Attachment F

Draft Stormwater Management Report – Proposed Onshore Substation

Stormwater Management Report
(Draft for DEIR Submittal)

Project:

275/345KV Substation for New England Wind 2 Connector Project
Land at Clay Hill, Barnstable, MA 02050
Parcels 195037 and 195005 - 195007

Applicant/Developer:

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Stantec

TABLE OF CONTENTS

APPENDED DRAWING SHEETS

1.0 STORMWATER MANAGEMENT DESIGN AND COMPLIANCE

1.1 Project Background and Description

The proposed project site is comprised of four adjacent properties in Barnstable, Massachusetts. Property areas, from west to east, are 5.3 acres, 7.2 acres, 7.5 acres and 3.9 acres. All 4 properties are currently entirely forested, with the exception of a small 'panhandle' spur in the north of the center property that is partially occupied by a clear-cut electrical easement. The proposed substation will occupy a portion of the areas of the properties, primarily in the south and center. An existing access road, leading from Oak Street to the fire tower at Clay Hill, passes the southern boundary of the three easternmost properties and will be connected to the proposed substation.

The project site is bounded by Town of Barnstable Conservation Commission land to the north, which the electrical easement passes through. The eastern and western boundaries of the site are land owned by the Town of Barnstable Conservation Commission. US Route 6 bounds the westernmost two properties to the south, while the fire tower and access road at Clay Hill is situated between Route 6 and the easternmost three properties.

There are no wetlands within 100-feet of the substation site, as it is located in the mid-Cape area, on the side slope of a glacial moraine with well-drained granular soils. There are also no perennial streams located within 200-feet of the Site. According to the Town of Barnstable Comprehensive Wastewater Management Plan dated November 2020, groundwater elevations at the site are 35-40ft, giving depths to groundwater across the site ranging from approximately 160ft in the south to 60ft in the north.

The approach to stormwater management for this project is to balance the needs of the project while preserving the integrity of groundwater and minimizing impacts to the adjacent lands. To the extent feasible, environmentally sensitive design and low impact development (LID) measures will be incorporated into the planning and design of this project. The proposed stormwater management system incorporates Best Management Practices (BMPs), as described in the Department of Environmental Protection Stormwater Management Policy Handbook, and as recommended in the Town of Barnstable's site plan criteria. These BMPs will primarily function to minimize potential adverse water quality impacts to groundwater and to downgradient receptors. The BMPs proposed will also maintain or reduce peak stormwater discharge rates released off-site, ensuring no erosive conditions will be generated; and storage/infiltration basins are proposed to ensure that post-development runoff volumes will not exceed pre-development runoff volumes. To ensure the highest level of groundwater protection, it is proposed to provide surplus containment beneath certain substation equipment containing large quantities of dielectric fluids.

1.2 Project Scope of Work

The proposed project involves the following scope of work:

- Construction of retaining walls and associated grading such that grades within the substation, excluding access roads and ramps, are limited to no greater than 2% to facilitate operations and maintenance. A key objective of the proposed site grading will be to balance earth cuts and fills to minimize movement of soils to and from the site.
- Construction of an approx. 20' wide gravel road around the perimeter of the substation to allow for access to all proposed electrical equipment. The south-eastern corner of this perimeter road will include a connection to the Clay Hill fire tower access road to the south the site, which then connects to Oak St further east. The remaining areas within the substation yard will be surfaced with crushed stone.
- A perimeter fence will be installed around the perimeter of the substation and at both entrances/exits.
- Construction of all electrical equipment and buildings as shown on the plan. Some of the equipment may feature barrier walls to help mitigate sound impacts.
- Construction of containment structures for equipment that will contain dielectric fluids (6 Transformers, 2 Station Service Transformers and 6 Shunt Reactors). Such equipment will be placed within containment structures sized to contain 110% of the dielectric fluid volume of the equipment contained, plus an additional 30-inches of vertical storage to account for rainfall during the Probable Maximum Precipitation event. Twelve (12) containment structures are shown on the proposed plans.
- A closed drainage system for conveying clean stormwater from containment areas to the infiltration basin through a final oil/water separator structure.
- A stormwater management system is provided, as further described in this report, to manage stormwater runoff from the new building, paved access ways, and crushed stone surface of the electrical equipment yard.
- A 12' wide gravel access route is to be built, connecting the substation site to stormwater management features elsewhere within the property for maintenance access purposes.

As the substation design and Site Plan are refined in the future, the project Stormwater Management Plan described in this report will be adjusted accordingly, to reflect any hydraulic or hydrologic changes or BMP changes that might result from Site Plan revision.

1.3 Analysis Overview

A stormwater drainage analysis for this project has been prepared and is presented in the sections which follow. This analysis evaluates the capacity of the proposed drainage systems, and documents compliance with the Stormwater Management Standards of the Massachusetts Department of Environmental Protection (DEP) and the Town of Barnstable's Site Plan Criteria.

The drainage analysis includes calculated estimates of the runoff volume and peak storm flow rates for each individual drainage area at the Site. HydroCAD, a software program, developed by Applied Microcomputer Systems, was utilized in the preparation of the stormwater runoff model. HydroCAD is based on the Soil Conservation Service (SCS) "Technical Release 20 – Urban Hydrology for Small Watersheds" and is a generally accepted industry standard methodology.

The Resilient Massachusetts Action Team (RMAT) Climate resilience Design Standards and Guidelines were used to determine the appropriate design rainfall event and corresponding precipitation depth. Epsilon Associates, Inc., working on behalf of Avangrid Offshore Wind, worked through the RMAT Climate Resilience Design Standards Tool to determine these design inputs. Based on factors including the criticality and design life of the proposed development, the tool output showed that the development should utilize 'Tier 3' calculation methodologies and a return period of 50 years. The tool output also included the design 50-year 24-hr precipitation depth of 8.2", calculated using tier 3 methodologies, removing the need to perform this calculation separately. Utilizing tools within HydroCAD software, an SCS Type III storm distribution curve was then used with the 24-hr storm depth to estimate peak intensities at a sub-hourly level. Rainfall depths that were utilized for design are noted below (2-year, 10-year and 100-year rain event data is the 'Extreme Precipitation Estimates' from the Northeast Regional Climate Center):

24-Hour Storm Event	**Rainfall (inches)**
2-year	3.3
10-year	4.8
50-year (RMAT)	8.2
100-year	8.4

Time of concentration (T_C) values and runoff curve numbers (CN) were developed for each of the calculated drainage areas based upon prevalent topographic patterns, ground cover conditions, and SCS Hydrologic Soil Group classifications. A minimum T_C of 5 minutes was used for sub-catchments with tributary areas having a calculated T_C of less than 5 minutes.

In addition to urban cover, onsite soils are comprised of two categories: Barnstable-Plymouth-Nantucket complex, rolling, very bouldery (Hydrological Soil Group A); and Plymouth-Barnstable complex, hilly, very bouldery (Hydrological Soil Group A) according to the online Web Soil Survey of the USADA Natural Resources Conservation Service (NRCS). No test pits have been excavated on Site, but soils will be thoroughly tested as part of final design and permitting. Based on the NRCS soils data, a Rawls rate of 2.41

in/hr was assumed as the site soils infiltration rate. This infiltration rate will be updated accordingly once on-site soil evaluations have taken place.

1.4 Existing Conditions

The total area of all four properties is 23.9 acres, of which 9.91 acres make up the area of the proposed substation. As described in Section 1.1, the existing site is currently entirely forested, with the exception of a small 'panhandle' spur in the north of the easternmost property that is partially occupied by a clear-cut electrical easement.

An Existing Conditions Tributary Area Plan is attached (Section 3). SCS Method[1] CN and time of concentration values were calculated to determine the peak runoff rates and volumes for each existing sub-catchment area.

The highest elevation at the Site is approximately 195' above mean sea level (msl) in the south of the site, while the lowest elevation is approximately 83' in the north-center of the site. Generally, much of the site topography slopes from the south to the low point in the north, although smaller sub-catchments are present along the boundaries of the site.

1.5 Proposed Conditions

In the post-development condition, all drainage from the proposed substation will be directed toward the localized depression in the north-eastern corner of the site, with a berm to be added to this area in order to prevent overflow of excess stormwater into the adjacent property to the east.

Inflow to the infiltration systems has been separated into sub-catchments. The catchment locations and composition of areas (i.e., roof, crushed rock surface, gravel roads, grass, woods, etc.) are shown on the Proposed Subcatchment Areas plan (Sheet 7). Post-development stormwater will substantially infiltrate on-site because the substation yard surface will be predominantly permeable (e.g. proposed crushed stone yard), with well-drained soils underneath as described in Section 1.4. However, during extreme rainfall events, rainfall and runoff from impermeable surfaces on the site may briefly exceed the infiltration capacity of the underlying soil beneath the crushed stone surfacing and will instead flow into the site drainage system.

As the site is currently forested, the impermeable area of the site will increase by approximately 3.1 acres. With the exception of the gravel maintenance access route, all excess runoff will be infiltrated or attenuated within the localized depression such that there will be no additional discharge from during the analyzed 24-hour rainfall events. Any substation equipment that contains dielectric fluids will be located within appropriately sized spill containment areas. Some of the proposed substation occupies areas of the site that previously discharged runoff off-site during extreme rainfall events, which means that a portion of this runoff will now be managed on-site.

The proposed stormwater management system incorporates Low Impact Development (LID) strategies, which are designed to capture, treat, and recharge stormwater runoff. These measures provide a treatment train to improve the quality of stormwater runoff,

[1] Soil Conservation Service hydrologic method TR-55 was used to develop the Curve Number (CN) and Time of Concentration (Tc) values used for hydrologic analysis of pre-and post-development stormwater runoff values.

reduce the quantity of stormwater runoff, and provide infiltration and recharge to groundwater. These are considered Best Management Practices (BMPs) by the Massachusetts Department of Environmental Protection. A Summary of the LID measures to be incorporated is provided below:

- Perforated under-drains will be installed throughout the site, which will collect stormwater that has percolated through the crushed rock surfaces and direct it towards the attenuation and infiltration structures. Stormwater that percolates through the crushed rock will receive a degree of filtration that removes some suspended solid pollutants.
- A hydrodynamic vortex separator device will be installed to treat all runoff from the perforated under-drains. See Section 1.5.1 for additional information.
- Some stormwater will instead flow overland into a grassed swale around the perimeter of the site, which also provides opportunity for settlement and filtration of pollutants. Outflows from the swale will then flow into a sediment forebay for additional treatment.
- Both the vortex separator device and the sediment forebay will then flow through a rip-rap lined channel down a steep slope the infiltration basin.
- The infiltration basin also collects and infiltrates runoff from undeveloped areas of the property.
- A berm/dam structure will be installed within the existing localized depression area, at the edge of the proposed infiltration basin, such that no outflow from the proposed substation will leave the site during storms up to and including the 50-year 24-hr design rainfall event.

A more detailed description of the proposed stormwater BMP features follows:

1.5.1 Structural Best Management Practices (BMPs)

As outlined previously, the detention basin will receive pretreated stormwater runoff from the aforementioned conveyance and treatment BMPs. Stormwater will be pretreated to remove at least 44% of total suspended solids (TSS) before being released into the infiltration basin in accordance with the Massachusetts Stormwater Policy as applicable to areas with a rapid infiltration rate.

Infiltration Chambers and Vortex Separator Device

A hydrodynamic vortex separator device, such as the 'Downstream Defender' by Hydro International, is proposed upstream of the infiltration basin to achieve the required TSS removal for stormwater collected by perforated drains in the interior of the substation. This product has not been certified in Massachusetts, but testing from the New Jersey Department of Environmental Protection demonstrated that it achieves TSS removal of 50% when designed, operated and maintained appropriately[2]. The device

[2] https://www.hydro-int.com/sites/default/files/njdep_certification_letter_njcat_report.pdf

sizing/configuration will be confirmed with the manufacturer during the detailed design phase such that it performs optimally during the 1" design storm.

Swale and Sediment Forebay

Vegetated swales will be installed around the perimeter of the site and will collect stormwater runoff from adjacent areas and the gravel access road (this excludes the maintenance access route for the stormwater features, which will not be utilized with sufficient frequency to require pollutant mitigation measures). These swales will then discharge to a sediment forebay featuring a downstream check dam. Based on the HydroCAD model, flow within the swales is less than 2" deep, with velocities lower than 1 ft/s and total travel times in excess of 9 minutes during the 1" water quality design storm event. Therefore, based on the Massachusetts Stormwater Handbook for grassed channels, the swale should be suitable to provide effective pretreatment of TSS (50%), which will be combined with additional treatment by the sediment forebay downstream.

Dielectric Fluid Containment Areas, Inhibition Device, and Oil/Water Separator

Multiple oil absorbing inhibition devices will be employed for multiple layers of defense against dielectric fluid release from the dielectric fluid containment structures. Each electrical component containment will be piped to a common drain header. Immediately downstream of each individual sump will be an oil absorbing inhibition device located in a well below the frost line. The oil absorbing inhibition device consists of oil absorbing resin that swells and blocks flow when the dielectric fluid is found but allows rainwater to drain through. The header that collects the rainwater leads to an oil water separator (to remove any sheen), followed by another inhibition device for an added factor of safety.

Inhibition devices are commonly used. Brand names include Imbiber, C.I. Agent, HFF valve or equals. Final selection of an individual manufacturer has not been made at this time. These devices are manufactured in various forms including a filter like assembly, and in line piping assembly. Functionally they perform similarly. Final selection will be based on durability, capacity, ease of maintenance, and proven history of performance.

An additional tank oil/water separator system is proposed downstream of the above devices to help capture residual contaminants. These systems work on a hydrological difference between the inlet and outlet to allow for the dielectric fluid to rise in a pre-fabricated chamber. This allows the dielectric fluid to become trapped on the surface before being removed during normal maintenance operations. These systems also utilize screens and coalescers to capture the dielectric fluids and other sinking debris in the water.

1.6 Comments on Nitrogen Control Issues

Following redevelopment, the site will not contribute nitrogen (N) through wastewater. Only portable restrooms are to be used during construction and operation of the substation. Also, the substation site will comply with the Massachusetts Stormwater Policy and employ low impact development strategies to minimize stormwater runoff, and treat any runoff generated from paved areas (main access road and parking) prior to recharge to the ground. The maintenance access road will be not be utilized frequently

and is therefore not a substantial source of nitrogen. The Nitrogen loading model presented in the Cape Cod Commission Nitrogen Loading Technical Bulletin 91-001, has been used to evaluate potential N loading from the substation site. A calculation based on this document is appended in Section 6, which shows that the projected N loading will be 0.35 ppm - less than the 1 ppm standard set by the Cape Cod Commission.

1.7 Analysis Summary

Detailed HydroCAD calculations of the stormwater drainage conditions for the design storm events are submitted in Section 2. As noted in the summary table below, the post-development total discharge volumes and peak runoff rates from the internal depression area remain 0 cfs, even during the most severe modelled design storm (1 in 100 year).

Design Point: North-eastern Internal Depression

Table 1. Summary Table

		Peak Runoff Rate (cfs)	Total Runoff Volume (af)
100-year Storm Event:	Existing Conditions	0	0
	Proposed Conditions	0	0

* See discussion below. cfs = cubic feet per second; af = acre feet

Overall, the proposed stormwater management design will meet or exceed the Massachusetts Stormwater Policy recommendations for this project; and the project will comply with the MassDEP Stormwater Standards. A summary of project status with respect to each Standard is as follows:

Standard 1 - No New Untreated Discharges. This Standard will be met; and no new stormwater conveyances would discharge untreated stormwater directly to the waters of the Commonwealth.

Standard 2 - Peak Rate Attenuation. This Standard will be met. Post-development peak discharge runoff rates will not exceed the pre-development rates.

Standard 3 – Recharge. This Standard will be met; and the recharge volume required by the Policy for this project will be met or exceeded.

Standard 4 - Water Quality. This Standard will be met; and the project will meet the required water quality standards. The proposed design will remove at least 44% of TSS prior to discharge to an infiltration structure as required per Stormwater Policy.

Standard 5 - Land Uses with Higher Potential Pollutant Loads. This Standard does not apply to this project. However, as noted, surplus containment areas will be provided for any substation equipment that contains dielectric fluid.

Standard 6 – Critical Areas. The site does not lie within Zones I or II or within the Interim Wellhead Protection area of a public water supply, and there are no stormwater discharges near or to any other critical area.

Standard 7 - Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable. The project is not defined as a redevelopment in the Massachusetts Stormwater Management Standards so all Standards must be met.

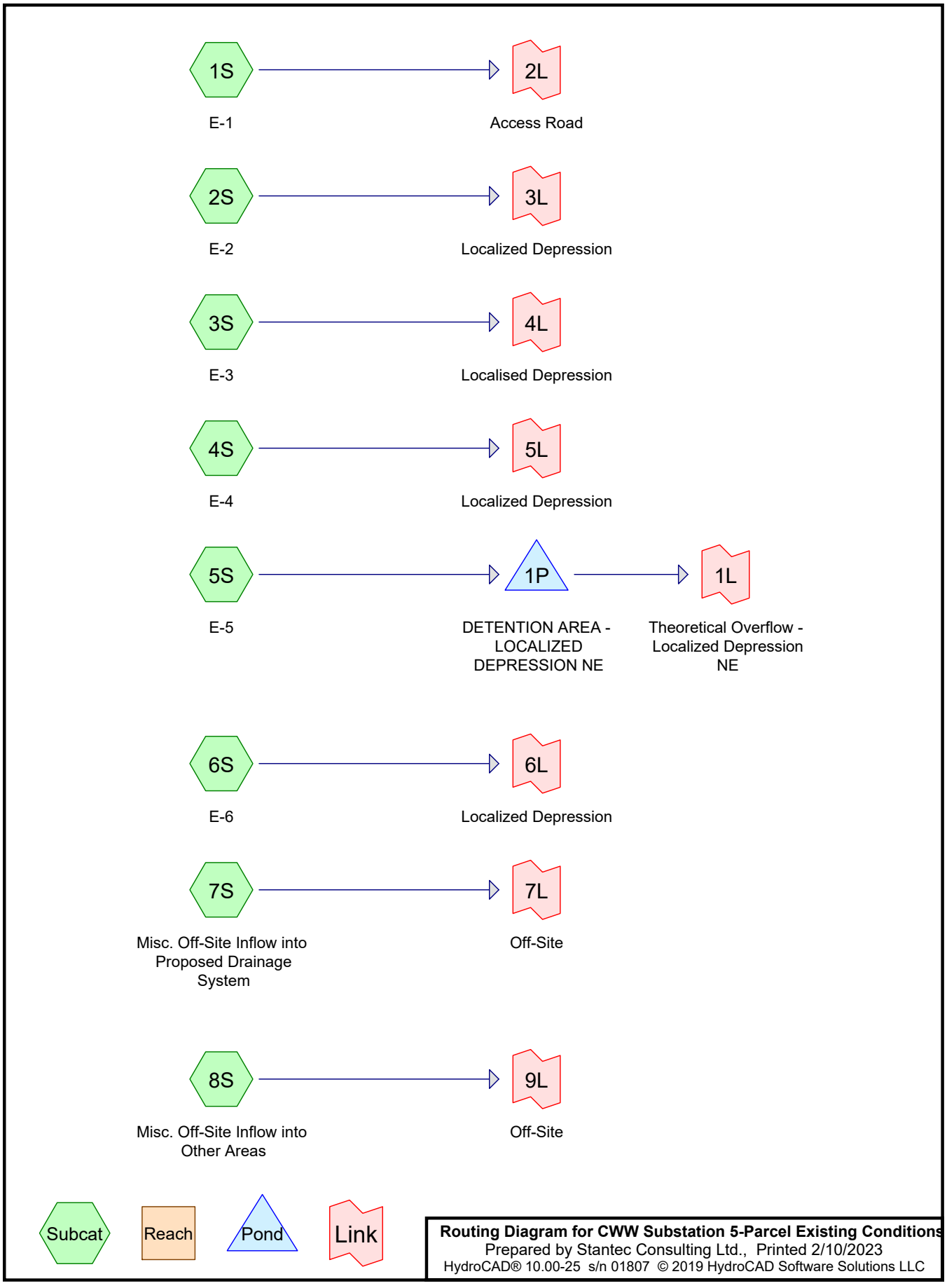
Standard 8 - Construction Period Pollution Prevention and Erosion and Sedimentation Control. An Erosion & Sedimentation control plan will be prepared for the prevention of erosion, sedimentation, and off-site transport of suspended solids; and a draft of this plan is included in Section Five of this Stormwater Report.

Standard 9 - Operation and Maintenance Plan. A Long-Term Operation and Maintenance Plan will be prepared as part of final design.

Standard 10 - Prohibition of Illicit Discharges. Per Standard No. 10 of the MassDEP Stormwater Management Standards, there shall be no illicit discharges to the stormwater management system. The Property Manager will be responsible for implementing the Operation and Maintenance Plan for the Site's stormwater management system; and for overseeing activities at the facility to prevent illicit discharges to the drainage system. It is strictly prohibited to discharge any products or substances onto the ground surface or into any drainage structures, such as catch basin inlets, manholes, or drainage outlets that would be a detriment to the environment.

Section 2

Analysis for 2-, 10-, 50- and 100-year Storms
Existing Conditions HydroCAD Analysis
Proposed Conditions HydroCAD Analysis



Routing Diagram for CWW Substation 5-Parcel Existing Conditions
Prepared by Stantec Consulting Ltd., Printed 2/10/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
2,020	96	Gravel surface, HSG A (1S)
1,039,500	30	Woods, Good, HSG A (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S)
1,041,520	**30**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
1,041,520	HSG A	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
1,041,520		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
2,020	0	0	0	0	2,020	Gravel surface	1S
1,039,500	0	0	0	0	1,039,500	Woods, Good	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S
1,041,520	**0**	**0**	**0**	**0**	**1,041,520**	**TOTAL AREA**	

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

Subcatchment 1S: E-1 Runoff Area=27,000 sf 0.00% Impervious Runoff Depth>0.80"
Flow Length=285' Tc=10.9 min CN=35 Runoff=0.29 cfs 1,811 cf

Subcatchment 2S: E-2 Runoff Area=45,304 sf 0.00% Impervious Runoff Depth>0.42"
Flow Length=230' Tc=12.3 min CN=30 Runoff=0.16 cfs 1,574 cf

Subcatchment 3S: E-3 Runoff Area=68,819 sf 0.00% Impervious Runoff Depth>0.42"
Flow Length=356' Tc=13.6 min CN=30 Runoff=0.24 cfs 2,389 cf

Subcatchment 4S: E-4 Runoff Area=134,903 sf 0.00% Impervious Runoff Depth>0.42"
Flow Length=450' Tc=15.1 min CN=30 Runoff=0.47 cfs 4,675 cf

Subcatchment 5S: E-5 Runoff Area=547,239 sf 0.00% Impervious Runoff Depth>0.41"
Flow Length=1,300' Tc=30.9 min CN=30 Runoff=1.48 cfs 18,669 cf

Subcatchment 6S: E-6 Runoff Area=182,095 sf 0.00% Impervious Runoff Depth>0.42"
Flow Length=552' Tc=14.7 min CN=30 Runoff=0.63 cfs 6,313 cf

Subcatchment 7S: Misc. Off-Site Inflow into Runoff Area=4,170 sf 0.00% Impervious Runoff Depth>0.42"
Tc=5.0 min CN=30 Runoff=0.02 cfs 146 cf

Subcatchment 8S: Misc. Off-Site Inflow into Runoff Area=31,990 sf 0.00% Impervious Runoff Depth>0.42"
Tc=5.0 min CN=30 Runoff=0.13 cfs 1,119 cf

Pond 1P: DETENTION AREA - LOCALIZED Peak Elev=85.67' Storage=9,732 cf Inflow=1.48 cfs 18,669 cf
Discarded=0.39 cfs 9,126 cf Primary=0.00 cfs 0 cf Outflow=0.39 cfs 9,126 cf

Link 1L: Theoretical Overflow - Localized Depression NE Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 2L: Access Road Inflow=0.29 cfs 1,811 cf
Primary=0.29 cfs 1,811 cf

Link 3L: Localized Depression Inflow=0.16 cfs 1,574 cf
Primary=0.16 cfs 1,574 cf

Link 4L: Localised Depression Inflow=0.24 cfs 2,389 cf
Primary=0.24 cfs 2,389 cf

Link 5L: Localized Depression Inflow=0.47 cfs 4,675 cf
Primary=0.47 cfs 4,675 cf

Link 6L: Localized Depression Inflow=0.63 cfs 6,313 cf
Primary=0.63 cfs 6,313 cf

Link 7L: Off-Site Inflow=0.02 cfs 146 cf
Primary=0.02 cfs 146 cf

Link 9L: Off-Site

Inflow=0.13 cfs 1,119 cf
Primary=0.13 cfs 1,119 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 36,697 cf Average Runoff Depth = 0.42"
100.00% Pervious = 1,041,520 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 1S: E-1

Runoff = 0.29 cfs @ 12.29 hrs, Volume= 1,811 cf, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
24,980	30	Woods, Good, HSG A
2,020	96	Gravel surface, HSG A
27,000	35	Weighted Average
27,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	235	0.0650	0.64		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
10.9	285	Total			

Summary for Subcatchment 2S: E-2

Runoff = 0.16 cfs @ 12.48 hrs, Volume= 1,574 cf, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
45,304	30	Woods, Good, HSG A
45,304		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0700	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
4.9	180	0.0600	0.61		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
12.3	230	Total			

Summary for Subcatchment 3S: E-3

Runoff = 0.24 cfs @ 12.50 hrs, Volume= 2,389 cf, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
68,819	30	Woods, Good, HSG A
68,819		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	50	0.1000	0.13		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
7.2	306	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
13.6	356	Total			

Summary for Subcatchment 4S: E-4

Runoff = 0.47 cfs @ 12.52 hrs, Volume= 4,675 cf, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
134,903	30	Woods, Good, HSG A
134,903		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	50	0.0500	0.10		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.7	400	0.1600	1.00		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
15.1	450	Total			

Summary for Subcatchment 5S: E-5

Runoff = 1.48 cfs @ 12.77 hrs, Volume= 18,669 cf, Depth> 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
547,239	30	Woods, Good, HSG A
547,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0600	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
23.1	1,250	0.1300	0.90		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
30.9	1,300	Total			

Summary for Subcatchment 6S: E-6

Runoff = 0.63 cfs @ 12.52 hrs, Volume= 6,313 cf, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
182,095	30	Woods, Good, HSG A
182,095		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1300	0.14		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	502	0.1400	0.94		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
14.7	552	Total			

Summary for Subcatchment 7S: Misc. Off-Site Inflow into Proposed Drainage System

Runoff = 0.02 cfs @ 12.37 hrs, Volume= 146 cf, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
4,170	30	Woods, Good, HSG A
4,170		100.00% Pervious Area

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

Summary for Subcatchment 8S: Misc. Off-Site Inflow into Other Areas

Runoff = 0.13 cfs @ 12.37 hrs, Volume= 1,119 cf, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
31,990	30	Woods, Good, HSG A
31,990		100.00% Pervious Area

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

Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth > 0.41" for NRCC 100YR 24H event
Inflow = 1.48 cfs @ 12.77 hrs, Volume= 18,669 cf
Outflow = 0.39 cfs @ 18.32 hrs, Volume= 9,126 cf, Atten= 73%, Lag= 332.9 min
Discarded = 0.39 cfs @ 18.32 hrs, Volume= 9,126 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 85.67' @ 18.32 hrs Surf.Area= 7,058 sf Storage= 9,732 cf

Plug-Flow detention time= 189.7 min calculated for 9,096 cf (49% of inflow)
Center-of-Mass det. time= 82.8 min (1,000.5 - 917.6)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	122,209 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	827	0	0
84.00	2,756	1,792	1,792
85.00	5,016	3,886	5,678
86.00	8,057	6,537	12,214
87.00	12,347	10,202	22,416
88.00	17,968	15,158	37,574
89.00	24,950	21,459	59,033
90.00	31,470	28,210	87,243
91.00	38,463	34,967	122,209

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	91.90'	**50.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.39 cfs @ 18.32 hrs HW=85.67' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.39 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=83.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Theoretical Overflow - Localized Depression NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 100YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Access Road

Inflow Area = 27,000 sf, 0.00% Impervious, Inflow Depth > 0.80" for NRCC 100YR 24H event
Inflow = 0.29 cfs @ 12.29 hrs, Volume= 1,811 cf
Primary = 0.29 cfs @ 12.29 hrs, Volume= 1,811 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 3L: Localized Depression

Inflow Area = 45,304 sf, 0.00% Impervious, Inflow Depth > 0.42" for NRCC 100YR 24H event
Inflow = 0.16 cfs @ 12.48 hrs, Volume= 1,574 cf
Primary = 0.16 cfs @ 12.48 hrs, Volume= 1,574 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 4L: Localised Depression

Inflow Area = 68,819 sf, 0.00% Impervious, Inflow Depth > 0.42" for NRCC 100YR 24H event
Inflow = 0.24 cfs @ 12.50 hrs, Volume= 2,389 cf
Primary = 0.24 cfs @ 12.50 hrs, Volume= 2,389 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 5L: Localized Depression

Inflow Area = 134,903 sf, 0.00% Impervious, Inflow Depth > 0.42" for NRCC 100YR 24H event
Inflow = 0.47 cfs @ 12.52 hrs, Volume= 4,675 cf
Primary = 0.47 cfs @ 12.52 hrs, Volume= 4,675 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 6L: Localized Depression

Inflow Area = 182,095 sf, 0.00% Impervious, Inflow Depth > 0.42" for NRCC 100YR 24H event
Inflow = 0.63 cfs @ 12.52 hrs, Volume= 6,313 cf
Primary = 0.63 cfs @ 12.52 hrs, Volume= 6,313 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 7L: Off-Site

Inflow Area = 4,170 sf, 0.00% Impervious, Inflow Depth > 0.42" for NRCC 100YR 24H event
Inflow = 0.02 cfs @ 12.37 hrs, Volume= 146 cf
Primary = 0.02 cfs @ 12.37 hrs, Volume= 146 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 9L: Off-Site

Inflow Area = 31,990 sf, 0.00% Impervious, Inflow Depth > 0.42" for NRCC 100YR 24H event
Inflow = 0.13 cfs @ 12.37 hrs, Volume= 1,119 cf
Primary = 0.13 cfs @ 12.37 hrs, Volume= 1,119 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment 1S: E-1 Runoff Area=27,000 sf 0.00% Impervious Runoff Depth>0.04"
Flow Length=285' Tc=10.9 min CN=35 Runoff=0.00 cfs 93 cf

Subcatchment 2S: E-2 Runoff Area=45,304 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=230' Tc=12.3 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 3S: E-3 Runoff Area=68,819 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=356' Tc=13.6 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 4S: E-4 Runoff Area=134,903 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=450' Tc=15.1 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 5S: E-5 Runoff Area=547,239 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,300' Tc=30.9 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 6S: E-6 Runoff Area=182,095 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=552' Tc=14.7 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 7S: Misc. Off-Site Inflow into Runoff Area=4,170 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 8S: Misc. Off-Site Inflow into Runoff Area=31,990 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=30 Runoff=0.00 cfs 0 cf

Pond 1P: DETENTION AREA - LOCALIZED Peak Elev=83.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Link 1L: Theoretical Overflow - Localized Depression NE Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 2L: Access Road Inflow=0.00 cfs 93 cf
Primary=0.00 cfs 93 cf

Link 3L: Localized Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 4L: Localised Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 5L: Localized Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 6L: Localized Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 7L: Off-Site Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 9L: Off-Site

Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 93 cf Average Runoff Depth = 0.00"
100.00% Pervious = 1,041,520 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 1S: E-1

Runoff = 0.00 cfs @ 15.48 hrs, Volume= 93 cf, Depth> 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
24,980	30	Woods, Good, HSG A
2,020	96	Gravel surface, HSG A
27,000	35	Weighted Average
27,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	235	0.0650	0.64		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
10.9	285	Total			

Summary for Subcatchment 2S: E-2

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
45,304	30	Woods, Good, HSG A
45,304		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0700	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
4.9	180	0.0600	0.61		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
12.3	230	Total			

Summary for Subcatchment 3S: E-3

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
68,819	30	Woods, Good, HSG A
68,819		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	50	0.1000	0.13		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
7.2	306	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
13.6	356	Total			

Summary for Subcatchment 4S: E-4

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
134,903	30	Woods, Good, HSG A
134,903		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	50	0.0500	0.10		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.7	400	0.1600	1.00		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
15.1	450	Total			

Summary for Subcatchment 5S: E-5

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
547,239	30	Woods, Good, HSG A
547,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0600	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
23.1	1,250	0.1300	0.90		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
30.9	1,300	Total			

Summary for Subcatchment 6S: E-6

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
182,095	30	Woods, Good, HSG A
182,095		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1300	0.14		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	502	0.1400	0.94		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
14.7	552	Total			

Summary for Subcatchment 7S: Misc. Off-Site Inflow into Proposed Drainage System

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
4,170	30	Woods, Good, HSG A
4,170		100.00% Pervious Area

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

Summary for Subcatchment 8S: Misc. Off-Site Inflow into Other Areas

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
31,990	30	Woods, Good, HSG A
31,990		100.00% Pervious Area

