

PRELIMINARY STORMWATER REPORT

FOR

**VILLAGE AT CHEBACCO HILL
133 ESSEX STREET**

IN

**HAMILTON,
MASSACHUSETTS**

PREPARED BY: DILLIS & ROY
CIVIL DESIGN GROUP, INC.
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

PREPARED FOR: CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MA

MARCH 4TH, 2024
CDG PROJECT #7465

TABLE OF CONTENTS

1.0	Project Narrative	3
1.1	<i>Project Type</i>	3
1.2	<i>Purpose and Scope</i>	3
1.3	<i>LID Measures</i>	3
1.4	<i>Site Description</i>	4
1.5	<i>Proposed Stormwater Management System</i>	5
1.6	<i>Methods of Analysis</i>	6
2.0	Stormwater Standards Compliance	7
2.1	<i>Standard 1 – Untreated Discharge</i>	7
2.2	<i>Standard 2 – Peak Rate Attenuation</i>	7
2.3	<i>Standard 3 – Recharge</i>	8
2.4	<i>Standard 4 – Water Quality</i>	8
2.5	<i>Standard 5 – Land Uses with Higher Pollutant Loads</i>	8
2.6	<i>Standard 6 – Critical Areas</i>	8
2.7	<i>Standard 7 – Redevelopment</i>	8
2.8	<i>Standard 8 – Construction Period Pollution Prevention Plan and Erosion and Sediment Control</i>	9
2.9	<i>Standard 9 – Operation and Maintenance Plan</i>	9
2.10	<i>Standard 10 – Prohibition of Illicit Discharge</i>	9
3.0	Appendices	10
	<i>Appendix A - Locus Map</i>	11
	<i>Appendix B - Checklist for Stormwater Report</i>	12
	<i>Appendix C - Soils Data</i>	13
	<i>Appendix D - Existing Conditions Hydrologic Calculations</i>	14
	<i>Appendix E - Proposed Conditions Hydrologic Calculations</i>	15
	<i>Appendix F – Stormwater Calculations</i>	16
	<i>Appendix G – Construction Period Pollution Prevention</i>	17
	<i>Appendix H - Operation and Maintenance Plan</i>	18
	<i>Appendix I - Long Term Pollution Prevention Plan</i>	19
4.0	Plans	21
	<i>Pre-development Watershed Plan</i>	22
	<i>Post-development Watershed Plan</i>	23

1.0 Project Narrative

1.1 Project Type

The Applicant, Chebacco Hill Capital Partners, LLC., is proposing the construction of a residential development on the southern side of Chebacco Hill Road at the Intersection of Essex Street. The proposed development consists of 59 single family homes and the associated roadways for access. The 59 units are proposed in the following configuration of single, duplex & triplex units: 12 singles, 13 duplexes & 7 triplexes. The improvements include measures to mitigate stormwater impacts from the proposed Chapter 40B development. The project will include approximately $\pm 2,200$ lineal feet of new roadway for residential access. The proposed residential homes include driveways & garages for resident parking and an additional 22 visitor parking spaces located throughout the development. The access is proposed along Chebacco Road where the lot derives frontage from. The proposed scope of construction also includes a recreation area with associated amenities, a private on-site sewage disposal system, and new utility connections with their associated appurtenances.

1.2 Purpose and Scope

This report is preliminary and is intended to address general compliance of the proposed development with regards to the Massachusetts Stormwater Manual & provides calculations to support basic compliance information. This report will be updated by Dillis & Roy Civil Design Group, Inc. and will include all required forms, calculations, narratives & reports to satisfy the requirements of the Stormwater Management Standards incorporated in the Massachusetts Wetlands Protection Act Regulations, 310 CMR 10.00. These standards are intended to promote increased groundwater recharge and prevent stormwater discharges from causing or contributing to the pollution of surface waters and ground waters of the Commonwealth. The standards aim to accomplish these goals by encouraging the greater use of low impact development (LID) techniques and improving the operation and maintenance of stormwater best management practices (BMP). The above-mentioned updated Stormwater Report shall be submitted under separate cover.

1.3 LID Measures

Care has been taken to lay out the proposed site in a manner that works with existing topography. BMPs, have been specified to manage the stormwater runoff. Stormwater from the proposed impervious surface locations is routed to rain gardens or an infiltration basin via land flow, curb and gutter systems, or the proposed drainage pipe system. The stormwater areas will reduce run off rates below pre-developed rates while providing water quality pre-treatment by sediment forebays.

1.4 Site Description

The subject property is located at 133 Essex Street in Hamilton, Massachusetts. The property is located at the intersection of Chebacco Road & Essex Street and contains (2) lots identified as Parcel ID No. 65-0001 as shown on the Town of Hamilton Assessors maps. The proposed scope of work is entirely located on Lot 1 as shown on Plan of Land in Hamilton, MA prepared by Williams & Sparages, dated September 29, 2021 which can be found within the attached Comprehensive Plan Set.

The property consists of a total of ± 56.8 acres with ~ 776.8 -feet of frontage along Chebacco Road. The land is located within the Town of Hamilton's Single Residence Zoning District (R-1B) and is abutted by agricultural uses to the south and the west and by Single Residence Zoning (R-1A) to the northwest. The site has a dense canopy of undeveloped woodland with a network of meandering pedestrian trail paths throughout the area. There is currently no vehicular access drive for the property.

According to the current Massachusetts GIS information, the subject property is not mapped as Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife. There is one certified vernal pool on the property, though other vernal pools have been identified during a prior ANRAD process & remain uncertified. According to FEMA Community Panel, 25009C0427F, effective date 07/03/2012, there are no areas mapped as 100-year FEMA floodplain on the subject property. Pursuant to the Massachusetts Wetlands Protection Act, the property contains the following resource areas; Bordering Vegetated Wetlands, Inland Bank, and a Vernal Pool. Resource areas defined by the Town of Hamilton Wetland Bylaw are as follows: Freshwater Wetlands greater than 1000 SF and Associated Upland Resource Area (AURA).

The existing drainage patterns of the site shed water toward existing wetland areas and to Chebacco Road. There are no existing stormwater management controls (BMP's) installed on site for conveyance, collection or attenuation. The majority of the stormwater runoff sheet flows downgradient towards the wetland areas while Chebacco Road receives the runoff associated with the remaining portion of the property.

According to the Natural Resources Conservation Services soils maps, much of the site consists of soils belonging to the Chatfield-Hollis-Rock Outcrop variety. A portion of the site also contains Merrimac & Canton fine sandy loams. The wetland portions of the site are classified as Scarborough mucky fine sandy loam. The NRCS survey indicates that a large majority of the site is located on Hydrologic Soil Group (HSG) (D) soil, while the remaining portion of property is located on either HSG (B) or HSG (A) soils.

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Soils belonging to group D have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Please refer to Appendix C for further information regarding the soils on-site. On-site soil test hole data will be provided under separate cover which will be included within the updated Stormwater Report.

1.5 Proposed Stormwater Management System

Runoff from the proposed development will be conveyed and treated through a combination of Best Management Practices (BMP's). The following is a brief discussion of each conveyance and treatment BMP proposed.

Deep Sump Hooded Catch Basin

Deep sump hooded catch basins are proposed to convey the runoff from the proposed paved areas and roofs to the rain gardens. These catch basins will discharge to manholes and conventional storm drains.

Rain Garden

Five (5) rain gardens have been designed to capture stormwater runoff from the proposed development area. Each rain garden will be underlain with a layer of mulch to provide additional treatment of stormwater as it infiltrates. Various plantings are proposed within the rain garden to stabilize the area and provide additional total suspended solids (TSS) removal prior to infiltration within the rain garden. The runoff captured by the rain garden will infiltrate through the soil media which will act as a filter, removing TSS, nitrogen, and phosphorus. Sediment forebays designed at the entrance of each rain garden were included to decrease the velocity of flow and increase the settlement of heavy solids prior to the rain garden. Riprap will also be installed at the inlet of the sediment forebays

and the outlet of the stormwater management areas to control the overflow of stormwater into the adjacent wetlands and will reduce the potential for scouring.

Infiltration Basin

The infiltration basin is designed to reduce the runoff rates and increase the groundwater recharge rates. Sediment forebays designed at the entrance of each basin were included to decrease the velocity of flow and increase the settlement of heavy solids prior to the infiltration basin. Riprap will also be installed at the inlet of the sediment forebays and the outlet of the basins to control the overflow of stormwater into the adjacent wetlands and will reduce the potential for scouring.

Detention Basin

The detention basin is designed to attenuate overland undeveloped flow & convey the runoff to the adjacent rain garden. Due to high groundwater tables on site & HSG D Soils, infiltration cannot be accounted for in the hydrologic design. The basin will discharge via a 12" culvert with a low-flow restriction in the form of an orifice. An emergency spillway has been designed to allow for overflow during sever rainfall events. Riprap will also be installed at the outlet of the basin to control the overflow of stormwater into the adjacent areas and will reduce the potential for scouring.

1.6 Methods of Analysis

The United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil cover complex methods (TR-20) were employed to compute runoff quantities for the subject property. Watershed analysis demonstrate that natural drainage patterns drain towards three (3) different design points. Design Point-A has been specified as the large wetland system on the property to the north, south & west. Design Point-B has been specified as the wetland system located on the eastern portion of the property, and Design Point-C has been designated as Chebacco Road which receives the remaining runoff from the site. As mentioned, three design points were modeled to analyze the total runoff from the site. HydroCAD 10.0 computer software was employed in this hydrologic analysis.

A comparison of pre- and post-development runoff quantities at the analysis points were performed in order to design a stormwater management system that will limit peak rates of runoff from the development to predevelopment levels for 24-hour rainfall events of 2-, 10-, 25- and 100-year return frequencies. Watershed boundaries for existing conditions are depicted on the attached Preliminary Pre-development Watershed Plan. Preliminary Post-Developed watershed boundaries are indicated on the Preliminary Post-development Watershed Plan.

2.0 Stormwater Standards Compliance

2.1 Standard 1 – Untreated Discharge

The stormwater management system for the proposed development will not result in any new discharges of untreated stormwater to wetland resource areas. Stormwater management structures have been designed such that there is no erosion or scour to wetland resource areas or waters of the Commonwealth.

2.2 Standard 2 – Peak Rate Attenuation

Hydrologic calculations for existing and proposed site conditions are included in Appendices D and E respectively. Calculations for 24-hour rainfall events of 2-, 10-, 25- and 100-year return frequencies are provided. The “NRCC Extreme Precipitation in New York & New England” rainfall rates were used in the hydraulic model. The following table provides a summary of peak rates of runoff related to each of these storms for the design point through which all runoff from the subject property must flow. For all rainfall events considered, the proposed stormwater management system will control runoff from the development such that corresponding peak flows at the design point will be lower than pre-developed rates.

Table 1: Wetland Design Point Runoff Summary

	Pre-Developed (ft³ / sec)	Post-Developed (ft³ / sec)
<i>Design Point “A”</i>		
2-Year	9.71	7.53
10-Year	40.04	27.42
25-Year	55.33	42.82
100-Year	144.46	123.19

Table 2: Eastern Wetland Design Point Runoff Summary

	Pre-Developed (ft³ / sec)	Post-Developed (ft³ / sec)
<i>Design Point “B”</i>		
2-Year	1.34	1.31
10-Year	2.82	2.75
25-Year	3.46	3.37
100-Year	6.73	6.54

Table 3: Chebacco Road Design Point Runoff Summary

	Pre-Developed (ft³ / sec)	Post-Developed (ft³ / sec)
<i>Design Point "C"</i>		
2-Year	2.04	1.92
10-Year	4.27	3.94
25-Year	5.24	4.81
100-Year	10.18	9.29

2.3 Standard 3 – Recharge

Standard 3 compliance will be documented in the updated Stormwater Report submitted under separate cover. Stormwater recharge calculations & narration will be provided in the final Stormwater Report.

2.4 Standard 4 – Water Quality

TSS removal calculations have been provided (Appendix F) showing that the proposed TSS removal efficiency from these areas will be >80% using the rain garden and infiltration basin with the sediment forebay & deep sump hooded catch basins for pretreatment. This BMP train is proposed for all rain gardens & infiltration basin. Additional information will be provided in the updated Stormwater Report.

2.5 Standard 5 – Land Uses with Higher Pollutant Loads

The current and proposed uses of the subject site do not constitute land use with higher potential pollutant load, thus Standard 5 does not apply to the proposed project.

2.6 Standard 6 –Critical Areas

The proposed project does not discharge stormwater to areas outlined in Standard 6.

2.7 Standard 7 – Redevelopment

The proposed project does meet the standards to be considered a Redevelopment project.

2.8 *Standard 8 – Construction Period Pollution Prevention Plan and Erosion and Sediment Control*

The project is subject to the filing of an Environmental Protection Agency Notice of Intent (EPA NOI), and the work will be pursuant to the NPDES Construction General Permit for disturbance to an area greater than 1 acre, a copy of the Stormwater Pollution Prevention Plan (SWPPP) will be submitted prior to construction. The SWPPP will satisfy the Standard 8 Construction Period Pollution prevention. An Erosion and Sediment Control Plan will be included in the final Plan Set.

2.9 *Standard 9 – Operation and Maintenance Plan*

This report shall be updated by Dillis & Roy Civil Design Group, Inc. and will include a Stormwater Operation & Maintenance Plan for the proposed scope of work & will be submitted under separate cover.

2.10 *Standard 10 – Prohibition of Illicit Discharge*

An illicit discharge statement will be prepared after approvals are received and prior to construction.

3.0 Appendices

Preliminary Stormwater Report
133 Essex Street

March 4th, 2024
Chebacco Hill Capital Partners, LLC

Appendix A - Locus Map



FIGURE 1 – Locus Map

1' = 1000'

Prepared By: Dillis & Roy Civil Design Group, Inc.
 1 Main Street, Suite 1
 Lunenburg, MA 01462

Prepared For: Chebacco Hill Capital Partners
 P.O. Box 1044
 Sudbury, MA

References: Massachusetts Topographic Map

Appendix B - Checklist for Stormwater Report

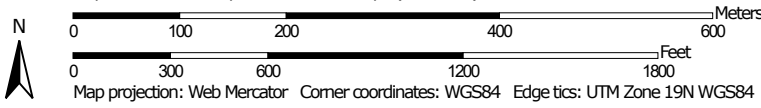
This information will be provided with the final Stormwater Report.

