.01
23.60	0.00	300	30.70	0.01
23.80	0.00	297	30.70	0.01
24.00	0.00	294	30.70	0.01