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

Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.00' @ 5.00 hrs Surf.Area= 827 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	122,209 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	827	0	0
84.00	2,756	1,792	1,792
85.00	5,016	3,886	5,678
86.00	8,057	6,537	12,214
87.00	12,347	10,202	22,416
88.00	17,968	15,158	37,574
89.00	24,950	21,459	59,033
90.00	31,470	28,210	87,243
91.00	38,463	34,967	122,209

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	91.90'	**50.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=83.00' (Free Discharge)
↑—**1=Exfiltration** (Passes 0.00 cfs of 0.05 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=83.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Theoretical Overflow - Localized Depression NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Access Road

Inflow Area = 27,000 sf, 0.00% Impervious, Inflow Depth > 0.04" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 15.48 hrs, Volume= 93 cf
Primary = 0.00 cfs @ 15.48 hrs, Volume= 93 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 3L: Localized Depression

Inflow Area = 45,304 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 4L: Localised Depression

Inflow Area = 68,819 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 5L: Localized Depression

Inflow Area = 134,903 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 6L: Localized Depression

Inflow Area = 182,095 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 7L: Off-Site

Inflow Area = 4,170 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 9L: Off-Site

Inflow Area = 31,990 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment 1S: E-1 Runoff Area=27,000 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=285' Tc=10.9 min CN=35 Runoff=0.00 cfs 0 cf

Subcatchment 2S: E-2 Runoff Area=45,304 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=230' Tc=12.3 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 3S: E-3 Runoff Area=68,819 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=356' Tc=13.6 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 4S: E-4 Runoff Area=134,903 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=450' Tc=15.1 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 5S: E-5 Runoff Area=547,239 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,300' Tc=30.9 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 6S: E-6 Runoff Area=182,095 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=552' Tc=14.7 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 7S: Misc. Off-Site Inflow into Runoff Area=4,170 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=30 Runoff=0.00 cfs 0 cf

Subcatchment 8S: Misc. Off-Site Inflow into Runoff Area=31,990 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=30 Runoff=0.00 cfs 0 cf

Pond 1P: DETENTION AREA - LOCALIZED Peak Elev=83.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Link 1L: Theoretical Overflow - Localized Depression NE Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 2L: Access Road Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 3L: Localized Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 4L: Localised Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 5L: Localized Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 6L: Localized Depression Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 7L: Off-Site Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 9L: Off-Site

Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 0 cf Average Runoff Depth = 0.00"
100.00% Pervious = 1,041,520 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 1S: E-1

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
24,980	30	Woods, Good, HSG A
2,020	96	Gravel surface, HSG A
27,000	35	Weighted Average
27,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	235	0.0650	0.64		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
10.9	285	Total			

Summary for Subcatchment 2S: E-2

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
45,304	30	Woods, Good, HSG A
45,304		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0700	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
4.9	180	0.0600	0.61		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
12.3	230	Total			

Summary for Subcatchment 3S: E-3

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
68,819	30	Woods, Good, HSG A
68,819		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	50	0.1000	0.13		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
7.2	306	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
13.6	356	Total			

Summary for Subcatchment 4S: E-4

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
134,903	30	Woods, Good, HSG A
134,903		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	50	0.0500	0.10		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.7	400	0.1600	1.00		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
15.1	450	Total			

Summary for Subcatchment 5S: E-5

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
547,239	30	Woods, Good, HSG A
547,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0600	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
23.1	1,250	0.1300	0.90		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
30.9	1,300	Total			

Summary for Subcatchment 6S: E-6

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
182,095	30	Woods, Good, HSG A
182,095		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1300	0.14		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	502	0.1400	0.94		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
14.7	552	Total			

Summary for Subcatchment 7S: Misc. Off-Site Inflow into Proposed Drainage System

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
4,170	30	Woods, Good, HSG A
4,170		100.00% Pervious Area

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

Summary for Subcatchment 8S: Misc. Off-Site Inflow into Other Areas

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
31,990	30	Woods, Good, HSG A
31,990		100.00% Pervious Area

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

Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.00' @ 5.00 hrs Surf.Area= 827 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	122,209 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	827	0	0
84.00	2,756	1,792	1,792
85.00	5,016	3,886	5,678
86.00	8,057	6,537	12,214
87.00	12,347	10,202	22,416
88.00	17,968	15,158	37,574
89.00	24,950	21,459	59,033
90.00	31,470	28,210	87,243
91.00	38,463	34,967	122,209

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	91.90'	**50.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=83.00' (Free Discharge)
↑—**1=Exfiltration** (Passes 0.00 cfs of 0.05 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=83.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Theoretical Overflow - Localized Depression NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Access Road

Inflow Area = 27,000 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 3L: Localized Depression

Inflow Area = 45,304 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 4L: Localised Depression

Inflow Area = 68,819 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 5L: Localized Depression

Inflow Area = 134,903 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 6L: Localized Depression

Inflow Area = 182,095 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 7L: Off-Site

Inflow Area = 4,170 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 9L: Off-Site

Inflow Area = 31,990 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment 1S: E-1 Runoff Area=27,000 sf 0.00% Impervious Runoff Depth>0.75"
Flow Length=285' Tc=10.9 min CN=35 Runoff=0.26 cfs 1,681 cf

Subcatchment 2S: E-2 Runoff Area=45,304 sf 0.00% Impervious Runoff Depth>0.38"
Flow Length=230' Tc=12.3 min CN=30 Runoff=0.14 cfs 1,425 cf

Subcatchment 3S: E-3 Runoff Area=68,819 sf 0.00% Impervious Runoff Depth>0.38"
Flow Length=356' Tc=13.6 min CN=30 Runoff=0.21 cfs 2,162 cf

Subcatchment 4S: E-4 Runoff Area=134,903 sf 0.00% Impervious Runoff Depth>0.38"
Flow Length=450' Tc=15.1 min CN=30 Runoff=0.39 cfs 4,233 cf

Subcatchment 5S: E-5 Runoff Area=547,239 sf 0.00% Impervious Runoff Depth>0.37"
Flow Length=1,300' Tc=30.9 min CN=30 Runoff=1.25 cfs 16,893 cf

Subcatchment 6S: E-6 Runoff Area=182,095 sf 0.00% Impervious Runoff Depth>0.38"
Flow Length=552' Tc=14.7 min CN=30 Runoff=0.53 cfs 5,716 cf

Subcatchment 7S: Misc. Off-Site Inflow into Runoff Area=4,170 sf 0.00% Impervious Runoff Depth>0.38"
Tc=5.0 min CN=30 Runoff=0.01 cfs 132 cf

Subcatchment 8S: Misc. Off-Site Inflow into Runoff Area=31,990 sf 0.00% Impervious Runoff Depth>0.38"
Tc=5.0 min CN=30 Runoff=0.11 cfs 1,014 cf

Pond 1P: DETENTION AREA - LOCALIZED Peak Elev=85.51' Storage=8,631 cf Inflow=1.25 cfs 16,893 cf
Discarded=0.37 cfs 8,425 cf Primary=0.00 cfs 0 cf Outflow=0.37 cfs 8,425 cf

Link 1L: Theoretical Overflow - Localized Depression NE Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 2L: Access Road Inflow=0.26 cfs 1,681 cf
Primary=0.26 cfs 1,681 cf

Link 3L: Localized Depression Inflow=0.14 cfs 1,425 cf
Primary=0.14 cfs 1,425 cf

Link 4L: Localised Depression Inflow=0.21 cfs 2,162 cf
Primary=0.21 cfs 2,162 cf

Link 5L: Localized Depression Inflow=0.39 cfs 4,233 cf
Primary=0.39 cfs 4,233 cf

Link 6L: Localized Depression Inflow=0.53 cfs 5,716 cf
Primary=0.53 cfs 5,716 cf

Link 7L: Off-Site Inflow=0.01 cfs 132 cf
Primary=0.01 cfs 132 cf

Link 9L: Off-Site

Inflow=0.11 cfs 1,014 cf
Primary=0.11 cfs 1,014 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 33,256 cf Average Runoff Depth = 0.38"
100.00% Pervious = 1,041,520 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 1S: E-1

Runoff = 0.26 cfs @ 12.33 hrs, Volume= 1,681 cf, Depth> 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
24,980	30	Woods, Good, HSG A
2,020	96	Gravel surface, HSG A
27,000	35	Weighted Average
27,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.1	235	0.0650	0.64		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
10.9	285	Total			

Summary for Subcatchment 2S: E-2

Runoff = 0.14 cfs @ 12.50 hrs, Volume= 1,425 cf, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
45,304	30	Woods, Good, HSG A
45,304		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0700	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
4.9	180	0.0600	0.61		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
12.3	230	Total			

Summary for Subcatchment 3S: E-3

Runoff = 0.21 cfs @ 12.52 hrs, Volume= 2,162 cf, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
68,819	30	Woods, Good, HSG A
68,819		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	50	0.1000	0.13		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
7.2	306	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
13.6	356	Total			

Summary for Subcatchment 4S: E-4

Runoff = 0.39 cfs @ 12.54 hrs, Volume= 4,233 cf, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
134,903	30	Woods, Good, HSG A
134,903		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	50	0.0500	0.10		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
6.7	400	0.1600	1.00		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
15.1	450	Total			

Summary for Subcatchment 5S: E-5

Runoff = 1.25 cfs @ 12.80 hrs, Volume= 16,893 cf, Depth> 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
547,239	30	Woods, Good, HSG A
547,239		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0600	0.11		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
23.1	1,250	0.1300	0.90		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
30.9	1,300	Total			

Summary for Subcatchment 6S: E-6

Runoff = 0.53 cfs @ 12.53 hrs, Volume= 5,716 cf, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
182,095	30	Woods, Good, HSG A
182,095		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1300	0.14		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	502	0.1400	0.94		**Shallow Concentrated Flow, SHALLOW CONC** Forest w/Heavy Litter Kv= 2.5 fps
14.7	552	Total			

Summary for Subcatchment 7S: Misc. Off-Site Inflow into Proposed Drainage System

Runoff = 0.01 cfs @ 12.38 hrs, Volume= 132 cf, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
4,170	30	Woods, Good, HSG A
4,170		100.00% Pervious Area

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

Summary for Subcatchment 8S: Misc. Off-Site Inflow into Other Areas

Runoff = 0.11 cfs @ 12.38 hrs, Volume= 1,014 cf, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
31,990	30	Woods, Good, HSG A
31,990		100.00% Pervious Area

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

Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth > 0.37" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.25 cfs @ 12.80 hrs, Volume= 16,893 cf
Outflow = 0.37 cfs @ 18.34 hrs, Volume= 8,425 cf, Atten= 71%, Lag= 332.5 min
Discarded = 0.37 cfs @ 18.34 hrs, Volume= 8,425 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 85.51' @ 18.34 hrs Surf.Area= 6,567 sf Storage= 8,631 cf

Plug-Flow detention time= 185.0 min calculated for 8,397 cf (50% of inflow)
Center-of-Mass det. time= 79.8 min (1,001.6 - 921.8)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	122,209 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	827	0	0
84.00	2,756	1,792	1,792
85.00	5,016	3,886	5,678
86.00	8,057	6,537	12,214
87.00	12,347	10,202	22,416
88.00	17,968	15,158	37,574
89.00	24,950	21,459	59,033
90.00	31,470	28,210	87,243
91.00	38,463	34,967	122,209

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	91.90'	**50.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.37 cfs @ 18.34 hrs HW=85.51' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.37 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=83.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Theoretical Overflow - Localized Depression NE

Inflow Area = 547,239 sf, 0.00% Impervious, Inflow Depth = 0.00" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Access Road

Inflow Area = 27,000 sf, 0.00% Impervious, Inflow Depth > 0.75" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.26 cfs @ 12.33 hrs, Volume= 1,681 cf
Primary = 0.26 cfs @ 12.33 hrs, Volume= 1,681 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 3L: Localized Depression

Inflow Area = 45,304 sf, 0.00% Impervious, Inflow Depth > 0.38" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.14 cfs @ 12.50 hrs, Volume= 1,425 cf
Primary = 0.14 cfs @ 12.50 hrs, Volume= 1,425 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 4L: Localised Depression

Inflow Area = 68,819 sf, 0.00% Impervious, Inflow Depth > 0.38" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.21 cfs @ 12.52 hrs, Volume= 2,162 cf
Primary = 0.21 cfs @ 12.52 hrs, Volume= 2,162 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 5L: Localized Depression

Inflow Area = 134,903 sf, 0.00% Impervious, Inflow Depth > 0.38" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.39 cfs @ 12.54 hrs, Volume= 4,233 cf
Primary = 0.39 cfs @ 12.54 hrs, Volume= 4,233 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 6L: Localized Depression

Inflow Area = 182,095 sf, 0.00% Impervious, Inflow Depth > 0.38" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.53 cfs @ 12.53 hrs, Volume= 5,716 cf
Primary = 0.53 cfs @ 12.53 hrs, Volume= 5,716 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 7L: Off-Site

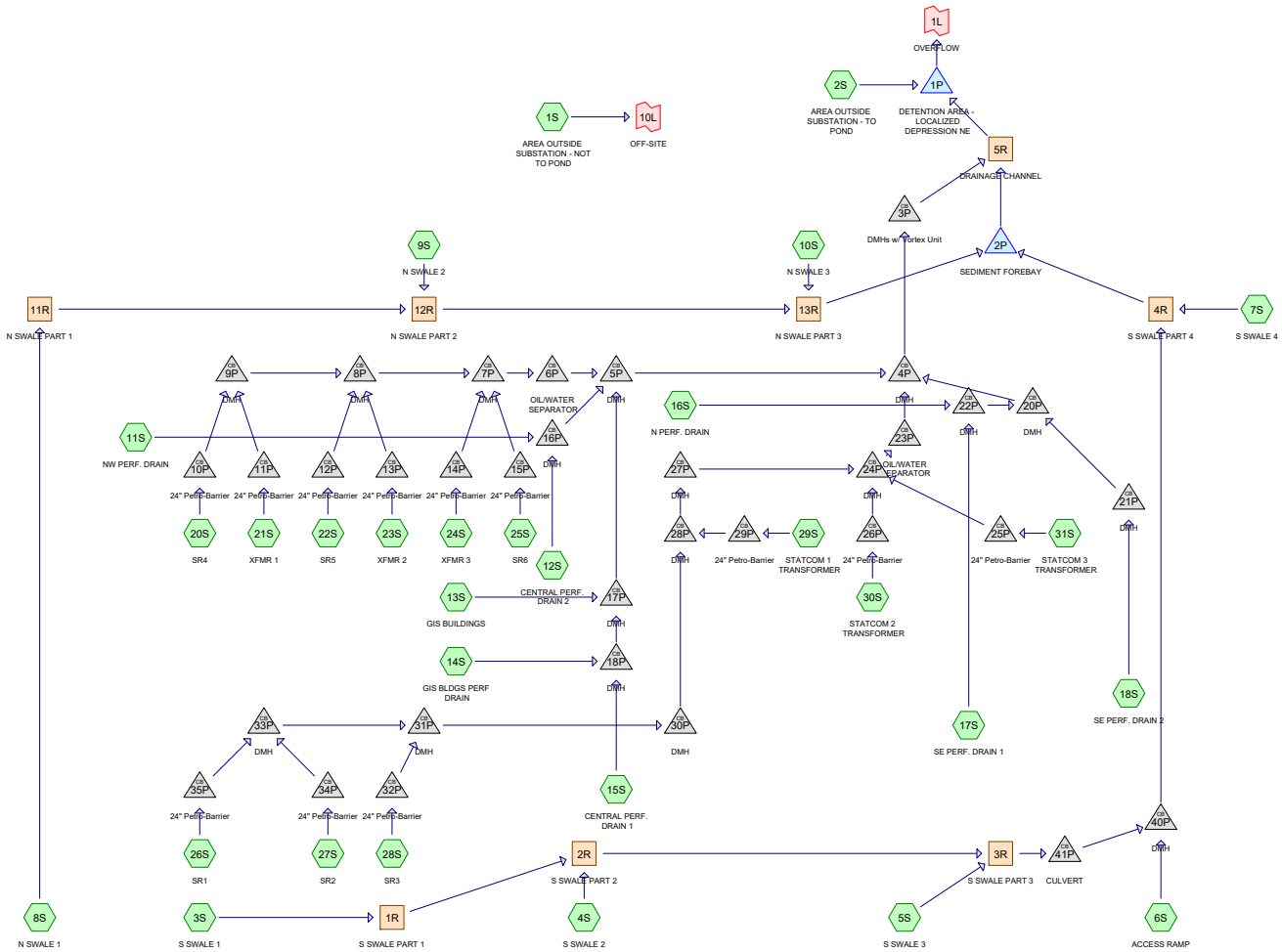
Inflow Area = 4,170 sf, 0.00% Impervious, Inflow Depth > 0.38" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.01 cfs @ 12.38 hrs, Volume= 132 cf
Primary = 0.01 cfs @ 12.38 hrs, Volume= 132 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 9L: Off-Site

Inflow Area = 31,990 sf, 0.00% Impervious, Inflow Depth > 0.38" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.11 cfs @ 12.38 hrs, Volume= 1,014 cf
Primary = 0.11 cfs @ 12.38 hrs, Volume= 1,014 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Subcat Reach Pond Link

Routing Diagram for CWW Substation 5-Parcel Proposed Conditions
Prepared by Stantec Consulting Ltd., Printed 2/10/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
23,427	98	Concrete Containment (20S, 21S, 22S, 23S, 24S, 25S, 26S, 27S, 28S, 29S, 30S, 31S)
302,189	63	Crushed Stone Surface, HSG A (3S, 4S, 5S, 7S, 8S, 9S, 10S, 11S, 12S, 14S, 15S, 16S, 17S, 18S)
76,573	96	Gravel surface, HSG A (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S)
183,022	30	Meadow, non-grazed, HSG A (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S)
34,667	98	Roofs, HSG A (13S, 16S, 17S, 18S)
421,642	30	Woods, Good, HSG A (1S, 2S, 3S, 4S, 5S, 6S)
1,041,520	**48**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
1,018,093	HSG A	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 17S, 18S
0	HSG B	
0	HSG C	
0	HSG D	
23,427	Other	20S, 21S, 22S, 23S, 24S, 25S, 26S, 27S, 28S, 29S, 30S, 31S
1,041,520		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subca Numb
0	0	0	0	23,427	23,427	Concrete Containment	
302,189	0	0	0	0	302,189	Crushed Stone Surface	
76,573	0	0	0	0	76,573	Gravel surface	
183,022	0	0	0	0	183,022	Meadow, non-grazed	
34,667	0	0	0	0	34,667	Roofs	
421,642	0	0	0	0	421,642	Woods, Good	
1,018,093	**0**	**0**	**0**	**23,427**	**1,041,520**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: AREA OUTSIDE Runoff Area=258,650 sf 0.00% Impervious Runoff Depth=0.67"
Tc=5.0 min CN=32 Runoff=1.69 cfs 14,486 cf

Subcatchment 2S: AREA OUTSIDE Runoff Area=285,632 sf 0.00% Impervious Runoff Depth=0.59"
Flow Length=491' Tc=12.3 min CN=31 Runoff=1.37 cfs 14,027 cf

Subcatchment 3S: S SWALE 1 Runoff Area=21,901 sf 0.00% Impervious Runoff Depth=3.16"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=56 Runoff=1.80 cfs 5,769 cf

Subcatchment 4S: S SWALE 2 Runoff Area=37,407 sf 0.00% Impervious Runoff Depth=1.52"
Tc=5.0 min CN=41 Runoff=1.22 cfs 4,744 cf

Subcatchment 5S: S SWALE 3 Runoff Area=28,531 sf 0.00% Impervious Runoff Depth=2.26"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=48 Runoff=1.40 cfs 5,385 cf

Subcatchment 6S: ACCESS RAMP Runoff Area=17,331 sf 0.00% Impervious Runoff Depth=5.74"
Tc=5.0 min CN=78 Runoff=2.74 cfs 8,295 cf

Subcatchment 7S: S SWALE 4 Runoff Area=20,291 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=63 Runoff=1.93 cfs 6,712 cf

Subcatchment 8S: N SWALE 1 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=5.98"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=80 Runoff=2.48 cfs 7,865 cf

Subcatchment 9S: N SWALE 2 Runoff Area=14,101 sf 0.00% Impervious Runoff Depth=6.34"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=2.32 cfs 7,451 cf

Subcatchment 10S: N SWALE 3 Runoff Area=12,739 sf 0.00% Impervious Runoff Depth=6.34"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=2.10 cfs 6,731 cf

Subcatchment 11S: NW PERF. DRAIN Runoff Area=45,853 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=660' Slope=0.0200 '/' Tc=6.0 min CN=63 Runoff=4.88 cfs 15,169 cf

Subcatchment 12S: CENTRAL PERF. DRAIN Runoff Area=6,658 sf 0.00% Impervious Runoff Depth=3.97"
Tc=5.0 min CN=63 Runoff=0.73 cfs 2,203 cf

Subcatchment 13S: GIS BUILDINGS Runoff Area=21,900 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=4.29 cfs 14,855 cf

Subcatchment 14S: GIS BLDGS PERF Runoff Area=74,801 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=7.32 cfs 24,745 cf

Subcatchment 15S: CENTRAL PERF. DRAIN Runoff Area=54,087 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=5.29 cfs 17,893 cf

Subcatchment 16S: N PERF. DRAIN Runoff Area=35,583 sf 0.57% Impervious Runoff Depth=3.97"
Tc=5.0 min CN=63 Runoff=3.92 cfs 11,771 cf

Subcatchment 17S: SE PERF. DRAIN 1 Runoff Area=41,546 sf 20.00% Impervious Runoff Depth=4.79"
Flow Length=425' Slope=0.0200 '/' Tc=5.9 min CN=70 Runoff=5.38 cfs 16,593 cf

Subcatchment 18S: SE PERF. DRAIN 2 Runoff Area=25,304 sf 16.82% Impervious Runoff Depth=4.67"
Tc=5.0 min CN=69 Runoff=3.30 cfs 9,857 cf

Subcatchment 20S: SR4 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,184 cf

Subcatchment 21S: XFMR 1 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.53 cfs 1,827 cf

Subcatchment 22S: SR5 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,184 cf

Subcatchment 23S: XFMR 2 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.53 cfs 1,827 cf

Subcatchment 24S: XFMR 3 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.53 cfs 1,827 cf

Subcatchment 25S: SR6 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,184 cf

Subcatchment 26S: SR1 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.31 cfs 1,085 cf

Subcatchment 27S: SR2 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.31 cfs 1,085 cf

Subcatchment 28S: SR3 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.31 cfs 1,085 cf

Subcatchment 29S: STATCOM 1 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.35 cfs 1,201 cf

Subcatchment 30S: STATCOM 2 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.35 cfs 1,201 cf

Subcatchment 31S: STATCOM 3 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=98 Runoff=0.35 cfs 1,201 cf

Reach 1R: S SWALE PART 1 Avg. Flow Depth=0.50' Max Vel=2.23 fps Inflow=1.80 cfs 5,769 cf
n=0.030 L=309.0' S=0.0137 '/' Capacity=10.56 cfs Outflow=1.70 cfs 5,769 cf

Reach 2R: S SWALE PART 2 Avg. Flow Depth=0.57' Max Vel=2.89 fps Inflow=2.88 cfs 10,513 cf
n=0.030 L=257.3' S=0.0195 '/' Capacity=12.62 cfs Outflow=2.81 cfs 10,513 cf

Reach 3R: S SWALE PART 3 Avg. Flow Depth=0.69' Max Vel=2.81 fps Inflow=4.20 cfs 15,897 cf
n=0.030 L=329.0' S=0.0142 '/' Capacity=10.77 cfs Outflow=4.06 cfs 15,897 cf

Reach 4R: S SWALE PART 4 Avg. Flow Depth=1.00' Max Vel=2.57 fps Inflow=7.94 cfs 30,904 cf
n=0.030 L=367.8' S=0.0073 '/' Capacity=9.98 cfs Outflow=7.66 cfs 30,904 cf

Reach 5R: DRAINAGE CHANNEL Avg. Flow Depth=0.42' Max Vel=5.74 fps Inflow=47.83 cfs 165,100 cf
n=0.078 L=175.0' S=0.3086 '/' Capacity=198.63 cfs Outflow=47.76 cfs 165,100 cf

Reach 11R: N SWALE PART 1 Avg. Flow Depth=0.55' Max Vel=2.51 fps Inflow=2.48 cfs 7,865 cf
n=0.030 L=447.0' S=0.0153 '/' Capacity=11.19 cfs Outflow=2.29 cfs 7,865 cf

Reach 12R: N SWALE PART 2 Avg. Flow Depth=0.71' Max Vel=2.82 fps Inflow=4.52 cfs 15,317 cf
n=0.030 L=431.0' S=0.0137 '/' Capacity=10.59 cfs Outflow=4.29 cfs 15,317 cf

Reach 13R: N SWALE PART 3 Avg. Flow Depth=0.82' Max Vel=3.00 fps Inflow=6.20 cfs 22,048 cf
n=0.030 L=386.0' S=0.0131 '/' Capacity=10.33 cfs Outflow=5.99 cfs 22,048 cf

Pond 1P: DETENTION AREA - Peak Elev=90.62' Storage=110,462 cf Inflow=47.83 cfs 179,128 cf
Discarded=2.16 cfs 178,091 cf Primary=0.33 cfs 1,037 cf Outflow=2.49 cfs 179,128 cf

Pond 2P: SEDIMENT FOREBAY Peak Elev=150.40' Storage=9,809 cf Inflow=13.61 cfs 52,952 cf
Discarded=0.14 cfs 16,828 cf Primary=13.35 cfs 36,124 cf Outflow=13.49 cfs 52,953 cf

Pond 3P: DMHs w/ Vortex Unit Peak Elev=150.76' Inflow=38.54 cfs 128,976 cf
36.0" Round Culvert n=0.011 L=25.0' S=0.1200 '/' Outflow=38.54 cfs 128,976 cf

Pond 4P: DMH Peak Elev=153.06' Inflow=38.54 cfs 128,976 cf
36.0" Round Culvert n=0.011 L=36.0' S=0.0639 '/' Outflow=38.54 cfs 128,976 cf

Pond 5P: DMH Peak Elev=158.96' Inflow=24.21 cfs 83,898 cf
24.0" Round Culvert n=0.011 L=263.0' S=0.0186 '/' Outflow=24.21 cfs 83,898 cf

Pond 6P: OIL/WATER SEPARATOR Peak Elev=158.98' Inflow=2.61 cfs 9,033 cf
24.0" Round Culvert n=0.012 L=27.0' S=0.0148 '/' Outflow=2.61 cfs 9,033 cf

Pond 7P: DMH Peak Elev=159.34' Inflow=2.61 cfs 9,033 cf
12.0" Round Culvert n=0.011 L=40.0' S=0.0100 '/' Outflow=2.61 cfs 9,033 cf

Pond 8P: DMH Peak Elev=159.60' Inflow=1.74 cfs 6,022 cf
12.0" Round Culvert n=0.011 L=154.0' S=0.0065 '/' Outflow=1.74 cfs 6,022 cf

Pond 9P: DMH Peak Elev=159.91' Inflow=0.87 cfs 3,011 cf
12.0" Round Culvert n=0.011 L=141.0' S=0.0092 '/' Outflow=0.87 cfs 3,011 cf

Pond 10P: 24" Petro-Barrier Peak Elev=162.81' Inflow=0.34 cfs 1,184 cf
6.0" Round Culvert n=0.010 L=30.0' S=0.0143 '/' Outflow=0.34 cfs 1,184 cf

Pond 11P: 24" Petro-Barrier Peak Elev=160.18' Inflow=0.53 cfs 1,827 cf
6.0" Round Culvert n=0.010 L=18.0' S=0.0122 '/' Outflow=0.53 cfs 1,827 cf

Pond 12P: 24" Petro-Barrier Peak Elev=161.08' Inflow=0.34 cfs 1,184 cf
6.0" Round Culvert n=0.010 L=32.0' S=0.0094 '/' Outflow=0.34 cfs 1,184 cf

Pond 13P: 24" Petro-Barrier Peak Elev=159.81' Inflow=0.53 cfs 1,827 cf
6.0" Round Culvert n=0.010 L=20.0' S=0.0115 '/' Outflow=0.53 cfs 1,827 cf

Pond 14P: 24" Petro-Barrier Peak Elev=159.55' Inflow=0.53 cfs 1,827 cf
6.0" Round Culvert n=0.010 L=21.0' S=0.0133 '/' Outflow=0.53 cfs 1,827 cf

Pond 15P: 24" Petro-Barrier Peak Elev=159.44' Inflow=0.34 cfs 1,184 cf
6.0" Round Culvert n=0.010 L=34.0' S=0.0076 '/' Outflow=0.34 cfs 1,184 cf

Pond 16P: DMH Peak Elev=161.70' Inflow=5.60 cfs 17,371 cf
12.0" Round Culvert n=0.011 L=17.0' S=0.0294 '/' Outflow=5.60 cfs 17,371 cf

Pond 17P: DMH Peak Elev=161.56' Inflow=16.29 cfs 57,493 cf
24.0" Round Culvert n=0.011 L=88.2' S=0.0442 '/' Outflow=16.29 cfs 57,493 cf

Pond 18P: DMH Peak Elev=164.45' Inflow=12.61 cfs 42,638 cf
18.0" Round Culvert n=0.011 L=92.0' S=0.0217 '/' Outflow=12.61 cfs 42,638 cf

Pond 20P: DMH Peak Elev=153.87' Inflow=12.58 cfs 38,221 cf
24.0" Round Culvert n=0.011 L=56.0' S=0.0286 '/' Outflow=12.58 cfs 38,221 cf

Pond 21P: DMH Peak Elev=156.20' Inflow=3.30 cfs 9,857 cf
12.0" Round Culvert n=0.011 L=62.0' S=0.0410 '/' Outflow=3.30 cfs 9,857 cf

Pond 22P: DMH Peak Elev=157.44' Inflow=9.29 cfs 28,364 cf
18.0" Round Culvert n=0.011 L=56.0' S=0.0089 '/' Outflow=9.29 cfs 28,364 cf

Pond 23P: OIL/WATER SEPARATOR Peak Elev=153.57' Inflow=1.98 cfs 6,858 cf
12.0" Round Culvert n=0.011 L=182.0' S=0.0093 '/' Outflow=2.01 cfs 6,858 cf

Pond 24P: DMH Peak Elev=153.81' Inflow=1.98 cfs 6,858 cf
12.0" Round Culvert n=0.011 L=1.0' S=0.1000 '/' Outflow=1.98 cfs 6,858 cf

Pond 25P: 24" Petro-Barrier Peak Elev=153.98' Inflow=0.35 cfs 1,201 cf
6.0" Round Culvert n=0.010 L=58.0' S=0.0102 '/' Outflow=0.35 cfs 1,201 cf

Pond 26P: 24" Petro-Barrier Peak Elev=153.92' Inflow=0.35 cfs 1,201 cf
6.0" Round Culvert n=0.010 L=17.0' S=0.0576 '/' Outflow=0.35 cfs 1,201 cf

Pond 27P: DMH Peak Elev=154.61' Inflow=1.29 cfs 4,457 cf
12.0" Round Culvert n=0.011 L=224.0' S=0.0085 '/' Outflow=1.29 cfs 4,457 cf

Pond 28P: DMH Peak Elev=155.04' Inflow=1.29 cfs 4,457 cf
12.0" Round Culvert n=0.011 L=50.0' S=0.0080 '/' Outflow=1.29 cfs 4,457 cf

Pond 29P: 24" Petro-Barrier Peak Elev=155.34' Inflow=0.35 cfs 1,201 cf
6.0" Round Culvert n=0.010 L=7.0' S=0.0643 '/' Outflow=0.35 cfs 1,201 cf

Pond 30P: DMH Peak Elev=160.90' Inflow=0.94 cfs 3,256 cf
12.0" Round Culvert n=0.011 L=98.0' S=0.0092 '/' Outflow=0.94 cfs 3,256 cf

Pond 31P: DMH Peak Elev=162.41' Inflow=0.94 cfs 3,256 cf
12.0" Round Culvert n=0.011 L=232.0' S=0.0060 '/' Outflow=0.94 cfs 3,256 cf

Pond 32P: 24" Petro-Barrier Peak Elev=162.80' Inflow=0.31 cfs 1,085 cf
6.0" Round Culvert n=0.010 L=10.0' S=0.0240 '/' Outflow=0.31 cfs 1,085 cf

Pond 33P: DMH Peak Elev=163.60' Inflow=0.63 cfs 2,171 cf
12.0" Round Culvert n=0.011 L=159.0' S=0.0075 '/' Outflow=0.63 cfs 2,171 cf

Pond 34P: 24" Petro-Barrier Peak Elev=163.81' Inflow=0.31 cfs 1,085 cf
6.0" Round Culvert n=0.010 L=8.0' S=0.0162 '/' Outflow=0.31 cfs 1,085 cf

Pond 35P: 24" Petro-Barrier Peak Elev=164.75' Inflow=0.31 cfs 1,085 cf
6.0" Round Culvert n=0.010 L=38.0' S=0.0103 '/' Outflow=0.31 cfs 1,085 cf