Appendix C - Soils Data

Hydrologic Soil Group—Essex County, Massachusetts, Southern Part



Map Scale: 1:7,090 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Essex County, Massachusetts, Southern Part
 Survey Area Data: Version 20, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		7.6	3.8%
31A	Walpole sandy loam, 0 to 3 percent slopes	B/D	0.1	0.1%
43A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	A/D	19.9	10.0%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	11.7	5.9%
102C	Chatfield-Hollis-Rock outcrop complex, 0 to 15 percent slopes	B	4.6	2.3%
102E	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	D	76.7	38.4%
242A	Hinckley loamy sand, 0 to 3 percent slopes	A	9.7	4.9%
242B	Hinckley gravelly fine sandy loam, 3 to 8 percent slopes	A	2.6	1.3%
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	A	2.2	1.1%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	A	7.9	4.0%
260A	Sudbury fine sandy loam, 0 to 3 percent slopes	B	18.5	9.3%
421B	Canton fine sandy loam, 0 to 8 percent slopes, very stony	B	1.5	0.7%
421C	Canton fine sandy loam, 8 to 15 percent slopes, very stony	B	18.6	9.3%
421D	Canton fine sandy loam, 15 to 25 percent slopes, very stony	A	17.9	9.0%
600	Pits, gravel		0.0	0.0%
Totals for Area of Interest			199.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

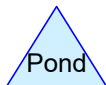
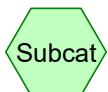
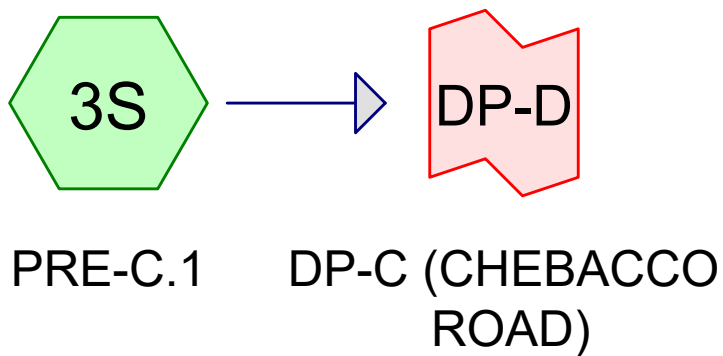
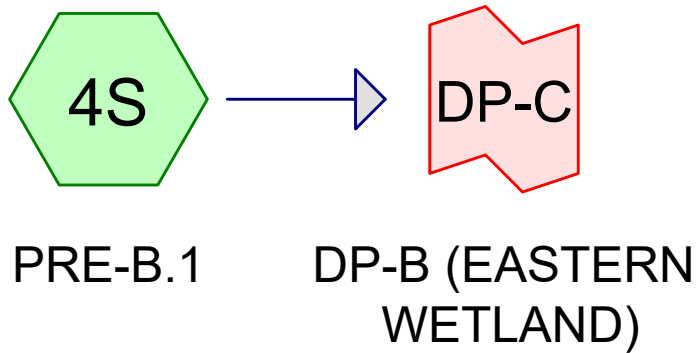
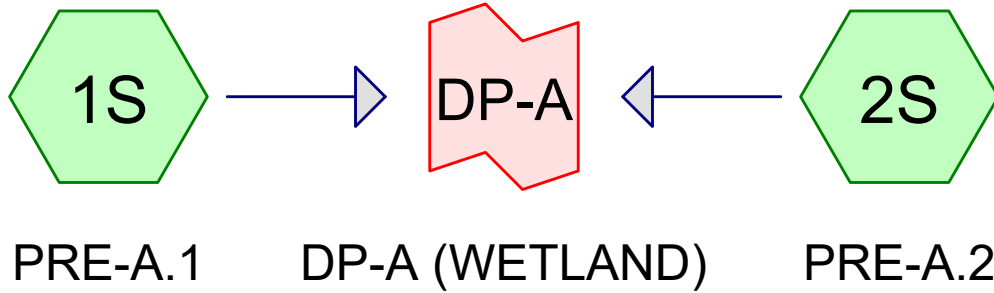
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix D - Existing Conditions Hydrologic Calculations



7465-PRE

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Printed 3/19/2024

Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.23	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.88	2
3	25-yr	Type III 24-hr		Default	24.00	1	5.55	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.87	2

7465-PRE

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 3

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

Subcatchment1S: PRE-A.1

Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=0.53"
 Tc=16.1 min CN=63 Runoff=4.27 cfs 0.578 af

Subcatchment2S: PRE-A.2

Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=0.39"
 Flow Length=561' Tc=15.8 min CN=59 Runoff=5.57 cfs 0.936 af

Subcatchment3S: PRE-C.1

Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=1.23"
 Flow Length=249' Tc=9.1 min CN=77 Runoff=2.04 cfs 0.168 af

Subcatchment4S: PRE-B.1

Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=1.23"
 Flow Length=274' Tc=8.2 min CN=77 Runoff=1.34 cfs 0.107 af

Link DP-A: DP-A (WETLAND)

Inflow=9.71 cfs 1.513 af
 Primary=9.71 cfs 1.513 af

Link DP-C: DP-B (EASTERNWETLAND)

Inflow=1.34 cfs 0.107 af
 Primary=1.34 cfs 0.107 af

Link DP-D: DP-C (CHEBACCOROAD)

Inflow=2.04 cfs 0.168 af
 Primary=2.04 cfs 0.168 af

Total Runoff Area = 44.834 ac Runoff Volume = 1.789 af Average Runoff Depth = 0.48"
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac

7465-PRE

Summary for Subcatchment 1S: PRE-A.1

Runoff = 4.27 cfs @ 12.30 hrs, Volume= 0.578 af, Depth= 0.53"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 5.57 cfs @ 12.37 hrs, Volume= 0.936 af, Depth= 0.39"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 2.04 cfs @ 12.14 hrs, Volume= 0.168 af, Depth= 1.23"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

7465-PRE

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 5

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 1.34 cfs @ 12.12 hrs, Volume= 0.107 af, Depth= 1.23"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 0.43" for 2-yr event
Inflow = 9.71 cfs @ 12.33 hrs, Volume= 1.513 af
Primary = 9.71 cfs @ 12.33 hrs, Volume= 1.513 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 1.23" for 2-yr event
Inflow = 1.34 cfs @ 12.12 hrs, Volume= 0.107 af
Primary = 1.34 cfs @ 12.12 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 1.23" for 2-yr event
Inflow = 2.04 cfs @ 12.14 hrs, Volume= 0.168 af
Primary = 2.04 cfs @ 12.14 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRE

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 7

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

Subcatchment1S: PRE-A.1	Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=1.43" Tc=16.1 min CN=63 Runoff=14.70 cfs 1.554 af
Subcatchment2S: PRE-A.2	Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=1.17" Flow Length=561' Tc=15.8 min CN=59 Runoff=25.35 cfs 2.833 af
Subcatchment3S: PRE-C.1	Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=2.52" Flow Length=249' Tc=9.1 min CN=77 Runoff=4.27 cfs 0.345 af
Subcatchment4S: PRE-B.1	Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=2.52" Flow Length=274' Tc=8.2 min CN=77 Runoff=2.82 cfs 0.220 af
Link DP-A: DP-A (WETLAND)	Inflow=40.04 cfs 4.388 af Primary=40.04 cfs 4.388 af
Link DP-C: DP-B (EASTERNWETLAND)	Inflow=2.82 cfs 0.220 af Primary=2.82 cfs 0.220 af
Link DP-D: DP-C (CHEBACCOROAD)	Inflow=4.27 cfs 0.345 af Primary=4.27 cfs 0.345 af
Total Runoff Area = 44.834 ac Runoff Volume = 4.952 af Average Runoff Depth = 1.33"	
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac	

7465-PRE

Summary for Subcatchment 1S: PRE-A.1

Runoff = 14.70 cfs @ 12.25 hrs, Volume= 1.554 af, Depth= 1.43"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 25.35 cfs @ 12.25 hrs, Volume= 2.833 af, Depth= 1.17"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 4.27 cfs @ 12.13 hrs, Volume= 0.345 af, Depth= 2.52"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

7465-PRE

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 9

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 2.82 cfs @ 12.12 hrs, Volume= 0.220 af, Depth= 2.52"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 1.25" for 10-yr event
Inflow = 40.04 cfs @ 12.25 hrs, Volume= 4.388 af
Primary = 40.04 cfs @ 12.25 hrs, Volume= 4.388 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 2.82 cfs @ 12.12 hrs, Volume= 0.220 af
Primary = 2.82 cfs @ 12.12 hrs, Volume= 0.220 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 4.27 cfs @ 12.13 hrs, Volume= 0.345 af
Primary = 4.27 cfs @ 12.13 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRE

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 11

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

Subcatchment1S: PRE-A.1	Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=1.87" Tc=16.1 min CN=63 Runoff=19.75 cfs 2.025 af
Subcatchment2S: PRE-A.2	Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=1.56" Flow Length=561' Tc=15.8 min CN=59 Runoff=35.59 cfs 3.783 af
Subcatchment3S: PRE-C.1	Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=3.09" Flow Length=249' Tc=9.1 min CN=77 Runoff=5.24 cfs 0.422 af
Subcatchment4S: PRE-B.1	Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=3.09" Flow Length=274' Tc=8.2 min CN=77 Runoff=3.46 cfs 0.269 af
Link DP-A: DP-A (WETLAND)	Inflow=55.33 cfs 5.808 af Primary=55.33 cfs 5.808 af
Link DP-C: DP-B (EASTERNWETLAND)	Inflow=3.46 cfs 0.269 af Primary=3.46 cfs 0.269 af
Link DP-D: DP-C (CHEBACCOROAD)	Inflow=5.24 cfs 0.422 af Primary=5.24 cfs 0.422 af
Total Runoff Area = 44.834 ac Runoff Volume = 6.499 af Average Runoff Depth = 1.74"	
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac	

7465-PRE

Summary for Subcatchment 1S: PRE-A.1

Runoff = 19.75 cfs @ 12.24 hrs, Volume= 2.025 af, Depth= 1.87"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 35.59 cfs @ 12.24 hrs, Volume= 3.783 af, Depth= 1.56"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 5.24 cfs @ 12.13 hrs, Volume= 0.422 af, Depth= 3.09"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRE

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 13

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 3.46 cfs @ 12.12 hrs, Volume= 0.269 af, Depth= 3.09"
 Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 1.65" for 25-yr event
 Inflow = 55.33 cfs @ 12.24 hrs, Volume= 5.808 af
 Primary = 55.33 cfs @ 12.24 hrs, Volume= 5.808 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
 Inflow = 3.46 cfs @ 12.12 hrs, Volume= 0.269 af
 Primary = 3.46 cfs @ 12.12 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 5.24 cfs @ 12.13 hrs, Volume= 0.422 af
Primary = 5.24 cfs @ 12.13 hrs, Volume= 0.422 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRE

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 15

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

Subcatchment1S: PRE-A.1	Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=4.36" Tc=16.1 min CN=63 Runoff=48.42 cfs 4.732 af
Subcatchment2S: PRE-A.2	Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=3.88" Flow Length=561' Tc=15.8 min CN=59 Runoff=96.04 cfs 9.416 af
Subcatchment3S: PRE-C.1	Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=6.08" Flow Length=249' Tc=9.1 min CN=77 Runoff=10.18 cfs 0.830 af
Subcatchment4S: PRE-B.1	Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=6.08" Flow Length=274' Tc=8.2 min CN=77 Runoff=6.73 cfs 0.529 af
Link DP-A: DP-A (WETLAND)	Inflow=144.46 cfs 14.148 af Primary=144.46 cfs 14.148 af
Link DP-C: DP-B (EASTERNWETLAND)	Inflow=6.73 cfs 0.529 af Primary=6.73 cfs 0.529 af
Link DP-D: DP-C (CHEBACCOROAD)	Inflow=10.18 cfs 0.830 af Primary=10.18 cfs 0.830 af
Total Runoff Area = 44.834 ac Runoff Volume = 15.508 af Average Runoff Depth = 4.15"	
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac	

7465-PRE

Prepared by Dillis & Roy Civil Design Group
 HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 100-yr Rainfall=8.87"

Printed 3/19/2024

Page 16

Summary for Subcatchment 1S: PRE-A.1

Runoff = 48.42 cfs @ 12.23 hrs, Volume= 4.732 af, Depth= 4.36"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 96.04 cfs @ 12.23 hrs, Volume= 9.416 af, Depth= 3.88"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 10.18 cfs @ 12.13 hrs, Volume= 0.830 af, Depth= 6.08"
 Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

7465-PRE

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 17

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 6.73 cfs @ 12.12 hrs, Volume= 0.529 af, Depth= 6.08"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 4.03" for 100-yr event
Inflow = 144.46 cfs @ 12.23 hrs, Volume= 14.148 af
Primary = 144.46 cfs @ 12.23 hrs, Volume= 14.148 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 6.08" for 100-yr event
Inflow = 6.73 cfs @ 12.12 hrs, Volume= 0.529 af
Primary = 6.73 cfs @ 12.12 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min

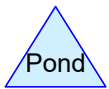
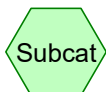
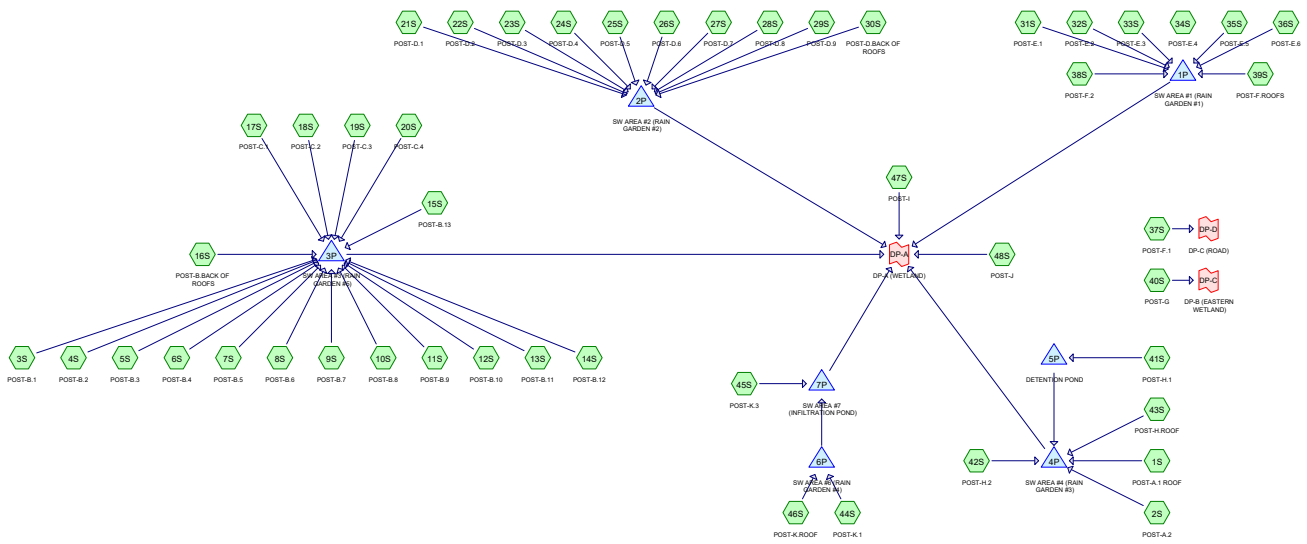
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 6.08" for 100-yr event
Inflow = 10.18 cfs @ 12.13 hrs, Volume= 0.830 af
Primary = 10.18 cfs @ 12.13 hrs, Volume= 0.830 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Appendix E - Proposed Conditions Hydrologic Calculations



Routing Diagram for 7465-PRELIMINARY POST
 Prepared by Dillis & Roy Civil Design Group, Printed 3/19/2024
 HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Printed 3/19/2024

Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.23	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.88	2
3	25-yr	Type III 24-hr		Default	24.00	1	5.55	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.87	2

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 3

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

Subcatchment1S: POST-A.1ROOF	Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=1.78" Tc=6.0 min CN=85 Runoff=1.03 cfs 0.075 af
Subcatchment2S: POST-A.2	Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=2.47" Tc=6.0 min CN=93 Runoff=0.34 cfs 0.026 af
Subcatchment3S: POST-B.1	Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af
Subcatchment4S: POST-B.2	Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.020 af
Subcatchment5S: POST-B.3	Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=2.57" Tc=6.0 min CN=94 Runoff=0.53 cfs 0.040 af
Subcatchment6S: POST-B.4	Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=2.02" Tc=6.0 min CN=88 Runoff=1.21 cfs 0.088 af
Subcatchment7S: POST-B.5	Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=2.11" Tc=6.0 min CN=89 Runoff=0.81 cfs 0.059 af
Subcatchment8S: POST-B.6	Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=2.38" Tc=6.0 min CN=92 Runoff=0.78 cfs 0.058 af
Subcatchment9S: POST-B.7	Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=2.78" Tc=6.0 min CN=96 Runoff=0.30 cfs 0.024 af
Subcatchment10S: POST-B.8	Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=2.29" Tc=6.0 min CN=91 Runoff=0.96 cfs 0.071 af
Subcatchment11S: POST-B.9	Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=2.47" Tc=6.0 min CN=93 Runoff=0.83 cfs 0.063 af
Subcatchment12S: POST-B.10	Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=2.38" Tc=6.0 min CN=92 Runoff=0.84 cfs 0.063 af
Subcatchment13S: POST-B.11	Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=2.67" Tc=6.0 min CN=95 Runoff=0.32 cfs 0.024 af
Subcatchment14S: POST-B.12	Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=2.47" Tc=6.0 min CN=93 Runoff=0.57 cfs 0.043 af
Subcatchment15S: POST-B.13	Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=1.56" Tc=6.0 min CN=82 Runoff=0.68 cfs 0.049 af
Subcatchment16S: POST-B.BACKOF	Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=1.07 cfs 0.087 af