Pond 40P: DMH Peak Elev=159.13' Inflow=6.02 cfs 24,192 cf
24.0" x 12.0" Box Culvert n=0.011 L=10.0' S=0.0300 '/' Outflow=6.02 cfs 24,192 cf

Pond 41P: CULVERT Peak Elev=159.74' Inflow=4.06 cfs 15,897 cf
24.0" x 12.0" Box Culvert n=0.011 L=55.0' S=0.0182 '/' Outflow=4.06 cfs 15,897 cf

Link 1L: OVERFLOW Inflow=0.33 cfs 1,037 cf
Primary=0.33 cfs 1,037 cf

Link 10L: OFF-SITE Inflow=1.69 cfs 14,486 cf
Primary=1.69 cfs 14,486 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 210,442 cf Average Runoff Depth = 2.42"
94.42% Pervious = 983,426 sf 5.58% Impervious = 58,094 sf

Summary for Subcatchment 1S: AREA OUTSIDE SUBSTATION - NOT TO POND

Runoff = 1.69 cfs @ 12.31 hrs, Volume= 14,486 cf, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
179,269	30	Woods, Good, HSG A
72,994	30	Meadow, non-grazed, HSG A
6,387	96	Gravel surface, HSG A
258,650	32	Weighted Average
258,650		100.00% Pervious Area

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

Summary for Subcatchment 2S: AREA OUTSIDE SUBSTATION - TO POND

Runoff = 1.37 cfs @ 12.45 hrs, Volume= 14,027 cf, Depth= 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
206,991	30	Woods, Good, HSG A
72,294	30	Meadow, non-grazed, HSG A
6,347	96	Gravel surface, HSG A
285,632	31	Weighted Average
285,632		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.5000	0.25		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	441	0.1100	0.83		**Shallow Concentrated Flow, Shallow Conc** Forest w/Heavy Litter Kv= 2.5 fps
12.3	491	Total			

Summary for Subcatchment 3S: S SWALE 1

Runoff = 1.80 cfs @ 12.10 hrs, Volume= 5,769 cf, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	3,599	63	Crushed Stone Surface, HSG A
	6,746	96	Gravel surface, HSG A
	7,202	30	Woods, Good, HSG A
	4,354	30	Meadow, non-grazed, HSG A
	21,901	56	Weighted Average
	21,901		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 4S: S SWALE 2

Runoff = 1.22 cfs @ 12.09 hrs, Volume= 4,744 cf, Depth= 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
	5,160	96	Gravel surface, HSG A
*	2,578	63	Crushed Stone Surface, HSG A
	20,025	30	Woods, Good, HSG A
	9,644	30	Meadow, non-grazed, HSG A
	37,407	41	Weighted Average
	37,407		100.00% Pervious Area

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

Summary for Subcatchment 5S: S SWALE 3

Runoff = 1.40 cfs @ 12.14 hrs, Volume= 5,385 cf, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	3,335	63	Crushed Stone Surface, HSG A
	7,061	30	Woods, Good, HSG A
	6,315	96	Gravel surface, HSG A
	11,820	30	Meadow, non-grazed, HSG A
	28,531	48	Weighted Average
	28,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 6S: ACCESS RAMP

Runoff = 2.74 cfs @ 12.07 hrs, Volume= 8,295 cf, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
12,617	96	Gravel surface, HSG A
1,094	30	Woods, Good, HSG A
3,620	30	Meadow, non-grazed, HSG A
17,331	78	Weighted Average
17,331		100.00% Pervious Area

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

Summary for Subcatchment 7S: S SWALE 4

Runoff = 1.93 cfs @ 12.13 hrs, Volume= 6,712 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
* 6,230	63	Crushed Stone Surface, HSG A
7,051	96	Gravel surface, HSG A
7,010	30	Meadow, non-grazed, HSG A
20,291	63	Weighted Average
20,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 8S: N SWALE 1

Runoff = 2.48 cfs @ 12.09 hrs, Volume= 7,865 cf, Depth= 5.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	4,949	63	Crushed Stone Surface, HSG A
	9,543	96	Gravel surface, HSG A
	1,286	30	Meadow, non-grazed, HSG A
	15,778	80	Weighted Average
	15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 9S: N SWALE 2

Runoff = 2.32 cfs @ 12.09 hrs, Volume= 7,451 cf, Depth= 6.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	5,475	63	Crushed Stone Surface, HSG A
	8,626	96	Gravel surface, HSG A
	14,101	83	Weighted Average
	14,101		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 10S: N SWALE 3

Runoff = 2.10 cfs @ 12.09 hrs, Volume= 6,731 cf, Depth= 6.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	4,958	63	Crushed Stone Surface, HSG A
	7,781	96	Gravel surface, HSG A
	12,739	83	Weighted Average
	12,739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 11S: NW PERF. DRAIN

Runoff = 4.88 cfs @ 12.09 hrs, Volume= 15,169 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	45,853	63	Crushed Stone Surface, HSG A
	45,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.0	255	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
0.7	355	0.0200	8.34	6.55	**Pipe Channel, Perf Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
6.0	660	Total			

Summary for Subcatchment 12S: CENTRAL PERF. DRAIN 2

Runoff = 0.73 cfs @ 12.08 hrs, Volume= 2,203 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	6,658	63	Crushed Stone Surface, HSG A
	6,658		100.00% Pervious Area

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

Summary for Subcatchment 13S: GIS BUILDINGS

Runoff = 4.29 cfs @ 12.07 hrs, Volume= 14,855 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
21,900	98	Roofs, HSG A
21,900		100.00% Impervious Area

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

Summary for Subcatchment 14S: GIS BLDGS PERF DRAIN

Runoff = 7.32 cfs @ 12.12 hrs, Volume= 24,745 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	74,801	63	Crushed Stone Surface, HSG A
	74,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 15S: CENTRAL PERF. DRAIN 1

Runoff = 5.29 cfs @ 12.12 hrs, Volume= 17,893 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	54,087	63	Crushed Stone Surface, HSG A
	54,087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 16S: N PERF. DRAIN

Runoff = 3.92 cfs @ 12.08 hrs, Volume= 11,771 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
*	35,381	63	Crushed Stone Surface, HSG A
	202	98	Roofs, HSG A
	35,583	63	Weighted Average
	35,381		99.43% Pervious Area
	202		0.57% Impervious Area

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

Summary for Subcatchment 17S: SE PERF. DRAIN 1

Runoff = 5.38 cfs @ 12.09 hrs, Volume= 16,593 cf, Depth= 4.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
	8,310	98	Roofs, HSG A
*	33,236	63	Crushed Stone Surface, HSG A
	41,546	70	Weighted Average
	33,236		80.00% Pervious Area
	8,310		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.5	300	0.0200	1.41		**Shallow Concentrated Flow, Shallow** Nearly Bare & Untilled Kv= 10.0 fps
0.1	75	0.0200	8.34	6.55	**Pipe Channel, Perf. Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.9	425	Total			

Summary for Subcatchment 18S: SE PERF. DRAIN 2

Runoff = 3.30 cfs @ 12.07 hrs, Volume= 9,857 cf, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

	Area (sf)	CN	Description
	4,255	98	Roofs, HSG A
*	21,049	63	Crushed Stone Surface, HSG A
	25,304	69	Weighted Average
	21,049		83.18% Pervious Area
	4,255		16.82% Impervious Area

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

Summary for Subcatchment 20S: SR4

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 21S: XFMR 1

Runoff = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 22S: SR5

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 23S: XFMR 2

Runoff = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 24S: XFMR 3

Runoff = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 25S: SR6

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 26S: SR1

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 27S: SR2

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 28S: SR3

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 29S: STATCOM 1 TRANSFORMER

Runoff = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 30S: STATCOM 2 TRANSFORMER

Runoff = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 31S: STATCOM 3 TRANSFORMER

Runoff = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 100YR 24H Rainfall=8.38"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

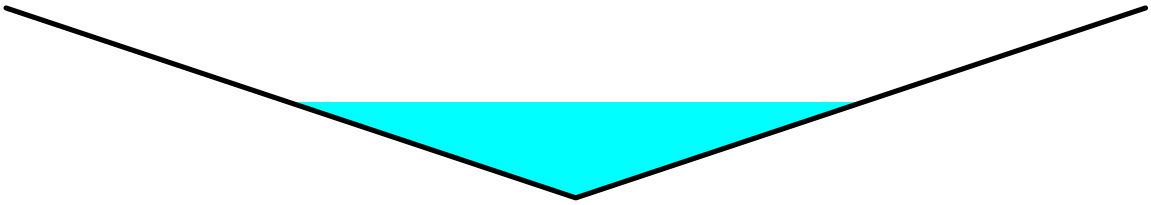
Summary for Reach 1R: S SWALE PART 1

Inflow Area = 21,901 sf, 0.00% Impervious, Inflow Depth = 3.16" for NRCC 100YR 24H event
Inflow = 1.80 cfs @ 12.10 hrs, Volume= 5,769 cf
Outflow = 1.70 cfs @ 12.12 hrs, Volume= 5,769 cf, Atten= 5%, Lag= 1.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.23 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 5.6 min

Peak Storage= 236 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.50'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.49 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.56 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 309.0' Slope= 0.0137 '/'
Inlet Invert= 174.13', Outlet Invert= 169.91'



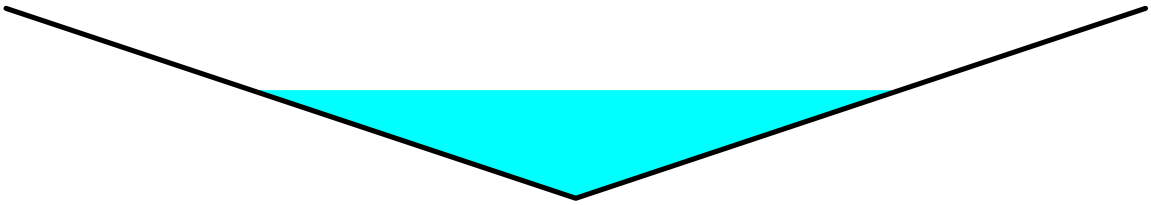
Summary for Reach 2R: S SWALE PART 2

Inflow Area = 59,308 sf, 0.00% Impervious, Inflow Depth = 2.13" for NRCC 100YR 24H event
Inflow = 2.88 cfs @ 12.11 hrs, Volume= 10,513 cf
Outflow = 2.81 cfs @ 12.13 hrs, Volume= 10,513 cf, Atten= 2%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.89 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 3.6 min

Peak Storage= 250 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.57'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 46.01 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 12.62 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 257.3' Slope= 0.0195 '/'
Inlet Invert= 169.90', Outlet Invert= 164.88'



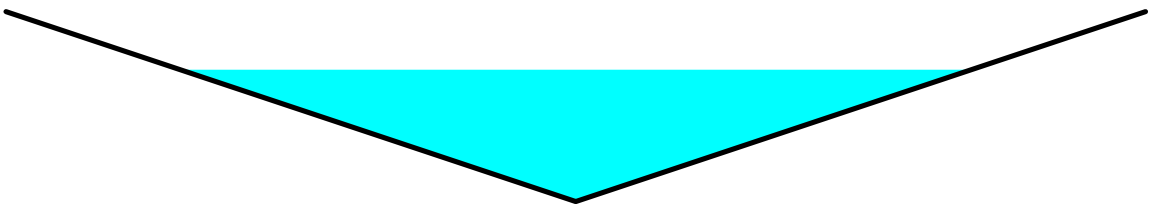
Summary for Reach 3R: S SWALE PART 3

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 2.17" for NRCC 100YR 24H event
Inflow = 4.20 cfs @ 12.14 hrs, Volume= 15,897 cf
Outflow = 4.06 cfs @ 12.16 hrs, Volume= 15,897 cf, Atten= 3%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.81 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 4.8 min

Peak Storage= 475 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.69'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 39.24 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.77 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 329.0' Slope= 0.0142 '/'
Inlet Invert= 164.80', Outlet Invert= 160.13'



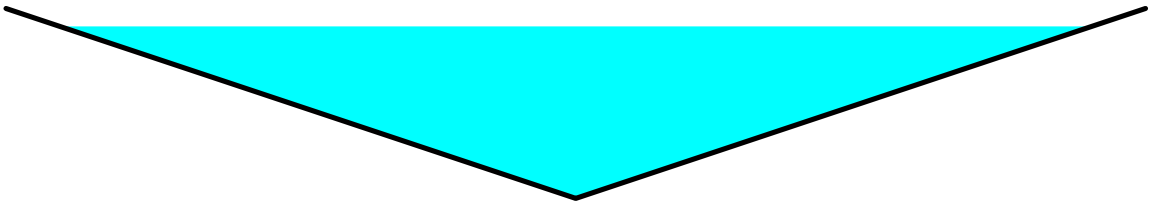
Summary for Reach 4R: S SWALE PART 4

Inflow Area = 125,461 sf, 0.00% Impervious, Inflow Depth = 2.96" for NRCC 100YR 24H event
Inflow = 7.94 cfs @ 12.13 hrs, Volume= 30,904 cf
Outflow = 7.66 cfs @ 12.16 hrs, Volume= 30,904 cf, Atten= 4%, Lag= 1.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.57 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 6.8 min

Peak Storage= 1,094 cf @ 12.16 hrs
Average Depth at Peak Storage= 1.00'
Defined Flood Depth= 2.00' Flow Area= 9.5 sf, Capacity= 31.59 cfs
Bank-Full Depth= 1.10' Flow Area= 3.6 sf, Capacity= 9.98 cfs

0.00' x 1.10' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.60'
Length= 367.8' Slope= 0.0073 '/'
Inlet Invert= 157.70', Outlet Invert= 155.00'



Summary for Reach 5R: DRAINAGE CHANNEL

Inflow Area = 497,238 sf, 11.68% Impervious, Inflow Depth = 3.98" for NRCC 100YR 24H event
Inflow = 47.83 cfs @ 12.12 hrs, Volume= 165,100 cf
Outflow = 47.76 cfs @ 12.12 hrs, Volume= 165,100 cf, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.74 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 2.4 min

Peak Storage= 1,456 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.42'
Defined Flood Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs

20.00' x 1.00' deep channel, n= 0.078 Riprap, 12-inch
Length= 175.0' Slope= 0.3086 '/'
Inlet Invert= 145.00', Outlet Invert= 91.00'

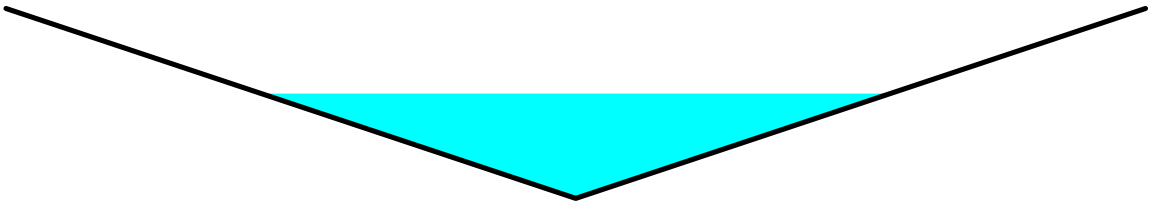
Summary for Reach 11R: N SWALE PART 1

Inflow Area = 15,778 sf, 0.00% Impervious, Inflow Depth = 5.98" for NRCC 100YR 24H event
Inflow = 2.48 cfs @ 12.09 hrs, Volume= 7,865 cf
Outflow = 2.29 cfs @ 12.12 hrs, Volume= 7,865 cf, Atten= 7%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.51 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 0.93 fps, Avg. Travel Time= 8.0 min

Peak Storage= 408 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.55'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 40.78 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.19 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 447.0' Slope= 0.0153 '/'
Inlet Invert= 174.03', Outlet Invert= 167.18'



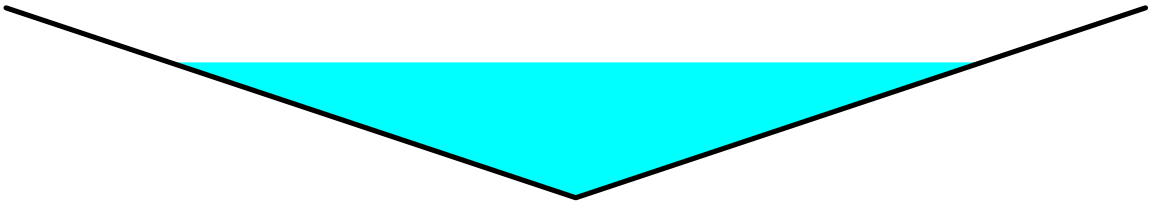
Summary for Reach 12R: N SWALE PART 2

Inflow Area = 29,879 sf, 0.00% Impervious, Inflow Depth = 6.15" for NRCC 100YR 24H event
Inflow = 4.52 cfs @ 12.10 hrs, Volume= 15,317 cf
Outflow = 4.29 cfs @ 12.13 hrs, Volume= 15,317 cf, Atten= 5%, Lag= 1.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.82 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 7.2 min

Peak Storage= 656 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.71'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.60 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.59 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 431.0' Slope= 0.0137 '/'
Inlet Invert= 167.10', Outlet Invert= 161.18'



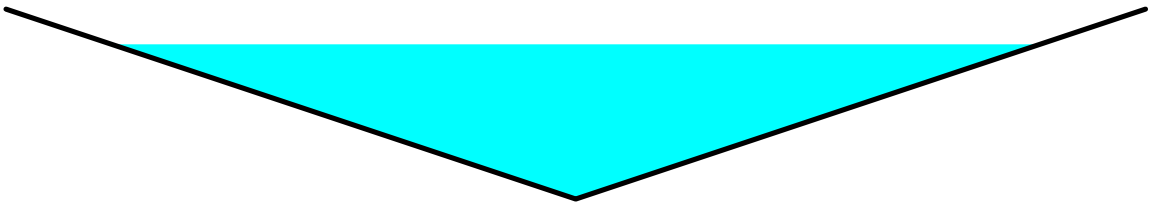
Summary for Reach 13R: N SWALE PART 3

Inflow Area = 42,618 sf, 0.00% Impervious, Inflow Depth = 6.21" for NRCC 100YR 24H event
Inflow = 6.20 cfs @ 12.12 hrs, Volume= 22,048 cf
Outflow = 5.99 cfs @ 12.14 hrs, Volume= 22,048 cf, Atten= 3%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.00 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 1.04 fps, Avg. Travel Time= 6.2 min

Peak Storage= 769 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.82'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 37.64 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.33 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 386.0' Slope= 0.0131 '/'
Inlet Invert= 161.10', Outlet Invert= 156.06'



Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 2.75" for NRCC 100YR 24H event
Inflow = 47.83 cfs @ 12.12 hrs, Volume= 179,128 cf
Outflow = 2.49 cfs @ 15.79 hrs, Volume= 179,128 cf, Atten= 95%, Lag= 219.8 min
Discarded = 2.16 cfs @ 15.79 hrs, Volume= 178,091 cf
Primary = 0.33 cfs @ 15.79 hrs, Volume= 1,037 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 90.62' @ 15.79 hrs Surf.Area= 38,660 sf Storage= 110,462 cf

Plug-Flow detention time= 693.1 min calculated for 179,103 cf (100% of inflow)
Center-of-Mass det. time= 693.3 min (1,524.8 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	125,742 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)
83.00	827	135.0	0	0	827
84.00	2,756	217.0	1,698	1,698	3,131
85.00	5,016	298.0	3,830	5,528	6,460
86.00	8,057	383.0	6,477	12,004	11,079
87.00	12,347	488.0	10,126	22,130	18,370
88.00	17,968	589.0	15,070	37,200	27,043
89.00	25,096	690.0	21,433	58,633	37,342
90.00	33,858	865.0	29,368	88,001	59,011
91.00	41,761	936.1	37,740	125,742	69,242

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	90.60'	**50.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=2.16 cfs @ 15.79 hrs HW=90.62' (Free Discharge)
1=Exfiltration (Exfiltration Controls 2.16 cfs)

Primary OutFlow Max=0.33 cfs @ 15.79 hrs HW=90.62' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 0.33 cfs @ 0.34 fps)

Summary for Pond 2P: SEDIMENT FOREBAY

Inflow Area = 168,079 sf, 0.00% Impervious, Inflow Depth = 3.78" for NRCC 100YR 24H event
Inflow = 13.61 cfs @ 12.15 hrs, Volume= 52,952 cf
Outflow = 13.49 cfs @ 12.17 hrs, Volume= 52,953 cf, Atten= 1%, Lag= 0.9 min
Discarded = 0.14 cfs @ 12.17 hrs, Volume= 16,828 cf
Primary = 13.35 cfs @ 12.17 hrs, Volume= 36,124 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 150.40' @ 12.17 hrs Surf.Area= 2,464 sf Storage= 9,809 cf
Flood Elev= 151.00' Surf.Area= 2,531 sf Storage= 11,301 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 227.3 min (1,061.9 - 834.6)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	22,348 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	2,000	0	0	2,000
155.00	3,000	22,348	22,348	3,876

Device	Routing	Invert	Outlet Devices
#1	Discarded	146.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	150.00'	**20.0' long x 2.0' 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
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.14 cfs @ 12.17 hrs HW=150.40' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=13.34 cfs @ 12.17 hrs HW=150.40' TW=145.39' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 13.34 cfs @ 1.66 fps)

Summary for Pond 3P: DMHs w/ Vortex Unit

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 4.70" for NRCC 100YR 24H event
Inflow = 38.54 cfs @ 12.09 hrs, Volume= 128,976 cf
Outflow = 38.54 cfs @ 12.09 hrs, Volume= 128,976 cf, Atten= 0%, Lag= 0.0 min
Primary = 38.54 cfs @ 12.09 hrs, Volume= 128,976 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 150.76' @ 12.09 hrs
Flood Elev= 151.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	148.00'	**36.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 148.00' / 145.00' S= 0.1200 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=38.53 cfs @ 12.09 hrs HW=150.76' TW=145.38' (Dynamic Tailwater)
1=Culvert (Inlet Controls 38.53 cfs @ 5.66 fps)

Summary for Pond 4P: DMH

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 4.70" for NRCC 100YR 24H event
Inflow = 38.54 cfs @ 12.09 hrs, Volume= 128,976 cf
Outflow = 38.54 cfs @ 12.09 hrs, Volume= 128,976 cf, Atten= 0%, Lag= 0.0 min
Primary = 38.54 cfs @ 12.09 hrs, Volume= 128,976 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.06' @ 12.09 hrs
Flood Elev= 158.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.30'	**36.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 150.30' / 148.00' S= 0.0639 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=38.53 cfs @ 12.09 hrs HW=153.06' TW=150.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 38.53 cfs @ 5.66 fps)

Summary for Pond 5P: DMH

Inflow Area = 216,616 sf, 16.26% Impervious, Inflow Depth = 4.65" for NRCC 100YR 24H event
Inflow = 24.21 cfs @ 12.10 hrs, Volume= 83,898 cf
Outflow = 24.21 cfs @ 12.10 hrs, Volume= 83,898 cf, Atten= 0%, Lag= 0.0 min
Primary = 24.21 cfs @ 12.10 hrs, Volume= 83,898 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.96' @ 12.10 hrs
Flood Elev= 161.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.40'	**24.0" Round Culvert** L= 263.0' Ke= 0.500 Inlet / Outlet Invert= 155.40' / 150.50' S= 0.0186 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=24.18 cfs @ 12.10 hrs HW=158.96' TW=153.05' (Dynamic Tailwater)
1=Culvert (Inlet Controls 24.18 cfs @ 7.70 fps)

Summary for Pond 6P: OIL/WATER SEPARATOR

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 2.61 cfs @ 12.07 hrs, Volume= 9,033 cf
Outflow = 2.61 cfs @ 12.07 hrs, Volume= 9,033 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.61 cfs @ 12.07 hrs, Volume= 9,033 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.98' @ 12.11 hrs
Flood Elev= 162.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.90'	**24.0" Round Culvert** L= 27.0' Ke= 0.500 Inlet / Outlet Invert= 155.90' / 155.50' S= 0.0148 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=158.56' TW=158.72' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 7P: DMH

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 2.61 cfs @ 12.07 hrs, Volume= 9,033 cf
Outflow = 2.61 cfs @ 12.07 hrs, Volume= 9,033 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.61 cfs @ 12.07 hrs, Volume= 9,033 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.34' @ 12.11 hrs
Flood Elev= 162.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.40'	**12.0" Round Culvert** L= 40.0' Ke= 0.500

Inlet / Outlet Invert= 156.40' / 156.00' S= 0.0100 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.88 cfs @ 12.07 hrs HW=158.80' TW=158.56' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.88 cfs @ 2.39 fps)

Summary for Pond 8P: DMH

Inflow Area = 8,878 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 1.74 cfs @ 12.07 hrs, Volume= 6,022 cf
Outflow = 1.74 cfs @ 12.07 hrs, Volume= 6,022 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.74 cfs @ 12.07 hrs, Volume= 6,022 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.60' @ 12.12 hrs
Flood Elev= 164.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.50'	**12.0" Round Culvert** L= 154.0' Ke= 0.500 Inlet / Outlet Invert= 157.50' / 156.50' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.99 cfs @ 12.07 hrs HW=158.92' TW=158.80' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.99 cfs @ 1.26 fps)

Summary for Pond 9P: DMH

Inflow Area = 4,439 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.87 cfs @ 12.07 hrs, Volume= 3,011 cf
Outflow = 0.87 cfs @ 12.07 hrs, Volume= 3,011 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.07 hrs, Volume= 3,011 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.91' @ 12.12 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.30'	**12.0" Round Culvert** L= 141.0' Ke= 0.500 Inlet / Outlet Invert= 159.30' / 158.00' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.77 cfs @ 12.07 hrs HW=159.78' TW=158.92' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.77 cfs @ 3.06 fps)

Summary for Pond 10P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.81' @ 12.07 hrs
Flood Elev= 169.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.43'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 162.43' / 162.00' S= 0.0143 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.34 cfs @ 12.07 hrs HW=162.81' TW=159.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.34 cfs @ 2.11 fps)

Summary for Pond 11P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf
Outflow = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.18' @ 12.07 hrs
Flood Elev= 168.62'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.62'	**6.0" Round Culvert** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 159.62' / 159.40' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.53 cfs @ 12.07 hrs HW=160.18' TW=159.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.53 cfs @ 2.68 fps)

Summary for Pond 12P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 161.08' @ 12.07 hrs
Flood Elev= 167.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.70'	**6.0" Round Culvert** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 160.70' / 160.40' S= 0.0094 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.34 cfs @ 12.07 hrs HW=161.08' TW=158.92' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.34 cfs @ 2.11 fps)

Summary for Pond 13P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf
Outflow = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.81' @ 12.12 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.83'	**6.0" Round Culvert** L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 157.83' / 157.60' S= 0.0115 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.18 cfs @ 12.07 hrs HW=158.96' TW=158.92' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.18 cfs @ 0.94 fps)

Summary for Pond 14P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf
Outflow = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.07 hrs, Volume= 1,827 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.55' @ 12.12 hrs
Flood Elev= 165.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.88'	**6.0" Round Culvert** L= 21.0' Ke= 0.500 Inlet / Outlet Invert= 156.88' / 156.60' S= 0.0133 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.22 cfs @ 12.07 hrs HW=158.86' TW=158.80' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.22 cfs @ 1.14 fps)

Summary for Pond 15P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,184 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.44' @ 12.12 hrs
Flood Elev= 164.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.66'	**6.0" Round Culvert** L= 34.0' Ke= 0.500

Inlet / Outlet Invert= 157.66' / 157.40' S= 0.0076 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=158.69' TW=158.80' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 16P: DMH

Inflow Area = 52,511 sf, 0.00% Impervious, Inflow Depth = 3.97" for NRCC 100YR 24H event
Inflow = 5.60 cfs @ 12.09 hrs, Volume= 17,371 cf
Outflow = 5.60 cfs @ 12.09 hrs, Volume= 17,371 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.60 cfs @ 12.09 hrs, Volume= 17,371 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 161.70' @ 12.09 hrs
Flood Elev= 162.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**12.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.50' S= 0.0294 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=5.60 cfs @ 12.09 hrs HW=161.69' TW=158.93' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.60 cfs @ 7.13 fps)

Summary for Pond 17P: DMH

Inflow Area = 150,788 sf, 14.52% Impervious, Inflow Depth = 4.58" for NRCC 100YR 24H event
Inflow = 16.29 cfs @ 12.11 hrs, Volume= 57,493 cf
Outflow = 16.29 cfs @ 12.11 hrs, Volume= 57,493 cf, Atten= 0%, Lag= 0.0 min
Primary = 16.29 cfs @ 12.11 hrs, Volume= 57,493 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 161.56' @ 12.11 hrs
Flood Elev= 163.59'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.40'	**24.0" Round Culvert** L= 88.2' Ke= 0.500 Inlet / Outlet Invert= 159.40' / 155.50' S= 0.0442 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=16.27 cfs @ 12.11 hrs HW=161.56' TW=158.93' (Dynamic Tailwater)
1=Culvert (Inlet Controls 16.27 cfs @ 5.18 fps)

Summary for Pond 18P: DMH

Inflow Area = 128,888 sf, 0.00% Impervious, Inflow Depth = 3.97" for NRCC 100YR 24H event
Inflow = 12.61 cfs @ 12.12 hrs, Volume= 42,638 cf
Outflow = 12.61 cfs @ 12.12 hrs, Volume= 42,638 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.61 cfs @ 12.12 hrs, Volume= 42,638 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.45' @ 12.12 hrs
Flood Elev= 165.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.50'	**18.0" Round Culvert** L= 92.0' Ke= 0.500 Inlet / Outlet Invert= 161.50' / 159.50' S= 0.0217 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=12.60 cfs @ 12.12 hrs HW=164.44' TW=161.53' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 12.60 cfs @ 7.13 fps)

Summary for Pond 20P: DMH

Inflow Area = 102,433 sf, 12.46% Impervious, Inflow Depth = 4.48" for NRCC 100YR 24H event
Inflow = 12.58 cfs @ 12.08 hrs, Volume= 38,221 cf
Outflow = 12.58 cfs @ 12.08 hrs, Volume= 38,221 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.58 cfs @ 12.08 hrs, Volume= 38,221 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.87' @ 12.09 hrs
Flood Elev= 158.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**24.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 152.00' / 150.40' S= 0.0286 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=12.26 cfs @ 12.08 hrs HW=153.86' TW=153.05' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 12.26 cfs @ 5.25 fps)

Summary for Pond 21P: DMH

Inflow Area = 25,304 sf, 16.82% Impervious, Inflow Depth = 4.67" for NRCC 100YR 24H event
Inflow = 3.30 cfs @ 12.07 hrs, Volume= 9,857 cf
Outflow = 3.30 cfs @ 12.07 hrs, Volume= 9,857 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.30 cfs @ 12.07 hrs, Volume= 9,857 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.20' @ 12.07 hrs
Flood Elev= 157.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.94'	**12.0" Round Culvert** L= 62.0' Ke= 0.500 Inlet / Outlet Invert= 154.94' / 152.40' S= 0.0410 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=3.29 cfs @ 12.07 hrs HW=156.20' TW=153.83' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 3.29 cfs @ 4.19 fps)

Summary for Pond 22P: DMH

Inflow Area = 77,129 sf, 11.04% Impervious, Inflow Depth = 4.41" for NRCC 100YR 24H event
Inflow = 9.29 cfs @ 12.08 hrs, Volume= 28,364 cf
Outflow = 9.29 cfs @ 12.08 hrs, Volume= 28,364 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.29 cfs @ 12.08 hrs, Volume= 28,364 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.44' @ 12.08 hrs
Flood Elev= 158.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 155.50' / 155.00' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=9.27 cfs @ 12.08 hrs HW=157.44' TW=153.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.27 cfs @ 5.25 fps)

Summary for Pond 23P: OIL/WATER SEPARATOR

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 1.98 cfs @ 12.07 hrs, Volume= 6,858 cf
Outflow = 2.01 cfs @ 12.07 hrs, Volume= 6,858 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.01 cfs @ 12.07 hrs, Volume= 6,858 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.57' @ 12.09 hrs
Flood Elev= 159.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	141.80'	**12.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 141.80' / 140.10' S= 0.0093 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.86 cfs @ 12.07 hrs HW=153.49' TW=153.00' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.86 cfs @ 2.37 fps)

Summary for Pond 24P: DMH

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 1.98 cfs @ 12.07 hrs, Volume= 6,858 cf
Outflow = 1.98 cfs @ 12.07 hrs, Volume= 6,858 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.98 cfs @ 12.07 hrs, Volume= 6,858 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.81' @ 12.10 hrs
Flood Elev= 159.61'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.20'	**12.0" Round Culvert** L= 1.0' Ke= 0.500

Inlet / Outlet Invert= 150.20' / 150.10' S= 0.1000 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.40 cfs @ 12.07 hrs HW=153.63' TW=153.49' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.40 cfs @ 1.79 fps)

Summary for Pond 25P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf
Outflow = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.98' @ 12.11 hrs
Flood Elev= 159.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.89'	**6.0" Round Culvert** L= 58.0' Ke= 0.500 Inlet / Outlet Invert= 150.89' / 150.30' S= 0.0102 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.22 cfs @ 12.07 hrs HW=153.71' TW=153.63' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.22 cfs @ 1.11 fps)

Summary for Pond 26P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf
Outflow = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.92' @ 12.11 hrs
Flood Elev= 161.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.98'	**6.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 152.98' / 152.00' S= 0.0576 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.10 cfs @ 12.07 hrs HW=153.64' TW=153.63' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.10 cfs @ 0.51 fps)

Summary for Pond 27P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 1.29 cfs @ 12.07 hrs, Volume= 4,457 cf
Outflow = 1.29 cfs @ 12.07 hrs, Volume= 4,457 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.29 cfs @ 12.07 hrs, Volume= 4,457 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 154.61' @ 12.09 hrs
Flood Elev= 162.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**12.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 153.90' / 152.00' S= 0.0085 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.21 cfs @ 12.07 hrs HW=154.57' TW=153.63' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.21 cfs @ 3.06 fps)

Summary for Pond 28P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 1.29 cfs @ 12.07 hrs, Volume= 4,457 cf
Outflow = 1.29 cfs @ 12.07 hrs, Volume= 4,457 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.29 cfs @ 12.07 hrs, Volume= 4,457 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.04' @ 12.08 hrs
Flood Elev= 163.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.40'	**12.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 154.40' / 154.00' S= 0.0080 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.24 cfs @ 12.07 hrs HW=155.04' TW=154.57' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.24 cfs @ 3.35 fps)

Summary for Pond 29P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf
Outflow = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 12.07 hrs, Volume= 1,201 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.34' @ 12.07 hrs
Flood Elev= 163.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.95'	**6.0" Round Culvert** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 154.95' / 154.50' S= 0.0643 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.35 cfs @ 12.07 hrs HW=155.34' TW=155.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.35 cfs @ 2.12 fps)

Summary for Pond 30P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.94 cfs @ 12.07 hrs, Volume= 3,256 cf
Outflow = 0.94 cfs @ 12.07 hrs, Volume= 3,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.94 cfs @ 12.07 hrs, Volume= 3,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.90' @ 12.07 hrs
Flood Elev= 165.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.40'	**12.0" Round Culvert** L= 98.0' Ke= 0.500 Inlet / Outlet Invert= 160.40' / 159.50' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.94 cfs @ 12.07 hrs HW=160.90' TW=155.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.94 cfs @ 2.40 fps)

Summary for Pond 31P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.94 cfs @ 12.07 hrs, Volume= 3,256 cf
Outflow = 0.94 cfs @ 12.07 hrs, Volume= 3,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.94 cfs @ 12.07 hrs, Volume= 3,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.41' @ 12.07 hrs
Flood Elev= 168.53'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.90'	**12.0" Round Culvert** L= 232.0' Ke= 0.500 Inlet / Outlet Invert= 161.90' / 160.50' S= 0.0060 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.94 cfs @ 12.07 hrs HW=162.41' TW=160.90' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.94 cfs @ 3.43 fps)

Summary for Pond 32P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.80' @ 12.07 hrs
Flood Elev= 170.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.44'	**6.0" Round Culvert** L= 10.0' Ke= 0.500

Inlet / Outlet Invert= 162.44' / 162.20' S= 0.0240 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=162.80' TW=162.41' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.31 cfs @ 2.05 fps)

Summary for Pond 33P: DMH

Inflow Area = 3,200 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.63 cfs @ 12.07 hrs, Volume= 2,171 cf
Outflow = 0.63 cfs @ 12.07 hrs, Volume= 2,171 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.07 hrs, Volume= 2,171 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.60' @ 12.07 hrs
Flood Elev= 170.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.20'	**12.0" Round Culvert** L= 159.0' Ke= 0.500 Inlet / Outlet Invert= 163.20' / 162.00' S= 0.0075 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.63 cfs @ 12.07 hrs HW=163.60' TW=162.41' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.63 cfs @ 2.15 fps)

Summary for Pond 34P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.81' @ 12.07 hrs
Flood Elev= 171.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.43'	**6.0" Round Culvert** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 163.43' / 163.30' S= 0.0162 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=163.81' TW=163.60' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.31 cfs @ 2.71 fps)

Summary for Pond 35P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 8.14" for NRCC 100YR 24H event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 1,085 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.75' @ 12.07 hrs
Flood Elev= 172.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	164.39'	**6.0" Round Culvert** L= 38.0' Ke= 0.500 Inlet / Outlet Invert= 164.39' / 164.00' S= 0.0103 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=164.75' TW=163.60' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.31 cfs @ 2.05 fps)

Summary for Pond 40P: DMH

Inflow Area = 105,170 sf, 0.00% Impervious, Inflow Depth = 2.76" for NRCC 100YR 24H event
Inflow = 6.02 cfs @ 12.13 hrs, Volume= 24,192 cf
Outflow = 6.02 cfs @ 12.13 hrs, Volume= 24,192 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.02 cfs @ 12.13 hrs, Volume= 24,192 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.13' @ 12.14 hrs
Flood Elev= 160.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	158.00'	**24.0" W x 12.0" H Box Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 158.00' / 157.70' S= 0.0300 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=5.96 cfs @ 12.13 hrs HW=159.12' TW=158.68' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.96 cfs @ 2.98 fps)

Summary for Pond 41P: CULVERT

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 2.17" for NRCC 100YR 24H event
Inflow = 4.06 cfs @ 12.16 hrs, Volume= 15,897 cf
Outflow = 4.06 cfs @ 12.16 hrs, Volume= 15,897 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.06 cfs @ 12.16 hrs, Volume= 15,897 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.74' @ 12.16 hrs
Flood Elev= 161.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**24.0" W x 12.0" H Box Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.00' S= 0.0182 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=4.07 cfs @ 12.16 hrs HW=159.74' TW=159.11' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 4.07 cfs @ 2.74 fps)

Summary for Link 1L: OVERFLOW

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 0.02" for NRCC 100YR 24H event
Inflow = 0.33 cfs @ 15.79 hrs, Volume= 1,037 cf
Primary = 0.33 cfs @ 15.79 hrs, Volume= 1,037 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Link 10L: OFF-SITE

Inflow Area = 258,650 sf, 0.00% Impervious, Inflow Depth = 0.67" for NRCC 100YR 24H event
Inflow = 1.69 cfs @ 12.31 hrs, Volume= 14,486 cf
Primary = 1.69 cfs @ 12.31 hrs, Volume= 14,486 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: AREA OUTSIDE Runoff Area=258,650 sf 0.00% Impervious Runoff Depth=0.02"
Tc=5.0 min CN=32 Runoff=0.01 cfs 332 cf

Subcatchment 2S: AREA OUTSIDE Runoff Area=285,632 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=491' Tc=12.3 min CN=31 Runoff=0.01 cfs 151 cf

Subcatchment 3S: S SWALE 1 Runoff Area=21,901 sf 0.00% Impervious Runoff Depth=0.96"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=56 Runoff=0.45 cfs 1,743 cf

Subcatchment 4S: S SWALE 2 Runoff Area=37,407 sf 0.00% Impervious Runoff Depth=0.23"
Tc=5.0 min CN=41 Runoff=0.05 cfs 727 cf

Subcatchment 5S: S SWALE 3 Runoff Area=28,531 sf 0.00% Impervious Runoff Depth=0.53"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=48 Runoff=0.17 cfs 1,250 cf

Subcatchment 6S: ACCESS RAMP Runoff Area=17,331 sf 0.00% Impervious Runoff Depth=2.57"
Tc=5.0 min CN=78 Runoff=1.24 cfs 3,709 cf

Subcatchment 7S: S SWALE 4 Runoff Area=20,291 sf 0.00% Impervious Runoff Depth=1.40"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=63 Runoff=0.63 cfs 2,371 cf

Subcatchment 8S: N SWALE 1 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=2.75"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=80 Runoff=1.16 cfs 3,609 cf

Subcatchment 9S: N SWALE 2 Runoff Area=14,101 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=1.13 cfs 3,550 cf

Subcatchment 10S: N SWALE 3 Runoff Area=12,739 sf 0.00% Impervious Runoff Depth=3.02"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=1.03 cfs 3,207 cf

Subcatchment 11S: NW PERF. DRAIN Runoff Area=45,853 sf 0.00% Impervious Runoff Depth=1.40"
Flow Length=660' Slope=0.0200 '/' Tc=6.0 min CN=63 Runoff=1.60 cfs 5,358 cf

Subcatchment 12S: CENTRAL PERF. DRAIN Runoff Area=6,658 sf 0.00% Impervious Runoff Depth=1.40"
Tc=5.0 min CN=63 Runoff=0.24 cfs 778 cf

Subcatchment 13S: GIS BUILDINGS Runoff Area=21,900 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=2.46 cfs 8,383 cf

Subcatchment 14S: GIS BLDGS PERF Runoff Area=74,801 sf 0.00% Impervious Runoff Depth=1.40"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=2.39 cfs 8,741 cf

Subcatchment 15S: CENTRAL PERF. DRAIN Runoff Area=54,087 sf 0.00% Impervious Runoff Depth=1.40"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=1.73 cfs 6,321 cf

Subcatchment 16S: N PERF. DRAIN Runoff Area=35,583 sf 0.57% Impervious Runoff Depth=1.40"
Tc=5.0 min CN=63 Runoff=1.29 cfs 4,158 cf

Subcatchment 17S: SE PERF. DRAIN 1 Runoff Area=41,546 sf 20.00% Impervious Runoff Depth=1.91"
Flow Length=425' Slope=0.0200 '/' Tc=5.9 min CN=70 Runoff=2.10 cfs 6,617 cf

Subcatchment 18S: SE PERF. DRAIN 2 Runoff Area=25,304 sf 16.82% Impervious Runoff Depth=1.83"
Tc=5.0 min CN=69 Runoff=1.26 cfs 3,869 cf

Subcatchment 20S: SR4 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.20 cfs 668 cf

Subcatchment 21S: XFMR 1 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.30 cfs 1,031 cf

Subcatchment 22S: SR5 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.20 cfs 668 cf

Subcatchment 23S: XFMR 2 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.30 cfs 1,031 cf

Subcatchment 24S: XFMR 3 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.30 cfs 1,031 cf

Subcatchment 25S: SR6 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.20 cfs 668 cf

Subcatchment 26S: SR1 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.18 cfs 612 cf

Subcatchment 27S: SR2 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.18 cfs 612 cf

Subcatchment 28S: SR3 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.18 cfs 612 cf

Subcatchment 29S: STATCOM 1 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.20 cfs 678 cf

Subcatchment 30S: STATCOM 2 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.20 cfs 678 cf

Subcatchment 31S: STATCOM 3 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=4.59"
Tc=5.0 min CN=98 Runoff=0.20 cfs 678 cf

Reach 1R: S SWALE PART 1 Avg. Flow Depth=0.29' Max Vel=1.56 fps Inflow=0.45 cfs 1,743 cf
n=0.030 L=309.0' S=0.0137 '/' Capacity=10.56 cfs Outflow=0.40 cfs 1,743 cf

Reach 2R: S SWALE PART 2 Avg. Flow Depth=0.27' Max Vel=1.76 fps Inflow=0.40 cfs 2,470 cf
n=0.030 L=257.3' S=0.0195 '/' Capacity=12.62 cfs Outflow=0.38 cfs 2,470 cf

Reach 3R: S SWALE PART 3 Avg. Flow Depth=0.32' Max Vel=1.69 fps Inflow=0.55 cfs 3,720 cf
n=0.030 L=329.0' S=0.0142 '/' Capacity=10.77 cfs Outflow=0.53 cfs 3,720 cf

Reach 4R: S SWALE PART 4 Avg. Flow Depth=0.58' Max Vel=1.79 fps Inflow=1.91 cfs 9,800 cf
n=0.030 L=367.8' S=0.0073 '/' Capacity=9.98 cfs Outflow=1.80 cfs 9,800 cf

Reach 5R: DRAINAGE CHANNEL Avg. Flow Depth=0.21' Max Vel=3.65 fps Inflow=15.16 cfs 57,843 cf
n=0.078 L=175.0' S=0.3086 '/' Capacity=198.63 cfs Outflow=15.05 cfs 57,843 cf

Reach 11R: N SWALE PART 1 Avg. Flow Depth=0.41' Max Vel=2.06 fps Inflow=1.16 cfs 3,609 cf
n=0.030 L=447.0' S=0.0153 '/' Capacity=11.19 cfs Outflow=1.04 cfs 3,609 cf

Reach 12R: N SWALE PART 2 Avg. Flow Depth=0.53' Max Vel=2.32 fps Inflow=2.12 cfs 7,159 cf
n=0.030 L=431.0' S=0.0137 '/' Capacity=10.59 cfs Outflow=1.97 cfs 7,159 cf

Reach 13R: N SWALE PART 3 Avg. Flow Depth=0.61' Max Vel=2.47 fps Inflow=2.88 cfs 10,366 cf
n=0.030 L=386.0' S=0.0131 '/' Capacity=10.33 cfs Outflow=2.75 cfs 10,366 cf

Pond 1P: DETENTION AREA - LOCALIZED Peak Elev=87.70' Storage=32,038 cf Inflow=15.05 cfs 57,994 cf
Discarded=0.90 cfs 57,994 cf Primary=0.00 cfs 0 cf Outflow=0.90 cfs 57,994 cf

Pond 2P: SEDIMENT FOREBAY Peak Elev=150.06' Storage=8,963 cf Inflow=4.55 cfs 20,165 cf
Discarded=0.14 cfs 15,515 cf Primary=0.68 cfs 4,651 cf Outflow=0.82 cfs 20,166 cf

Pond 3P: DMHs w/ Vortex Unit Peak Elev=149.52' Inflow=15.16 cfs 53,192 cf
36.0" Round Culvert n=0.011 L=25.0' S=0.1200 '/' Outflow=15.16 cfs 53,192 cf

Pond 4P: DMH Peak Elev=151.82' Inflow=15.16 cfs 53,192 cf
36.0" Round Culvert n=0.011 L=36.0' S=0.0639 '/' Outflow=15.16 cfs 53,192 cf

Pond 5P: DMH Peak Elev=156.80' Inflow=9.41 cfs 34,679 cf
24.0" Round Culvert n=0.011 L=263.0' S=0.0186 '/' Outflow=9.41 cfs 34,679 cf

Pond 6P: OIL/WATER SEPARATOR Peak Elev=156.85' Inflow=1.50 cfs 5,098 cf
24.0" Round Culvert n=0.012 L=27.0' S=0.0148 '/' Outflow=1.50 cfs 5,098 cf

Pond 7P: DMH Peak Elev=157.17' Inflow=1.50 cfs 5,098 cf
12.0" Round Culvert n=0.011 L=40.0' S=0.0100 '/' Outflow=1.50 cfs 5,098 cf

Pond 8P: DMH Peak Elev=158.05' Inflow=1.00 cfs 3,398 cf
12.0" Round Culvert n=0.011 L=154.0' S=0.0065 '/' Outflow=1.00 cfs 3,398 cf

Pond 9P: DMH Peak Elev=159.65' Inflow=0.50 cfs 1,699 cf
12.0" Round Culvert n=0.011 L=141.0' S=0.0092 '/' Outflow=0.50 cfs 1,699 cf

Pond 10P: 24" Petro-Barrier Peak Elev=162.70' Inflow=0.20 cfs 668 cf
6.0" Round Culvert n=0.010 L=30.0' S=0.0143 '/' Outflow=0.20 cfs 668 cf

Pond 11P: 24" Petro-Barrier Peak Elev=159.98' Inflow=0.30 cfs 1,031 cf
6.0" Round Culvert n=0.010 L=18.0' S=0.0122 '/' Outflow=0.30 cfs 1,031 cf

Pond 12P: 24" Petro-Barrier Peak Elev=160.97' Inflow=0.20 cfs 668 cf
6.0" Round Culvert n=0.010 L=32.0' S=0.0094 '/' Outflow=0.20 cfs 668 cf

Pond 13P: 24" Petro-Barrier Peak Elev=158.25' Inflow=0.30 cfs 1,031 cf
6.0" Round Culvert n=0.010 L=20.0' S=0.0115 '/' Outflow=0.30 cfs 1,031 cf

Pond 14P: 24" Petro-Barrier Peak Elev=157.32' Inflow=0.30 cfs 1,031 cf
6.0" Round Culvert n=0.010 L=21.0' S=0.0133 '/' Outflow=0.30 cfs 1,031 cf

Pond 15P: 24" Petro-Barrier Peak Elev=157.94' Inflow=0.20 cfs 668 cf
6.0" Round Culvert n=0.010 L=34.0' S=0.0076 '/' Outflow=0.20 cfs 668 cf

Pond 16P: DMH Peak Elev=159.74' Inflow=1.84 cfs 6,136 cf
12.0" Round Culvert n=0.011 L=17.0' S=0.0294 '/' Outflow=1.84 cfs 6,136 cf

Pond 17P: DMH Peak Elev=160.49' Inflow=6.20 cfs 23,445 cf
24.0" Round Culvert n=0.011 L=88.2' S=0.0442 '/' Outflow=6.20 cfs 23,445 cf

Pond 18P: DMH Peak Elev=162.48' Inflow=4.12 cfs 15,062 cf
18.0" Round Culvert n=0.011 L=92.0' S=0.0217 '/' Outflow=4.12 cfs 15,062 cf

Pond 20P: DMH Peak Elev=152.92' Inflow=4.64 cfs 14,644 cf
24.0" Round Culvert n=0.011 L=56.0' S=0.0286 '/' Outflow=4.64 cfs 14,644 cf

Pond 21P: DMH Peak Elev=155.53' Inflow=1.26 cfs 3,869 cf
12.0" Round Culvert n=0.011 L=62.0' S=0.0410 '/' Outflow=1.26 cfs 3,869 cf

Pond 22P: DMH Peak Elev=156.39' Inflow=3.38 cfs 10,775 cf
18.0" Round Culvert n=0.011 L=56.0' S=0.0089 '/' Outflow=3.38 cfs 10,775 cf

Pond 23P: OIL/WATER SEPARATOR Peak Elev=152.00' Inflow=1.14 cfs 3,870 cf
12.0" Round Culvert n=0.011 L=182.0' S=0.0093 '/' Outflow=1.18 cfs 3,869 cf

Pond 24P: DMH Peak Elev=152.07' Inflow=1.14 cfs 3,870 cf
12.0" Round Culvert n=0.011 L=1.0' S=0.1000 '/' Outflow=1.14 cfs 3,870 cf

Pond 25P: 24" Petro-Barrier Peak Elev=152.13' Inflow=0.20 cfs 678 cf
6.0" Round Culvert n=0.010 L=58.0' S=0.0102 '/' Outflow=0.20 cfs 678 cf

Pond 26P: 24" Petro-Barrier Peak Elev=153.26' Inflow=0.20 cfs 678 cf
6.0" Round Culvert n=0.010 L=17.0' S=0.0576 '/' Outflow=0.20 cfs 678 cf

Pond 27P: DMH Peak Elev=154.34' Inflow=0.74 cfs 2,515 cf
12.0" Round Culvert n=0.011 L=224.0' S=0.0085 '/' Outflow=0.74 cfs 2,515 cf

Pond 28P: DMH Peak Elev=154.84' Inflow=0.74 cfs 2,515 cf
12.0" Round Culvert n=0.011 L=50.0' S=0.0080 '/' Outflow=0.74 cfs 2,515 cf

Pond 29P: 24" Petro-Barrier Peak Elev=155.23' Inflow=0.20 cfs 678 cf
6.0" Round Culvert n=0.010 L=7.0' S=0.0643 '/' Outflow=0.20 cfs 678 cf

Pond 30P: DMH Peak Elev=160.77' Inflow=0.54 cfs 1,837 cf
12.0" Round Culvert n=0.011 L=98.0' S=0.0092 '/' Outflow=0.54 cfs 1,837 cf

Pond 31P: DMH Peak Elev=162.27' Inflow=0.54 cfs 1,837 cf
12.0" Round Culvert n=0.011 L=232.0' S=0.0060 '/' Outflow=0.54 cfs 1,837 cf

Pond 32P: 24" Petro-Barrier Peak Elev=162.70' Inflow=0.18 cfs 612 cf
6.0" Round Culvert n=0.010 L=10.0' S=0.0240 '/' Outflow=0.18 cfs 612 cf

Pond 33P: DMH Peak Elev=163.50' Inflow=0.36 cfs 1,225 cf
12.0" Round Culvert n=0.011 L=159.0' S=0.0075 '/' Outflow=0.36 cfs 1,225 cf

Pond 34P: 24" Petro-Barrier Peak Elev=163.69' Inflow=0.18 cfs 612 cf
6.0" Round Culvert n=0.010 L=8.0' S=0.0162 '/' Outflow=0.18 cfs 612 cf

Pond 35P: 24" Petro-Barrier Peak Elev=164.65' Inflow=0.18 cfs 612 cf
6.0" Round Culvert n=0.010 L=38.0' S=0.0103 '/' Outflow=0.18 cfs 612 cf

Pond 40P: DMH Peak Elev=158.40' Inflow=1.35 cfs 7,429 cf
24.0" x 12.0" Box Culvert n=0.011 L=10.0' S=0.0300 '/' Outflow=1.35 cfs 7,429 cf

Pond 41P: CULVERT Peak Elev=159.19' Inflow=0.53 cfs 3,720 cf
24.0" x 12.0" Box Culvert n=0.011 L=55.0' S=0.0182 '/' Outflow=0.53 cfs 3,720 cf

Link 1L: OVERFLOW Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 10L: OFF-SITE Inflow=0.01 cfs 332 cf
Primary=0.01 cfs 332 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 73,841 cf Average Runoff Depth = 0.85"
94.42% Pervious = 983,426 sf 5.58% Impervious = 58,094 sf

Summary for Subcatchment 1S: AREA OUTSIDE SUBSTATION - NOT TO POND

Runoff = 0.01 cfs @ 22.05 hrs, Volume= 332 cf, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
179,269	30	Woods, Good, HSG A
72,994	30	Meadow, non-grazed, HSG A
6,387	96	Gravel surface, HSG A
258,650	32	Weighted Average
258,650		100.00% Pervious Area

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

Summary for Subcatchment 2S: AREA OUTSIDE SUBSTATION - TO POND

Runoff = 0.01 cfs @ 23.63 hrs, Volume= 151 cf, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
206,991	30	Woods, Good, HSG A
72,294	30	Meadow, non-grazed, HSG A
6,347	96	Gravel surface, HSG A
285,632	31	Weighted Average
285,632		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.5000	0.25		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	441	0.1100	0.83		**Shallow Concentrated Flow, Shallow Conc** Forest w/Heavy Litter Kv= 2.5 fps
12.3	491	Total			

Summary for Subcatchment 3S: S SWALE 1

Runoff = 0.45 cfs @ 12.11 hrs, Volume= 1,743 cf, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	3,599	63	Crushed Stone Surface, HSG A
	6,746	96	Gravel surface, HSG A
	7,202	30	Woods, Good, HSG A
	4,354	30	Meadow, non-grazed, HSG A
	21,901	56	Weighted Average
	21,901		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 4S: S SWALE 2

Runoff = 0.05 cfs @ 12.42 hrs, Volume= 727 cf, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
	5,160	96	Gravel surface, HSG A
*	2,578	63	Crushed Stone Surface, HSG A
	20,025	30	Woods, Good, HSG A
	9,644	30	Meadow, non-grazed, HSG A
	37,407	41	Weighted Average
	37,407		100.00% Pervious Area

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

Summary for Subcatchment 5S: S SWALE 3

Runoff = 0.17 cfs @ 12.27 hrs, Volume= 1,250 cf, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	3,335	63	Crushed Stone Surface, HSG A
	7,061	30	Woods, Good, HSG A
	6,315	96	Gravel surface, HSG A
	11,820	30	Meadow, non-grazed, HSG A
	28,531	48	Weighted Average
	28,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 6S: ACCESS RAMP

Runoff = 1.24 cfs @ 12.08 hrs, Volume= 3,709 cf, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
12,617	96	Gravel surface, HSG A
1,094	30	Woods, Good, HSG A
3,620	30	Meadow, non-grazed, HSG A
17,331	78	Weighted Average
17,331		100.00% Pervious Area

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

Summary for Subcatchment 7S: S SWALE 4

Runoff = 0.63 cfs @ 12.14 hrs, Volume= 2,371 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
* 6,230	63	Crushed Stone Surface, HSG A
7,051	96	Gravel surface, HSG A
7,010	30	Meadow, non-grazed, HSG A
20,291	63	Weighted Average
20,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 8S: N SWALE 1

Runoff = 1.16 cfs @ 12.09 hrs, Volume= 3,609 cf, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	4,949	63	Crushed Stone Surface, HSG A
	9,543	96	Gravel surface, HSG A
	1,286	30	Meadow, non-grazed, HSG A
	15,778	80	Weighted Average
	15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 9S: N SWALE 2

Runoff = 1.13 cfs @ 12.09 hrs, Volume= 3,550 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	5,475	63	Crushed Stone Surface, HSG A
	8,626	96	Gravel surface, HSG A
	14,101	83	Weighted Average
	14,101		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 10S: N SWALE 3

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 3,207 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	4,958	63	Crushed Stone Surface, HSG A
	7,781	96	Gravel surface, HSG A
	12,739	83	Weighted Average
	12,739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 11S: NW PERF. DRAIN

Runoff = 1.60 cfs @ 12.10 hrs, Volume= 5,358 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	45,853	63	Crushed Stone Surface, HSG A
	45,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.0	255	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
0.7	355	0.0200	8.34	6.55	**Pipe Channel, Perf Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
6.0	660	Total			

Summary for Subcatchment 12S: CENTRAL PERF. DRAIN 2

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 778 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	6,658	63	Crushed Stone Surface, HSG A
	6,658		100.00% Pervious Area

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

Summary for Subcatchment 13S: GIS BUILDINGS

Runoff = 2.46 cfs @ 12.07 hrs, Volume= 8,383 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
21,900	98	Roofs, HSG A
21,900		100.00% Impervious Area

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

Summary for Subcatchment 14S: GIS BLDGS PERF DRAIN

Runoff = 2.39 cfs @ 12.13 hrs, Volume= 8,741 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	74,801	63	Crushed Stone Surface, HSG A
	74,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 15S: CENTRAL PERF. DRAIN 1

Runoff = 1.73 cfs @ 12.13 hrs, Volume= 6,321 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	54,087	63	Crushed Stone Surface, HSG A
	54,087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 16S: N PERF. DRAIN

Runoff = 1.29 cfs @ 12.08 hrs, Volume= 4,158 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
*	35,381	63	Crushed Stone Surface, HSG A
	202	98	Roofs, HSG A
	35,583	63	Weighted Average
	35,381		99.43% Pervious Area
	202		0.57% Impervious Area

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

Summary for Subcatchment 17S: SE PERF. DRAIN 1

Runoff = 2.10 cfs @ 12.09 hrs, Volume= 6,617 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
	8,310	98	Roofs, HSG A
*	33,236	63	Crushed Stone Surface, HSG A
	41,546	70	Weighted Average
	33,236		80.00% Pervious Area
	8,310		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.5	300	0.0200	1.41		**Shallow Concentrated Flow, Shallow** Nearly Bare & Untilled Kv= 10.0 fps
0.1	75	0.0200	8.34	6.55	**Pipe Channel, Perf. Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.9	425	Total			

Summary for Subcatchment 18S: SE PERF. DRAIN 2

Runoff = 1.26 cfs @ 12.08 hrs, Volume= 3,869 cf, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

	Area (sf)	CN	Description
	4,255	98	Roofs, HSG A
*	21,049	63	Crushed Stone Surface, HSG A
	25,304	69	Weighted Average
	21,049		83.18% Pervious Area
	4,255		16.82% Impervious Area

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

Summary for Subcatchment 20S: SR4

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 668 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 21S: XFMR 1

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 22S: SR5

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 668 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 23S: XFMR 2

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 24S: XFMR 3

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 25S: SR6

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 668 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 26S: SR1

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 612 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 27S: SR2

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 612 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 28S: SR3

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 612 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 29S: STATCOM 1 TRANSFORMER

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 678 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 30S: STATCOM 2 TRANSFORMER

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 678 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 31S: STATCOM 3 TRANSFORMER

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 678 cf, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 10YR 24H Rainfall=4.83"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

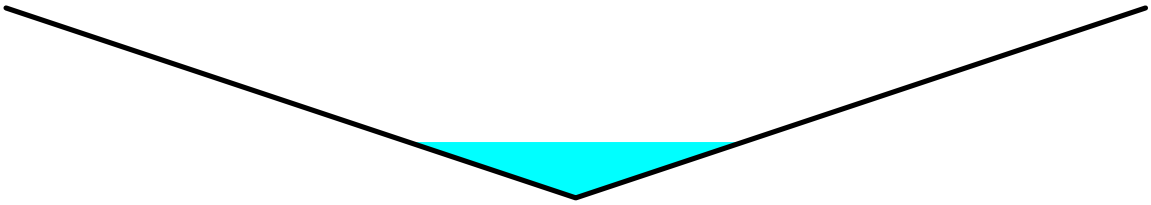
Summary for Reach 1R: S SWALE PART 1

Inflow Area = 21,901 sf, 0.00% Impervious, Inflow Depth = 0.96" for NRCC 10YR 24H event
Inflow = 0.45 cfs @ 12.11 hrs, Volume= 1,743 cf
Outflow = 0.40 cfs @ 12.15 hrs, Volume= 1,743 cf, Atten= 10%, Lag= 2.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.56 fps, Min. Travel Time= 3.3 min
Avg. Velocity = 0.73 fps, Avg. Travel Time= 7.1 min

Peak Storage= 80 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.29'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.49 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.56 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 309.0' Slope= 0.0137 '/'
Inlet Invert= 174.13', Outlet Invert= 169.91'



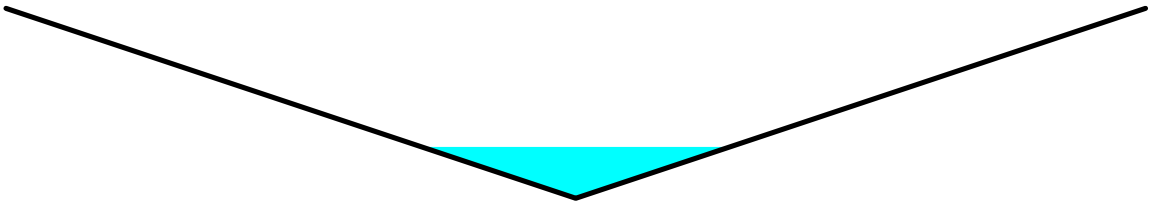
Summary for Reach 2R: S SWALE PART 2

Inflow Area = 59,308 sf, 0.00% Impervious, Inflow Depth = 0.50" for NRCC 10YR 24H event
Inflow = 0.40 cfs @ 12.15 hrs, Volume= 2,470 cf
Outflow = 0.38 cfs @ 12.19 hrs, Volume= 2,470 cf, Atten= 5%, Lag= 2.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.76 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 4.7 min

Peak Storage= 56 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.27'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 46.01 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 12.62 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 257.3' Slope= 0.0195 '/'
Inlet Invert= 169.90', Outlet Invert= 164.88'



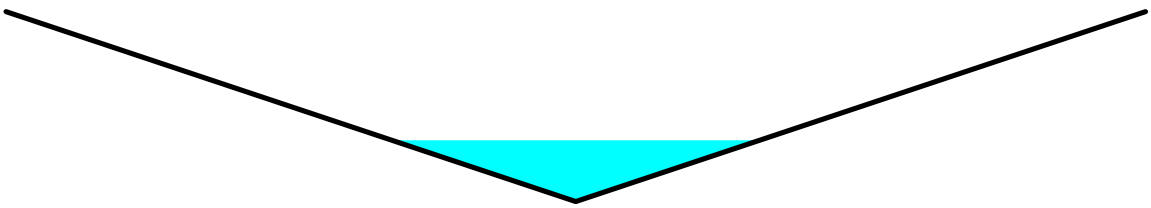
Summary for Reach 3R: S SWALE PART 3

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 0.51" for NRCC 10YR 24H event
Inflow = 0.55 cfs @ 12.20 hrs, Volume= 3,720 cf
Outflow = 0.53 cfs @ 12.27 hrs, Volume= 3,720 cf, Atten= 5%, Lag= 4.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.69 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 6.3 min

Peak Storage= 103 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.32'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 39.24 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.77 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 329.0' Slope= 0.0142 '/'
Inlet Invert= 164.80', Outlet Invert= 160.13'



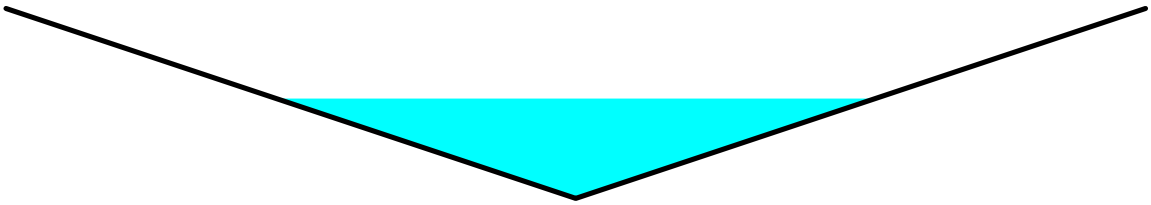
Summary for Reach 4R: S SWALE PART 4

Inflow Area = 125,461 sf, 0.00% Impervious, Inflow Depth = 0.94" for NRCC 10YR 24H event
Inflow = 1.91 cfs @ 12.11 hrs, Volume= 9,800 cf
Outflow = 1.80 cfs @ 12.16 hrs, Volume= 9,800 cf, Atten= 6%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.79 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 0.74 fps, Avg. Travel Time= 8.3 min