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 4

Subcatchment17S: POST-C.1	Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=2.47" Tc=6.0 min CN=93 Runoff=0.65 cfs 0.049 af
Subcatchment18S: POST-C.2	Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af
Subcatchment19S: POST-C.3	Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=2.47" Tc=6.0 min CN=93 Runoff=0.95 cfs 0.072 af
Subcatchment20S: POST-C.4	Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=2.11" Tc=6.0 min CN=89 Runoff=1.03 cfs 0.076 af
Subcatchment21S: POST-D.1	Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=2.29" Tc=6.0 min CN=91 Runoff=0.49 cfs 0.036 af
Subcatchment22S: POST-D.2	Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=2.57" Tc=6.0 min CN=94 Runoff=0.29 cfs 0.022 af
Subcatchment23S: POST-D.3	Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=2.78" Tc=6.0 min CN=96 Runoff=0.20 cfs 0.015 af
Subcatchment24S: POST-D.4	Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=1.63" Tc=6.0 min CN=83 Runoff=0.35 cfs 0.025 af
Subcatchment25S: POST-D.5	Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=1.49" Tc=6.0 min CN=81 Runoff=0.53 cfs 0.039 af
Subcatchment26S: POST-D.6	Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=2.78" Tc=6.0 min CN=96 Runoff=0.15 cfs 0.012 af
Subcatchment27S: POST-D.7	Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=2.89" Tc=6.0 min CN=97 Runoff=0.23 cfs 0.018 af
Subcatchment28S: POST-D.8	Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=1.63" Tc=6.0 min CN=83 Runoff=0.35 cfs 0.025 af
Subcatchment29S: POST-D.9	Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=1.49" Tc=6.0 min CN=81 Runoff=0.65 cfs 0.047 af
Subcatchment30S: POST-D.BACKOF	Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.36 cfs 0.029 af
Subcatchment31S: POST-E.1	Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=2.29" Tc=6.0 min CN=91 Runoff=0.83 cfs 0.062 af
Subcatchment32S: POST-E.2	Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=1.71" Tc=6.0 min CN=84 Runoff=1.72 cfs 0.125 af
Subcatchment33S: POST-E.3	Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=1.94" Tc=6.0 min CN=87 Runoff=0.82 cfs 0.060 af

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 5

Subcatchment34S: POST-E.4	Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=2.78" Tc=6.0 min CN=96 Runoff=0.13 cfs 0.010 af
Subcatchment35S: POST-E.5	Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af
Subcatchment36S: POST-E.6	Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af
Subcatchment37S: POST-F.1	Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=1.30" Flow Length=240' Tc=8.9 min CN=78 Runoff=1.92 cfs 0.157 af
Subcatchment38S: POST-F.2	Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=1.56" Tc=6.0 min CN=82 Runoff=0.65 cfs 0.047 af
Subcatchment39S: POST-F.ROOFS	Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.41 cfs 0.034 af
Subcatchment40S: POST-G	Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=1.23" Tc=6.0 min CN=77 Runoff=1.31 cfs 0.098 af
Subcatchment41S: POST-H.1	Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=1.30" Flow Length=175' Tc=10.9 min CN=78 Runoff=3.26 cfs 0.281 af
Subcatchment42S: POST-H.2	Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=1.49" Tc=6.0 min CN=81 Runoff=0.31 cfs 0.023 af
Subcatchment43S: POST-H.ROOF	Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=0.38 cfs 0.031 af
Subcatchment44S: POST-K.1	Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=1.43" Tc=6.0 min CN=80 Runoff=2.83 cfs 0.207 af
Subcatchment45S: POST-K.3	Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=0.02" Tc=6.0 min CN=42 Runoff=0.00 cfs 0.000 af
Subcatchment46S: POST-K.ROOF	Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=3.00" Tc=6.0 min CN=98 Runoff=1.13 cfs 0.093 af
Subcatchment47S: POST-I	Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=0.18" Flow Length=323' Tc=16.1 min CN=52 Runoff=1.01 cfs 0.319 af
Subcatchment48S: POST-J	Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=0.21" Flow Length=230' Tc=12.4 min CN=53 Runoff=0.44 cfs 0.115 af
Pond 1P: SW AREA#1 (RAIN GARDEN#1)	Peak Elev=56.59' Storage=11,335 cf Inflow=4.74 cfs 0.351 af Outflow=0.11 cfs 0.309 af
Pond 2P: SW AREA#2 (RAIN GARDEN#2)	Peak Elev=71.15' Storage=4,658 cf Inflow=3.59 cfs 0.269 af Outflow=1.83 cfs 0.236 af

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 6

Pond 3P: SW AREA#3 (RAIN GARDEN#5)	Peak Elev=77.45'	Storage=17,567 cf	Inflow=12.30 cfs	0.928 af	Outflow=4.55 cfs	0.833 af
Pond 4P: SW AREA#4 (RAIN GARDEN#3)	Peak Elev=107.22'	Storage=3,224 cf	Inflow=2.06 cfs	0.259 af	Outflow=0.34 cfs	0.259 af
Pond 5P: DETENTION POND	Peak Elev=115.28'	Storage=7,787 cf	Inflow=3.26 cfs	0.281 af	Outflow=0.30 cfs	0.105 af
Pond 6P: SW AREA#6 (RAIN GARDEN#4)	Peak Elev=80.86'	Storage=10,505 cf	Inflow=3.96 cfs	0.299 af	Outflow=0.09 cfs	0.106 af
Pond 7P: SW AREA#7 (INFILTRATION POND)	Peak Elev=51.76'	Storage=1,604 cf	Inflow=0.09 cfs	0.106 af	Discarded=0.05 cfs	0.106 af
			Primary=0.00 cfs	0.000 af	Outflow=0.05 cfs	0.106 af
Link DP-A: DP-A (WETLAND)			Inflow=7.53 cfs	2.071 af	Primary=7.53 cfs	2.071 af
Link DP-C: DP-B (EASTERN WETLAND)			Inflow=1.31 cfs	0.098 af	Primary=1.31 cfs	0.098 af
Link DP-D: DP-C (ROAD)			Inflow=1.92 cfs	0.157 af	Primary=1.92 cfs	0.157 af

Total Runoff Area = 44.834 ac Runoff Volume = 2.981 af Average Runoff Depth = 0.80"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 7

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.075 af, Depth= 1.78"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 2.47"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 3.00"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 8

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.020 af, Depth= 3.00"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 2.57"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 9

Summary for Subcatchment 6S: POST-B.4

Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.088 af, Depth= 2.02"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af, Depth= 2.11"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.058 af, Depth= 2.38"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 10

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 2.78"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 2.29"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 11

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 2.47"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 2.38"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 12

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 2.67"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 2.47"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 1.56"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 13

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.087 af, Depth= 3.00"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 2.47"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group
 HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 14

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 3.00"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.072 af, Depth= 2.47"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 2.11"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 15

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 2.29"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 2.57"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 16

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 2.78"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 1.63"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 0.53 cfs @ 12.10 hrs, Volume= 0.039 af, Depth= 1.49"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 17

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 2.78"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 2.89"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 18

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 1.63"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 0.65 cfs @ 12.10 hrs, Volume= 0.047 af, Depth= 1.49"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 19

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 3.00"

Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.062 af, Depth= 2.29"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 1.72 cfs @ 12.09 hrs, Volume= 0.125 af, Depth= 1.71"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 20

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 0.82 cfs @ 12.09 hrs, Volume= 0.060 af, Depth= 1.94"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 21

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 3.00"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 3.00"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 1.92 cfs @ 12.14 hrs, Volume= 0.157 af, Depth= 1.30"
 Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group
 HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 22

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 1.56"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.034 af, Depth= 3.00"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 23

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 1.31 cfs @ 12.10 hrs, Volume= 0.098 af, Depth= 1.23"
 Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 3.26 cfs @ 12.16 hrs, Volume= 0.281 af, Depth= 1.30"
 Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.9	175	Total			

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 24

Summary for Subcatchment 42S: POST-H.2

Runoff = 0.31 cfs @ 12.10 hrs, Volume= 0.023 af, Depth= 1.49"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 3.00"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 2.83 cfs @ 12.10 hrs, Volume= 0.207 af, Depth= 1.43"

Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 25

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.00 cfs @ 21.24 hrs, Volume= 0.000 af, Depth= 0.02"
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.093 af, Depth= 3.00"
 Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 1.01 cfs @ 12.56 hrs, Volume= 0.319 af, Depth= 0.18"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group
 HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 26

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 0.44 cfs @ 12.48 hrs, Volume= 0.115 af, Depth= 0.21"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.4	230	Total			

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 27

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 1.95" for 2-yr event
 Inflow = 4.74 cfs @ 12.09 hrs, Volume= 0.351 af
 Outflow = 0.11 cfs @ 17.52 hrs, Volume= 0.309 af, Atten= 98%, Lag= 325.9 min
 Primary = 0.11 cfs @ 17.52 hrs, Volume= 0.309 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 56.59' @ 17.52 hrs Surf.Area= 4,376 sf Storage= 11,335 cf

Plug-Flow detention time= 1,229.8 min calculated for 0.309 af (88% of inflow)
 Center-of-Mass det. time= 1,174.9 min (1,986.3 - 811.5)

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	31,979 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	4,376	317.0	0	0	4,376	
57.00	4,376	317.0	13,128	13,128	5,327	
58.00	5,356	337.0	4,858	17,986	6,418	
60.00	8,777	385.0	13,993	31,979	9,269	

Device	Routing	Invert	Outlet Devices	
#1	Primary	54.00'	18.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf	
#2	Device 1	58.00'	20.0" W x 15.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#3	Device 1	54.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf	
#4	Device 3	54.00'	6.000 in/hr Exfiltration over Wetted area above 54.00' Excluded Wetted area = 4,376 sf	
#5	Device 1	59.60'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#6	Primary	59.50'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83	

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 28

Primary OutFlow Max=0.11 cfs @ 17.52 hrs HW=56.59' (Free Discharge)

- 1=Culvert (Passes 0.11 cfs of 11.54 cfs potential flow)
- 2=Orifice/Grate (Controls 0.00 cfs)
- 3=Culvert (Passes 0.11 cfs of 0.74 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.11 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)
- 6=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 1.94" for 2-yr event
 Inflow = 3.59 cfs @ 12.09 hrs, Volume= 0.269 af
 Outflow = 1.83 cfs @ 12.26 hrs, Volume= 0.236 af, Atten= 49%, Lag= 10.0 min
 Primary = 1.83 cfs @ 12.26 hrs, Volume= 0.236 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 71.15' @ 12.26 hrs Surf.Area= 2,020 sf Storage= 4,658 cf

Plug-Flow detention time= 238.4 min calculated for 0.236 af (88% of inflow)
 Center-of-Mass det. time= 180.7 min (988.7 - 808.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	64.00'	6,724 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	6.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	6.000 in/hr Exfiltration over Surface area above 64.00' Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 29

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.81 cfs @ 12.26 hrs HW=71.14' (Free Discharge)

- 1=Culvert (Passes 1.81 cfs of 15.09 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.58 cfs @ 2.01 fps)
- 3=Culvert (Passes 0.23 cfs of 1.88 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.23 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)
- 6=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 2.35" for 2-yr event
 Inflow = 12.30 cfs @ 12.09 hrs, Volume= 0.928 af
 Outflow = 4.55 cfs @ 12.35 hrs, Volume= 0.833 af, Atten= 63%, Lag= 15.8 min
 Primary = 4.55 cfs @ 12.35 hrs, Volume= 0.833 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 77.45' @ 12.35 hrs Surf.Area= 4,220 sf Storage= 17,567 cf

Plug-Flow detention time= 254.8 min calculated for 0.833 af (90% of inflow)
 Center-of-Mass det. time= 205.2 min (999.2 - 794.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	68.00'	51,339 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/ Cc= 0.900
#2	Device 1	75.00'	4.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	7.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/ Cc= 0.900

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 30

#5	Device 4	68.00'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf 6.000 in/hr Exfiltration over Surface area above 68.00' Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#7	Primary	81.25'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=4.55 cfs @ 12.35 hrs HW=77.45' (Free Discharge)

- 1=Culvert (Passes 4.55 cfs of 25.10 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 4.10 cfs @ 5.02 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)
- 4=Culvert (Passes 0.44 cfs of 2.02 cfs potential flow)
- 5=Exfiltration (Exfiltration Controls 0.44 cfs)
- 6=Orifice/Grate (Controls 0.00 cfs)
- 7=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 0.88" for 2-yr event
 Inflow = 2.06 cfs @ 12.09 hrs, Volume= 0.259 af
 Outflow = 0.34 cfs @ 12.59 hrs, Volume= 0.259 af, Atten= 84%, Lag= 29.9 min
 Primary = 0.34 cfs @ 12.59 hrs, Volume= 0.259 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 107.22' @ 12.59 hrs Surf.Area= 1,254 sf Storage= 3,224 cf

Plug-Flow detention time= 255.2 min calculated for 0.259 af (100% of inflow)
 Center-of-Mass det. time= 256.6 min (1,162.0 - 905.3)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 31

			Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00'	6.000 in/hr Exfiltration over Wetted area above 102.00' Excluded Wetted area = 540 sf
#4	Device 1	109.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Primary	109.50'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.34 cfs @ 12.59 hrs HW=107.22' (Free Discharge)

- 1=Culvert (Passes 0.34 cfs of 17.99 cfs potential flow)
- 2=Culvert (Passes 0.34 cfs of 1.12 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.34 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)
- 5=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 1.30" for 2-yr event
 Inflow = 3.26 cfs @ 12.16 hrs, Volume= 0.281 af
 Outflow = 0.30 cfs @ 14.00 hrs, Volume= 0.105 af, Atten= 91%, Lag= 110.5 min
 Primary = 0.30 cfs @ 14.00 hrs, Volume= 0.105 af
 Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 115.28' @ 14.00 hrs Surf.Area= 3,477 sf Storage= 7,787 cf

Plug-Flow detention time= 326.4 min calculated for 0.105 af (37% of inflow)
 Center-of-Mass det. time= 194.9 min (1,048.1 - 853.2)

Volume	Invert	Avail.Storage	Storage Description			
#1	110.00'	10,602 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
110.00	219	76.0	0	0	219	
112.00	1,022	162.0	1,143	1,143	1,865	
114.00	2,131	203.0	3,086	4,229	3,111	
116.00	4,376	269.0	6,374	10,602	5,634	

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	15.0" Round Culvert L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

7465-PRELIMINARY POST

Type III 24-hr 2-yr Rainfall=3.23"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 32

Primary OutFlow Max=0.29 cfs @ 14.00 hrs HW=115.28' (Free Discharge)

↑1=Culvert (Passes 0.29 cfs of 13.93 cfs potential flow)

↑2=Orifice/Grate (Weir Controls 0.29 cfs @ 0.58 fps)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 1.70" for 2-yr event
 Inflow = 3.96 cfs @ 12.09 hrs, Volume= 0.299 af
 Outflow = 0.09 cfs @ 18.23 hrs, Volume= 0.106 af, Atten= 98%, Lag= 367.9 min
 Primary = 0.09 cfs @ 18.23 hrs, Volume= 0.106 af
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.86' @ 18.23 hrs Surf.Area= 2,731 sf Storage= 10,505 cf