Peak Storage= 369 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.58'
Defined Flood Depth= 2.00' Flow Area= 9.5 sf, Capacity= 31.59 cfs
Bank-Full Depth= 1.10' Flow Area= 3.6 sf, Capacity= 9.98 cfs

0.00' x 1.10' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.60'
Length= 367.8' Slope= 0.0073 '/'
Inlet Invert= 157.70', Outlet Invert= 155.00'



Summary for Reach 5R: DRAINAGE CHANNEL

Inflow Area = 497,238 sf, 11.68% Impervious, Inflow Depth = 1.40" for NRCC 10YR 24H event
Inflow = 15.16 cfs @ 12.09 hrs, Volume= 57,843 cf
Outflow = 15.05 cfs @ 12.10 hrs, Volume= 57,843 cf, Atten= 1%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.65 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 3.4 min

Peak Storage= 722 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.21'
Defined Flood Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs

20.00' x 1.00' deep channel, n= 0.078 Riprap, 12-inch
Length= 175.0' Slope= 0.3086 '/'
Inlet Invert= 145.00', Outlet Invert= 91.00'

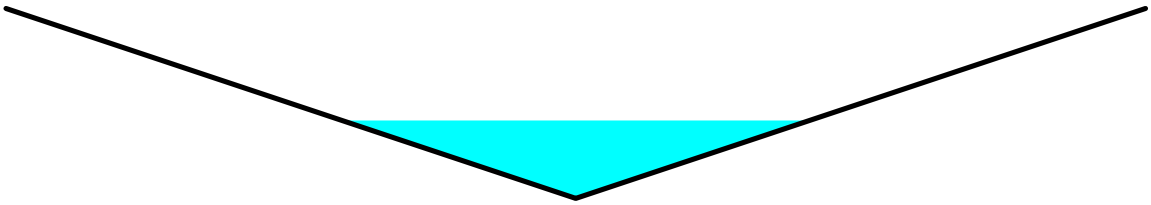
Summary for Reach 11R: N SWALE PART 1

Inflow Area = 15,778 sf, 0.00% Impervious, Inflow Depth = 2.75" for NRCC 10YR 24H event
Inflow = 1.16 cfs @ 12.09 hrs, Volume= 3,609 cf
Outflow = 1.04 cfs @ 12.13 hrs, Volume= 3,609 cf, Atten= 10%, Lag= 2.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.06 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 0.80 fps, Avg. Travel Time= 9.3 min

Peak Storage= 226 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.41'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 40.78 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.19 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 447.0' Slope= 0.0153 '/'
Inlet Invert= 174.03', Outlet Invert= 167.18'



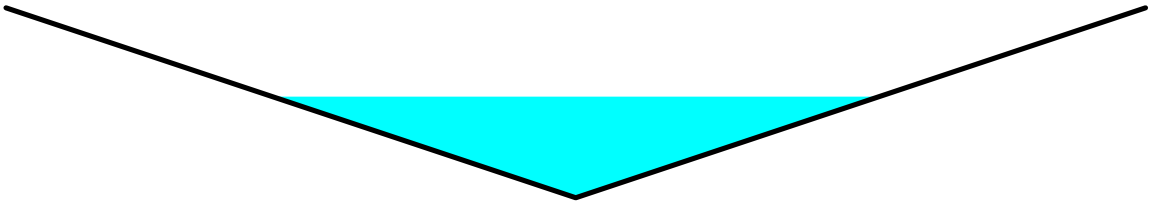
Summary for Reach 12R: N SWALE PART 2

Inflow Area = 29,879 sf, 0.00% Impervious, Inflow Depth = 2.88" for NRCC 10YR 24H event
Inflow = 2.12 cfs @ 12.11 hrs, Volume= 7,159 cf
Outflow = 1.97 cfs @ 12.14 hrs, Volume= 7,159 cf, Atten= 7%, Lag= 2.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.32 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 8.4 min

Peak Storage= 367 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.53'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.60 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.59 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 431.0' Slope= 0.0137 '/'
Inlet Invert= 167.10', Outlet Invert= 161.18'



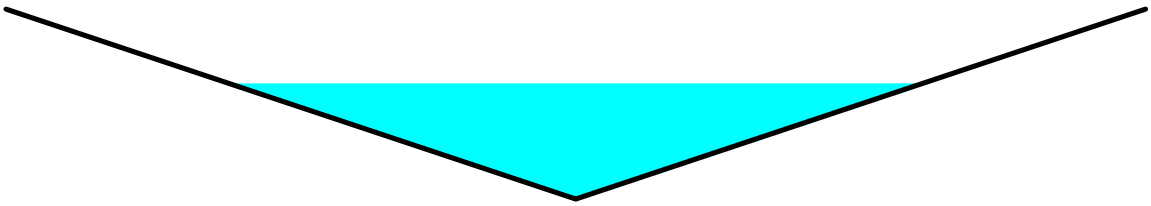
Summary for Reach 13R: N SWALE PART 3

Inflow Area = 42,618 sf, 0.00% Impervious, Inflow Depth = 2.92" for NRCC 10YR 24H event
Inflow = 2.88 cfs @ 12.12 hrs, Volume= 10,366 cf
Outflow = 2.75 cfs @ 12.16 hrs, Volume= 10,366 cf, Atten= 4%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.47 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 7.2 min

Peak Storage= 430 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.61'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 37.64 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.33 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 386.0' Slope= 0.0131 '/'
Inlet Invert= 161.10', Outlet Invert= 156.06'



Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 0.89" for NRCC 10YR 24H event
Inflow = 15.05 cfs @ 12.10 hrs, Volume= 57,994 cf
Outflow = 0.90 cfs @ 15.76 hrs, Volume= 57,994 cf, Atten= 94%, Lag= 219.5 min
Discarded = 0.90 cfs @ 15.76 hrs, Volume= 57,994 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 87.70' @ 15.76 hrs Surf.Area= 16,155 sf Storage= 32,038 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 481.1 min (1,314.5 - 833.5)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	125,742 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)
83.00	827	135.0	0	0	827
84.00	2,756	217.0	1,698	1,698	3,131
85.00	5,016	298.0	3,830	5,528	6,460
86.00	8,057	383.0	6,477	12,004	11,079
87.00	12,347	488.0	10,126	22,130	18,370
88.00	17,968	589.0	15,070	37,200	27,043
89.00	25,096	690.0	21,433	58,633	37,342
90.00	33,858	865.0	29,368	88,001	59,011
91.00	41,761	936.1	37,740	125,742	69,242

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	90.60'	**50.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.90 cfs @ 15.76 hrs HW=87.70' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.90 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=83.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: SEDIMENT FOREBAY

Inflow Area = 168,079 sf, 0.00% Impervious, Inflow Depth = 1.44" for NRCC 10YR 24H event
Inflow = 4.55 cfs @ 12.16 hrs, Volume= 20,165 cf
Outflow = 0.82 cfs @ 12.96 hrs, Volume= 20,166 cf, Atten= 82%, Lag= 48.1 min
Discarded = 0.14 cfs @ 12.96 hrs, Volume= 15,515 cf
Primary = 0.68 cfs @ 12.96 hrs, Volume= 4,651 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 150.06' @ 12.96 hrs Surf.Area= 2,426 sf Storage= 8,963 cf
Flood Elev= 151.00' Surf.Area= 2,531 sf Storage= 11,301 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 554.3 min (1,410.1 - 855.8)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	22,348 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	2,000	0	0	2,000
155.00	3,000	22,348	22,348	3,876

Device	Routing	Invert	Outlet Devices
#1	Discarded	146.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	150.00'	**20.0' long x 2.0' 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
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.14 cfs @ 12.96 hrs HW=150.06' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.68 cfs @ 12.96 hrs HW=150.06' TW=145.07' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 0.68 cfs @ 0.60 fps)

Summary for Pond 3P: DMHs w/ Vortex Unit

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 1.94" for NRCC 10YR 24H event
Inflow = 15.16 cfs @ 12.09 hrs, Volume= 53,192 cf
Outflow = 15.16 cfs @ 12.09 hrs, Volume= 53,192 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.16 cfs @ 12.09 hrs, Volume= 53,192 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 149.52' @ 12.09 hrs
Flood Elev= 151.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	148.00'	**36.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 148.00' / 145.00' S= 0.1200 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=15.15 cfs @ 12.09 hrs HW=149.52' TW=145.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 15.15 cfs @ 4.20 fps)

Summary for Pond 4P: DMH

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 1.94" for NRCC 10YR 24H event
Inflow = 15.16 cfs @ 12.09 hrs, Volume= 53,192 cf
Outflow = 15.16 cfs @ 12.09 hrs, Volume= 53,192 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.16 cfs @ 12.09 hrs, Volume= 53,192 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 151.82' @ 12.09 hrs
Flood Elev= 158.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.30'	**36.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 150.30' / 148.00' S= 0.0639 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=15.15 cfs @ 12.09 hrs HW=151.82' TW=149.52' (Dynamic Tailwater)
1=Culvert (Inlet Controls 15.15 cfs @ 4.20 fps)

Summary for Pond 5P: DMH

Inflow Area = 216,616 sf, 16.26% Impervious, Inflow Depth = 1.92" for NRCC 10YR 24H event
Inflow = 9.41 cfs @ 12.10 hrs, Volume= 34,679 cf
Outflow = 9.41 cfs @ 12.10 hrs, Volume= 34,679 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.41 cfs @ 12.10 hrs, Volume= 34,679 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.80' @ 12.10 hrs
Flood Elev= 161.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.40'	**24.0" Round Culvert** L= 263.0' Ke= 0.500 Inlet / Outlet Invert= 155.40' / 150.50' S= 0.0186 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=9.40 cfs @ 12.10 hrs HW=156.79' TW=151.82' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.40 cfs @ 4.02 fps)

Summary for Pond 6P: OIL/WATER SEPARATOR

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 1.50 cfs @ 12.07 hrs, Volume= 5,098 cf
Outflow = 1.50 cfs @ 12.07 hrs, Volume= 5,098 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.50 cfs @ 12.07 hrs, Volume= 5,098 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.85' @ 12.10 hrs
Flood Elev= 162.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.90'	**24.0" Round Culvert** L= 27.0' Ke= 0.500 Inlet / Outlet Invert= 155.90' / 155.50' S= 0.0148 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.10 cfs @ 12.07 hrs HW=156.80' TW=156.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.10 cfs @ 1.18 fps)

Summary for Pond 7P: DMH

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 1.50 cfs @ 12.07 hrs, Volume= 5,098 cf
Outflow = 1.50 cfs @ 12.07 hrs, Volume= 5,098 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.50 cfs @ 12.07 hrs, Volume= 5,098 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.17' @ 12.09 hrs
Flood Elev= 162.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.40'	**12.0" Round Culvert** L= 40.0' Ke= 0.500

Inlet / Outlet Invert= 156.40' / 156.00' S= 0.0100 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.42 cfs @ 12.07 hrs HW=157.15' TW=156.80' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.42 cfs @ 3.13 fps)

Summary for Pond 8P: DMH

Inflow Area = 8,878 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 1.00 cfs @ 12.07 hrs, Volume= 3,398 cf
Outflow = 1.00 cfs @ 12.07 hrs, Volume= 3,398 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.00 cfs @ 12.07 hrs, Volume= 3,398 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.05' @ 12.08 hrs
Flood Elev= 164.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.50'	**12.0" Round Culvert** L= 154.0' Ke= 0.500 Inlet / Outlet Invert= 157.50' / 156.50' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.99 cfs @ 12.07 hrs HW=158.05' TW=157.15' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.99 cfs @ 3.22 fps)

Summary for Pond 9P: DMH

Inflow Area = 4,439 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.50 cfs @ 12.07 hrs, Volume= 1,699 cf
Outflow = 0.50 cfs @ 12.07 hrs, Volume= 1,699 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.50 cfs @ 12.07 hrs, Volume= 1,699 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.65' @ 12.07 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.30'	**12.0" Round Culvert** L= 141.0' Ke= 0.500 Inlet / Outlet Invert= 159.30' / 158.00' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.50 cfs @ 12.07 hrs HW=159.65' TW=158.05' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.50 cfs @ 2.02 fps)

Summary for Pond 10P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 668 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 668 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 668 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.70' @ 12.07 hrs
Flood Elev= 169.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.43'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 162.43' / 162.00' S= 0.0143 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=162.70' TW=159.65' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.20 cfs @ 1.78 fps)

Summary for Pond 11P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf
Outflow = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.98' @ 12.07 hrs
Flood Elev= 168.62'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.62'	**6.0" Round Culvert** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 159.62' / 159.40' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.30 cfs @ 12.07 hrs HW=159.98' TW=159.65' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.30 cfs @ 2.03 fps)

Summary for Pond 12P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 668 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 668 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 668 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.97' @ 12.07 hrs
Flood Elev= 167.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.70'	**6.0" Round Culvert** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 160.70' / 160.40' S= 0.0094 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=160.97' TW=158.05' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.20 cfs @ 1.78 fps)

Summary for Pond 13P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf
Outflow = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.25' @ 12.08 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.83'	**6.0" Round Culvert** L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 157.83' / 157.60' S= 0.0115 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.30 cfs @ 12.07 hrs HW=158.24' TW=158.05' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.30 cfs @ 2.32 fps)

Summary for Pond 14P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf
Outflow = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.07 hrs, Volume= 1,031 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.32' @ 12.09 hrs
Flood Elev= 165.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.88'	**6.0" Round Culvert** L= 21.0' Ke= 0.500 Inlet / Outlet Invert= 156.88' / 156.60' S= 0.0133 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.28 cfs @ 12.07 hrs HW=157.31' TW=157.15' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.28 cfs @ 2.12 fps)

Summary for Pond 15P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 668 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 668 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 668 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.94' @ 12.07 hrs
Flood Elev= 164.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.66'	**6.0" Round Culvert** L= 34.0' Ke= 0.500

Inlet / Outlet Invert= 157.66' / 157.40' S= 0.0076 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=157.94' TW=157.15' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.20 cfs @ 2.51 fps)

Summary for Pond 16P: DMH

Inflow Area = 52,511 sf, 0.00% Impervious, Inflow Depth = 1.40" for NRCC 10YR 24H event
Inflow = 1.84 cfs @ 12.10 hrs, Volume= 6,136 cf
Outflow = 1.84 cfs @ 12.10 hrs, Volume= 6,136 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.84 cfs @ 12.10 hrs, Volume= 6,136 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.74' @ 12.10 hrs
Flood Elev= 162.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**12.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.50' S= 0.0294 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.83 cfs @ 12.10 hrs HW=159.74' TW=156.79' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.83 cfs @ 2.93 fps)

Summary for Pond 17P: DMH

Inflow Area = 150,788 sf, 14.52% Impervious, Inflow Depth = 1.87" for NRCC 10YR 24H event
Inflow = 6.20 cfs @ 12.11 hrs, Volume= 23,445 cf
Outflow = 6.20 cfs @ 12.11 hrs, Volume= 23,445 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.20 cfs @ 12.11 hrs, Volume= 23,445 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.49' @ 12.11 hrs
Flood Elev= 163.59'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.40'	**24.0" Round Culvert** L= 88.2' Ke= 0.500 Inlet / Outlet Invert= 159.40' / 155.50' S= 0.0442 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=6.19 cfs @ 12.11 hrs HW=160.49' TW=156.79' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.19 cfs @ 3.55 fps)

Summary for Pond 18P: DMH

Inflow Area = 128,888 sf, 0.00% Impervious, Inflow Depth = 1.40" for NRCC 10YR 24H event
Inflow = 4.12 cfs @ 12.13 hrs, Volume= 15,062 cf
Outflow = 4.12 cfs @ 12.13 hrs, Volume= 15,062 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.12 cfs @ 12.13 hrs, Volume= 15,062 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.48' @ 12.13 hrs
Flood Elev= 165.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.50'	**18.0" Round Culvert** L= 92.0' Ke= 0.500 Inlet / Outlet Invert= 161.50' / 159.50' S= 0.0217 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=4.12 cfs @ 12.13 hrs HW=162.48' TW=160.47' (Dynamic Tailwater)
1=Culvert (Inlet Controls 4.12 cfs @ 3.37 fps)

Summary for Pond 20P: DMH

Inflow Area = 102,433 sf, 12.46% Impervious, Inflow Depth = 1.72" for NRCC 10YR 24H event
Inflow = 4.64 cfs @ 12.09 hrs, Volume= 14,644 cf
Outflow = 4.64 cfs @ 12.09 hrs, Volume= 14,644 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.64 cfs @ 12.09 hrs, Volume= 14,644 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 152.92' @ 12.09 hrs
Flood Elev= 158.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**24.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 152.00' / 150.40' S= 0.0286 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=4.63 cfs @ 12.09 hrs HW=152.92' TW=151.82' (Dynamic Tailwater)
1=Culvert (Inlet Controls 4.63 cfs @ 3.27 fps)

Summary for Pond 21P: DMH

Inflow Area = 25,304 sf, 16.82% Impervious, Inflow Depth = 1.83" for NRCC 10YR 24H event
Inflow = 1.26 cfs @ 12.08 hrs, Volume= 3,869 cf
Outflow = 1.26 cfs @ 12.08 hrs, Volume= 3,869 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.08 hrs, Volume= 3,869 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.53' @ 12.08 hrs
Flood Elev= 157.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.94'	**12.0" Round Culvert** L= 62.0' Ke= 0.500 Inlet / Outlet Invert= 154.94' / 152.40' S= 0.0410 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.26 cfs @ 12.08 hrs HW=155.53' TW=152.92' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.26 cfs @ 2.62 fps)

Summary for Pond 22P: DMH

Inflow Area = 77,129 sf, 11.04% Impervious, Inflow Depth = 1.68" for NRCC 10YR 24H event
Inflow = 3.38 cfs @ 12.09 hrs, Volume= 10,775 cf
Outflow = 3.38 cfs @ 12.09 hrs, Volume= 10,775 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.38 cfs @ 12.09 hrs, Volume= 10,775 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.39' @ 12.09 hrs
Flood Elev= 158.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 155.50' / 155.00' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=3.38 cfs @ 12.09 hrs HW=156.39' TW=152.92' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.38 cfs @ 4.48 fps)

Summary for Pond 23P: OIL/WATER SEPARATOR

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 1.14 cfs @ 12.07 hrs, Volume= 3,870 cf
Outflow = 1.18 cfs @ 12.07 hrs, Volume= 3,869 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.18 cfs @ 12.07 hrs, Volume= 3,869 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 152.00' @ 12.09 hrs
Flood Elev= 159.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	141.80'	**12.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 141.80' / 140.10' S= 0.0093 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.06 cfs @ 12.07 hrs HW=151.96' TW=151.80' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.06 cfs @ 1.35 fps)

Summary for Pond 24P: DMH

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 1.14 cfs @ 12.07 hrs, Volume= 3,870 cf
Outflow = 1.14 cfs @ 12.07 hrs, Volume= 3,870 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.07 hrs, Volume= 3,870 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 152.07' @ 12.10 hrs
Flood Elev= 159.61'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.20'	**12.0" Round Culvert** L= 1.0' Ke= 0.500

Inlet / Outlet Invert= 150.20' / 150.10' S= 0.1000 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.07 hrs HW=151.98' TW=151.96' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.52 cfs @ 0.66 fps)

Summary for Pond 25P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 678 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 678 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 678 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 152.13' @ 12.11 hrs
Flood Elev= 159.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.89'	**6.0" Round Culvert** L= 58.0' Ke= 0.500 Inlet / Outlet Invert= 150.89' / 150.30' S= 0.0102 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.12 cfs @ 12.07 hrs HW=152.00' TW=151.98' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.12 cfs @ 0.60 fps)

Summary for Pond 26P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 678 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 678 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 678 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.26' @ 12.07 hrs
Flood Elev= 161.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.98'	**6.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 152.98' / 152.00' S= 0.0576 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=153.26' TW=151.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.20 cfs @ 1.79 fps)

Summary for Pond 27P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.74 cfs @ 12.07 hrs, Volume= 2,515 cf
Outflow = 0.74 cfs @ 12.07 hrs, Volume= 2,515 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.07 hrs, Volume= 2,515 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 154.34' @ 12.07 hrs
Flood Elev= 162.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**12.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 153.90' / 152.00' S= 0.0085 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.74 cfs @ 12.07 hrs HW=154.34' TW=151.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.74 cfs @ 2.25 fps)

Summary for Pond 28P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.74 cfs @ 12.07 hrs, Volume= 2,515 cf
Outflow = 0.74 cfs @ 12.07 hrs, Volume= 2,515 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.07 hrs, Volume= 2,515 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 154.84' @ 12.07 hrs
Flood Elev= 163.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.40'	**12.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 154.40' / 154.00' S= 0.0080 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.74 cfs @ 12.07 hrs HW=154.84' TW=154.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.74 cfs @ 3.22 fps)

Summary for Pond 29P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 678 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 678 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 678 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.23' @ 12.07 hrs
Flood Elev= 163.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.95'	**6.0" Round Culvert** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 154.95' / 154.50' S= 0.0643 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=155.23' TW=154.84' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.20 cfs @ 1.79 fps)

Summary for Pond 30P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 1,837 cf
Outflow = 0.54 cfs @ 12.07 hrs, Volume= 1,837 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.07 hrs, Volume= 1,837 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.77' @ 12.07 hrs
Flood Elev= 165.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.40'	**12.0" Round Culvert** L= 98.0' Ke= 0.500 Inlet / Outlet Invert= 160.40' / 159.50' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.07 hrs HW=160.77' TW=154.84' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.54 cfs @ 2.06 fps)

Summary for Pond 31P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 1,837 cf
Outflow = 0.54 cfs @ 12.07 hrs, Volume= 1,837 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.07 hrs, Volume= 1,837 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.27' @ 12.07 hrs
Flood Elev= 168.53'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.90'	**12.0" Round Culvert** L= 232.0' Ke= 0.500 Inlet / Outlet Invert= 161.90' / 160.50' S= 0.0060 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.07 hrs HW=162.27' TW=160.77' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.54 cfs @ 2.98 fps)

Summary for Pond 32P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.18 cfs @ 12.07 hrs, Volume= 612 cf
Outflow = 0.18 cfs @ 12.07 hrs, Volume= 612 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.07 hrs, Volume= 612 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.70' @ 12.07 hrs
Flood Elev= 170.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.44'	**6.0" Round Culvert** L= 10.0' Ke= 0.500

Inlet / Outlet Invert= 162.44' / 162.20' S= 0.0240 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.18 cfs @ 12.07 hrs HW=162.70' TW=162.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.18 cfs @ 1.74 fps)

Summary for Pond 33P: DMH

Inflow Area = 3,200 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.36 cfs @ 12.07 hrs, Volume= 1,225 cf
Outflow = 0.36 cfs @ 12.07 hrs, Volume= 1,225 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.07 hrs, Volume= 1,225 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.50' @ 12.07 hrs
Flood Elev= 170.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.20'	**12.0" Round Culvert** L= 159.0' Ke= 0.500 Inlet / Outlet Invert= 163.20' / 162.00' S= 0.0075 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.36 cfs @ 12.07 hrs HW=163.50' TW=162.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.36 cfs @ 1.85 fps)

Summary for Pond 34P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.18 cfs @ 12.07 hrs, Volume= 612 cf
Outflow = 0.18 cfs @ 12.07 hrs, Volume= 612 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.07 hrs, Volume= 612 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.69' @ 12.07 hrs
Flood Elev= 171.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.43'	**6.0" Round Culvert** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 163.43' / 163.30' S= 0.0162 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.18 cfs @ 12.07 hrs HW=163.69' TW=163.50' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.18 cfs @ 2.53 fps)

Summary for Pond 35P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 4.59" for NRCC 10YR 24H event
Inflow = 0.18 cfs @ 12.07 hrs, Volume= 612 cf
Outflow = 0.18 cfs @ 12.07 hrs, Volume= 612 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.07 hrs, Volume= 612 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.65' @ 12.07 hrs
Flood Elev= 172.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	164.39'	**6.0" Round Culvert** L= 38.0' Ke= 0.500 Inlet / Outlet Invert= 164.39' / 164.00' S= 0.0103 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.18 cfs @ 12.07 hrs HW=164.65' TW=163.50' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.18 cfs @ 1.74 fps)

Summary for Pond 40P: DMH

Inflow Area = 105,170 sf, 0.00% Impervious, Inflow Depth = 0.85" for NRCC 10YR 24H event
Inflow = 1.35 cfs @ 12.09 hrs, Volume= 7,429 cf
Outflow = 1.35 cfs @ 12.09 hrs, Volume= 7,429 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.35 cfs @ 12.09 hrs, Volume= 7,429 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.40' @ 12.12 hrs
Flood Elev= 160.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	158.00'	**24.0" W x 12.0" H Box Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 158.00' / 157.70' S= 0.0300 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=1.31 cfs @ 12.09 hrs HW=158.40' TW=158.24' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 1.31 cfs @ 1.65 fps)

Summary for Pond 41P: CULVERT

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 0.51" for NRCC 10YR 24H event
Inflow = 0.53 cfs @ 12.27 hrs, Volume= 3,720 cf
Outflow = 0.53 cfs @ 12.27 hrs, Volume= 3,720 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.27 hrs, Volume= 3,720 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.19' @ 12.27 hrs
Flood Elev= 161.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**24.0" W x 12.0" H Box Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.00' S= 0.0182 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=0.53 cfs @ 12.27 hrs HW=159.19' TW=158.37' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.53 cfs @ 1.40 fps)

Summary for Link 1L: OVERFLOW

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 0.00" for NRCC 10YR 24H event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Link 10L: OFF-SITE

Inflow Area = 258,650 sf, 0.00% Impervious, Inflow Depth = 0.02" for NRCC 10YR 24H event
Inflow = 0.01 cfs @ 22.05 hrs, Volume= 332 cf
Primary = 0.01 cfs @ 22.05 hrs, Volume= 332 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: AREA OUTSIDE Runoff Area=258,650 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=32 Runoff=0.00 cfs 0 cf

Subcatchment 2S: AREA OUTSIDE Runoff Area=285,632 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=491' Tc=12.3 min CN=31 Runoff=0.00 cfs 0 cf

Subcatchment 3S: S SWALE 1 Runoff Area=21,901 sf 0.00% Impervious Runoff Depth=0.31"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=56 Runoff=0.07 cfs 563 cf

Subcatchment 4S: S SWALE 2 Runoff Area=37,407 sf 0.00% Impervious Runoff Depth=0.01"
Tc=5.0 min CN=41 Runoff=0.00 cfs 36 cf

Subcatchment 5S: S SWALE 3 Runoff Area=28,531 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=48 Runoff=0.01 cfs 251 cf

Subcatchment 6S: ACCESS RAMP Runoff Area=17,331 sf 0.00% Impervious Runoff Depth=1.34"
Tc=5.0 min CN=78 Runoff=0.64 cfs 1,935 cf

Subcatchment 7S: S SWALE 4 Runoff Area=20,291 sf 0.00% Impervious Runoff Depth=0.56"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=63 Runoff=0.20 cfs 947 cf

Subcatchment 8S: N SWALE 1 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=1.47"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=80 Runoff=0.62 cfs 1,935 cf

Subcatchment 9S: N SWALE 2 Runoff Area=14,101 sf 0.00% Impervious Runoff Depth=1.68"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=0.63 cfs 1,978 cf

Subcatchment 10S: N SWALE 3 Runoff Area=12,739 sf 0.00% Impervious Runoff Depth=1.68"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=0.57 cfs 1,787 cf

Subcatchment 11S: NW PERF. DRAIN Runoff Area=45,853 sf 0.00% Impervious Runoff Depth=0.56"
Flow Length=660' Slope=0.0200 '/' Tc=6.0 min CN=63 Runoff=0.51 cfs 2,140 cf

Subcatchment 12S: CENTRAL PERF. DRAIN Runoff Area=6,658 sf 0.00% Impervious Runoff Depth=0.56"
Tc=5.0 min CN=63 Runoff=0.08 cfs 311 cf

Subcatchment 13S: GIS BUILDINGS Runoff Area=21,900 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=1.66 cfs 5,579 cf

Subcatchment 14S: GIS BLDGS PERF Runoff Area=74,801 sf 0.00% Impervious Runoff Depth=0.56"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=0.76 cfs 3,492 cf

Subcatchment 15S: CENTRAL PERF. DRAIN Runoff Area=54,087 sf 0.00% Impervious Runoff Depth=0.56"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=0.55 cfs 2,525 cf

Subcatchment 16S: N PERF. DRAIN Runoff Area=35,583 sf 0.57% Impervious Runoff Depth=0.56"
Tc=5.0 min CN=63 Runoff=0.41 cfs 1,661 cf

Subcatchment 17S: SE PERF. DRAIN 1 Runoff Area=41,546 sf 20.00% Impervious Runoff Depth=0.88"
Flow Length=425' Slope=0.0200 '/' Tc=5.9 min CN=70 Runoff=0.89 cfs 3,050 cf

Subcatchment 18S: SE PERF. DRAIN 2 Runoff Area=25,304 sf 16.82% Impervious Runoff Depth=0.83"
Tc=5.0 min CN=69 Runoff=0.52 cfs 1,752 cf

Subcatchment 20S: SR4 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.13 cfs 445 cf

Subcatchment 21S: XFMR 1 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.20 cfs 686 cf

Subcatchment 22S: SR5 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.13 cfs 445 cf

Subcatchment 23S: XFMR 2 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.20 cfs 686 cf

Subcatchment 24S: XFMR 3 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.20 cfs 686 cf

Subcatchment 25S: SR6 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.13 cfs 445 cf

Subcatchment 26S: SR1 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.12 cfs 408 cf

Subcatchment 27S: SR2 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.12 cfs 408 cf

Subcatchment 28S: SR3 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.12 cfs 408 cf

Subcatchment 29S: STATCOM 1 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.13 cfs 451 cf

Subcatchment 30S: STATCOM 2 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.13 cfs 451 cf

Subcatchment 31S: STATCOM 3 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=3.06"
Tc=5.0 min CN=98 Runoff=0.13 cfs 451 cf

Reach 1R: S SWALE PART 1 Avg. Flow Depth=0.15' Max Vel=1.00 fps Inflow=0.07 cfs 563 cf
n=0.030 L=309.0' S=0.0137 '/' Capacity=10.56 cfs Outflow=0.07 cfs 563 cf

Reach 2R: S SWALE PART 2 Avg. Flow Depth=0.14' Max Vel=1.14 fps Inflow=0.07 cfs 599 cf
n=0.030 L=257.3' S=0.0195 '/' Capacity=12.62 cfs Outflow=0.07 cfs 599 cf

Reach 3R: S SWALE PART 3 Avg. Flow Depth=0.15' Max Vel=1.01 fps Inflow=0.07 cfs 850 cf
n=0.030 L=329.0' S=0.0142 '/' Capacity=10.77 cfs Outflow=0.07 cfs 850 cf

Reach 4R: S SWALE PART 4 Avg. Flow Depth=0.40' Max Vel=1.40 fps Inflow=0.78 cfs 3,732 cf
n=0.030 L=367.8' S=0.0073 '/' Capacity=9.98 cfs Outflow=0.68 cfs 3,732 cf

Reach 5R: DRAINAGE CHANNEL Avg. Flow Depth=0.13' Max Vel=2.65 fps Inflow=6.76 cfs 26,478 cf
n=0.078 L=175.0' S=0.3086 '/' Capacity=198.63 cfs Outflow=6.70 cfs 26,478 cf

Reach 11R: N SWALE PART 1 Avg. Flow Depth=0.32' Max Vel=1.75 fps Inflow=0.62 cfs 1,935 cf
n=0.030 L=447.0' S=0.0153 '/' Capacity=11.19 cfs Outflow=0.54 cfs 1,935 cf

Reach 12R: N SWALE PART 2 Avg. Flow Depth=0.42' Max Vel=1.97 fps Inflow=1.13 cfs 3,913 cf
n=0.030 L=431.0' S=0.0137 '/' Capacity=10.59 cfs Outflow=1.03 cfs 3,913 cf

Reach 13R: N SWALE PART 3 Avg. Flow Depth=0.48' Max Vel=2.11 fps Inflow=1.53 cfs 5,700 cf
n=0.030 L=386.0' S=0.0131 '/' Capacity=10.33 cfs Outflow=1.45 cfs 5,700 cf

Pond 1P: DETENTION AREA - LOCALIZED Peak Elev=86.09' Storage=12,721 cf Inflow=6.70 cfs 26,478 cf
Discarded=0.47 cfs 26,478 cf Primary=0.00 cfs 0 cf Outflow=0.47 cfs 26,478 cf