Plug-Flow detention time= 730.4 min calculated for 0.106 af (35% of inflow)
 Center-of-Mass det. time= 589.2 min (1,404.9 - 815.7)

Volume	Invert	Avail.Storage	Storage Description			
#1	76.00'	23,471 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
76.00	2,110	218.0	0	0	2,110	
80.00	2,110	218.0	8,440	8,440	2,982	
82.00	3,687	295.0	5,724	14,164	6,167	
84.00	5,692	358.0	9,307	23,471	9,505	

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	15.0" Round Culvert L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	6.000 in/hr Exfiltration over Surface area above 76.00' Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 18.23 hrs HW=80.86' (Free Discharge)

↑1=Culvert (Passes 0.09 cfs of 10.24 cfs potential flow)

↑2=Culvert (Passes 0.09 cfs of 1.07 cfs potential flow)

↑3=Exfiltration (Exfiltration Controls 0.09 cfs)

↑4=Orifice/Grate (Controls 0.00 cfs)

↑5=Orifice/Grate (Controls 0.00 cfs)

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 33

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth > 0.53" for 2-yr event
 Inflow = 0.09 cfs @ 18.27 hrs, Volume= 0.106 af
 Outflow = 0.05 cfs @ 27.06 hrs, Volume= 0.106 af, Atten= 45%, Lag= 527.2 min
 Discarded = 0.05 cfs @ 27.06 hrs, Volume= 0.106 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 51.76' @ 27.06 hrs Surf.Area= 1,704 sf Storage= 1,604 cf

Plug-Flow detention time= 378.1 min calculated for 0.106 af (100% of inflow)
 Center-of-Mass det. time= 378.1 min (1,782.3 - 1,404.2)

Volume	Invert	Avail.Storage	Storage Description			
#1	50.60'	15,152 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
50.60	1,088	157.0	0	0	1,088	
52.00	1,850	191.0	2,033	2,033	2,061	
54.00	3,229	247.0	5,015	7,049	4,061	
56.00	4,935	302.0	8,104	15,152	6,526	

Device	Routing	Invert	Outlet Devices											
#1	Discarded	50.60'	1.200 in/hr Exfiltration over Surface area Phase-In= 0.01'											
#2	Primary	55.50'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir											
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00											
			2.50 3.00 3.50 4.00 4.50 5.00 5.50											
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65											
			2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88											

Discarded OutFlow Max=0.05 cfs @ 27.06 hrs HW=51.76' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.60' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 0.59" for 2-yr event
 Inflow = 7.53 cfs @ 12.41 hrs, Volume= 2.071 af
 Primary = 7.53 cfs @ 12.41 hrs, Volume= 2.071 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-yr Rainfall=3.23"

Printed 3/19/2024

Page 34

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 1.23" for 2-yr event
Inflow = 1.31 cfs @ 12.10 hrs, Volume= 0.098 af
Primary = 1.31 cfs @ 12.10 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 1.30" for 2-yr event
Inflow = 1.92 cfs @ 12.14 hrs, Volume= 0.157 af
Primary = 1.92 cfs @ 12.14 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-yr Rainfall=4.88"

Printed 3/19/2024

Page 35

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

Subcatchment1S: POST-A.1ROOF	Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=3.26" Tc=6.0 min CN=85 Runoff=1.86 cfs 0.136 af
Subcatchment2S: POST-A.2	Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=4.08" Tc=6.0 min CN=93 Runoff=0.54 cfs 0.042 af
Subcatchment3S: POST-B.1	Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.46 cfs 0.038 af
Subcatchment4S: POST-B.2	Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.37 cfs 0.031 af
Subcatchment5S: POST-B.3	Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=4.19" Tc=6.0 min CN=94 Runoff=0.84 cfs 0.065 af
Subcatchment6S: POST-B.4	Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=3.56" Tc=6.0 min CN=88 Runoff=2.08 cfs 0.154 af
Subcatchment7S: POST-B.5	Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=3.66" Tc=6.0 min CN=89 Runoff=1.38 cfs 0.103 af
Subcatchment8S: POST-B.6	Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=3.97" Tc=6.0 min CN=92 Runoff=1.27 cfs 0.097 af
Subcatchment9S: POST-B.7	Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=4.41" Tc=6.0 min CN=96 Runoff=0.47 cfs 0.038 af
Subcatchment10S: POST-B.8	Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=3.87" Tc=6.0 min CN=91 Runoff=1.58 cfs 0.120 af
Subcatchment11S: POST-B.9	Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=4.08" Tc=6.0 min CN=93 Runoff=1.34 cfs 0.103 af
Subcatchment12S: POST-B.10	Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=3.97" Tc=6.0 min CN=92 Runoff=1.37 cfs 0.105 af
Subcatchment13S: POST-B.11	Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=4.30" Tc=6.0 min CN=95 Runoff=0.50 cfs 0.039 af
Subcatchment14S: POST-B.12	Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=4.08" Tc=6.0 min CN=93 Runoff=0.91 cfs 0.071 af
Subcatchment15S: POST-B.13	Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=2.97" Tc=6.0 min CN=82 Runoff=1.29 cfs 0.094 af
Subcatchment16S: POST-B.BACKOF	Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=1.63 cfs 0.135 af

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-yr Rainfall=4.88"

Printed 3/19/2024

Page 36

Subcatchment17S: POST-C.1	Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=4.08" Tc=6.0 min CN=93 Runoff=1.04 cfs 0.080 af
Subcatchment18S: POST-C.2	Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.33 cfs 0.028 af
Subcatchment19S: POST-C.3	Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=4.08" Tc=6.0 min CN=93 Runoff=1.53 cfs 0.118 af
Subcatchment20S: POST-C.4	Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=3.66" Tc=6.0 min CN=89 Runoff=1.76 cfs 0.131 af
Subcatchment21S: POST-D.1	Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=3.87" Tc=6.0 min CN=91 Runoff=0.81 cfs 0.061 af
Subcatchment22S: POST-D.2	Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=4.19" Tc=6.0 min CN=94 Runoff=0.47 cfs 0.036 af
Subcatchment23S: POST-D.3	Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=4.41" Tc=6.0 min CN=96 Runoff=0.30 cfs 0.024 af
Subcatchment24S: POST-D.4	Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=3.07" Tc=6.0 min CN=83 Runoff=0.65 cfs 0.047 af
Subcatchment25S: POST-D.5	Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=2.88" Tc=6.0 min CN=81 Runoff=1.02 cfs 0.074 af
Subcatchment26S: POST-D.6	Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=4.41" Tc=6.0 min CN=96 Runoff=0.24 cfs 0.019 af
Subcatchment27S: POST-D.7	Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=4.53" Tc=6.0 min CN=97 Runoff=0.35 cfs 0.029 af
Subcatchment28S: POST-D.8	Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=3.07" Tc=6.0 min CN=83 Runoff=0.65 cfs 0.047 af
Subcatchment29S: POST-D.9	Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=2.88" Tc=6.0 min CN=81 Runoff=1.25 cfs 0.091 af
Subcatchment30S: POST-D.BACKOF	Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.54 cfs 0.045 af
Subcatchment31S: POST-E.1	Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=3.87" Tc=6.0 min CN=91 Runoff=1.37 cfs 0.104 af
Subcatchment32S: POST-E.2	Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=3.16" Tc=6.0 min CN=84 Runoff=3.17 cfs 0.231 af
Subcatchment33S: POST-E.3	Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=3.45" Tc=6.0 min CN=87 Runoff=1.43 cfs 0.106 af

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 37

Subcatchment34S: POST-E.4	Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=4.41" Tc=6.0 min CN=96 Runoff=0.20 cfs 0.016 af
Subcatchment35S: POST-E.5	Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af
Subcatchment36S: POST-E.6	Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af
Subcatchment37S: POST-F.1	Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=2.61" Flow Length=240' Tc=8.9 min CN=78 Runoff=3.94 cfs 0.316 af
Subcatchment38S: POST-F.2	Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=2.97" Tc=6.0 min CN=82 Runoff=1.24 cfs 0.090 af
Subcatchment39S: POST-F.ROOFS	Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.63 cfs 0.052 af
Subcatchment40S: POST-G	Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=2.52" Tc=6.0 min CN=77 Runoff=2.75 cfs 0.200 af
Subcatchment41S: POST-H.1	Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=2.61" Flow Length=175' Tc=10.9 min CN=78 Runoff=6.72 cfs 0.567 af
Subcatchment42S: POST-H.2	Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=2.88" Tc=6.0 min CN=81 Runoff=0.60 cfs 0.044 af
Subcatchment43S: POST-H.ROOF	Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=0.59 cfs 0.049 af
Subcatchment44S: POST-K.1	Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=2.79" Tc=6.0 min CN=80 Runoff=5.58 cfs 0.405 af
Subcatchment45S: POST-K.3	Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=0.28" Tc=6.0 min CN=42 Runoff=0.02 cfs 0.006 af
Subcatchment46S: POST-K.ROOF	Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=4.64" Tc=6.0 min CN=98 Runoff=1.73 cfs 0.143 af
Subcatchment47S: POST-I	Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=0.75" Flow Length=323' Tc=16.1 min CN=52 Runoff=9.39 cfs 1.326 af
Subcatchment48S: POST-J	Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=0.81" Flow Length=230' Tc=12.4 min CN=53 Runoff=3.64 cfs 0.449 af
Pond 1P: SW AREA#1 (RAIN GARDEN#1)	Peak Elev=58.07' Storage=18,375 cf Inflow=8.29 cfs 0.621 af Outflow=0.40 cfs 0.561 af
Pond 2P: SW AREA#2 (RAIN GARDEN#2)	Peak Elev=71.40' Storage=5,192 cf Inflow=6.28 cfs 0.474 af Outflow=6.21 cfs 0.441 af

7465-PRELIMINARY POST*Type III 24-hr 10-yr Rainfall=4.88"*

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 38

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=78.75' Storage=24,655 cf Inflow=20.13 cfs 1.550 af
Outflow=9.06 cfs 1.456 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=109.42' Storage=8,017 cf Inflow=7.05 cfs 0.661 af
Outflow=4.56 cfs 0.661 af

Pond 5P: DETENTION POND Peak Elev=115.46' Storage=8,418 cf Inflow=6.72 cfs 0.567 af
Outflow=5.42 cfs 0.391 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=82.55' Storage=16,330 cf Inflow=7.30 cfs 0.548 af
Outflow=0.33 cfs 0.354 af

Pond 7P: SW AREA#7 (INFILTRATIONPOND) Peak Elev=54.47' Storage=8,648 cf Inflow=0.34 cfs 0.361 af
Discarded=0.10 cfs 0.354 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.354 af

Link DP-A: DP-A (WETLAND) Inflow=27.42 cfs 4.895 af
Primary=27.42 cfs 4.895 af

Link DP-C: DP-B (EASTERNWETLAND) Inflow=2.75 cfs 0.200 af
Primary=2.75 cfs 0.200 af

Link DP-D: DP-C (ROAD) Inflow=3.94 cfs 0.316 af
Primary=3.94 cfs 0.316 af

Total Runoff Area = 44.834 ac Runoff Volume = 6.344 af Average Runoff Depth = 1.70"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 39

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 1.86 cfs @ 12.09 hrs, Volume= 0.136 af, Depth= 3.26"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 4.08"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 4.64"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 40

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 4.64"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.065 af, Depth= 4.19"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 41

Summary for Subcatchment 6S: POST-B.4

Runoff = 2.08 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 3.56"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 1.38 cfs @ 12.09 hrs, Volume= 0.103 af, Depth= 3.66"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.097 af, Depth= 3.97"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 42

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 4.41"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 1.58 cfs @ 12.09 hrs, Volume= 0.120 af, Depth= 3.87"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 43

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.103 af, Depth= 4.08"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 3.97"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 44

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 4.30"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 0.91 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 4.08"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 1.29 cfs @ 12.09 hrs, Volume= 0.094 af, Depth= 2.97"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 45

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 1.63 cfs @ 12.09 hrs, Volume= 0.135 af, Depth= 4.64"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 1.04 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 4.08"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 46

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 4.64"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 1.53 cfs @ 12.09 hrs, Volume= 0.118 af, Depth= 4.08"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 1.76 cfs @ 12.09 hrs, Volume= 0.131 af, Depth= 3.66"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 47

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.061 af, Depth= 3.87"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 4.19"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 48

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 4.41"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 3.07"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 1.02 cfs @ 12.09 hrs, Volume= 0.074 af, Depth= 2.88"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 49

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.41"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 4.53"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 50

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 3.07"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 1.25 cfs @ 12.09 hrs, Volume= 0.091 af, Depth= 2.88"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 51

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.045 af, Depth= 4.64"

Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.104 af, Depth= 3.87"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 3.17 cfs @ 12.09 hrs, Volume= 0.231 af, Depth= 3.16"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 52

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 1.43 cfs @ 12.09 hrs, Volume= 0.106 af, Depth= 3.45"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 53

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 4.64"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.64"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 3.94 cfs @ 12.13 hrs, Volume= 0.316 af, Depth= 2.61"
 Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 54

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 1.24 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 2.97"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.052 af, Depth= 4.64"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 55

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 2.75 cfs @ 12.09 hrs, Volume= 0.200 af, Depth= 2.52"
 Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 6.72 cfs @ 12.16 hrs, Volume= 0.567 af, Depth= 2.61"
 Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.9	175	Total			

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 56

Summary for Subcatchment 42S: POST-H.2

Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 2.88"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 4.64"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 5.58 cfs @ 12.09 hrs, Volume= 0.405 af, Depth= 2.79"

Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 57

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.02 cfs @ 12.40 hrs, Volume= 0.006 af, Depth= 0.28"
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 1.73 cfs @ 12.09 hrs, Volume= 0.143 af, Depth= 4.64"
 Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 9.39 cfs @ 12.31 hrs, Volume= 1.326 af, Depth= 0.75"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 58

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 3.64 cfs @ 12.22 hrs, Volume= 0.449 af, Depth= 0.81"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.4	230	Total			

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 59

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 3.44" for 10-yr event
 Inflow = 8.29 cfs @ 12.09 hrs, Volume= 0.621 af
 Outflow = 0.40 cfs @ 14.73 hrs, Volume= 0.561 af, Atten= 95%, Lag= 158.6 min
 Primary = 0.40 cfs @ 14.73 hrs, Volume= 0.561 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 58.07' @ 14.73 hrs Surf.Area= 5,464 sf Storage= 18,375 cf

Plug-Flow detention time= 1,022.0 min calculated for 0.561 af (90% of inflow)
 Center-of-Mass det. time= 974.4 min (1,772.0 - 797.7)

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	31,979 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	4,376	317.0	0	0	4,376	
57.00	4,376	317.0	13,128	13,128	5,327	
58.00	5,356	337.0	4,858	17,986	6,418	
60.00	8,777	385.0	13,993	31,979	9,269	

Device	Routing	Invert	Outlet Devices	
#1	Primary	54.00'	18.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf	
#2	Device 1	58.00'	20.0" W x 15.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#3	Device 1	54.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf	
#4	Device 3	54.00'	6.000 in/hr Exfiltration over Wetted area above 54.00' Excluded Wetted area = 4,376 sf	
#5	Device 1	59.60'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#6	Primary	59.50'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83	

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 60

Primary OutFlow Max=0.40 cfs @ 14.73 hrs HW=58.07' (Free Discharge)

- 1=Culvert (Passes 0.40 cfs of 15.51 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.10 cfs @ 0.86 fps)
- 3=Culvert (Passes 0.30 cfs of 0.97 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.30 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)
- 6=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 3.42" for 10-yr event
 Inflow = 6.28 cfs @ 12.09 hrs, Volume= 0.474 af
 Outflow = 6.21 cfs @ 12.11 hrs, Volume= 0.441 af, Atten= 1%, Lag= 1.3 min
 Primary = 6.21 cfs @ 12.11 hrs, Volume= 0.441 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 71.40' @ 12.11 hrs Surf.Area= 2,245 sf Storage= 5,192 cf