Pond 2P: SEDIMENT FOREBAY Peak Elev=148.32' Storage=4,904 cf Inflow=2.11 cfs 9,431 cf
Discarded=0.12 cfs 9,433 cf Primary=0.00 cfs 0 cf Outflow=0.12 cfs 9,433 cf

Pond 3P: DMHs w/ Vortex Unit Peak Elev=148.98' Inflow=6.76 cfs 26,478 cf
36.0" Round Culvert n=0.011 L=25.0' S=0.1200 '/' Outflow=6.76 cfs 26,478 cf

Pond 4P: DMH Peak Elev=151.28' Inflow=6.76 cfs 26,478 cf
36.0" Round Culvert n=0.011 L=36.0' S=0.0639 '/' Outflow=6.76 cfs 26,478 cf

Pond 5P: DMH Peak Elev=156.27' Inflow=4.21 cfs 17,440 cf
24.0" Round Culvert n=0.011 L=263.0' S=0.0186 '/' Outflow=4.21 cfs 17,440 cf

Pond 6P: OIL/WATER SEPARATOR Peak Elev=156.43' Inflow=1.01 cfs 3,393 cf
24.0" Round Culvert n=0.012 L=27.0' S=0.0148 '/' Outflow=1.01 cfs 3,393 cf

Pond 7P: DMH Peak Elev=156.92' Inflow=1.01 cfs 3,393 cf
12.0" Round Culvert n=0.011 L=40.0' S=0.0100 '/' Outflow=1.01 cfs 3,393 cf

Pond 8P: DMH Peak Elev=157.93' Inflow=0.67 cfs 2,262 cf
12.0" Round Culvert n=0.011 L=154.0' S=0.0065 '/' Outflow=0.67 cfs 2,262 cf

Pond 9P: DMH Peak Elev=159.59' Inflow=0.34 cfs 1,131 cf
12.0" Round Culvert n=0.011 L=141.0' S=0.0092 '/' Outflow=0.34 cfs 1,131 cf

Pond 10P: 24" Petro-Barrier Peak Elev=162.65' Inflow=0.13 cfs 445 cf
6.0" Round Culvert n=0.010 L=30.0' S=0.0143 '/' Outflow=0.13 cfs 445 cf

Pond 11P: 24" Petro-Barrier Peak Elev=159.90' Inflow=0.20 cfs 686 cf
6.0" Round Culvert n=0.010 L=18.0' S=0.0122 '/' Outflow=0.20 cfs 686 cf

Pond 12P: 24" Petro-Barrier Peak Elev=160.92' Inflow=0.13 cfs 445 cf
6.0" Round Culvert n=0.010 L=32.0' S=0.0094 '/' Outflow=0.13 cfs 445 cf

Pond 13P: 24" Petro-Barrier Peak Elev=158.14' Inflow=0.20 cfs 686 cf
6.0" Round Culvert n=0.010 L=20.0' S=0.0115 '/' Outflow=0.20 cfs 686 cf

Pond 14P: 24" Petro-Barrier Peak Elev=157.17' Inflow=0.20 cfs 686 cf
6.0" Round Culvert n=0.010 L=21.0' S=0.0133 '/' Outflow=0.20 cfs 686 cf

Pond 15P: 24" Petro-Barrier Peak Elev=157.88' Inflow=0.13 cfs 445 cf
6.0" Round Culvert n=0.010 L=34.0' S=0.0076 '/' Outflow=0.13 cfs 445 cf

Pond 16P: DMH Peak Elev=159.38' Inflow=0.58 cfs 2,451 cf
12.0" Round Culvert n=0.011 L=17.0' S=0.0294 '/' Outflow=0.58 cfs 2,451 cf

Pond 17P: DMH Peak Elev=160.08' Inflow=2.68 cfs 11,596 cf
24.0" Round Culvert n=0.011 L=88.2' S=0.0442 '/' Outflow=2.68 cfs 11,596 cf

Pond 18P: DMH Peak Elev=162.01' Inflow=1.30 cfs 6,017 cf
18.0" Round Culvert n=0.011 L=92.0' S=0.0217 '/' Outflow=1.30 cfs 6,017 cf

Pond 20P: DMH Peak Elev=152.56' Inflow=1.82 cfs 6,463 cf
24.0" Round Culvert n=0.011 L=56.0' S=0.0286 '/' Outflow=1.82 cfs 6,463 cf

Pond 21P: DMH Peak Elev=155.30' Inflow=0.52 cfs 1,752 cf
12.0" Round Culvert n=0.011 L=62.0' S=0.0410 '/' Outflow=0.52 cfs 1,752 cf

Pond 22P: DMH Peak Elev=156.01' Inflow=1.30 cfs 4,711 cf
18.0" Round Culvert n=0.011 L=56.0' S=0.0089 '/' Outflow=1.30 cfs 4,711 cf

Pond 23P: OIL/WATER SEPARATOR Peak Elev=151.35' Inflow=0.78 cfs 2,576 cf
12.0" Round Culvert n=0.011 L=182.0' S=0.0093 '/' Outflow=0.77 cfs 2,575 cf

Pond 24P: DMH Peak Elev=151.39' Inflow=0.77 cfs 2,576 cf
12.0" Round Culvert n=0.011 L=1.0' S=0.1000 '/' Outflow=0.78 cfs 2,576 cf

Pond 25P: 24" Petro-Barrier Peak Elev=151.42' Inflow=0.13 cfs 451 cf
6.0" Round Culvert n=0.010 L=58.0' S=0.0102 '/' Outflow=0.13 cfs 451 cf

Pond 26P: 24" Petro-Barrier Peak Elev=153.20' Inflow=0.13 cfs 451 cf
6.0" Round Culvert n=0.010 L=17.0' S=0.0576 '/' Outflow=0.13 cfs 451 cf

Pond 27P: DMH Peak Elev=154.25' Inflow=0.50 cfs 1,674 cf
12.0" Round Culvert n=0.011 L=224.0' S=0.0085 '/' Outflow=0.50 cfs 1,674 cf

Pond 28P: DMH Peak Elev=154.76' Inflow=0.50 cfs 1,674 cf
12.0" Round Culvert n=0.011 L=50.0' S=0.0080 '/' Outflow=0.50 cfs 1,674 cf

Pond 29P: 24" Petro-Barrier Peak Elev=155.17' Inflow=0.13 cfs 451 cf
6.0" Round Culvert n=0.010 L=7.0' S=0.0643 '/' Outflow=0.13 cfs 451 cf

Pond 30P: DMH Peak Elev=160.70' Inflow=0.36 cfs 1,223 cf
12.0" Round Culvert n=0.011 L=98.0' S=0.0092 '/' Outflow=0.36 cfs 1,223 cf

Pond 31P: DMH Peak Elev=162.21' Inflow=0.36 cfs 1,223 cf
12.0" Round Culvert n=0.011 L=232.0' S=0.0060 '/' Outflow=0.36 cfs 1,223 cf

Pond 32P: 24" Petro-Barrier Peak Elev=162.65' Inflow=0.12 cfs 408 cf
6.0" Round Culvert n=0.010 L=10.0' S=0.0240 '/' Outflow=0.12 cfs 408 cf

Pond 33P: DMH Peak Elev=163.44' Inflow=0.24 cfs 815 cf
12.0" Round Culvert n=0.011 L=159.0' S=0.0075 '/' Outflow=0.24 cfs 815 cf

Pond 34P: 24" Petro-Barrier Peak Elev=163.64' Inflow=0.12 cfs 408 cf
6.0" Round Culvert n=0.010 L=8.0' S=0.0162 '/' Outflow=0.12 cfs 408 cf

Pond 35P: 24" Petro-Barrier Peak Elev=164.60' Inflow=0.12 cfs 408 cf
6.0" Round Culvert n=0.010 L=38.0' S=0.0103 '/' Outflow=0.12 cfs 408 cf

Pond 40P: DMH Peak Elev=158.22' Inflow=0.64 cfs 2,784 cf
24.0" x 12.0" Box Culvert n=0.011 L=10.0' S=0.0300 '/' Outflow=0.64 cfs 2,784 cf

Pond 41P: CULVERT Peak Elev=159.05' Inflow=0.07 cfs 850 cf
24.0" x 12.0" Box Culvert n=0.011 L=55.0' S=0.0182 '/' Outflow=0.07 cfs 850 cf

Link 1L: OVERFLOW Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 10L: OFF-SITE Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 35,910 cf Average Runoff Depth = 0.41"
94.42% Pervious = 983,426 sf 5.58% Impervious = 58,094 sf

Summary for Subcatchment 1S: AREA OUTSIDE SUBSTATION - NOT TO POND

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
179,269	30	Woods, Good, HSG A
72,994	30	Meadow, non-grazed, HSG A
6,387	96	Gravel surface, HSG A
258,650	32	Weighted Average
258,650		100.00% Pervious Area

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

Summary for Subcatchment 2S: AREA OUTSIDE SUBSTATION - TO POND

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
206,991	30	Woods, Good, HSG A
72,294	30	Meadow, non-grazed, HSG A
6,347	96	Gravel surface, HSG A
285,632	31	Weighted Average
285,632		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.5000	0.25		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	441	0.1100	0.83		**Shallow Concentrated Flow, Shallow Conc** Forest w/Heavy Litter Kv= 2.5 fps
12.3	491	Total			

Summary for Subcatchment 3S: S SWALE 1

Runoff = 0.07 cfs @ 12.29 hrs, Volume= 563 cf, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	3,599	63	Crushed Stone Surface, HSG A
	6,746	96	Gravel surface, HSG A
	7,202	30	Woods, Good, HSG A
	4,354	30	Meadow, non-grazed, HSG A
	21,901	56	Weighted Average
	21,901		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 4S: S SWALE 2

Runoff = 0.00 cfs @ 21.85 hrs, Volume= 36 cf, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
	5,160	96	Gravel surface, HSG A
*	2,578	63	Crushed Stone Surface, HSG A
	20,025	30	Woods, Good, HSG A
	9,644	30	Meadow, non-grazed, HSG A
	37,407	41	Weighted Average
	37,407		100.00% Pervious Area

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

Summary for Subcatchment 5S: S SWALE 3

Runoff = 0.01 cfs @ 13.77 hrs, Volume= 251 cf, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	3,335	63	Crushed Stone Surface, HSG A
	7,061	30	Woods, Good, HSG A
	6,315	96	Gravel surface, HSG A
	11,820	30	Meadow, non-grazed, HSG A
	28,531	48	Weighted Average
	28,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 6S: ACCESS RAMP

Runoff = 0.64 cfs @ 12.08 hrs, Volume= 1,935 cf, Depth= 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
12,617	96	Gravel surface, HSG A
1,094	30	Woods, Good, HSG A
3,620	30	Meadow, non-grazed, HSG A
17,331	78	Weighted Average
17,331		100.00% Pervious Area

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

Summary for Subcatchment 7S: S SWALE 4

Runoff = 0.20 cfs @ 12.16 hrs, Volume= 947 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
* 6,230	63	Crushed Stone Surface, HSG A
7,051	96	Gravel surface, HSG A
7,010	30	Meadow, non-grazed, HSG A
20,291	63	Weighted Average
20,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 8S: N SWALE 1

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 1,935 cf, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	4,949	63	Crushed Stone Surface, HSG A
	9,543	96	Gravel surface, HSG A
	1,286	30	Meadow, non-grazed, HSG A
	15,778	80	Weighted Average
	15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 9S: N SWALE 2

Runoff = 0.63 cfs @ 12.09 hrs, Volume= 1,978 cf, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	5,475	63	Crushed Stone Surface, HSG A
	8,626	96	Gravel surface, HSG A
	14,101	83	Weighted Average
	14,101		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 10S: N SWALE 3

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 1,787 cf, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	4,958	63	Crushed Stone Surface, HSG A
	7,781	96	Gravel surface, HSG A
	12,739	83	Weighted Average
	12,739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 11S: NW PERF. DRAIN

Runoff = 0.51 cfs @ 12.11 hrs, Volume= 2,140 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	45,853	63	Crushed Stone Surface, HSG A
	45,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.0	255	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
0.7	355	0.0200	8.34	6.55	**Pipe Channel, Perf Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
6.0	660	Total			

Summary for Subcatchment 12S: CENTRAL PERF. DRAIN 2

Runoff = 0.08 cfs @ 12.10 hrs, Volume= 311 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	6,658	63	Crushed Stone Surface, HSG A
	6,658		100.00% Pervious Area

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

Summary for Subcatchment 13S: GIS BUILDINGS

Runoff = 1.66 cfs @ 12.07 hrs, Volume= 5,579 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
21,900	98	Roofs, HSG A
21,900		100.00% Impervious Area

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

Summary for Subcatchment 14S: GIS BLDGS PERF DRAIN

Runoff = 0.76 cfs @ 12.15 hrs, Volume= 3,492 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	74,801	63	Crushed Stone Surface, HSG A
	74,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 15S: CENTRAL PERF. DRAIN 1

Runoff = 0.55 cfs @ 12.15 hrs, Volume= 2,525 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	54,087	63	Crushed Stone Surface, HSG A
	54,087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 16S: N PERF. DRAIN

Runoff = 0.41 cfs @ 12.10 hrs, Volume= 1,661 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
*	35,381	63	Crushed Stone Surface, HSG A
	202	98	Roofs, HSG A
	35,583	63	Weighted Average
	35,381		99.43% Pervious Area
	202		0.57% Impervious Area

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

Summary for Subcatchment 17S: SE PERF. DRAIN 1

Runoff = 0.89 cfs @ 12.10 hrs, Volume= 3,050 cf, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
	8,310	98	Roofs, HSG A
*	33,236	63	Crushed Stone Surface, HSG A
	41,546	70	Weighted Average
	33,236		80.00% Pervious Area
	8,310		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.5	300	0.0200	1.41		**Shallow Concentrated Flow, Shallow** Nearly Bare & Untilled Kv= 10.0 fps
0.1	75	0.0200	8.34	6.55	**Pipe Channel, Perf. Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.9	425	Total			

Summary for Subcatchment 18S: SE PERF. DRAIN 2

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 1,752 cf, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

	Area (sf)	CN	Description
	4,255	98	Roofs, HSG A
*	21,049	63	Crushed Stone Surface, HSG A
	25,304	69	Weighted Average
	21,049		83.18% Pervious Area
	4,255		16.82% Impervious Area

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

Summary for Subcatchment 20S: SR4

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 445 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 21S: XFMR 1

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 686 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 22S: SR5

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 445 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 23S: XFMR 2

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 686 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 24S: XFMR 3

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 686 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 25S: SR6

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 445 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 26S: SR1

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 408 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 27S: SR2

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 408 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 28S: SR3

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 408 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 29S: STATCOM 1 TRANSFORMER

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 451 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 30S: STATCOM 2 TRANSFORMER

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 451 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 31S: STATCOM 3 TRANSFORMER

Runoff = 0.13 cfs @ 12.07 hrs, Volume= 451 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr NRCC 2YR 24H Rainfall=3.29"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

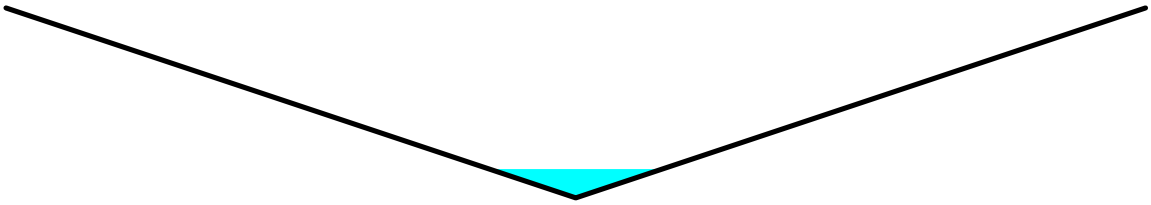
Summary for Reach 1R: S SWALE PART 1

Inflow Area = 21,901 sf, 0.00% Impervious, Inflow Depth = 0.31" for NRCC 2YR 24H event
Inflow = 0.07 cfs @ 12.29 hrs, Volume= 563 cf
Outflow = 0.07 cfs @ 12.37 hrs, Volume= 563 cf, Atten= 4%, Lag= 4.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.00 fps, Min. Travel Time= 5.1 min
Avg. Velocity = 0.58 fps, Avg. Travel Time= 8.8 min

Peak Storage= 21 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.15'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.49 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.56 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 309.0' Slope= 0.0137 '/'
Inlet Invert= 174.13', Outlet Invert= 169.91'



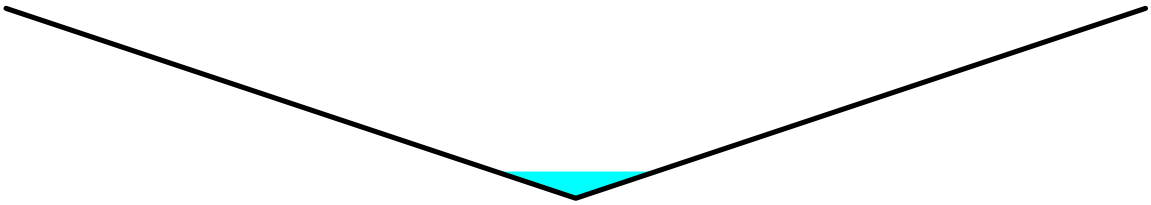
Summary for Reach 2R: S SWALE PART 2

Inflow Area = 59,308 sf, 0.00% Impervious, Inflow Depth = 0.12" for NRCC 2YR 24H event
Inflow = 0.07 cfs @ 12.37 hrs, Volume= 599 cf
Outflow = 0.07 cfs @ 12.42 hrs, Volume= 599 cf, Atten= 2%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 3.8 min
Avg. Velocity = 0.67 fps, Avg. Travel Time= 6.4 min

Peak Storage= 15 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.14'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 46.01 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 12.62 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 257.3' Slope= 0.0195 '/'
Inlet Invert= 169.90', Outlet Invert= 164.88'



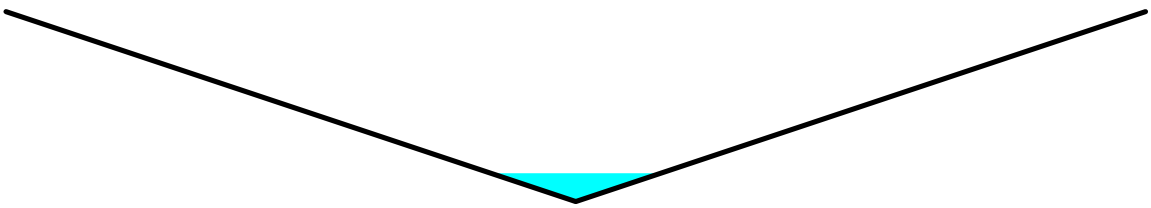
Summary for Reach 3R: S SWALE PART 3

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 0.12" for NRCC 2YR 24H event
Inflow = 0.07 cfs @ 12.46 hrs, Volume= 850 cf
Outflow = 0.07 cfs @ 12.53 hrs, Volume= 850 cf, Atten= 4%, Lag= 4.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.01 fps, Min. Travel Time= 5.4 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 8.6 min

Peak Storage= 22 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.15'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 39.24 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.77 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 329.0' Slope= 0.0142 '/'
Inlet Invert= 164.80', Outlet Invert= 160.13'



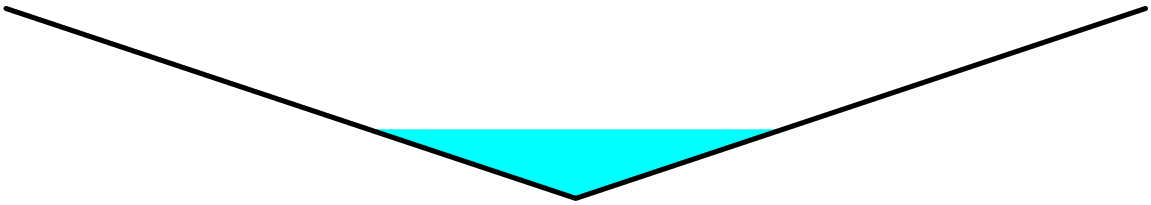
Summary for Reach 4R: S SWALE PART 4

Inflow Area = 125,461 sf, 0.00% Impervious, Inflow Depth = 0.36" for NRCC 2YR 24H event
Inflow = 0.78 cfs @ 12.09 hrs, Volume= 3,732 cf
Outflow = 0.68 cfs @ 12.14 hrs, Volume= 3,732 cf, Atten= 13%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.40 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 0.61 fps, Avg. Travel Time= 10.1 min

Peak Storage= 177 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.40'
Defined Flood Depth= 2.00' Flow Area= 9.5 sf, Capacity= 31.59 cfs
Bank-Full Depth= 1.10' Flow Area= 3.6 sf, Capacity= 9.98 cfs

0.00' x 1.10' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.60'
Length= 367.8' Slope= 0.0073 '/'
Inlet Invert= 157.70', Outlet Invert= 155.00'



Summary for Reach 5R: DRAINAGE CHANNEL

Inflow Area = 497,238 sf, 11.68% Impervious, Inflow Depth = 0.64" for NRCC 2YR 24H event
Inflow = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf
Outflow = 6.70 cfs @ 12.10 hrs, Volume= 26,478 cf, Atten= 1%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.65 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.70 fps, Avg. Travel Time= 4.2 min

Peak Storage= 443 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.13'
Defined Flood Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs

20.00' x 1.00' deep channel, n= 0.078 Riprap, 12-inch
Length= 175.0' Slope= 0.3086 '/'
Inlet Invert= 145.00', Outlet Invert= 91.00'

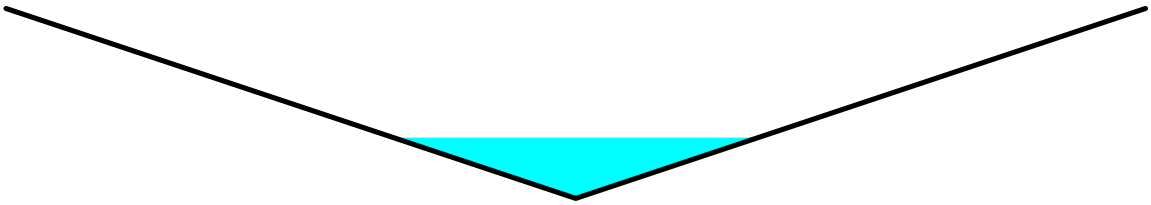
Summary for Reach 11R: N SWALE PART 1

Inflow Area = 15,778 sf, 0.00% Impervious, Inflow Depth = 1.47" for NRCC 2YR 24H event
Inflow = 0.62 cfs @ 12.09 hrs, Volume= 1,935 cf
Outflow = 0.54 cfs @ 12.14 hrs, Volume= 1,935 cf, Atten= 13%, Lag= 2.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.75 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 0.71 fps, Avg. Travel Time= 10.5 min

Peak Storage= 138 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.32'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 40.78 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.19 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 447.0' Slope= 0.0153 '/'
Inlet Invert= 174.03', Outlet Invert= 167.18'



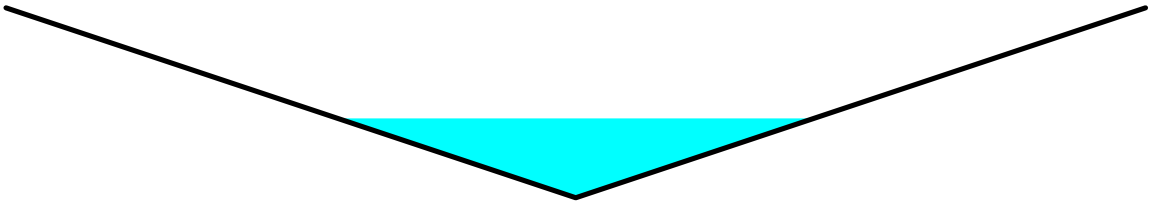
Summary for Reach 12R: N SWALE PART 2

Inflow Area = 29,879 sf, 0.00% Impervious, Inflow Depth = 1.57" for NRCC 2YR 24H event
Inflow = 1.13 cfs @ 12.11 hrs, Volume= 3,913 cf
Outflow = 1.03 cfs @ 12.16 hrs, Volume= 3,913 cf, Atten= 9%, Lag= 2.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.97 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 9.5 min

Peak Storage= 226 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.42'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.60 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.59 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 431.0' Slope= 0.0137 '/'
Inlet Invert= 167.10', Outlet Invert= 161.18'



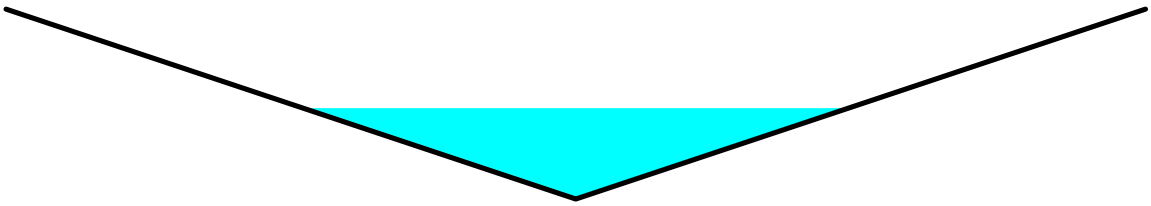
Summary for Reach 13R: N SWALE PART 3

Inflow Area = 42,618 sf, 0.00% Impervious, Inflow Depth = 1.60" for NRCC 2YR 24H event
Inflow = 1.53 cfs @ 12.13 hrs, Volume= 5,700 cf
Outflow = 1.45 cfs @ 12.17 hrs, Volume= 5,700 cf, Atten= 5%, Lag= 2.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.11 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.79 fps, Avg. Travel Time= 8.1 min

Peak Storage= 265 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.48'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 37.64 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.33 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 386.0' Slope= 0.0131 '/'
Inlet Invert= 161.10', Outlet Invert= 156.06'



Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 0.41" for NRCC 2YR 24H event
Inflow = 6.70 cfs @ 12.10 hrs, Volume= 26,478 cf
Outflow = 0.47 cfs @ 15.13 hrs, Volume= 26,478 cf, Atten= 93%, Lag= 181.7 min
Discarded = 0.47 cfs @ 15.13 hrs, Volume= 26,478 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 86.09' @ 15.13 hrs Surf.Area= 8,395 sf Storage= 12,721 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 351.3 min (1,187.3 - 836.0)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	125,742 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)
83.00	827	135.0	0	0	827
84.00	2,756	217.0	1,698	1,698	3,131
85.00	5,016	298.0	3,830	5,528	6,460
86.00	8,057	383.0	6,477	12,004	11,079
87.00	12,347	488.0	10,126	22,130	18,370
88.00	17,968	589.0	15,070	37,200	27,043
89.00	25,096	690.0	21,433	58,633	37,342
90.00	33,858	865.0	29,368	88,001	59,011
91.00	41,761	936.1	37,740	125,742	69,242

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	90.60'	**50.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.47 cfs @ 15.13 hrs HW=86.09' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.47 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=83.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: SEDIMENT FOREBAY

Inflow Area = 168,079 sf, 0.00% Impervious, Inflow Depth = 0.67" for NRCC 2YR 24H event
Inflow = 2.11 cfs @ 12.16 hrs, Volume= 9,431 cf
Outflow = 0.12 cfs @ 16.35 hrs, Volume= 9,433 cf, Atten= 94%, Lag= 251.0 min
Discarded = 0.12 cfs @ 16.35 hrs, Volume= 9,433 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 148.32' @ 16.35 hrs Surf.Area= 2,238 sf Storage= 4,904 cf
Flood Elev= 151.00' Surf.Area= 2,531 sf Storage= 11,301 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 423.8 min (1,292.8 - 868.9)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	22,348 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	2,000	0	0	2,000
155.00	3,000	22,348	22,348	3,876

Device	Routing	Invert	Outlet Devices
#1	Discarded	146.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	150.00'	**20.0' long x 2.0' 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
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.12 cfs @ 16.35 hrs HW=148.32' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=146.00' TW=145.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: DMHs w/ Vortex Unit

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 0.97" for NRCC 2YR 24H event
Inflow = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf
Outflow = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 148.98' @ 12.09 hrs
Flood Elev= 151.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	148.00'	**36.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 148.00' / 145.00' S= 0.1200 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=6.75 cfs @ 12.09 hrs HW=148.98' TW=145.13' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.75 cfs @ 3.37 fps)

Summary for Pond 4P: DMH

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 0.97" for NRCC 2YR 24H event
Inflow = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf
Outflow = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.76 cfs @ 12.09 hrs, Volume= 26,478 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 151.28' @ 12.09 hrs
Flood Elev= 158.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.30'	**36.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 150.30' / 148.00' S= 0.0639 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=6.75 cfs @ 12.09 hrs HW=151.28' TW=148.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.75 cfs @ 3.37 fps)

Summary for Pond 5P: DMH

Inflow Area = 216,616 sf, 16.26% Impervious, Inflow Depth = 0.97" for NRCC 2YR 24H event
Inflow = 4.21 cfs @ 12.09 hrs, Volume= 17,440 cf
Outflow = 4.21 cfs @ 12.09 hrs, Volume= 17,440 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.21 cfs @ 12.09 hrs, Volume= 17,440 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.27' @ 12.09 hrs
Flood Elev= 161.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.40'	**24.0" Round Culvert** L= 263.0' Ke= 0.500 Inlet / Outlet Invert= 155.40' / 150.50' S= 0.0186 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=4.20 cfs @ 12.09 hrs HW=156.27' TW=151.28' (Dynamic Tailwater)
1=Culvert (Inlet Controls 4.20 cfs @ 3.18 fps)

Summary for Pond 6P: OIL/WATER SEPARATOR

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 1.01 cfs @ 12.07 hrs, Volume= 3,393 cf
Outflow = 1.01 cfs @ 12.07 hrs, Volume= 3,393 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.01 cfs @ 12.07 hrs, Volume= 3,393 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.43' @ 12.09 hrs
Flood Elev= 162.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.90'	**24.0" Round Culvert** L= 27.0' Ke= 0.500 Inlet / Outlet Invert= 155.90' / 155.50' S= 0.0148 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.96 cfs @ 12.07 hrs HW=156.43' TW=156.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.96 cfs @ 2.19 fps)

Summary for Pond 7P: DMH

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 1.01 cfs @ 12.07 hrs, Volume= 3,393 cf
Outflow = 1.01 cfs @ 12.07 hrs, Volume= 3,393 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.01 cfs @ 12.07 hrs, Volume= 3,393 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.92' @ 12.08 hrs
Flood Elev= 162.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.40'	**12.0" Round Culvert** L= 40.0' Ke= 0.500

Inlet / Outlet Invert= 156.40' / 156.00' S= 0.0100 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.00 cfs @ 12.07 hrs HW=156.92' TW=156.43' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.00 cfs @ 3.49 fps)

Summary for Pond 8P: DMH

Inflow Area = 8,878 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.67 cfs @ 12.07 hrs, Volume= 2,262 cf
Outflow = 0.67 cfs @ 12.07 hrs, Volume= 2,262 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.07 hrs, Volume= 2,262 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.93' @ 12.07 hrs
Flood Elev= 164.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.50'	**12.0" Round Culvert** L= 154.0' Ke= 0.500 Inlet / Outlet Invert= 157.50' / 156.50' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.67 cfs @ 12.07 hrs HW=157.93' TW=156.92' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.67 cfs @ 3.08 fps)

Summary for Pond 9P: DMH

Inflow Area = 4,439 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,131 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,131 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,131 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.59' @ 12.07 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.30'	**12.0" Round Culvert** L= 141.0' Ke= 0.500 Inlet / Outlet Invert= 159.30' / 158.00' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 12.07 hrs HW=159.59' TW=157.93' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.34 cfs @ 1.82 fps)

Summary for Pond 10P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 445 cf
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 445 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 445 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.65' @ 12.07 hrs
Flood Elev= 169.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.43'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 162.43' / 162.00' S= 0.0143 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.13 cfs @ 12.07 hrs HW=162.65' TW=159.59' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.13 cfs @ 1.60 fps)

Summary for Pond 11P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 686 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 686 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 686 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.90' @ 12.07 hrs
Flood Elev= 168.62'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.62'	**6.0" Round Culvert** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 159.62' / 159.40' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=159.90' TW=159.59' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.20 cfs @ 1.80 fps)

Summary for Pond 12P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 445 cf
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 445 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 445 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.92' @ 12.07 hrs
Flood Elev= 167.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.70'	**6.0" Round Culvert** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 160.70' / 160.40' S= 0.0094 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.13 cfs @ 12.07 hrs HW=160.92' TW=157.93' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.13 cfs @ 1.60 fps)

Summary for Pond 13P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 686 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 686 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 686 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.14' @ 12.07 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.83'	**6.0" Round Culvert** L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 157.83' / 157.60' S= 0.0115 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=158.14' TW=157.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.20 cfs @ 2.31 fps)

Summary for Pond 14P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.20 cfs @ 12.07 hrs, Volume= 686 cf
Outflow = 0.20 cfs @ 12.07 hrs, Volume= 686 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.07 hrs, Volume= 686 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.17' @ 12.08 hrs
Flood Elev= 165.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.88'	**6.0" Round Culvert** L= 21.0' Ke= 0.500 Inlet / Outlet Invert= 156.88' / 156.60' S= 0.0133 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 12.07 hrs HW=157.17' TW=156.92' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.20 cfs @ 2.47 fps)