Plug-Flow detention time= 163.9 min calculated for 0.441 af (93% of inflow)
 Center-of-Mass det. time= 126.2 min (921.6 - 795.4)

Volume	Invert	Avail.Storage	Storage Description		
#1	64.00'	6,724 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	6.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	6.000 in/hr Exfiltration over Surface area above 64.00' Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 61

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.94 cfs @ 12.11 hrs HW=71.39' (Free Discharge)

- 1=Culvert (Passes 5.94 cfs of 15.37 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 2.95 cfs @ 2.95 fps)
- 3=Culvert (Passes 0.26 cfs of 1.92 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.26 cfs)
- 5=Orifice/Grate (Weir Controls 2.73 cfs @ 1.22 fps)
- 6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 3.92" for 10-yr event
 Inflow = 20.13 cfs @ 12.09 hrs, Volume= 1.550 af
 Outflow = 9.06 cfs @ 12.27 hrs, Volume= 1.456 af, Atten= 55%, Lag= 11.1 min
 Primary = 9.06 cfs @ 12.27 hrs, Volume= 1.456 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 78.75' @ 12.27 hrs Surf.Area= 6,561 sf Storage= 24,655 cf

Plug-Flow detention time= 181.6 min calculated for 1.456 af (94% of inflow)
 Center-of-Mass det. time= 148.1 min (929.7 - 781.6)

Volume	Invert	Avail.Storage	Storage Description			
#1	68.00'	51,339 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
68.00	1,026	130.0	0	0	1,026	
72.00	1,026	130.0	4,104	4,104	1,546	
74.00	2,000	178.0	2,972	7,076	2,762	
76.00	3,184	217.0	5,138	12,215	4,050	
78.00	4,651	262.0	7,789	20,003	5,831	
78.01	5,875	302.0	53	20,056	7,626	
80.00	7,805	340.0	13,566	33,622	9,670	
82.00	9,955	380.0	17,716	51,339	12,072	

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/ Cc= 0.900
#2	Device 1	75.00'	4.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	7.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/ Cc= 0.900

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 62

#5	Device 4	68.00'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf 6.000 in/hr Exfiltration over Surface area above 68.00' Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#7	Primary	81.25'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=9.03 cfs @ 12.27 hrs HW=78.74' (Free Discharge)

- 1=Culvert (Passes 9.03 cfs of 26.90 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 7.06 cfs @ 7.06 fps)
- 3=Orifice/Grate (Orifice Controls 1.20 cfs @ 2.77 fps)
- 4=Culvert (Passes 0.77 cfs of 2.16 cfs potential flow)
- 5=Exfiltration (Exfiltration Controls 0.77 cfs)
- 6=Orifice/Grate (Controls 0.00 cfs)
- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 2.24" for 10-yr event
 Inflow = 7.05 cfs @ 12.27 hrs, Volume= 0.661 af
 Outflow = 4.56 cfs @ 12.44 hrs, Volume= 0.661 af, Atten= 35%, Lag= 10.0 min
 Primary = 4.56 cfs @ 12.44 hrs, Volume= 0.661 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 109.42' @ 12.44 hrs Surf.Area= 3,263 sf Storage= 8,017 cf

Plug-Flow detention time= 153.0 min calculated for 0.661 af (100% of inflow)
 Center-of-Mass det. time= 154.4 min (1,009.2 - 854.8)

Volume	Invert	Avail.Storage	Storage Description		
#1	102.00'	10,120 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 63

		Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/ Cc= 0.900
		n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00' 6.000 in/hr Exfiltration over Wetted area above 102.00'
		Excluded Wetted area = 540 sf
#4	Device 1	109.25' 48.0" x 48.0" Horiz. Orifice/Grate C= 0.600
		Limited to weir flow at low heads
#5	Primary	109.50' 10.0' long x 6.0' breadth Broad-Crested Rectangular Weir
		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
		2.50 3.00 3.50 4.00 4.50 5.00 5.50
		Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
		2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=4.42 cfs @ 12.44 hrs HW=109.41' (Free Discharge)

- 1=Culvert (Passes 4.42 cfs of 21.97 cfs potential flow)
- 2=Culvert (Passes 0.95 cfs of 1.35 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.95 cfs)
- 4=Orifice/Grate (Weir Controls 3.47 cfs @ 1.32 fps)
- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 2.61" for 10-yr event
 Inflow = 6.72 cfs @ 12.16 hrs, Volume= 0.567 af
 Outflow = 5.42 cfs @ 12.27 hrs, Volume= 0.391 af, Atten= 19%, Lag= 7.1 min
 Primary = 5.42 cfs @ 12.27 hrs, Volume= 0.391 af
 Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 115.46' @ 12.25 hrs Surf.Area= 3,688 sf Storage= 8,418 cf

Plug-Flow detention time= 162.4 min calculated for 0.391 af (69% of inflow)
 Center-of-Mass det. time= 63.5 min (896.2 - 832.8)

Volume	Invert	Avail.Storage	Storage Description			
#1	110.00'	10,602 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
110.00	219	76.0	0	0	219	
112.00	1,022	162.0	1,143	1,143	1,865	
114.00	2,131	203.0	3,086	4,229	3,111	
116.00	4,376	269.0	6,374	10,602	5,634	

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	15.0" Round Culvert L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 64

Primary OutFlow Max=4.91 cfs @ 12.27 hrs HW=115.46' (Free Discharge)

1=Culvert (Passes 4.91 cfs of 14.13 cfs potential flow)

2=Orifice/Grate (Weir Controls 4.91 cfs @ 1.49 fps)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 3.11" for 10-yr event
 Inflow = 7.30 cfs @ 12.09 hrs, Volume= 0.548 af
 Outflow = 0.33 cfs @ 15.17 hrs, Volume= 0.354 af, Atten= 95%, Lag= 184.8 min
 Primary = 0.33 cfs @ 15.17 hrs, Volume= 0.354 af
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.55' @ 15.17 hrs Surf.Area= 4,195 sf Storage= 16,330 cf

Plug-Flow detention time= 602.4 min calculated for 0.354 af (65% of inflow)
 Center-of-Mass det. time= 500.4 min (1,303.8 - 803.4)

Volume	Invert	Avail.Storage	Storage Description			
#1	76.00'	23,471 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
76.00	2,110	218.0	0	0	2,110	
80.00	2,110	218.0	8,440	8,440	2,982	
82.00	3,687	295.0	5,724	14,164	6,167	
84.00	5,692	358.0	9,307	23,471	9,505	

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	15.0" Round Culvert L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	6.000 in/hr Exfiltration over Surface area above 76.00' Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.33 cfs @ 15.17 hrs HW=82.55' (Free Discharge)

1=Culvert (Passes 0.33 cfs of 11.69 cfs potential flow)

2=Culvert (Passes 0.29 cfs of 1.26 cfs potential flow)

3=Exfiltration (Exfiltration Controls 0.29 cfs)

4=Orifice/Grate (Orifice Controls 0.04 cfs @ 0.72 fps)

5=Orifice/Grate (Controls 0.00 cfs)

7465-PRELIMINARY POST

Type III 24-hr 10-yr Rainfall=4.88"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 65

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth > 1.81" for 10-yr event
 Inflow = 0.34 cfs @ 15.15 hrs, Volume= 0.361 af
 Outflow = 0.10 cfs @ 28.66 hrs, Volume= 0.354 af, Atten= 70%, Lag= 810.5 min
 Discarded = 0.10 cfs @ 28.66 hrs, Volume= 0.354 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 54.47' @ 28.66 hrs Surf.Area= 3,597 sf Storage= 8,648 cf

Plug-Flow detention time= 1,075.0 min calculated for 0.354 af (98% of inflow)
 Center-of-Mass det. time= 1,044.4 min (2,342.3 - 1,298.0)

Volume	Invert	Avail.Storage	Storage Description			
#1	50.60'	15,152 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
50.60	1,088	157.0	0	0	1,088	
52.00	1,850	191.0	2,033	2,033	2,061	
54.00	3,229	247.0	5,015	7,049	4,061	
56.00	4,935	302.0	8,104	15,152	6,526	

Device	Routing	Invert	Outlet Devices											
#1	Discarded	50.60'	1.200 in/hr Exfiltration over Surface area Phase-In= 0.01'											
#2	Primary	55.50'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir											
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00											
			2.50 3.00 3.50 4.00 4.50 5.00 5.50											
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65											
			2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88											

Discarded OutFlow Max=0.10 cfs @ 28.66 hrs HW=54.47' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.60' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 1.39" for 10-yr event
 Inflow = 27.42 cfs @ 12.41 hrs, Volume= 4.895 af
 Primary = 27.42 cfs @ 12.41 hrs, Volume= 4.895 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-yr Rainfall=4.88"

Printed 3/19/2024

Page 66

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 2.75 cfs @ 12.09 hrs, Volume= 0.200 af
Primary = 2.75 cfs @ 12.09 hrs, Volume= 0.200 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 2.61" for 10-yr event
Inflow = 3.94 cfs @ 12.13 hrs, Volume= 0.316 af
Primary = 3.94 cfs @ 12.13 hrs, Volume= 0.316 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=5.55"

Printed 3/19/2024

Page 67

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

Subcatchment1S: POST-A.1ROOF	Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=3.88" Tc=6.0 min CN=85 Runoff=2.20 cfs 0.162 af
Subcatchment2S: POST-A.2	Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=4.74" Tc=6.0 min CN=93 Runoff=0.63 cfs 0.049 af
Subcatchment3S: POST-B.1	Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.52 cfs 0.044 af
Subcatchment4S: POST-B.2	Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.42 cfs 0.035 af
Subcatchment5S: POST-B.3	Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=4.85" Tc=6.0 min CN=94 Runoff=0.96 cfs 0.076 af
Subcatchment6S: POST-B.4	Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=4.19" Tc=6.0 min CN=88 Runoff=2.43 cfs 0.182 af
Subcatchment7S: POST-B.5	Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=4.30" Tc=6.0 min CN=89 Runoff=1.61 cfs 0.121 af
Subcatchment8S: POST-B.6	Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=4.63" Tc=6.0 min CN=92 Runoff=1.47 cfs 0.113 af
Subcatchment9S: POST-B.7	Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=5.08" Tc=6.0 min CN=96 Runoff=0.54 cfs 0.043 af
Subcatchment10S: POST-B.8	Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=4.52" Tc=6.0 min CN=91 Runoff=1.83 cfs 0.140 af
Subcatchment11S: POST-B.9	Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=4.74" Tc=6.0 min CN=93 Runoff=1.54 cfs 0.120 af
Subcatchment12S: POST-B.10	Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=4.63" Tc=6.0 min CN=92 Runoff=1.58 cfs 0.122 af
Subcatchment13S: POST-B.11	Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=4.96" Tc=6.0 min CN=95 Runoff=0.57 cfs 0.045 af
Subcatchment14S: POST-B.12	Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=4.74" Tc=6.0 min CN=93 Runoff=1.05 cfs 0.082 af
Subcatchment15S: POST-B.13	Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=3.58" Tc=6.0 min CN=82 Runoff=1.55 cfs 0.113 af
Subcatchment16S: POST-B.BACKOF	Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=1.85 cfs 0.154 af

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=5.55"

Printed 3/19/2024

Page 68

Subcatchment17S: POST-C.1	Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=4.74" Tc=6.0 min CN=93 Runoff=1.20 cfs 0.093 af
Subcatchment18S: POST-C.2	Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.38 cfs 0.032 af
Subcatchment19S: POST-C.3	Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=4.74" Tc=6.0 min CN=93 Runoff=1.76 cfs 0.137 af
Subcatchment20S: POST-C.4	Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=4.30" Tc=6.0 min CN=89 Runoff=2.05 cfs 0.154 af
Subcatchment21S: POST-D.1	Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=4.52" Tc=6.0 min CN=91 Runoff=0.94 cfs 0.072 af
Subcatchment22S: POST-D.2	Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=4.85" Tc=6.0 min CN=94 Runoff=0.53 cfs 0.042 af
Subcatchment23S: POST-D.3	Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=5.08" Tc=6.0 min CN=96 Runoff=0.35 cfs 0.028 af
Subcatchment24S: POST-D.4	Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=3.68" Tc=6.0 min CN=83 Runoff=0.77 cfs 0.057 af
Subcatchment25S: POST-D.5	Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=3.48" Tc=6.0 min CN=81 Runoff=1.23 cfs 0.090 af
Subcatchment26S: POST-D.6	Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=5.08" Tc=6.0 min CN=96 Runoff=0.27 cfs 0.022 af
Subcatchment27S: POST-D.7	Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=5.20" Tc=6.0 min CN=97 Runoff=0.40 cfs 0.033 af
Subcatchment28S: POST-D.8	Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=3.68" Tc=6.0 min CN=83 Runoff=0.78 cfs 0.057 af
Subcatchment29S: POST-D.9	Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=3.48" Tc=6.0 min CN=81 Runoff=1.51 cfs 0.110 af
Subcatchment30S: POST-D.BACKOF	Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.62 cfs 0.051 af
Subcatchment31S: POST-E.1	Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=4.52" Tc=6.0 min CN=91 Runoff=1.59 cfs 0.122 af
Subcatchment32S: POST-E.2	Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=3.78" Tc=6.0 min CN=84 Runoff=3.76 cfs 0.277 af
Subcatchment33S: POST-E.3	Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=4.09" Tc=6.0 min CN=87 Runoff=1.68 cfs 0.125 af

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 69

Subcatchment34S: POST-E.4	Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=5.08" Tc=6.0 min CN=96 Runoff=0.22 cfs 0.018 af
Subcatchment35S: POST-E.5	Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af
Subcatchment36S: POST-E.6	Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.26 cfs 0.022 af
Subcatchment37S: POST-F.1	Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=3.18" Flow Length=240' Tc=8.9 min CN=78 Runoff=4.81 cfs 0.385 af
Subcatchment38S: POST-F.2	Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=3.58" Tc=6.0 min CN=82 Runoff=1.49 cfs 0.109 af
Subcatchment39S: POST-F.ROOFS	Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.72 cfs 0.060 af
Subcatchment40S: POST-G	Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=3.09" Tc=6.0 min CN=77 Runoff=3.37 cfs 0.244 af
Subcatchment41S: POST-H.1	Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=3.18" Flow Length=175' Tc=10.9 min CN=78 Runoff=8.21 cfs 0.692 af
Subcatchment42S: POST-H.2	Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=3.48" Tc=6.0 min CN=81 Runoff=0.73 cfs 0.053 af
Subcatchment43S: POST-H.ROOF	Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=0.67 cfs 0.056 af
Subcatchment44S: POST-K.1	Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=3.38" Tc=6.0 min CN=80 Runoff=6.74 cfs 0.490 af
Subcatchment45S: POST-K.3	Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=0.47" Tc=6.0 min CN=42 Runoff=0.06 cfs 0.011 af
Subcatchment46S: POST-K.ROOF	Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=5.31" Tc=6.0 min CN=98 Runoff=1.97 cfs 0.164 af
Subcatchment47S: POST-I	Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=1.06" Flow Length=323' Tc=16.1 min CN=52 Runoff=15.12 cfs 1.874 af
Subcatchment48S: POST-J	Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=1.13" Flow Length=230' Tc=12.4 min CN=53 Runoff=5.74 cfs 0.629 af
Pond 1P: SW AREA#1 (RAIN GARDEN#1)	Peak Elev=58.24' Storage=19,294 cf Inflow=9.75 cfs 0.735 af Outflow=0.95 cfs 0.674 af
Pond 2P: SW AREA#2 (RAIN GARDEN#2)	Peak Elev=71.43' Storage=5,260 cf Inflow=7.39 cfs 0.561 af Outflow=7.27 cfs 0.528 af