Summary for Pond 15P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 445 cf
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 445 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 445 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.88' @ 12.07 hrs
Flood Elev= 164.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.66'	**6.0" Round Culvert** L= 34.0' Ke= 0.500

Inlet / Outlet Invert= 157.66' / 157.40' S= 0.0076 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.13 cfs @ 12.07 hrs HW=157.88' TW=156.92' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.13 cfs @ 2.30 fps)

Summary for Pond 16P: DMH

Inflow Area = 52,511 sf, 0.00% Impervious, Inflow Depth = 0.56" for NRCC 2YR 24H event
Inflow = 0.58 cfs @ 12.11 hrs, Volume= 2,451 cf
Outflow = 0.58 cfs @ 12.11 hrs, Volume= 2,451 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.58 cfs @ 12.11 hrs, Volume= 2,451 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.38' @ 12.11 hrs
Flood Elev= 162.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**12.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.50' S= 0.0294 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.58 cfs @ 12.11 hrs HW=159.38' TW=156.27' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.58 cfs @ 2.11 fps)

Summary for Pond 17P: DMH

Inflow Area = 150,788 sf, 14.52% Impervious, Inflow Depth = 0.92" for NRCC 2YR 24H event
Inflow = 2.68 cfs @ 12.10 hrs, Volume= 11,596 cf
Outflow = 2.68 cfs @ 12.10 hrs, Volume= 11,596 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.68 cfs @ 12.10 hrs, Volume= 11,596 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.08' @ 12.10 hrs
Flood Elev= 163.59'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.40'	**24.0" Round Culvert** L= 88.2' Ke= 0.500 Inlet / Outlet Invert= 159.40' / 155.50' S= 0.0442 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=2.67 cfs @ 12.10 hrs HW=160.08' TW=156.27' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.67 cfs @ 2.82 fps)

Summary for Pond 18P: DMH

Inflow Area = 128,888 sf, 0.00% Impervious, Inflow Depth = 0.56" for NRCC 2YR 24H event
Inflow = 1.30 cfs @ 12.15 hrs, Volume= 6,017 cf
Outflow = 1.30 cfs @ 12.15 hrs, Volume= 6,017 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.15 hrs, Volume= 6,017 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.01' @ 12.15 hrs
Flood Elev= 165.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.50'	**18.0" Round Culvert** L= 92.0' Ke= 0.500 Inlet / Outlet Invert= 161.50' / 159.50' S= 0.0217 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=1.30 cfs @ 12.15 hrs HW=162.01' TW=160.05' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.30 cfs @ 2.44 fps)

Summary for Pond 20P: DMH

Inflow Area = 102,433 sf, 12.46% Impervious, Inflow Depth = 0.76" for NRCC 2YR 24H event
Inflow = 1.82 cfs @ 12.09 hrs, Volume= 6,463 cf
Outflow = 1.82 cfs @ 12.09 hrs, Volume= 6,463 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.82 cfs @ 12.09 hrs, Volume= 6,463 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 152.56' @ 12.09 hrs
Flood Elev= 158.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**24.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 152.00' / 150.40' S= 0.0286 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=1.82 cfs @ 12.09 hrs HW=152.56' TW=151.28' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.82 cfs @ 2.54 fps)

Summary for Pond 21P: DMH

Inflow Area = 25,304 sf, 16.82% Impervious, Inflow Depth = 0.83" for NRCC 2YR 24H event
Inflow = 0.52 cfs @ 12.09 hrs, Volume= 1,752 cf
Outflow = 0.52 cfs @ 12.09 hrs, Volume= 1,752 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.09 hrs, Volume= 1,752 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.30' @ 12.09 hrs
Flood Elev= 157.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.94'	**12.0" Round Culvert** L= 62.0' Ke= 0.500 Inlet / Outlet Invert= 154.94' / 152.40' S= 0.0410 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.09 hrs HW=155.30' TW=152.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.52 cfs @ 2.04 fps)

Summary for Pond 22P: DMH

Inflow Area = 77,129 sf, 11.04% Impervious, Inflow Depth = 0.73" for NRCC 2YR 24H event
Inflow = 1.30 cfs @ 12.10 hrs, Volume= 4,711 cf
Outflow = 1.30 cfs @ 12.10 hrs, Volume= 4,711 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.10 hrs, Volume= 4,711 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.01' @ 12.10 hrs
Flood Elev= 158.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 155.50' / 155.00' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=1.30 cfs @ 12.10 hrs HW=156.01' TW=152.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.30 cfs @ 2.44 fps)

Summary for Pond 23P: OIL/WATER SEPARATOR

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.78 cfs @ 12.07 hrs, Volume= 2,576 cf
Outflow = 0.77 cfs @ 12.08 hrs, Volume= 2,575 cf, Atten= 2%, Lag= 0.6 min
Primary = 0.77 cfs @ 12.08 hrs, Volume= 2,575 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 151.35' @ 12.10 hrs
Flood Elev= 159.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	141.80'	**12.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 141.80' / 140.10' S= 0.0093 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.08 hrs HW=151.35' TW=151.28' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.70 cfs @ 0.90 fps)

Summary for Pond 24P: DMH

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.77 cfs @ 12.07 hrs, Volume= 2,576 cf
Outflow = 0.78 cfs @ 12.07 hrs, Volume= 2,576 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.07 hrs, Volume= 2,576 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 151.39' @ 12.10 hrs
Flood Elev= 159.61'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.20'	**12.0" Round Culvert** L= 1.0' Ke= 0.500

Inlet / Outlet Invert= 150.20' / 150.10' S= 0.1000 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.45 cfs @ 12.07 hrs HW=151.34' TW=151.32' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.45 cfs @ 0.57 fps)

Summary for Pond 25P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 451 cf
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 451 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 451 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 151.42' @ 12.10 hrs
Flood Elev= 159.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.89'	**6.0" Round Culvert** L= 58.0' Ke= 0.500 Inlet / Outlet Invert= 150.89' / 150.30' S= 0.0102 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.05 cfs @ 12.07 hrs HW=151.34' TW=151.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.05 cfs @ 0.32 fps)

Summary for Pond 26P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 451 cf
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 451 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 451 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.20' @ 12.07 hrs
Flood Elev= 161.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.98'	**6.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 152.98' / 152.00' S= 0.0576 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.13 cfs @ 12.07 hrs HW=153.20' TW=151.34' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.13 cfs @ 1.60 fps)

Summary for Pond 27P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.50 cfs @ 12.07 hrs, Volume= 1,674 cf
Outflow = 0.50 cfs @ 12.07 hrs, Volume= 1,674 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.50 cfs @ 12.07 hrs, Volume= 1,674 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 154.25' @ 12.07 hrs
Flood Elev= 162.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**12.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 153.90' / 152.00' S= 0.0085 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.50 cfs @ 12.07 hrs HW=154.25' TW=151.34' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.50 cfs @ 2.02 fps)

Summary for Pond 28P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.50 cfs @ 12.07 hrs, Volume= 1,674 cf
Outflow = 0.50 cfs @ 12.07 hrs, Volume= 1,674 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.50 cfs @ 12.07 hrs, Volume= 1,674 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 154.76' @ 12.07 hrs
Flood Elev= 163.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.40'	**12.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 154.40' / 154.00' S= 0.0080 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.50 cfs @ 12.07 hrs HW=154.76' TW=154.25' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 0.50 cfs @ 2.95 fps)

Summary for Pond 29P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 451 cf
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 451 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 451 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.17' @ 12.07 hrs
Flood Elev= 163.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.95'	**6.0" Round Culvert** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 154.95' / 154.50' S= 0.0643 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.13 cfs @ 12.07 hrs HW=155.17' TW=154.76' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.13 cfs @ 1.60 fps)

Summary for Pond 30P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.36 cfs @ 12.07 hrs, Volume= 1,223 cf
Outflow = 0.36 cfs @ 12.07 hrs, Volume= 1,223 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.07 hrs, Volume= 1,223 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.70' @ 12.07 hrs
Flood Elev= 165.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.40'	**12.0" Round Culvert** L= 98.0' Ke= 0.500 Inlet / Outlet Invert= 160.40' / 159.50' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.36 cfs @ 12.07 hrs HW=160.70' TW=154.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.36 cfs @ 1.86 fps)

Summary for Pond 31P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.36 cfs @ 12.07 hrs, Volume= 1,223 cf
Outflow = 0.36 cfs @ 12.07 hrs, Volume= 1,223 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.07 hrs, Volume= 1,223 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.21' @ 12.07 hrs
Flood Elev= 168.53'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.90'	**12.0" Round Culvert** L= 232.0' Ke= 0.500 Inlet / Outlet Invert= 161.90' / 160.50' S= 0.0060 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.36 cfs @ 12.07 hrs HW=162.21' TW=160.70' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.36 cfs @ 2.68 fps)

Summary for Pond 32P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.12 cfs @ 12.07 hrs, Volume= 408 cf
Outflow = 0.12 cfs @ 12.07 hrs, Volume= 408 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.07 hrs, Volume= 408 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.65' @ 12.07 hrs
Flood Elev= 170.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.44'	**6.0" Round Culvert** L= 10.0' Ke= 0.500

Inlet / Outlet Invert= 162.44' / 162.20' S= 0.0240 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.12 cfs @ 12.07 hrs HW=162.65' TW=162.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.12 cfs @ 1.56 fps)

Summary for Pond 33P: DMH

Inflow Area = 3,200 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.24 cfs @ 12.07 hrs, Volume= 815 cf
Outflow = 0.24 cfs @ 12.07 hrs, Volume= 815 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.24 cfs @ 12.07 hrs, Volume= 815 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.44' @ 12.07 hrs
Flood Elev= 170.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.20'	**12.0" Round Culvert** L= 159.0' Ke= 0.500 Inlet / Outlet Invert= 163.20' / 162.00' S= 0.0075 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.24 cfs @ 12.07 hrs HW=163.44' TW=162.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.24 cfs @ 1.67 fps)

Summary for Pond 34P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.12 cfs @ 12.07 hrs, Volume= 408 cf
Outflow = 0.12 cfs @ 12.07 hrs, Volume= 408 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.07 hrs, Volume= 408 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.64' @ 12.07 hrs
Flood Elev= 171.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.43'	**6.0" Round Culvert** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 163.43' / 163.30' S= 0.0162 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.12 cfs @ 12.07 hrs HW=163.64' TW=163.44' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.12 cfs @ 1.56 fps)

Summary for Pond 35P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 3.06" for NRCC 2YR 24H event
Inflow = 0.12 cfs @ 12.07 hrs, Volume= 408 cf
Outflow = 0.12 cfs @ 12.07 hrs, Volume= 408 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.07 hrs, Volume= 408 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.60' @ 12.07 hrs
Flood Elev= 172.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	164.39'	**6.0" Round Culvert** L= 38.0' Ke= 0.500 Inlet / Outlet Invert= 164.39' / 164.00' S= 0.0103 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.12 cfs @ 12.07 hrs HW=164.60' TW=163.44' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.12 cfs @ 1.56 fps)

Summary for Pond 40P: DMH

Inflow Area = 105,170 sf, 0.00% Impervious, Inflow Depth = 0.32" for NRCC 2YR 24H event
Inflow = 0.64 cfs @ 12.08 hrs, Volume= 2,784 cf
Outflow = 0.64 cfs @ 12.08 hrs, Volume= 2,784 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.08 hrs, Volume= 2,784 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.22' @ 12.09 hrs
Flood Elev= 160.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	158.00'	**24.0" W x 12.0" H Box Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 158.00' / 157.70' S= 0.0300 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=0.63 cfs @ 12.08 hrs HW=158.22' TW=158.07' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.63 cfs @ 1.44 fps)

Summary for Pond 41P: CULVERT

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 0.12" for NRCC 2YR 24H event
Inflow = 0.07 cfs @ 12.53 hrs, Volume= 850 cf
Outflow = 0.07 cfs @ 12.53 hrs, Volume= 850 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.07 cfs @ 12.53 hrs, Volume= 850 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.05' @ 12.53 hrs
Flood Elev= 161.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**24.0" W x 12.0" H Box Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.00' S= 0.0182 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=0.07 cfs @ 12.53 hrs HW=159.05' TW=158.10' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.07 cfs @ 0.70 fps)

Summary for Link 1L: OVERFLOW

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Link 10L: OFF-SITE

Inflow Area = 258,650 sf, 0.00% Impervious, Inflow Depth = 0.00" for NRCC 2YR 24H event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: AREA OUTSIDE Runoff Area=258,650 sf 0.00% Impervious Runoff Depth=0.62"
Tc=5.0 min CN=32 Runoff=1.49 cfs 13,345 cf

Subcatchment 2S: AREA OUTSIDE Runoff Area=285,632 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=491' Tc=12.3 min CN=31 Runoff=1.19 cfs 12,860 cf

Subcatchment 3S: S SWALE 1 Runoff Area=21,901 sf 0.00% Impervious Runoff Depth=3.03"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=56 Runoff=1.72 cfs 5,536 cf

Subcatchment 4S: S SWALE 2 Runoff Area=37,407 sf 0.00% Impervious Runoff Depth=1.44"
Tc=5.0 min CN=41 Runoff=1.13 cfs 4,479 cf

Subcatchment 5S: S SWALE 3 Runoff Area=28,531 sf 0.00% Impervious Runoff Depth=2.16"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=48 Runoff=1.32 cfs 5,131 cf

Subcatchment 6S: ACCESS RAMP Runoff Area=17,331 sf 0.00% Impervious Runoff Depth=5.58"
Tc=5.0 min CN=78 Runoff=2.67 cfs 8,053 cf

Subcatchment 7S: S SWALE 4 Runoff Area=20,291 sf 0.00% Impervious Runoff Depth=3.83"
Flow Length=644' Slope=0.0200 '/' Tc=9.3 min CN=63 Runoff=1.85 cfs 6,470 cf

Subcatchment 8S: N SWALE 1 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=5.81"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=80 Runoff=2.41 cfs 7,643 cf

Subcatchment 9S: N SWALE 2 Runoff Area=14,101 sf 0.00% Impervious Runoff Depth=6.17"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=2.26 cfs 7,249 cf

Subcatchment 10S: N SWALE 3 Runoff Area=12,739 sf 0.00% Impervious Runoff Depth=6.17"
Flow Length=378' Slope=0.0200 '/' Tc=6.2 min CN=83 Runoff=2.04 cfs 6,548 cf

Subcatchment 11S: NW PERF. DRAIN Runoff Area=45,853 sf 0.00% Impervious Runoff Depth=3.83"
Flow Length=660' Slope=0.0200 '/' Tc=6.0 min CN=63 Runoff=4.70 cfs 14,622 cf

Subcatchment 12S: CENTRAL PERF. DRAIN Runoff Area=6,658 sf 0.00% Impervious Runoff Depth=3.83"
Tc=5.0 min CN=63 Runoff=0.71 cfs 2,123 cf

Subcatchment 13S: GIS BUILDINGS Runoff Area=21,900 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=4.19 cfs 14,527 cf

Subcatchment 14S: GIS BLDGS PERF Runoff Area=74,801 sf 0.00% Impervious Runoff Depth=3.83"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=7.05 cfs 23,852 cf

Subcatchment 15S: CENTRAL PERF. DRAIN Runoff Area=54,087 sf 0.00% Impervious Runoff Depth=3.83"
Flow Length=570' Slope=0.0200 '/' Tc=8.4 min CN=63 Runoff=5.10 cfs 17,247 cf

Subcatchment 16S: N PERF. DRAIN Runoff Area=35,583 sf 0.57% Impervious Runoff Depth=3.83"
Tc=5.0 min CN=63 Runoff=3.78 cfs 11,347 cf

Subcatchment 17S: SE PERF. DRAIN 1 Runoff Area=41,546 sf 20.00% Impervious Runoff Depth=4.64"
Flow Length=425' Slope=0.0200 '/' Tc=5.9 min CN=70 Runoff=5.21 cfs 16,053 cf

Subcatchment 18S: SE PERF. DRAIN 2 Runoff Area=25,304 sf 16.82% Impervious Runoff Depth=4.52"
Tc=5.0 min CN=69 Runoff=3.19 cfs 9,531 cf

Subcatchment 20S: SR4 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.33 cfs 1,158 cf

Subcatchment 21S: XFMR 1 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.52 cfs 1,787 cf

Subcatchment 22S: SR5 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.33 cfs 1,158 cf

Subcatchment 23S: XFMR 2 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.52 cfs 1,787 cf

Subcatchment 24S: XFMR 3 Runoff Area=2,694 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.52 cfs 1,787 cf

Subcatchment 25S: SR6 Runoff Area=1,745 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.33 cfs 1,158 cf

Subcatchment 26S: SR1 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.31 cfs 1,061 cf

Subcatchment 27S: SR2 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.31 cfs 1,061 cf

Subcatchment 28S: SR3 Runoff Area=1,600 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.31 cfs 1,061 cf

Subcatchment 29S: STATCOM 1 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,174 cf

Subcatchment 30S: STATCOM 2 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,174 cf

Subcatchment 31S: STATCOM 3 Runoff Area=1,770 sf 100.00% Impervious Runoff Depth=7.96"
Tc=5.0 min CN=98 Runoff=0.34 cfs 1,174 cf

Reach 1R: S SWALE PART 1 Avg. Flow Depth=0.50' Max Vel=2.21 fps Inflow=1.72 cfs 5,536 cf
n=0.030 L=309.0' S=0.0137 '/' Capacity=10.56 cfs Outflow=1.63 cfs 5,536 cf

Reach 2R: S SWALE PART 2 Avg. Flow Depth=0.56' Max Vel=2.85 fps Inflow=2.72 cfs 10,015 cf
n=0.030 L=257.3' S=0.0195 '/' Capacity=12.62 cfs Outflow=2.65 cfs 10,015 cf

Reach 3R: S SWALE PART 3 Avg. Flow Depth=0.68' Max Vel=2.77 fps Inflow=3.97 cfs 15,146 cf
n=0.030 L=329.0' S=0.0142 '/' Capacity=10.77 cfs Outflow=3.83 cfs 15,146 cf

Reach 4R: S SWALE PART 4 Avg. Flow Depth=0.98' Max Vel=2.54 fps Inflow=7.57 cfs 29,670 cf
n=0.030 L=367.8' S=0.0073 '/' Capacity=9.98 cfs Outflow=7.30 cfs 29,670 cf

Reach 5R: DRAINAGE CHANNEL Avg. Flow Depth=0.40' Max Vel=5.61 fps Inflow=45.25 cfs 159,166 cf
n=0.078 L=175.0' S=0.3086 '/' Capacity=198.63 cfs Outflow=45.12 cfs 159,166 cf

Reach 11R: N SWALE PART 1 Avg. Flow Depth=0.55' Max Vel=2.49 fps Inflow=2.41 cfs 7,643 cf
n=0.030 L=447.0' S=0.0153 '/' Capacity=11.19 cfs Outflow=2.23 cfs 7,643 cf

Reach 12R: N SWALE PART 2 Avg. Flow Depth=0.70' Max Vel=2.80 fps Inflow=4.40 cfs 14,891 cf
n=0.030 L=431.0' S=0.0137 '/' Capacity=10.59 cfs Outflow=4.17 cfs 14,891 cf

Reach 13R: N SWALE PART 3 Avg. Flow Depth=0.81' Max Vel=2.98 fps Inflow=6.03 cfs 21,440 cf
n=0.030 L=386.0' S=0.0131 '/' Capacity=10.33 cfs Outflow=5.82 cfs 21,440 cf

Pond 1P: DETENTION AREA - Peak Elev=90.51' Storage=106,144 cf Inflow=45.16 cfs 172,026 cf
Discarded=2.11 cfs 172,026 cf Primary=0.00 cfs 0 cf Outflow=2.11 cfs 172,026 cf

Pond 2P: SEDIMENT FOREBAY Peak Elev=150.39' Storage=9,783 cf Inflow=13.08 cfs 51,110 cf
Discarded=0.14 cfs 16,787 cf Primary=12.80 cfs 34,324 cf Outflow=12.94 cfs 51,111 cf

Pond 3P: DMHs w/ Vortex Unit Peak Elev=150.69' Inflow=37.29 cfs 124,842 cf
36.0" Round Culvert n=0.011 L=25.0' S=0.1200 '/' Outflow=37.29 cfs 124,842 cf

Pond 4P: DMH Peak Elev=152.99' Inflow=37.29 cfs 124,842 cf
36.0" Round Culvert n=0.011 L=36.0' S=0.0639 '/' Outflow=37.29 cfs 124,842 cf

Pond 5P: DMH Peak Elev=158.79' Inflow=23.40 cfs 81,205 cf
24.0" Round Culvert n=0.011 L=263.0' S=0.0186 '/' Outflow=23.40 cfs 81,205 cf

Pond 6P: OIL/WATER SEPARATOR Peak Elev=158.82' Inflow=2.55 cfs 8,834 cf
24.0" Round Culvert n=0.012 L=27.0' S=0.0148 '/' Outflow=2.55 cfs 8,834 cf

Pond 7P: DMH Peak Elev=159.15' Inflow=2.55 cfs 8,834 cf
12.0" Round Culvert n=0.011 L=40.0' S=0.0100 '/' Outflow=2.55 cfs 8,834 cf

Pond 8P: DMH Peak Elev=159.41' Inflow=1.70 cfs 5,889 cf
12.0" Round Culvert n=0.011 L=154.0' S=0.0065 '/' Outflow=1.70 cfs 5,889 cf

Pond 9P: DMH Peak Elev=159.85' Inflow=0.85 cfs 2,945 cf
12.0" Round Culvert n=0.011 L=141.0' S=0.0092 '/' Outflow=0.85 cfs 2,945 cf

Pond 10P: 24" Petro-Barrier Peak Elev=162.81' Inflow=0.33 cfs 1,158 cf
6.0" Round Culvert n=0.010 L=30.0' S=0.0143 '/' Outflow=0.33 cfs 1,158 cf

Pond 11P: 24" Petro-Barrier Peak Elev=160.17' Inflow=0.52 cfs 1,787 cf
6.0" Round Culvert n=0.010 L=18.0' S=0.0122 '/' Outflow=0.52 cfs 1,787 cf

Pond 12P: 24" Petro-Barrier Peak Elev=161.08' Inflow=0.33 cfs 1,158 cf
6.0" Round Culvert n=0.010 L=32.0' S=0.0094 '/' Outflow=0.33 cfs 1,158 cf

Pond 13P: 24" Petro-Barrier Peak Elev=159.60' Inflow=0.52 cfs 1,787 cf
6.0" Round Culvert n=0.010 L=20.0' S=0.0115 '/' Outflow=0.52 cfs 1,787 cf

Pond 14P: 24" Petro-Barrier Peak Elev=159.36' Inflow=0.52 cfs 1,787 cf
6.0" Round Culvert n=0.010 L=21.0' S=0.0133 '/' Outflow=0.52 cfs 1,787 cf

Pond 15P: 24" Petro-Barrier Peak Elev=159.25' Inflow=0.33 cfs 1,158 cf
6.0" Round Culvert n=0.010 L=34.0' S=0.0076 '/' Outflow=0.33 cfs 1,158 cf

Pond 16P: DMH Peak Elev=161.54' Inflow=5.40 cfs 16,745 cf
12.0" Round Culvert n=0.011 L=17.0' S=0.0294 '/' Outflow=5.40 cfs 16,745 cf

Pond 17P: DMH Peak Elev=161.48' Inflow=15.74 cfs 55,627 cf
24.0" Round Culvert n=0.011 L=88.2' S=0.0442 '/' Outflow=15.74 cfs 55,627 cf

Pond 18P: DMH Peak Elev=164.29' Inflow=12.14 cfs 41,100 cf
18.0" Round Culvert n=0.011 L=92.0' S=0.0217 '/' Outflow=12.14 cfs 41,100 cf

Pond 20P: DMH Peak Elev=153.81' Inflow=12.15 cfs 36,931 cf
24.0" Round Culvert n=0.011 L=56.0' S=0.0286 '/' Outflow=12.15 cfs 36,931 cf

Pond 21P: DMH Peak Elev=156.15' Inflow=3.19 cfs 9,531 cf
12.0" Round Culvert n=0.011 L=62.0' S=0.0410 '/' Outflow=3.19 cfs 9,531 cf

Pond 22P: DMH Peak Elev=157.36' Inflow=8.97 cfs 27,399 cf
18.0" Round Culvert n=0.011 L=56.0' S=0.0089 '/' Outflow=8.97 cfs 27,399 cf

Pond 23P: OIL/WATER SEPARATOR Peak Elev=153.49' Inflow=1.94 cfs 6,706 cf
12.0" Round Culvert n=0.011 L=182.0' S=0.0093 '/' Outflow=1.98 cfs 6,706 cf

Pond 24P: DMH Peak Elev=153.71' Inflow=1.94 cfs 6,706 cf
12.0" Round Culvert n=0.011 L=1.0' S=0.1000 '/' Outflow=1.94 cfs 6,706 cf

Pond 25P: 24" Petro-Barrier Peak Elev=153.87' Inflow=0.34 cfs 1,174 cf
6.0" Round Culvert n=0.010 L=58.0' S=0.0102 '/' Outflow=0.34 cfs 1,174 cf

Pond 26P: 24" Petro-Barrier Peak Elev=153.82' Inflow=0.34 cfs 1,174 cf
6.0" Round Culvert n=0.010 L=17.0' S=0.0576 '/' Outflow=0.34 cfs 1,174 cf

Pond 27P: DMH Peak Elev=154.58' Inflow=1.26 cfs 4,358 cf
12.0" Round Culvert n=0.011 L=224.0' S=0.0085 '/' Outflow=1.26 cfs 4,358 cf

Pond 28P: DMH Peak Elev=155.03' Inflow=1.26 cfs 4,358 cf
12.0" Round Culvert n=0.011 L=50.0' S=0.0080 '/' Outflow=1.26 cfs 4,358 cf

Pond 29P: 24" Petro-Barrier Peak Elev=155.33' Inflow=0.34 cfs 1,174 cf
6.0" Round Culvert n=0.010 L=7.0' S=0.0643 '/' Outflow=0.34 cfs 1,174 cf

Pond 30P: DMH Peak Elev=160.89' Inflow=0.92 cfs 3,184 cf
12.0" Round Culvert n=0.011 L=98.0' S=0.0092 '/' Outflow=0.92 cfs 3,184 cf

Pond 31P: DMH Peak Elev=162.40' Inflow=0.92 cfs 3,184 cf
12.0" Round Culvert n=0.011 L=232.0' S=0.0060 '/' Outflow=0.92 cfs 3,184 cf

Pond 32P: 24" Petro-Barrier Peak Elev=162.80' Inflow=0.31 cfs 1,061 cf
6.0" Round Culvert n=0.010 L=10.0' S=0.0240 '/' Outflow=0.31 cfs 1,061 cf

Pond 33P: DMH Peak Elev=163.59' Inflow=0.61 cfs 2,123 cf
12.0" Round Culvert n=0.011 L=159.0' S=0.0075 '/' Outflow=0.61 cfs 2,123 cf

Pond 34P: 24" Petro-Barrier Peak Elev=163.80' Inflow=0.31 cfs 1,061 cf
6.0" Round Culvert n=0.010 L=8.0' S=0.0162 '/' Outflow=0.31 cfs 1,061 cf

Pond 35P: 24" Petro-Barrier Peak Elev=164.75' Inflow=0.31 cfs 1,061 cf
6.0" Round Culvert n=0.010 L=38.0' S=0.0103 '/' Outflow=0.31 cfs 1,061 cf

Pond 40P: DMH Peak Elev=159.08' Inflow=5.72 cfs 23,199 cf
24.0" x 12.0" Box Culvert n=0.011 L=10.0' S=0.0300 '/' Outflow=5.72 cfs 23,199 cf

Pond 41P: CULVERT Peak Elev=159.71' Inflow=3.83 cfs 15,146 cf
24.0" x 12.0" Box Culvert n=0.011 L=55.0' S=0.0182 '/' Outflow=3.83 cfs 15,146 cf

Link 1L: OVERFLOW Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link 10L: OFF-SITE Inflow=1.49 cfs 13,345 cf
Primary=1.49 cfs 13,345 cf

Total Runoff Area = 1,041,520 sf Runoff Volume = 202,157 cf Average Runoff Depth = 2.33"
94.42% Pervious = 983,426 sf 5.58% Impervious = 58,094 sf

Summary for Subcatchment 1S: AREA OUTSIDE SUBSTATION - NOT TO POND

Runoff = 1.49 cfs @ 12.32 hrs, Volume= 13,345 cf, Depth= 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
179,269	30	Woods, Good, HSG A
72,994	30	Meadow, non-grazed, HSG A
6,387	96	Gravel surface, HSG A
258,650	32	Weighted Average
258,650		100.00% Pervious Area

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

Summary for Subcatchment 2S: AREA OUTSIDE SUBSTATION - TO POND

Runoff = 1.19 cfs @ 12.47 hrs, Volume= 12,860 cf, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
206,991	30	Woods, Good, HSG A
72,294	30	Meadow, non-grazed, HSG A
6,347	96	Gravel surface, HSG A
285,632	31	Weighted Average
285,632		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.5000	0.25		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 3.29"
8.9	441	0.1100	0.83		**Shallow Concentrated Flow, Shallow Conc** Forest w/Heavy Litter Kv= 2.5 fps
12.3	491	Total			

Summary for Subcatchment 3S: S SWALE 1

Runoff = 1.72 cfs @ 12.10 hrs, Volume= 5,536 cf, Depth= 3.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	3,599	63	Crushed Stone Surface, HSG A
	6,746	96	Gravel surface, HSG A
	7,202	30	Woods, Good, HSG A
	4,354	30	Meadow, non-grazed, HSG A
	21,901	56	Weighted Average
	21,901		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 4S: S SWALE 2

Runoff = 1.13 cfs @ 12.10 hrs, Volume= 4,479 cf, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
	5,160	96	Gravel surface, HSG A
*	2,578	63	Crushed Stone Surface, HSG A
	20,025	30	Woods, Good, HSG A
	9,644	30	Meadow, non-grazed, HSG A
	37,407	41	Weighted Average
	37,407		100.00% Pervious Area

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

Summary for Subcatchment 5S: S SWALE 3

Runoff = 1.32 cfs @ 12.14 hrs, Volume= 5,131 cf, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	3,335	63	Crushed Stone Surface, HSG A
	7,061	30	Woods, Good, HSG A
	6,315	96	Gravel surface, HSG A
	11,820	30	Meadow, non-grazed, HSG A
	28,531	48	Weighted Average
	28,531		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 6S: ACCESS RAMP

Runoff = 2.67 cfs @ 12.07 hrs, Volume= 8,053 cf, Depth= 5.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
12,617	96	Gravel surface, HSG A
1,094	30	Woods, Good, HSG A
3,620	30	Meadow, non-grazed, HSG A
17,331	78	Weighted Average
17,331		100.00% Pervious Area

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

Summary for Subcatchment 7S: S SWALE 4

Runoff = 1.85 cfs @ 12.13 hrs, Volume= 6,470 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
* 6,230	63	Crushed Stone Surface, HSG A
7,051	96	Gravel surface, HSG A
7,010	30	Meadow, non-grazed, HSG A
20,291	63	Weighted Average
20,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
7.0	594	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
9.3	644	Total			

Summary for Subcatchment 8S: N SWALE 1

Runoff = 2.41 cfs @ 12.09 hrs, Volume= 7,643 cf, Depth= 5.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	4,949	63	Crushed Stone Surface, HSG A
	9,543	96	Gravel surface, HSG A
	1,286	30	Meadow, non-grazed, HSG A
	15,778	80	Weighted Average
	15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 9S: N SWALE 2

Runoff = 2.26 cfs @ 12.09 hrs, Volume= 7,249 cf, Depth= 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	5,475	63	Crushed Stone Surface, HSG A
	8,626	96	Gravel surface, HSG A
	14,101	83	Weighted Average
	14,101		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 10S: N SWALE 3

Runoff = 2.04 cfs @ 12.09 hrs, Volume= 6,548 cf, Depth= 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	4,958	63	Crushed Stone Surface, HSG A
	7,781	96	Gravel surface, HSG A
	12,739	83	Weighted Average
	12,739		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.9	328	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
6.2	378	Total			

Summary for Subcatchment 11S: NW PERF. DRAIN

Runoff = 4.70 cfs @ 12.09 hrs, Volume= 14,622 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	45,853	63	Crushed Stone Surface, HSG A
	45,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.0	255	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
0.7	355	0.0200	8.34	6.55	**Pipe Channel, Perf Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
6.0	660	Total			

Summary for Subcatchment 12S: CENTRAL PERF. DRAIN 2

Runoff = 0.71 cfs @ 12.08 hrs, Volume= 2,123 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	6,658	63	Crushed Stone Surface, HSG A
	6,658		100.00% Pervious Area

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

Summary for Subcatchment 13S: GIS BUILDINGS

Runoff = 4.19 cfs @ 12.07 hrs, Volume= 14,527 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
21,900	98	Roofs, HSG A
21,900		100.00% Impervious Area