7465-PRELIMINARY POST*Type III 24-hr 25-yr Rainfall=5.55"*

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 70

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=79.12' Storage=27,127 cf Inflow=23.30 cfs 1.807 af
Outflow=10.71 cfs 1.713 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=109.52' Storage=8,367 cf Inflow=10.31 cfs 0.835 af
Outflow=8.46 cfs 0.835 af

Pond 5P: DETENTION POND Peak Elev=115.53' Storage=8,705 cf Inflow=8.21 cfs 0.692 af
Outflow=7.94 cfs 0.515 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=82.77' Storage=17,296 cf Inflow=8.70 cfs 0.654 af
Outflow=0.78 cfs 0.460 af

Pond 7P: SW AREA#7 (INFILTRATION) Peak Elev=55.31' Storage=11,978 cf Inflow=0.81 cfs 0.471 af
Discarded=0.12 cfs 0.439 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.439 af

Link DP-A: DP-A (WETLAND) Inflow=42.82 cfs 6.252 af
Primary=42.82 cfs 6.252 af

Link DP-C: DP-B (EASTERNWETLAND) Inflow=3.37 cfs 0.244 af
Primary=3.37 cfs 0.244 af

Link DP-D: DP-C (ROAD) Inflow=4.81 cfs 0.385 af
Primary=4.81 cfs 0.385 af

Total Runoff Area = 44.834 ac Runoff Volume = 7.929 af Average Runoff Depth = 2.12"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 71

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 2.20 cfs @ 12.09 hrs, Volume= 0.162 af, Depth= 3.88"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 4.74"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 5.31"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 72

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 5.31"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 4.85"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 73

Summary for Subcatchment 6S: POST-B.4

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.182 af, Depth= 4.19"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 1.61 cfs @ 12.09 hrs, Volume= 0.121 af, Depth= 4.30"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 1.47 cfs @ 12.09 hrs, Volume= 0.113 af, Depth= 4.63"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 74

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 5.08"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 1.83 cfs @ 12.09 hrs, Volume= 0.140 af, Depth= 4.52"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 75

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.120 af, Depth= 4.74"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 1.58 cfs @ 12.09 hrs, Volume= 0.122 af, Depth= 4.63"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 76

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.045 af, Depth= 4.96"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 1.05 cfs @ 12.09 hrs, Volume= 0.082 af, Depth= 4.74"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.113 af, Depth= 3.58"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 77

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 1.85 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 5.31"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 1.20 cfs @ 12.09 hrs, Volume= 0.093 af, Depth= 4.74"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 78

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.032 af, Depth= 5.31"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 1.76 cfs @ 12.09 hrs, Volume= 0.137 af, Depth= 4.74"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 2.05 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 4.30"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 79

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 0.94 cfs @ 12.09 hrs, Volume= 0.072 af, Depth= 4.52"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 4.85"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 80

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 5.08"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 0.77 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 3.68"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 1.23 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 3.48"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 81

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 5.08"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 5.20"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 82

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 3.68"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.110 af, Depth= 3.48"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 83

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.051 af, Depth= 5.31"

Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 1.59 cfs @ 12.09 hrs, Volume= 0.122 af, Depth= 4.52"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 3.76 cfs @ 12.09 hrs, Volume= 0.277 af, Depth= 3.78"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 84

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 1.68 cfs @ 12.09 hrs, Volume= 0.125 af, Depth= 4.09"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 5.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=5.55"

Printed 3/19/2024

Page 85

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 5.31"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 5.31"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 4.81 cfs @ 12.13 hrs, Volume= 0.385 af, Depth= 3.18"
Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 86

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 1.49 cfs @ 12.09 hrs, Volume= 0.109 af, Depth= 3.58"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af, Depth= 5.31"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 87

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 3.37 cfs @ 12.09 hrs, Volume= 0.244 af, Depth= 3.09"
 Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 8.21 cfs @ 12.15 hrs, Volume= 0.692 af, Depth= 3.18"
 Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.9	175	Total			

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 88

Summary for Subcatchment 42S: POST-H.2

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.053 af, Depth= 3.48"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.056 af, Depth= 5.31"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 6.74 cfs @ 12.09 hrs, Volume= 0.490 af, Depth= 3.38"

Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 89

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.06 cfs @ 12.32 hrs, Volume= 0.011 af, Depth= 0.47"
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 1.97 cfs @ 12.09 hrs, Volume= 0.164 af, Depth= 5.31"
 Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 15.12 cfs @ 12.27 hrs, Volume= 1.874 af, Depth= 1.06"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 90

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 5.74 cfs @ 12.21 hrs, Volume= 0.629 af, Depth= 1.13"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.4	230	Total			

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 91

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 4.07" for 25-yr event
 Inflow = 9.75 cfs @ 12.09 hrs, Volume= 0.735 af
 Outflow = 0.95 cfs @ 12.96 hrs, Volume= 0.674 af, Atten= 90%, Lag= 52.0 min
 Primary = 0.95 cfs @ 12.96 hrs, Volume= 0.674 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 58.24' @ 12.96 hrs Surf.Area= 5,716 sf Storage= 19,294 cf

Plug-Flow detention time= 881.3 min calculated for 0.674 af (92% of inflow)
 Center-of-Mass det. time= 838.7 min (1,632.3 - 793.5)

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	31,979 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	4,376	317.0	0	0	4,376	
57.00	4,376	317.0	13,128	13,128	5,327	
58.00	5,356	337.0	4,858	17,986	6,418	
60.00	8,777	385.0	13,993	31,979	9,269	

Device	Routing	Invert	Outlet Devices	
#1	Primary	54.00'	18.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf	
#2	Device 1	58.00'	20.0" W x 15.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#3	Device 1	54.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf	
#4	Device 3	54.00'	6.000 in/hr Exfiltration over Wetted area above 54.00' Excluded Wetted area = 4,376 sf	
#5	Device 1	59.60'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#6	Primary	59.50'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83	

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=5.55"

Printed 3/19/2024

Page 92

Primary OutFlow Max=0.94 cfs @ 12.96 hrs HW=58.24' (Free Discharge)

- 1=Culvert (Passes 0.94 cfs of 15.89 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.61 cfs @ 1.56 fps)
- 3=Culvert (Passes 0.33 cfs of 0.99 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.33 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)
- 6=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 4.05" for 25-yr event
 Inflow = 7.39 cfs @ 12.09 hrs, Volume= 0.561 af
 Outflow = 7.27 cfs @ 12.11 hrs, Volume= 0.528 af, Atten= 2%, Lag= 1.1 min
 Primary = 7.27 cfs @ 12.11 hrs, Volume= 0.528 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 71.43' @ 12.11 hrs Surf.Area= 2,273 sf Storage= 5,260 cf

Plug-Flow detention time= 147.3 min calculated for 0.528 af (94% of inflow)
 Center-of-Mass det. time= 114.3 min (905.9 - 791.6)

Volume	Invert	Avail.Storage	Storage Description		
#1	64.00'	6,724 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	6.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	6.000 in/hr Exfiltration over Surface area above 64.00' Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=5.55"

Printed 3/19/2024

Page 93

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=7.07 cfs @ 12.11 hrs HW=71.42' (Free Discharge)

- 1=Culvert (Passes 7.07 cfs of 15.40 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 3.08 cfs @ 3.08 fps)
- 3=Culvert (Passes 0.27 cfs of 1.92 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.27 cfs)
- 5=Orifice/Grate (Weir Controls 3.73 cfs @ 1.36 fps)
- 6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 4.57" for 25-yr event
 Inflow = 23.30 cfs @ 12.09 hrs, Volume= 1.807 af
 Outflow = 10.71 cfs @ 12.27 hrs, Volume= 1.713 af, Atten= 54%, Lag= 10.8 min
 Primary = 10.71 cfs @ 12.27 hrs, Volume= 1.713 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 79.12' @ 12.27 hrs Surf.Area= 6,915 sf Storage= 27,127 cf

Plug-Flow detention time= 164.5 min calculated for 1.713 af (95% of inflow)
 Center-of-Mass det. time= 134.9 min (912.8 - 778.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	68.00'	51,339 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/ Cc= 0.900
#2	Device 1	75.00'	4.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	7.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/ Cc= 0.900

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 94

#5	Device 4	68.00'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf 6.000 in/hr Exfiltration over Surface area above 68.00' Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#7	Primary	81.25'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=10.68 cfs @ 12.27 hrs HW=79.11' (Free Discharge)

- 1=Culvert (Passes 10.68 cfs of 27.39 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 7.67 cfs @ 7.67 fps)
- 3=Orifice/Grate (Orifice Controls 2.19 cfs @ 3.38 fps)
- 4=Culvert (Passes 0.82 cfs of 2.20 cfs potential flow)
- 5=Exfiltration (Exfiltration Controls 0.82 cfs)
- 6=Orifice/Grate (Controls 0.00 cfs)
- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 2.83" for 25-yr event
 Inflow = 10.31 cfs @ 12.21 hrs, Volume= 0.835 af
 Outflow = 8.46 cfs @ 12.30 hrs, Volume= 0.835 af, Atten= 18%, Lag= 5.9 min
 Primary = 8.46 cfs @ 12.30 hrs, Volume= 0.835 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 109.52' @ 12.30 hrs Surf.Area= 3,382 sf Storage= 8,367 cf

Plug-Flow detention time= 131.0 min calculated for 0.835 af (100% of inflow)
 Center-of-Mass det. time= 130.8 min (975.7 - 844.9)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 95

		Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/ Cc= 0.900
		n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00' 6.000 in/hr Exfiltration over Wetted area above 102.00'
		Excluded Wetted area = 540 sf
#4	Device 1	109.25' 48.0" x 48.0" Horiz. Orifice/Grate C= 0.600
		Limited to weir flow at low heads
#5	Primary	109.50' 10.0' long x 6.0' breadth Broad-Crested Rectangular Weir
		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
		2.50 3.00 3.50 4.00 4.50 5.00 5.50
		Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
		2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=8.34 cfs @ 12.30 hrs HW=109.52' (Free Discharge)

- 1=Culvert (Passes 8.28 cfs of 22.14 cfs potential flow)
- 2=Culvert (Passes 0.98 cfs of 1.36 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.98 cfs)
- 4=Orifice/Grate (Weir Controls 7.30 cfs @ 1.70 fps)
- 5=Broad-Crested Rectangular Weir (Weir Controls 0.06 cfs @ 0.33 fps)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 3.18" for 25-yr event
 Inflow = 8.21 cfs @ 12.15 hrs, Volume= 0.692 af
 Outflow = 7.94 cfs @ 12.21 hrs, Volume= 0.515 af, Atten= 3%, Lag= 3.5 min
 Primary = 7.94 cfs @ 12.21 hrs, Volume= 0.515 af
 Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 115.53' @ 12.21 hrs Surf.Area= 3,782 sf Storage= 8,705 cf

Plug-Flow detention time= 139.7 min calculated for 0.515 af (75% of inflow)
 Center-of-Mass det. time= 51.2 min (878.3 - 827.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	110.00'	10,602 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
110.00	219	76.0	0	0	219
112.00	1,022	162.0	1,143	1,143	1,865
114.00	2,131	203.0	3,086	4,229	3,111
116.00	4,376	269.0	6,374	10,602	5,634

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	15.0" Round Culvert L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 96

Primary OutFlow Max=7.56 cfs @ 12.21 hrs HW=115.53' (Free Discharge)

↑1=Culvert (Passes 7.56 cfs of 14.21 cfs potential flow)

↑2=Orifice/Grate (Weir Controls 7.56 cfs @ 1.72 fps)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 3.72" for 25-yr event
 Inflow = 8.70 cfs @ 12.09 hrs, Volume= 0.654 af
 Outflow = 0.78 cfs @ 13.06 hrs, Volume= 0.460 af, Atten= 91%, Lag= 58.0 min
 Primary = 0.78 cfs @ 13.06 hrs, Volume= 0.460 af
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.77' @ 13.06 hrs Surf.Area= 4,412 sf Storage= 17,296 cf

Plug-Flow detention time= 515.0 min calculated for 0.460 af (70% of inflow)
 Center-of-Mass det. time= 421.6 min (1,221.2 - 799.5)

Volume	Invert	Avail.Storage	Storage Description		
#1	76.00'	23,471 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
76.00	2,110	218.0	0	0	2,110
80.00	2,110	218.0	8,440	8,440	2,982
82.00	3,687	295.0	5,724	14,164	6,167
84.00	5,692	358.0	9,307	23,471	9,505

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	15.0" Round Culvert L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	6.000 in/hr Exfiltration over Surface area above 76.00' Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.78 cfs @ 13.06 hrs HW=82.77' (Free Discharge)

↑1=Culvert (Passes 0.78 cfs of 11.86 cfs potential flow)

↑2=Culvert (Passes 0.32 cfs of 1.29 cfs potential flow)

↑3=Exfiltration (Exfiltration Controls 0.32 cfs)

↑4=Orifice/Grate (Orifice Controls 0.46 cfs @ 1.68 fps)

↑5=Orifice/Grate (Controls 0.00 cfs)

7465-PRELIMINARY POST

Type III 24-hr 25-yr Rainfall=5.55"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 97

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth > 2.37" for 25-yr event
 Inflow = 0.81 cfs @ 13.05 hrs, Volume= 0.471 af
 Outflow = 0.12 cfs @ 27.93 hrs, Volume= 0.439 af, Atten= 85%, Lag= 892.7 min
 Discarded = 0.12 cfs @ 27.93 hrs, Volume= 0.439 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 55.31' @ 27.93 hrs Surf.Area= 4,308 sf Storage= 11,978 cf

Plug-Flow detention time= 1,207.1 min calculated for 0.439 af (93% of inflow)
 Center-of-Mass det. time= 1,125.1 min (2,340.1 - 1,215.0)

Volume	Invert	Avail.Storage	Storage Description			
#1	50.60'	15,152 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
50.60	1,088	157.0	0	0	1,088	
52.00	1,850	191.0	2,033	2,033	2,061	
54.00	3,229	247.0	5,015	7,049	4,061	
56.00	4,935	302.0	8,104	15,152	6,526	

Device	Routing	Invert	Outlet Devices											
#1	Discarded	50.60'	1.200 in/hr Exfiltration over Surface area Phase-In= 0.01'											
#2	Primary	55.50'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir											
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	
				2.50	3.00	3.50	4.00	4.50	5.00	5.50				
			Coef. (English)	2.34	2.50	2.70	2.68	2.68	2.66	2.65	2.65	2.65	2.65	
				2.65	2.67	2.66	2.68	2.70	2.74	2.79	2.88			

Discarded OutFlow Max=0.12 cfs @ 27.93 hrs HW=55.31' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.60' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 1.77" for 25-yr event
 Inflow = 42.82 cfs @ 12.28 hrs, Volume= 6.252 af
 Primary = 42.82 cfs @ 12.28 hrs, Volume= 6.252 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=5.55"

Printed 3/19/2024

Page 98

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 3.37 cfs @ 12.09 hrs, Volume= 0.244 af
Primary = 3.37 cfs @ 12.09 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 3.18" for 25-yr event
Inflow = 4.81 cfs @ 12.13 hrs, Volume= 0.385 af
Primary = 4.81 cfs @ 12.13 hrs, Volume= 0.385 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 100-yr Rainfall=8.87"

Printed 3/19/2024

Page 99

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

Subcatchment1S: POST-A.1ROOF	Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=7.06" Tc=6.0 min CN=85 Runoff=3.88 cfs 0.295 af
Subcatchment2S: POST-A.2	Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=8.03" Tc=6.0 min CN=93 Runoff=1.03 cfs 0.083 af
Subcatchment3S: POST-B.1	Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=0.84 cfs 0.071 af
Subcatchment4S: POST-B.2	Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=0.67 cfs 0.057 af
Subcatchment5S: POST-B.3	Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=8.15" Tc=6.0 min CN=94 Runoff=1.57 cfs 0.127 af
Subcatchment6S: POST-B.4	Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=7.42" Tc=6.0 min CN=88 Runoff=4.17 cfs 0.322 af
Subcatchment7S: POST-B.5	Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=7.54" Tc=6.0 min CN=89 Runoff=2.73 cfs 0.213 af
Subcatchment8S: POST-B.6	Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=7.91" Tc=6.0 min CN=92 Runoff=2.43 cfs 0.193 af
Subcatchment9S: POST-B.7	Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=8.39" Tc=6.0 min CN=96 Runoff=0.86 cfs 0.071 af
Subcatchment10S: POST-B.8	Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=7.78" Tc=6.0 min CN=91 Runoff=3.05 cfs 0.241 af
Subcatchment11S: POST-B.9	Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=8.03" Tc=6.0 min CN=93 Runoff=2.53 cfs 0.203 af
Subcatchment12S: POST-B.10	Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=7.91" Tc=6.0 min CN=92 Runoff=2.62 cfs 0.208 af
Subcatchment13S: POST-B.11	Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=8.27" Tc=6.0 min CN=95 Runoff=0.93 cfs 0.076 af
Subcatchment14S: POST-B.12	Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=8.03" Tc=6.0 min CN=93 Runoff=1.73 cfs 0.139 af
Subcatchment15S: POST-B.13	Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=6.69" Tc=6.0 min CN=82 Runoff=2.83 cfs 0.212 af
Subcatchment16S: POST-B.BACKOF	Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=2.97 cfs 0.251 af

7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 100-yr Rainfall=8.87"

Printed 3/19/2024

Page 100

Subcatchment17S: POST-C.1	Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=8.03" Tc=6.0 min CN=93 Runoff=1.97 cfs 0.158 af
Subcatchment18S: POST-C.2	Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=0.61 cfs 0.052 af
Subcatchment19S: POST-C.3	Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=8.03" Tc=6.0 min CN=93 Runoff=2.89 cfs 0.232 af
Subcatchment20S: POST-C.4	Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=7.54" Tc=6.0 min CN=89 Runoff=3.48 cfs 0.271 af
Subcatchment21S: POST-D.1	Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=7.78" Tc=6.0 min CN=91 Runoff=1.57 cfs 0.124 af
Subcatchment22S: POST-D.2	Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=8.15" Tc=6.0 min CN=94 Runoff=0.87 cfs 0.071 af
Subcatchment23S: POST-D.3	Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=8.39" Tc=6.0 min CN=96 Runoff=0.56 cfs 0.046 af
Subcatchment24S: POST-D.4	Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=6.81" Tc=6.0 min CN=83 Runoff=1.40 cfs 0.105 af
Subcatchment25S: POST-D.5	Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=6.57" Tc=6.0 min CN=81 Runoff=2.27 cfs 0.169 af
Subcatchment26S: POST-D.6	Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=8.39" Tc=6.0 min CN=96 Runoff=0.44 cfs 0.036 af
Subcatchment27S: POST-D.7	Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=8.51" Tc=6.0 min CN=97 Runoff=0.64 cfs 0.054 af
Subcatchment28S: POST-D.8	Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=6.81" Tc=6.0 min CN=83 Runoff=1.40 cfs 0.105 af
Subcatchment29S: POST-D.9	Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=6.57" Tc=6.0 min CN=81 Runoff=2.78 cfs 0.207 af
Subcatchment30S: POST-D.BACKOF	Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=0.99 cfs 0.083 af
Subcatchment31S: POST-E.1	Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=7.78" Tc=6.0 min CN=91 Runoff=2.66 cfs 0.210 af
Subcatchment32S: POST-E.2	Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=6.93" Tc=6.0 min CN=84 Runoff=6.72 cfs 0.508 af
Subcatchment33S: POST-E.3	Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=7.30" Tc=6.0 min CN=87 Runoff=2.91 cfs 0.224 af

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 101

Subcatchment34S: POST-E.4	Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=8.39" Tc=6.0 min CN=96 Runoff=0.36 cfs 0.030 af
Subcatchment35S: POST-E.5	Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=0.40 cfs 0.034 af
Subcatchment36S: POST-E.6	Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=0.41 cfs 0.035 af
Subcatchment37S: POST-F.1	Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=6.20" Flow Length=240' Tc=8.9 min CN=78 Runoff=9.29 cfs 0.750 af
Subcatchment38S: POST-F.2	Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=6.69" Tc=6.0 min CN=82 Runoff=2.71 cfs 0.203 af
Subcatchment39S: POST-F.ROOFS	Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=1.15 cfs 0.097 af
Subcatchment40S: POST-G	Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=6.08" Tc=6.0 min CN=77 Runoff=6.54 cfs 0.481 af
Subcatchment41S: POST-H.1	Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=6.20" Flow Length=175' Tc=10.9 min CN=78 Runoff=15.76 cfs 1.347 af
Subcatchment42S: POST-H.2	Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=6.57" Tc=6.0 min CN=81 Runoff=1.34 cfs 0.100 af
Subcatchment43S: POST-H.ROOF	Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=1.07 cfs 0.090 af
Subcatchment44S: POST-K.1	Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=6.44" Tc=6.0 min CN=80 Runoff=12.59 cfs 0.935 af
Subcatchment45S: POST-K.3	Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=1.87" Tc=6.0 min CN=42 Runoff=0.50 cfs 0.043 af
Subcatchment46S: POST-K.ROOF	Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=8.63" Tc=6.0 min CN=98 Runoff=3.15 cfs 0.266 af
Subcatchment47S: POST-I	Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=3.04" Flow Length=323' Tc=16.1 min CN=52 Runoff=52.46 cfs 5.363 af
Subcatchment48S: POST-J	Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=3.15" Flow Length=230' Tc=12.4 min CN=53 Runoff=19.03 cfs 1.758 af
Pond 1P: SW AREA#1 (RAIN GARDEN#1)	Peak Elev=59.21' Storage=25,637 cf Inflow=16.97 cfs 1.311 af Outflow=7.65 cfs 1.245 af
Pond 2P: SW AREA#2 (RAIN GARDEN#2)	Peak Elev=71.56' Storage=5,567 cf Inflow=12.92 cfs 1.001 af Outflow=12.81 cfs 0.968 af

7465-PRELIMINARY POST*Type III 24-hr 100-yr Rainfall=8.87"*

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 102

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=80.60' Storage=38,474 cf Inflow=38.87 cfs 3.097 af
Outflow=18.56 cfs 3.002 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=109.72' Storage=9,057 cf Inflow=20.26 cfs 1.739 af
Outflow=20.36 cfs 1.739 af

Pond 5P: DETENTION POND Peak Elev=115.74' Storage=9,489 cf Inflow=15.76 cfs 1.347 af
Outflow=14.48 cfs 1.171 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=83.74' Storage=22,020 cf Inflow=15.74 cfs 1.202 af
Outflow=10.65 cfs 1.008 af

Pond 7P: SW AREA#7 (INFILTRATION) Peak Elev=55.73' Storage=13,875 cf Inflow=11.02 cfs 1.051 af
Discarded=0.13 cfs 0.499 af Primary=2.69 cfs 0.506 af Outflow=2.82 cfs 1.005 af

Link DP-A: DP-A (WETLAND) Inflow=123.19 cfs 14.581 af
Primary=123.19 cfs 14.581 af

Link DP-C: DP-B (EASTERNWETLAND) Inflow=6.54 cfs 0.481 af
Primary=6.54 cfs 0.481 af

Link DP-D: DP-C (ROAD) Inflow=9.29 cfs 0.750 af
Primary=9.29 cfs 0.750 af

Total Runoff Area = 44.834 ac Runoff Volume = 16.949 af Average Runoff Depth = 4.54"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 103

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 3.88 cfs @ 12.09 hrs, Volume= 0.295 af, Depth= 7.06"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.083 af, Depth= 8.03"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 8.63"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 104

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 8.63"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 1.57 cfs @ 12.09 hrs, Volume= 0.127 af, Depth= 8.15"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 105

Summary for Subcatchment 6S: POST-B.4

Runoff = 4.17 cfs @ 12.09 hrs, Volume= 0.322 af, Depth= 7.42"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 2.73 cfs @ 12.09 hrs, Volume= 0.213 af, Depth= 7.54"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.193 af, Depth= 7.91"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 106

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 8.39"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 3.05 cfs @ 12.09 hrs, Volume= 0.241 af, Depth= 7.78"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 107

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 2.53 cfs @ 12.09 hrs, Volume= 0.203 af, Depth= 8.03"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 2.62 cfs @ 12.09 hrs, Volume= 0.208 af, Depth= 7.91"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 108

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 8.27"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 1.73 cfs @ 12.09 hrs, Volume= 0.139 af, Depth= 8.03"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 2.83 cfs @ 12.09 hrs, Volume= 0.212 af, Depth= 6.69"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 109

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 2.97 cfs @ 12.09 hrs, Volume= 0.251 af, Depth= 8.63"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 1.97 cfs @ 12.09 hrs, Volume= 0.158 af, Depth= 8.03"
 Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 110

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.052 af, Depth= 8.63"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 2.89 cfs @ 12.09 hrs, Volume= 0.232 af, Depth= 8.03"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 3.48 cfs @ 12.09 hrs, Volume= 0.271 af, Depth= 7.54"

Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 111

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 1.57 cfs @ 12.09 hrs, Volume= 0.124 af, Depth= 7.78"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 8.15"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 112

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.046 af, Depth= 8.39"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 1.40 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 6.81"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 2.27 cfs @ 12.09 hrs, Volume= 0.169 af, Depth= 6.57"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 113

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 8.39"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 8.51"
 Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 114

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 1.40 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 6.81"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 2.78 cfs @ 12.09 hrs, Volume= 0.207 af, Depth= 6.57"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 115

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.99 cfs @ 12.09 hrs, Volume= 0.083 af, Depth= 8.63"

Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 2.66 cfs @ 12.09 hrs, Volume= 0.210 af, Depth= 7.78"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 6.72 cfs @ 12.09 hrs, Volume= 0.508 af, Depth= 6.93"

Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 116

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 2.91 cfs @ 12.09 hrs, Volume= 0.224 af, Depth= 7.30"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.030 af, Depth= 8.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 117

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.034 af, Depth= 8.63"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 8.63"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 9.29 cfs @ 12.12 hrs, Volume= 0.750 af, Depth= 6.20"
 Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 118

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 2.71 cfs @ 12.09 hrs, Volume= 0.203 af, Depth= 6.69"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.097 af, Depth= 8.63"
 Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 119

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 6.54 cfs @ 12.09 hrs, Volume= 0.481 af, Depth= 6.08"
 Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 15.76 cfs @ 12.15 hrs, Volume= 1.347 af, Depth= 6.20"
 Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.9	175	Total			

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 120

Summary for Subcatchment 42S: POST-H.2

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.100 af, Depth= 6.57"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 8.63"

Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 12.59 cfs @ 12.09 hrs, Volume= 0.935 af, Depth= 6.44"

Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 121

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.50 cfs @ 12.11 hrs, Volume= 0.043 af, Depth= 1.87"
 Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 3.15 cfs @ 12.09 hrs, Volume= 0.266 af, Depth= 8.63"
 Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 52.46 cfs @ 12.24 hrs, Volume= 5.363 af, Depth= 3.04"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 122

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 19.03 cfs @ 12.19 hrs, Volume= 1.758 af, Depth= 3.15"
 Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.4	230	Total			

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 123

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 7.26" for 100-yr event
 Inflow = 16.97 cfs @ 12.09 hrs, Volume= 1.311 af
 Outflow = 7.65 cfs @ 12.27 hrs, Volume= 1.245 af, Atten= 55%, Lag= 11.1 min
 Primary = 7.65 cfs @ 12.27 hrs, Volume= 1.245 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 59.21' @ 12.27 hrs Surf.Area= 7,328 sf Storage= 25,637 cf

Plug-Flow detention time= 528.9 min calculated for 1.245 af (95% of inflow)
 Center-of-Mass det. time= 502.4 min (1,281.9 - 779.5)

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	31,979 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	4,376	317.0	0	0	4,376	
57.00	4,376	317.0	13,128	13,128	5,327	
58.00	5,356	337.0	4,858	17,986	6,418	
60.00	8,777	385.0	13,993	31,979	9,269	

Device	Routing	Invert	Outlet Devices	
#1	Primary	54.00'	18.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf	
#2	Device 1	58.00'	20.0" W x 15.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#3	Device 1	54.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf	
#4	Device 3	54.00'	6.000 in/hr Exfiltration over Wetted area above 54.00' Excluded Wetted area = 4,376 sf	
#5	Device 1	59.60'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#6	Primary	59.50'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83	

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 124

Primary OutFlow Max=7.61 cfs @ 12.27 hrs HW=59.21' (Free Discharge)

- 1=Culvert (Passes 7.61 cfs of 17.96 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 7.09 cfs @ 3.53 fps)
- 3=Culvert (Passes 0.52 cfs of 1.11 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.52 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)
- 6=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 7.22" for 100-yr event
 Inflow = 12.92 cfs @ 12.09 hrs, Volume= 1.001 af
 Outflow = 12.81 cfs @ 12.10 hrs, Volume= 0.968 af, Atten= 1%, Lag= 0.9 min
 Primary = 12.81 cfs @ 12.10 hrs, Volume= 0.968 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 71.56' @ 12.10 hrs Surf.Area= 2,397 sf Storage= 5,567 cf

Plug-Flow detention time= 101.8 min calculated for 0.968 af (97% of inflow)
 Center-of-Mass det. time= 81.4 min (859.9 - 778.5)

Volume	Invert	Avail.Storage	Storage Description		
#1	64.00'	6,724 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	6.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	6.000 in/hr Exfiltration over Surface area above 64.00' Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 125

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=12.66 cfs @ 12.10 hrs HW=71.56' (Free Discharge)

- 1=Culvert (Passes 12.65 cfs of 15.56 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 3.56 cfs @ 3.56 fps)
- 3=Culvert (Passes 0.28 cfs of 1.94 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.28 cfs)
- 5=Orifice/Grate (Weir Controls 8.82 cfs @ 1.81 fps)
- 6=Broad-Crested Rectangular Weir (Weir Controls 0.01 cfs @ 0.17 fps)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 7.83" for 100-yr event
 Inflow = 38.87 cfs @ 12.09 hrs, Volume= 3.097 af
 Outflow = 18.56 cfs @ 12.25 hrs, Volume= 3.002 af, Atten= 52%, Lag= 10.0 min
 Primary = 18.56 cfs @ 12.25 hrs, Volume= 3.002 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 80.60' @ 12.25 hrs Surf.Area= 8,421 sf Storage= 38,474 cf

Plug-Flow detention time= 115.8 min calculated for 3.000 af (97% of inflow)
 Center-of-Mass det. time= 98.4 min (864.3 - 765.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	68.00'	51,339 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/ Cc= 0.900
#2	Device 1	75.00'	4.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	7.0" W x 36.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/ Cc= 0.900

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 126

#5	Device 4	68.00'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf 6.000 in/hr Exfiltration over Surface area above 68.00' Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#7	Primary	81.25'	8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=18.54 cfs @ 12.25 hrs HW=80.60' (Free Discharge)

- 1=Culvert (Passes 18.54 cfs of 29.28 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 9.69 cfs @ 9.69 fps)
- 3=Orifice/Grate (Orifice Controls 7.83 cfs @ 5.17 fps)
- 4=Culvert (Passes 1.03 cfs of 2.35 cfs potential flow)
- 5=Exfiltration (Exfiltration Controls 1.03 cfs)
- 6=Orifice/Grate (Controls 0.00 cfs)
- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 5.89" for 100-yr event
 Inflow = 20.26 cfs @ 12.13 hrs, Volume= 1.739 af
 Outflow = 20.36 cfs @ 12.15 hrs, Volume= 1.739 af, Atten= 0%, Lag= 1.2 min
 Primary = 20.36 cfs @ 12.15 hrs, Volume= 1.739 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 109.72' @ 12.15 hrs Surf.Area= 3,612 sf Storage= 9,057 cf

Plug-Flow detention time= 79.4 min calculated for 1.739 af (100% of inflow)
 Center-of-Mass det. time= 79.2 min (899.4 - 820.2)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 127

			Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/ Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00'	6.000 in/hr Exfiltration over Wetted area above 102.00'
			Excluded Wetted area = 540 sf
#4	Device 1	109.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#5	Primary	109.50'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=20.18 cfs @ 12.15 hrs HW=109.72' (Free Discharge)

- 1=Culvert (Passes 17.77 cfs of 22.46 cfs potential flow)
- 2=Culvert (Passes 1.05 cfs of 1.38 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 1.05 cfs)
- 4=Orifice/Grate (Weir Controls 16.72 cfs @ 2.24 fps)
- 5=Broad-Crested Rectangular Weir (Weir Controls 2.42 cfs @ 1.11 fps)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 6.20" for 100-yr event
 Inflow = 15.76 cfs @ 12.15 hrs, Volume= 1.347 af
 Outflow = 14.48 cfs @ 12.18 hrs, Volume= 1.171 af, Atten= 8%, Lag= 1.7 min
 Primary = 14.48 cfs @ 12.18 hrs, Volume= 1.171 af
 Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 115.74' @ 12.19 hrs Surf.Area= 4,033 sf Storage= 9,489 cf

Plug-Flow detention time= 91.3 min calculated for 1.171 af (87% of inflow)
 Center-of-Mass det. time= 32.7 min (840.8 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1	110.00'	10,602 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
110.00	219	76.0	0	0	219
112.00	1,022	162.0	1,143	1,143	1,865
114.00	2,131	203.0	3,086	4,229	3,111
116.00	4,376	269.0	6,374	10,602	5,634

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	15.0" Round Culvert L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 128

Primary OutFlow Max=14.43 cfs @ 12.18 hrs HW=115.72' (Free Discharge)

↑1=Culvert (Barrel Controls 14.43 cfs @ 11.76 fps)

↑2=Orifice/Grate (Passes 14.43 cfs of 16.98 cfs potential flow)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 6.83" for 100-yr event

Inflow = 15.74 cfs @ 12.09 hrs, Volume= 1.202 af

Outflow = 10.65 cfs @ 12.19 hrs, Volume= 1.008 af, Atten= 32%, Lag= 6.2 min

Primary = 10.65 cfs @ 12.19 hrs, Volume= 1.008 af

Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 83.74' @ 12.19 hrs Surf.Area= 5,405 sf Storage= 22,020 cf

Plug-Flow detention time= 311.7 min calculated for 1.008 af (84% of inflow)

Center-of-Mass det. time= 244.3 min (1,030.3 - 786.0)

Volume	Invert	Avail.Storage	Storage Description			
#1	76.00'	23,471 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
76.00	2,110	218.0	0	0	2,110	
80.00	2,110	218.0	8,440	8,440	2,982	
82.00	3,687	295.0	5,724	14,164	6,167	
84.00	5,692	358.0	9,307	23,471	9,505	

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	15.0" Round Culvert L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	6.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	6.000 in/hr Exfiltration over Surface area above 76.00' Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.41 cfs @ 12.19 hrs HW=83.73' (Free Discharge)

↑1=Culvert (Passes 10.41 cfs of 12.60 cfs potential flow)

↑2=Culvert (Passes 0.46 cfs of 1.38 cfs potential flow)

↑3=Exfiltration (Exfiltration Controls 0.46 cfs)

↑4=Orifice/Grate (Orifice Controls 4.04 cfs @ 4.04 fps)

↑5=Orifice/Grate (Weir Controls 5.92 cfs @ 1.58 fps)

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 129

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth = 5.28" for 100-yr event
 Inflow = 11.02 cfs @ 12.19 hrs, Volume= 1.051 af
 Outflow = 2.82 cfs @ 12.81 hrs, Volume= 1.005 af, Atten= 74%, Lag= 37.1 min
 Discarded = 0.13 cfs @ 12.81 hrs, Volume= 0.499 af
 Primary = 2.69 cfs @ 12.81 hrs, Volume= 0.506 af
 Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 55.73' @ 12.81 hrs Surf.Area= 4,688 sf Storage= 13,875 cf

Plug-Flow detention time= 649.4 min calculated for 1.004 af (96% of inflow)
 Center-of-Mass det. time= 591.2 min (1,615.6 - 1,024.5)

Volume	Invert	Avail.Storage	Storage Description			
#1	50.60'	15,152 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
50.60	1,088	157.0	0	0	1,088	
52.00	1,850	191.0	2,033	2,033	2,061	
54.00	3,229	247.0	5,015	7,049	4,061	
56.00	4,935	302.0	8,104	15,152	6,526	

Device	Routing	Invert	Outlet Devices											
#1	Discarded	50.60'	1.200 in/hr Exfiltration over Surface area Phase-In= 0.01'											
#2	Primary	55.50'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir											
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00											
			2.50 3.00 3.50 4.00 4.50 5.00 5.50											
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65											
			2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88											

Discarded OutFlow Max=0.13 cfs @ 12.81 hrs HW=55.73' (Free Discharge)
 ↑1=**Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=2.68 cfs @ 12.81 hrs HW=55.73' (Free Discharge)
 ↑2=**Broad-Crested Rectangular Weir**(Weir Controls 2.68 cfs @ 1.15 fps)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 4.13" for 100-yr event
 Inflow = 123.19 cfs @ 12.21 hrs, Volume= 14.581 af
 Primary = 123.19 cfs @ 12.21 hrs, Volume= 14.581 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

7465-PRELIMINARY POST

Type III 24-hr 100-yr Rainfall=8.87"

Prepared by Dillis & Roy Civil Design Group

Printed 3/19/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 130

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 6.08" for 100-yr event
Inflow = 6.54 cfs @ 12.09 hrs, Volume= 0.481 af
Primary = 6.54 cfs @ 12.09 hrs, Volume= 0.481 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 6.20" for 100-yr event
Inflow = 9.29 cfs @ 12.12 hrs, Volume= 0.750 af
Primary = 9.29 cfs @ 12.12 hrs, Volume= 0.750 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Appendix F – Stormwater Calculations

This information will be provided with the final Stormwater Report.

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location:

**TSS Removal
Calculation
Worksheet**

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
Sediment Forebay	0.25	0.75	0.19	0.56
	0.00	0.56	0.00	0.56
	0.00	0.56	0.00	0.56
	0.00	0.56	0.00	0.56

Total TSS Removal =

Separate form needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

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

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location:

**TSS Removal
Calculation
Worksheet**

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Sediment Forebay	0.25	1.00	0.25	0.75
Rain Garden	0.90	0.75	0.68	0.08
	0.00	0.08	0.00	0.08
	0.00	0.08	0.00	0.08
	0.00	0.08	0.00	0.08

Total TSS Removal =

Separate form needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

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

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location:

TSS Removal Calculation Worksheet

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Sediment Forebay	0.25	1.00	0.25	0.75
Infiltration Basin	0.80	0.75	0.60	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15

Total TSS Removal =

Separate form needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

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

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location:

**TSS Removal
Calculation
Worksheet**

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Rain Garden	0.90	1.00	0.90	0.10
Infiltration Basin	0.80	0.10	0.08	0.02
	0.00	0.02	0.00	0.02
	0.00	0.02	0.00	0.02
	0.00	0.02	0.00	0.02

Total TSS Removal =

Separate form needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

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

Appendix G – Construction Period Pollution Prevention

The project is covered under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which will be submitted in place of the Construction Period Pollution Prevention Plan, prior to any land disturbance.

Appendix H - Operation and Maintenance Plan

This information will be provided with the final Stormwater Report.

Appendix I - Long Term Pollution Prevention Plan

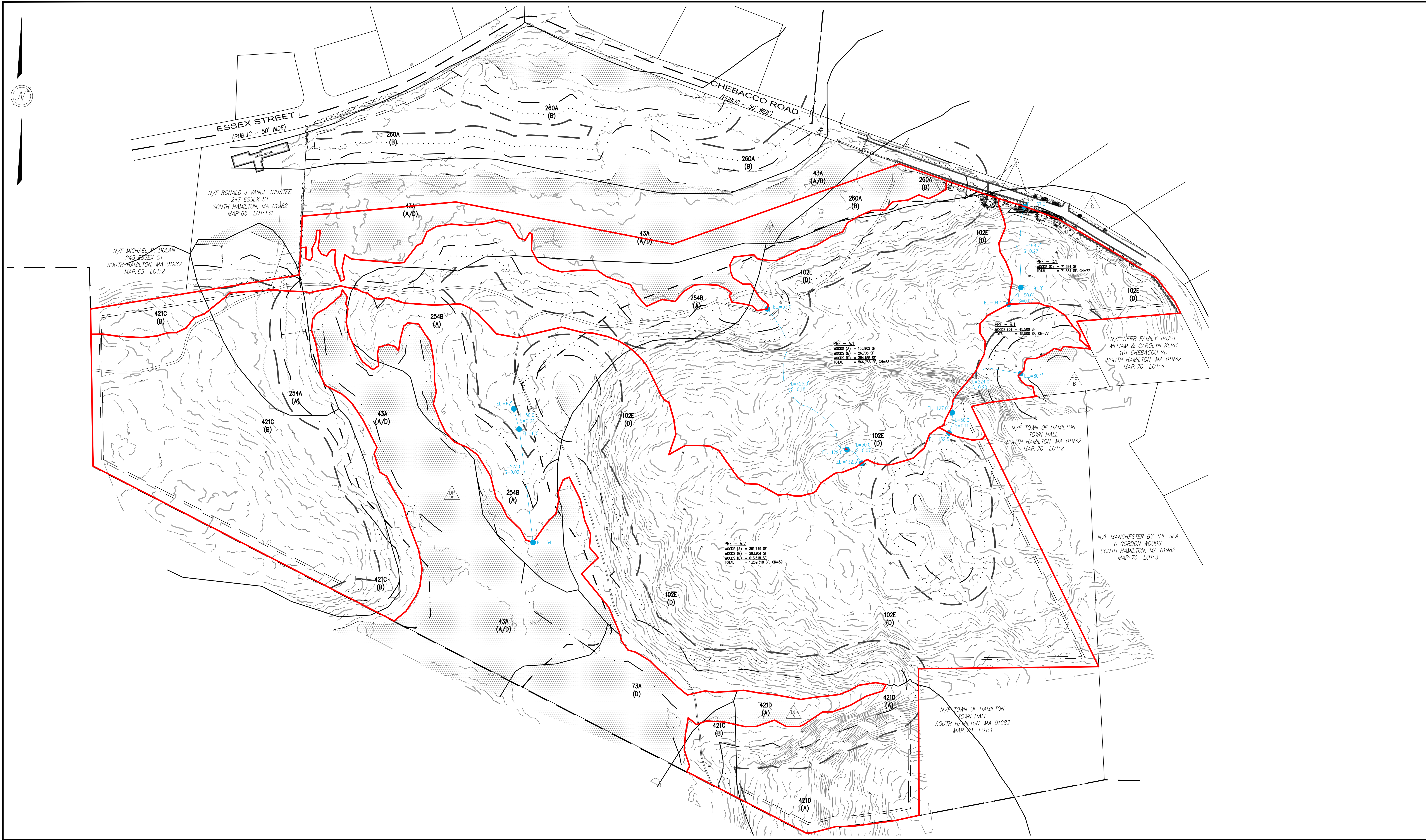
This information will be provided with the final Stormwater Report.

4.0 Plans

Preliminary Stormwater Report
133 Essex Street

March 4th, 2024
Chebacco Hill Capital Partners, LLC

Pre-development Watershed Plan



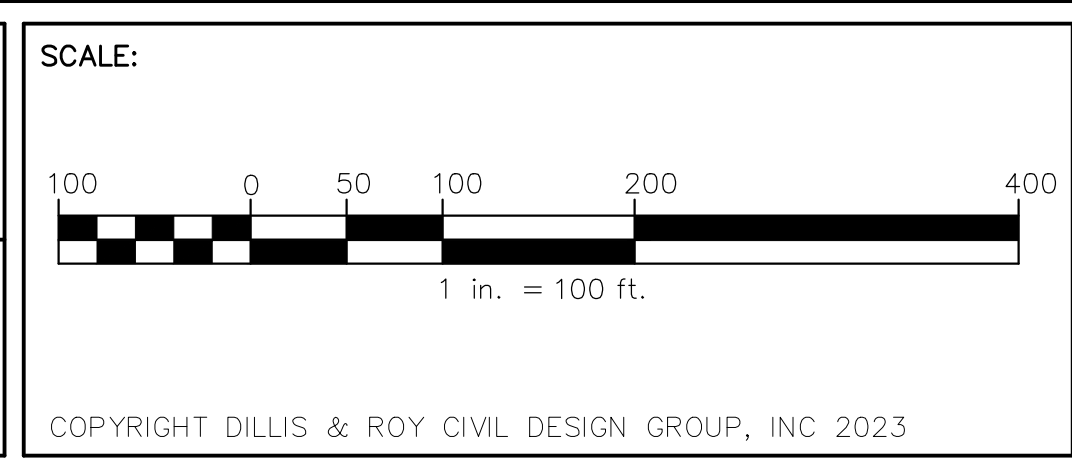
PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1 PHONE: (978) 779-6091
LUNENBURG, MA 01462 www.dillisondroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS



--	--	--	--

DATE:
3/04/24

DESIGN BY:
RPV

DRAWN BY:
RPV

CHECKED BY:
GSR

PRELIM. PRE-DEVELOPED WATERSHED MAP
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO.
7465

DRAWING NO.
7465-SP

SHEET NO.
DRN

Preliminary Stormwater Report
133 Essex Street

March 4th, 2024
Chebacco Hill Capital Partners, LLC

Post-development Watershed Plan



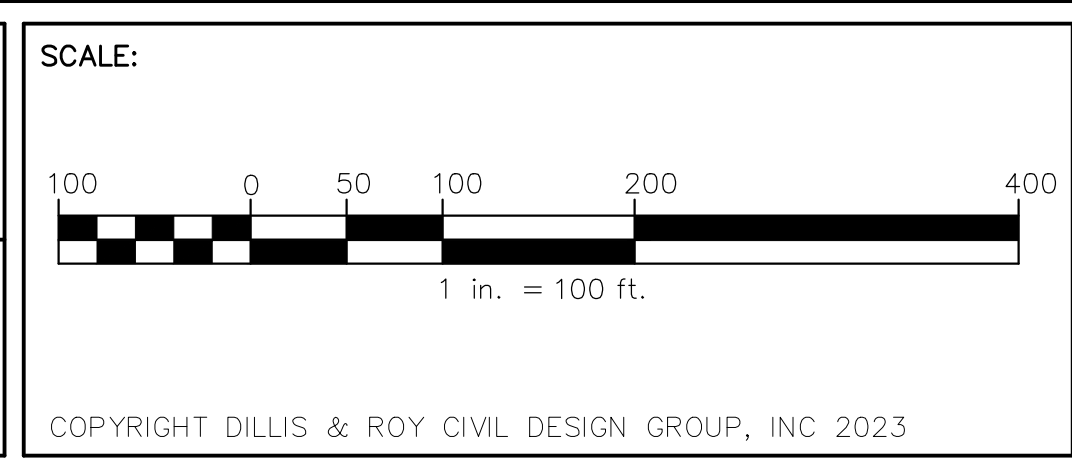
PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462 PHONE: (978) 779-6091 www.dillisondroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS



DATE:	3/04/24
DESIGN BY:	RPV
DRAWN BY:	RPV
CHECKED BY:	GSR

PRELIM. POST-DEVELOPED WATERSHED MAP
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-SP
SHEET NO. DRN