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

Summary for Subcatchment 14S: GIS BLDGS PERF DRAIN

Runoff = 7.05 cfs @ 12.12 hrs, Volume= 23,852 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	74,801	63	Crushed Stone Surface, HSG A
	74,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 15S: CENTRAL PERF. DRAIN 1

Runoff = 5.10 cfs @ 12.12 hrs, Volume= 17,247 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	54,087	63	Crushed Stone Surface, HSG A
	54,087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
6.1	520	0.0200	1.41		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
8.4	570	Total			

Summary for Subcatchment 16S: N PERF. DRAIN

Runoff = 3.78 cfs @ 12.08 hrs, Volume= 11,347 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
*	35,381	63	Crushed Stone Surface, HSG A
	202	98	Roofs, HSG A
	35,583	63	Weighted Average
	35,381		99.43% Pervious Area
	202		0.57% Impervious Area

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

Summary for Subcatchment 17S: SE PERF. DRAIN 1

Runoff = 5.21 cfs @ 12.09 hrs, Volume= 16,053 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
	8,310	98	Roofs, HSG A
*	33,236	63	Crushed Stone Surface, HSG A
	41,546	70	Weighted Average
	33,236		80.00% Pervious Area
	8,310		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.0200	0.36		**Sheet Flow, Sheet** Fallow n= 0.050 P2= 3.29"
3.5	300	0.0200	1.41		**Shallow Concentrated Flow, Shallow** Nearly Bare & Untilled Kv= 10.0 fps
0.1	75	0.0200	8.34	6.55	**Pipe Channel, Perf. Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.9	425	Total			

Summary for Subcatchment 18S: SE PERF. DRAIN 2

Runoff = 3.19 cfs @ 12.07 hrs, Volume= 9,531 cf, Depth= 4.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

	Area (sf)	CN	Description
	4,255	98	Roofs, HSG A
*	21,049	63	Crushed Stone Surface, HSG A
	25,304	69	Weighted Average
	21,049		83.18% Pervious Area
	4,255		16.82% Impervious Area

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

Summary for Subcatchment 20S: SR4

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 21S: XFMR 1

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 22S: SR5

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 23S: XFMR 2

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 24S: XFMR 3

Runoff = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
2,694	98	Concrete Containment
2,694		100.00% Impervious Area

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

Summary for Subcatchment 25S: SR6

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,745	98	Concrete Containment
1,745		100.00% Impervious Area

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

Summary for Subcatchment 26S: SR1

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 27S: SR2

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 28S: SR3

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,600	98	Concrete Containment
1,600		100.00% Impervious Area

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

Summary for Subcatchment 29S: STATCOM 1 TRANSFORMER

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 30S: STATCOM 2 TRANSFORMER

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

Summary for Subcatchment 31S: STATCOM 3 TRANSFORMER

Runoff = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf, Depth= 7.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr RMAT 50-YR 24H TIER 3 Rainfall=8.20"

Area (sf)	CN	Description
1,770	98	Concrete Containment
1,770		100.00% Impervious Area

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

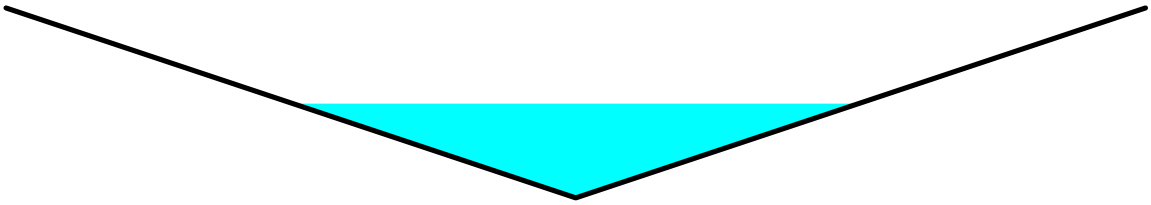
Summary for Reach 1R: S SWALE PART 1

Inflow Area = 21,901 sf, 0.00% Impervious, Inflow Depth = 3.03" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.72 cfs @ 12.10 hrs, Volume= 5,536 cf
Outflow = 1.63 cfs @ 12.13 hrs, Volume= 5,536 cf, Atten= 5%, Lag= 1.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.21 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 5.7 min

Peak Storage= 228 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.50'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.49 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.56 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 309.0' Slope= 0.0137 '/'
Inlet Invert= 174.13', Outlet Invert= 169.91'



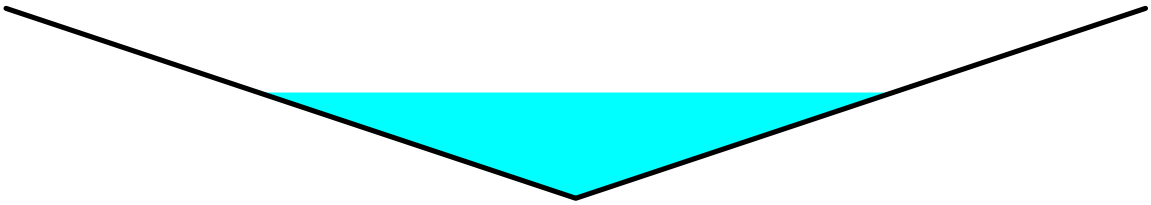
Summary for Reach 2R: S SWALE PART 2

Inflow Area = 59,308 sf, 0.00% Impervious, Inflow Depth = 2.03" for RMAT 50-YR 24H TIER 3 event
Inflow = 2.72 cfs @ 12.11 hrs, Volume= 10,015 cf
Outflow = 2.65 cfs @ 12.13 hrs, Volume= 10,015 cf, Atten= 2%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.85 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 3.6 min

Peak Storage= 239 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.56'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 46.01 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 12.62 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 257.3' Slope= 0.0195 '/'
Inlet Invert= 169.90', Outlet Invert= 164.88'



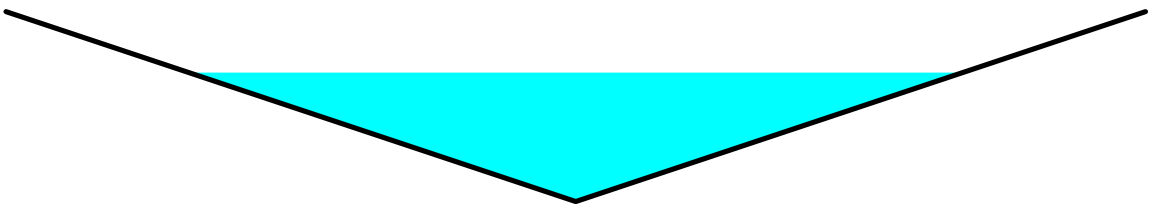
Summary for Reach 3R: S SWALE PART 3

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 2.07" for RMAT 50-YR 24H TIER 3 event
Inflow = 3.97 cfs @ 12.14 hrs, Volume= 15,146 cf
Outflow = 3.83 cfs @ 12.16 hrs, Volume= 15,146 cf, Atten= 3%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.77 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 4.9 min

Peak Storage= 455 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.68'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 39.24 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.77 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 329.0' Slope= 0.0142 '/'
Inlet Invert= 164.80', Outlet Invert= 160.13'



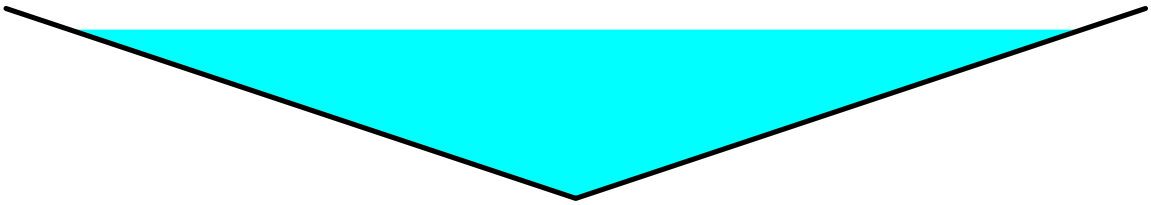
Summary for Reach 4R: S SWALE PART 4

Inflow Area = 125,461 sf, 0.00% Impervious, Inflow Depth = 2.84" for RMAT 50-YR 24H TIER 3 event
Inflow = 7.57 cfs @ 12.13 hrs, Volume= 29,670 cf
Outflow = 7.30 cfs @ 12.16 hrs, Volume= 29,670 cf, Atten= 4%, Lag= 1.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.54 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 6.8 min

Peak Storage= 1,055 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.98'
Defined Flood Depth= 2.00' Flow Area= 9.5 sf, Capacity= 31.59 cfs
Bank-Full Depth= 1.10' Flow Area= 3.6 sf, Capacity= 9.98 cfs

0.00' x 1.10' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.60'
Length= 367.8' Slope= 0.0073 '/'
Inlet Invert= 157.70', Outlet Invert= 155.00'



Summary for Reach 5R: DRAINAGE CHANNEL

Inflow Area = 497,238 sf, 11.68% Impervious, Inflow Depth = 3.84" for RMAT 50-YR 24H TIER 3 event
Inflow = 45.25 cfs @ 12.13 hrs, Volume= 159,166 cf
Outflow = 45.12 cfs @ 12.13 hrs, Volume= 159,166 cf, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.61 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 2.5 min

Peak Storage= 1,407 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.40'
Defined Flood Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 198.63 cfs

20.00' x 1.00' deep channel, n= 0.078 Riprap, 12-inch
Length= 175.0' Slope= 0.3086 '/'
Inlet Invert= 145.00', Outlet Invert= 91.00'

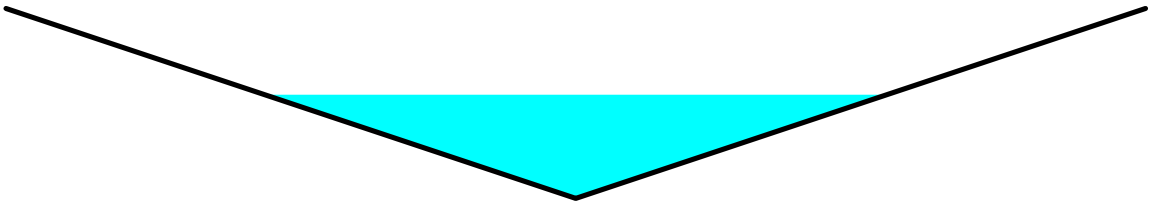
Summary for Reach 11R: N SWALE PART 1

Inflow Area = 15,778 sf, 0.00% Impervious, Inflow Depth = 5.81" for RMAT 50-YR 24H TIER 3 event
Inflow = 2.41 cfs @ 12.09 hrs, Volume= 7,643 cf
Outflow = 2.23 cfs @ 12.12 hrs, Volume= 7,643 cf, Atten= 8%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.49 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 8.1 min

Peak Storage= 400 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.55'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 40.78 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 11.19 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 447.0' Slope= 0.0153 '/'
Inlet Invert= 174.03', Outlet Invert= 167.18'



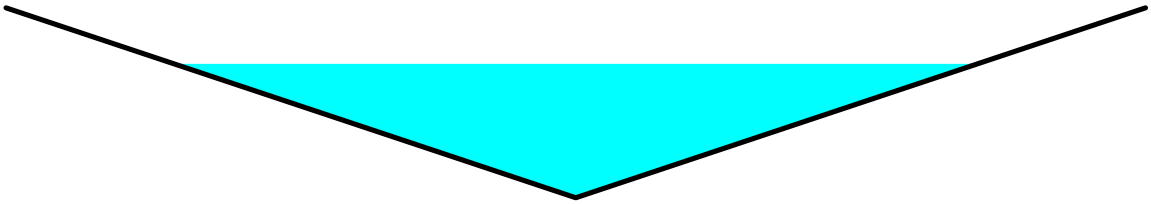
Summary for Reach 12R: N SWALE PART 2

Inflow Area = 29,879 sf, 0.00% Impervious, Inflow Depth = 5.98" for RMAT 50-YR 24H TIER 3 event
Inflow = 4.40 cfs @ 12.10 hrs, Volume= 14,891 cf
Outflow = 4.17 cfs @ 12.13 hrs, Volume= 14,891 cf, Atten= 5%, Lag= 1.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.80 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 7.3 min

Peak Storage= 643 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.70'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 38.60 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.59 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 431.0' Slope= 0.0137 '/'
Inlet Invert= 167.10', Outlet Invert= 161.18'



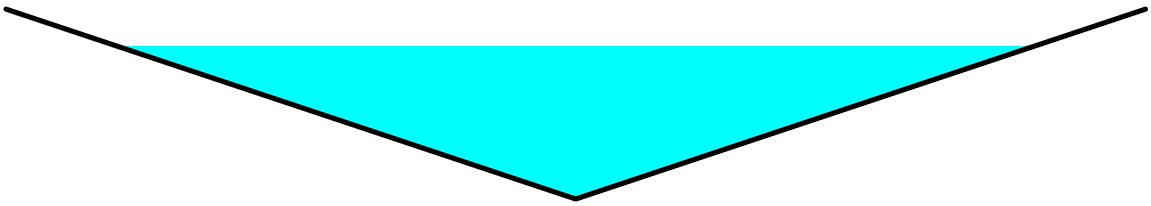
Summary for Reach 13R: N SWALE PART 3

Inflow Area = 42,618 sf, 0.00% Impervious, Inflow Depth = 6.04" for RMAT 50-YR 24H TIER 3 event
Inflow = 6.03 cfs @ 12.12 hrs, Volume= 21,440 cf
Outflow = 5.82 cfs @ 12.14 hrs, Volume= 21,440 cf, Atten= 3%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.98 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 6.2 min

Peak Storage= 753 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.81'
Defined Flood Depth= 2.00' Flow Area= 9.0 sf, Capacity= 37.64 cfs
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.33 cfs

0.00' x 1.00' deep channel, n= 0.030 Earth, cobble bottom, clean sides
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 386.0' Slope= 0.0131 '/'
Inlet Invert= 161.10', Outlet Invert= 156.06'



Summary for Pond 1P: DETENTION AREA - LOCALIZED DEPRESSION NE

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 2.64" for RMAT 50-YR 24H TIER 3 event
Inflow = 45.16 cfs @ 12.13 hrs, Volume= 172,026 cf
Outflow = 2.11 cfs @ 16.12 hrs, Volume= 172,026 cf, Atten= 95%, Lag= 239.4 min
Discarded = 2.11 cfs @ 16.12 hrs, Volume= 172,026 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 90.51' @ 16.12 hrs Surf.Area= 37,761 sf Storage= 106,144 cf

Plug-Flow detention time= 687.7 min calculated for 172,002 cf (100% of inflow)
Center-of-Mass det. time= 687.9 min (1,519.8 - 831.9)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	125,742 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)
83.00	827	135.0	0	0	827
84.00	2,756	217.0	1,698	1,698	3,131
85.00	5,016	298.0	3,830	5,528	6,460
86.00	8,057	383.0	6,477	12,004	11,079
87.00	12,347	488.0	10,126	22,130	18,370
88.00	17,968	589.0	15,070	37,200	27,043
89.00	25,096	690.0	21,433	58,633	37,342
90.00	33,858	865.0	29,368	88,001	59,011
91.00	41,761	936.1	37,740	125,742	69,242

Device	Routing	Invert	Outlet Devices
#1	Discarded	83.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	90.60'	**50.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=2.11 cfs @ 16.12 hrs HW=90.51' (Free Discharge)
1=Exfiltration (Exfiltration Controls 2.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=83.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: SEDIMENT FOREBAY

Inflow Area = 168,079 sf, 0.00% Impervious, Inflow Depth = 3.65" for RMAT 50-YR 24H TIER 3 event
Inflow = 13.08 cfs @ 12.15 hrs, Volume= 51,110 cf
Outflow = 12.94 cfs @ 12.17 hrs, Volume= 51,111 cf, Atten= 1%, Lag= 1.1 min
Discarded = 0.14 cfs @ 12.17 hrs, Volume= 16,787 cf
Primary = 12.80 cfs @ 12.17 hrs, Volume= 34,324 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 150.39' @ 12.17 hrs Surf.Area= 2,463 sf Storage= 9,783 cf
Flood Elev= 151.00' Surf.Area= 2,531 sf Storage= 11,301 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 235.1 min (1,070.4 - 835.4)

Volume	Invert	Avail.Storage	Storage Description
#1	146.00'	22,348 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
146.00	2,000	0	0	2,000
155.00	3,000	22,348	22,348	3,876

Device	Routing	Invert	Outlet Devices
#1	Discarded	146.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	150.00'	**20.0' long x 2.0' 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
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.14 cfs @ 12.17 hrs HW=150.39' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=12.79 cfs @ 12.17 hrs HW=150.39' TW=145.38' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 12.79 cfs @ 1.63 fps)

Summary for Pond 3P: DMHs w/ Vortex Unit

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 4.55" for RMAT 50-YR 24H TIER 3 event
Inflow = 37.29 cfs @ 12.09 hrs, Volume= 124,842 cf
Outflow = 37.29 cfs @ 12.09 hrs, Volume= 124,842 cf, Atten= 0%, Lag= 0.0 min
Primary = 37.29 cfs @ 12.09 hrs, Volume= 124,842 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 150.69' @ 12.09 hrs
Flood Elev= 151.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	148.00'	**36.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 148.00' / 145.00' S= 0.1200 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=37.29 cfs @ 12.09 hrs HW=150.69' TW=145.36' (Dynamic Tailwater)
1=Culvert (Inlet Controls 37.29 cfs @ 5.58 fps)

Summary for Pond 4P: DMH

Inflow Area = 329,159 sf, 17.65% Impervious, Inflow Depth = 4.55" for RMAT 50-YR 24H TIER 3 event
Inflow = 37.29 cfs @ 12.09 hrs, Volume= 124,842 cf
Outflow = 37.29 cfs @ 12.09 hrs, Volume= 124,842 cf, Atten= 0%, Lag= 0.0 min
Primary = 37.29 cfs @ 12.09 hrs, Volume= 124,842 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 152.99' @ 12.09 hrs
Flood Elev= 158.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.30'	**36.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 150.30' / 148.00' S= 0.0639 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=37.29 cfs @ 12.09 hrs HW=152.99' TW=150.69' (Dynamic Tailwater)
1=Culvert (Inlet Controls 37.29 cfs @ 5.58 fps)

Summary for Pond 5P: DMH

Inflow Area = 216,616 sf, 16.26% Impervious, Inflow Depth = 4.50" for RMAT 50-YR 24H TIER 3 event
Inflow = 23.40 cfs @ 12.10 hrs, Volume= 81,205 cf
Outflow = 23.40 cfs @ 12.10 hrs, Volume= 81,205 cf, Atten= 0%, Lag= 0.0 min
Primary = 23.40 cfs @ 12.10 hrs, Volume= 81,205 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.79' @ 12.10 hrs
Flood Elev= 161.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.40'	**24.0" Round Culvert** L= 263.0' Ke= 0.500 Inlet / Outlet Invert= 155.40' / 150.50' S= 0.0186 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=23.38 cfs @ 12.10 hrs HW=158.79' TW=152.97' (Dynamic Tailwater)
1=Culvert (Inlet Controls 23.38 cfs @ 7.44 fps)

Summary for Pond 6P: OIL/WATER SEPARATOR

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 2.55 cfs @ 12.07 hrs, Volume= 8,834 cf
Outflow = 2.55 cfs @ 12.07 hrs, Volume= 8,834 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.55 cfs @ 12.07 hrs, Volume= 8,834 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.82' @ 12.11 hrs
Flood Elev= 162.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.90'	**24.0" Round Culvert** L= 27.0' Ke= 0.500 Inlet / Outlet Invert= 155.90' / 155.50' S= 0.0148 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=158.42' TW=158.57' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 7P: DMH

Inflow Area = 13,317 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 2.55 cfs @ 12.07 hrs, Volume= 8,834 cf
Outflow = 2.55 cfs @ 12.07 hrs, Volume= 8,834 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.55 cfs @ 12.07 hrs, Volume= 8,834 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.15' @ 12.11 hrs
Flood Elev= 162.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.40'	**12.0" Round Culvert** L= 40.0' Ke= 0.500

Inlet / Outlet Invert= 156.40' / 156.00' S= 0.0100 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.86 cfs @ 12.07 hrs HW=158.66' TW=158.42' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.86 cfs @ 2.36 fps)

Summary for Pond 8P: DMH

Inflow Area = 8,878 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.70 cfs @ 12.07 hrs, Volume= 5,889 cf
Outflow = 1.70 cfs @ 12.07 hrs, Volume= 5,889 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.70 cfs @ 12.07 hrs, Volume= 5,889 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.41' @ 12.12 hrs
Flood Elev= 164.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.50'	**12.0" Round Culvert** L= 154.0' Ke= 0.500 Inlet / Outlet Invert= 157.50' / 156.50' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.90 cfs @ 12.07 hrs HW=158.75' TW=158.66' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.90 cfs @ 1.18 fps)

Summary for Pond 9P: DMH

Inflow Area = 4,439 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.85 cfs @ 12.07 hrs, Volume= 2,945 cf
Outflow = 0.85 cfs @ 12.07 hrs, Volume= 2,945 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.85 cfs @ 12.07 hrs, Volume= 2,945 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.85' @ 12.12 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.30'	**12.0" Round Culvert** L= 141.0' Ke= 0.500 Inlet / Outlet Invert= 159.30' / 158.00' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.83 cfs @ 12.07 hrs HW=159.77' TW=158.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.83 cfs @ 3.33 fps)

Summary for Pond 10P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf
Outflow = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.81' @ 12.07 hrs
Flood Elev= 169.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.43'	**6.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 162.43' / 162.00' S= 0.0143 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.33 cfs @ 12.07 hrs HW=162.81' TW=159.77' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.33 cfs @ 2.09 fps)

Summary for Pond 11P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf
Outflow = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.17' @ 12.07 hrs
Flood Elev= 168.62'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.62'	**6.0" Round Culvert** L= 18.0' Ke= 0.500 Inlet / Outlet Invert= 159.62' / 159.40' S= 0.0122 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.52 cfs @ 12.07 hrs HW=160.17' TW=159.77' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.52 cfs @ 2.63 fps)

Summary for Pond 12P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf
Outflow = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 161.08' @ 12.07 hrs
Flood Elev= 167.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.70'	**6.0" Round Culvert** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 160.70' / 160.40' S= 0.0094 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.33 cfs @ 12.07 hrs HW=161.08' TW=158.75' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.33 cfs @ 2.09 fps)

Summary for Pond 13P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf
Outflow = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.60' @ 12.12 hrs
Flood Elev= 166.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.83'	**6.0" Round Culvert** L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 157.83' / 157.60' S= 0.0115 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.33 cfs @ 12.07 hrs HW=158.87' TW=158.75' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.33 cfs @ 1.66 fps)

Summary for Pond 14P: 24" Petro-Barrier

Inflow Area = 2,694 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf
Outflow = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.07 hrs, Volume= 1,787 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.36' @ 12.12 hrs
Flood Elev= 165.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.88'	**6.0" Round Culvert** L= 21.0' Ke= 0.500 Inlet / Outlet Invert= 156.88' / 156.60' S= 0.0133 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.23 cfs @ 12.07 hrs HW=158.72' TW=158.66' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.23 cfs @ 1.17 fps)

Summary for Pond 15P: 24" Petro-Barrier

Inflow Area = 1,745 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf
Outflow = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.07 hrs, Volume= 1,158 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.25' @ 12.12 hrs
Flood Elev= 164.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	157.66'	**6.0" Round Culvert** L= 34.0' Ke= 0.500

Inlet / Outlet Invert= 157.66' / 157.40' S= 0.0076 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=158.56' TW=158.66' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond 16P: DMH

Inflow Area = 52,511 sf, 0.00% Impervious, Inflow Depth = 3.83" for RMAT 50-YR 24H TIER 3 event
Inflow = 5.40 cfs @ 12.09 hrs, Volume= 16,745 cf
Outflow = 5.40 cfs @ 12.09 hrs, Volume= 16,745 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.40 cfs @ 12.09 hrs, Volume= 16,745 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 161.54' @ 12.09 hrs
Flood Elev= 162.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**12.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.50' S= 0.0294 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=5.39 cfs @ 12.09 hrs HW=161.53' TW=158.77' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.39 cfs @ 6.87 fps)

Summary for Pond 17P: DMH

Inflow Area = 150,788 sf, 14.52% Impervious, Inflow Depth = 4.43" for RMAT 50-YR 24H TIER 3 event
Inflow = 15.74 cfs @ 12.11 hrs, Volume= 55,627 cf
Outflow = 15.74 cfs @ 12.11 hrs, Volume= 55,627 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.74 cfs @ 12.11 hrs, Volume= 55,627 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 161.48' @ 12.11 hrs
Flood Elev= 163.59'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.40'	**24.0" Round Culvert** L= 88.2' Ke= 0.500 Inlet / Outlet Invert= 159.40' / 155.50' S= 0.0442 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=15.72 cfs @ 12.11 hrs HW=161.48' TW=158.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 15.72 cfs @ 5.01 fps)

Summary for Pond 18P: DMH

Inflow Area = 128,888 sf, 0.00% Impervious, Inflow Depth = 3.83" for RMAT 50-YR 24H TIER 3 event
Inflow = 12.14 cfs @ 12.12 hrs, Volume= 41,100 cf
Outflow = 12.14 cfs @ 12.12 hrs, Volume= 41,100 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.14 cfs @ 12.12 hrs, Volume= 41,100 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.29' @ 12.12 hrs
Flood Elev= 165.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.50'	**18.0" Round Culvert** L= 92.0' Ke= 0.500 Inlet / Outlet Invert= 161.50' / 159.50' S= 0.0217 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=12.13 cfs @ 12.12 hrs HW=164.28' TW=161.46' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 12.13 cfs @ 6.86 fps)

Summary for Pond 20P: DMH

Inflow Area = 102,433 sf, 12.46% Impervious, Inflow Depth = 4.33" for RMAT 50-YR 24H TIER 3 event
Inflow = 12.15 cfs @ 12.08 hrs, Volume= 36,931 cf
Outflow = 12.15 cfs @ 12.08 hrs, Volume= 36,931 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.15 cfs @ 12.08 hrs, Volume= 36,931 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.81' @ 12.09 hrs
Flood Elev= 158.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.00'	**24.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 152.00' / 150.40' S= 0.0286 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=11.88 cfs @ 12.08 hrs HW=153.80' TW=152.97' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 11.88 cfs @ 5.28 fps)

Summary for Pond 21P: DMH

Inflow Area = 25,304 sf, 16.82% Impervious, Inflow Depth = 4.52" for RMAT 50-YR 24H TIER 3 event
Inflow = 3.19 cfs @ 12.07 hrs, Volume= 9,531 cf
Outflow = 3.19 cfs @ 12.07 hrs, Volume= 9,531 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.19 cfs @ 12.07 hrs, Volume= 9,531 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 156.15' @ 12.07 hrs
Flood Elev= 157.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.94'	**12.0" Round Culvert** L= 62.0' Ke= 0.500 Inlet / Outlet Invert= 154.94' / 152.40' S= 0.0410 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=3.19 cfs @ 12.07 hrs HW=156.15' TW=153.77' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 3.19 cfs @ 4.06 fps)

Summary for Pond 22P: DMH

Inflow Area = 77,129 sf, 11.04% Impervious, Inflow Depth = 4.26" for RMAT 50-YR 24H TIER 3 event
Inflow = 8.97 cfs @ 12.08 hrs, Volume= 27,399 cf
Outflow = 8.97 cfs @ 12.08 hrs, Volume= 27,399 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.97 cfs @ 12.08 hrs, Volume= 27,399 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.36' @ 12.08 hrs
Flood Elev= 158.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	155.50'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 155.50' / 155.00' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=8.95 cfs @ 12.08 hrs HW=157.36' TW=153.80' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.95 cfs @ 5.07 fps)

Summary for Pond 23P: OIL/WATER SEPARATOR

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.94 cfs @ 12.07 hrs, Volume= 6,706 cf
Outflow = 1.98 cfs @ 12.07 hrs, Volume= 6,706 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.98 cfs @ 12.07 hrs, Volume= 6,706 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.49' @ 12.09 hrs
Flood Elev= 159.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	141.80'	**12.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 141.80' / 140.10' S= 0.0093 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.84 cfs @ 12.07 hrs HW=153.41' TW=152.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.84 cfs @ 2.34 fps)

Summary for Pond 24P: DMH

Inflow Area = 10,110 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.94 cfs @ 12.07 hrs, Volume= 6,706 cf
Outflow = 1.94 cfs @ 12.07 hrs, Volume= 6,706 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.07 hrs, Volume= 6,706 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.71' @ 12.10 hrs
Flood Elev= 159.61'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.20'	**12.0" Round Culvert** L= 1.0' Ke= 0.500

Inlet / Outlet Invert= 150.20' / 150.10' S= 0.1000 '/' Cc= 0.900
n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.29 cfs @ 12.07 hrs HW=153.52' TW=153.41' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.29 cfs @ 1.65 fps)

Summary for Pond 25P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.87' @ 12.11 hrs
Flood Elev= 159.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	150.89'	**6.0" Round Culvert** L= 58.0' Ke= 0.500 Inlet / Outlet Invert= 150.89' / 150.30' S= 0.0102 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.23 cfs @ 12.07 hrs HW=153.62' TW=153.52' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.23 cfs @ 1.19 fps)

Summary for Pond 26P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 153.82' @ 12.11 hrs
Flood Elev= 161.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	152.98'	**6.0" Round Culvert** L= 17.0' Ke= 0.500 Inlet / Outlet Invert= 152.98' / 152.00' S= 0.0576 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.15 cfs @ 12.07 hrs HW=153.55' TW=153.52' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.15 cfs @ 0.79 fps)

Summary for Pond 27P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.26 cfs @ 12.07 hrs, Volume= 4,358 cf
Outflow = 1.26 cfs @ 12.07 hrs, Volume= 4,358 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.07 hrs, Volume= 4,358 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 154.58' @ 12.09 hrs
Flood Elev= 162.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**12.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 153.90' / 152.00' S= 0.0085 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.20 cfs @ 12.07 hrs HW=154.55' TW=153.52' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 1.20 cfs @ 3.15 fps)

Summary for Pond 28P: DMH

Inflow Area = 6,570 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.26 cfs @ 12.07 hrs, Volume= 4,358 cf
Outflow = 1.26 cfs @ 12.07 hrs, Volume= 4,358 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.07 hrs, Volume= 4,358 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.03' @ 12.08 hrs
Flood Elev= 163.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.40'	**12.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 154.40' / 154.00' S= 0.0080 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.22 cfs @ 12.07 hrs HW=155.02' TW=154.55' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 1.22 cfs @ 3.37 fps)

Summary for Pond 29P: 24" Petro-Barrier

Inflow Area = 1,770 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf
Outflow = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.07 hrs, Volume= 1,174 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 155.33' @ 12.07 hrs
Flood Elev= 163.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	154.95'	**6.0" Round Culvert** L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 154.95' / 154.50' S= 0.0643 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.34 cfs @ 12.07 hrs HW=155.33' TW=155.02' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.34 cfs @ 2.10 fps)

Summary for Pond 30P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.92 cfs @ 12.07 hrs, Volume= 3,184 cf
Outflow = 0.92 cfs @ 12.07 hrs, Volume= 3,184 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.92 cfs @ 12.07 hrs, Volume= 3,184 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.89' @ 12.07 hrs
Flood Elev= 165.34'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.40'	**12.0" Round Culvert** L= 98.0' Ke= 0.500 Inlet / Outlet Invert= 160.40' / 159.50' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.92 cfs @ 12.07 hrs HW=160.89' TW=155.02' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.92 cfs @ 2.39 fps)

Summary for Pond 31P: DMH

Inflow Area = 4,800 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.92 cfs @ 12.07 hrs, Volume= 3,184 cf
Outflow = 0.92 cfs @ 12.07 hrs, Volume= 3,184 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.92 cfs @ 12.07 hrs, Volume= 3,184 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.40' @ 12.07 hrs
Flood Elev= 168.53'

Device	Routing	Invert	Outlet Devices
#1	Primary	161.90'	**12.0" Round Culvert** L= 232.0' Ke= 0.500 Inlet / Outlet Invert= 161.90' / 160.50' S= 0.0060 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.92 cfs @ 12.07 hrs HW=162.40' TW=160.89' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.92 cfs @ 3.41 fps)

Summary for Pond 32P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.80' @ 12.07 hrs
Flood Elev= 170.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.44'	**6.0" Round Culvert** L= 10.0' Ke= 0.500

Inlet / Outlet Invert= 162.44' / 162.20' S= 0.0240 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=162.80' TW=162.40' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.31 cfs @ 2.04 fps)

Summary for Pond 33P: DMH

Inflow Area = 3,200 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.61 cfs @ 12.07 hrs, Volume= 2,123 cf
Outflow = 0.61 cfs @ 12.07 hrs, Volume= 2,123 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.61 cfs @ 12.07 hrs, Volume= 2,123 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.59' @ 12.07 hrs
Flood Elev= 170.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.20'	**12.0" Round Culvert** L= 159.0' Ke= 0.500 Inlet / Outlet Invert= 163.20' / 162.00' S= 0.0075 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.07 hrs HW=163.59' TW=162.40' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.61 cfs @ 2.14 fps)

Summary for Pond 34P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.80' @ 12.07 hrs
Flood Elev= 171.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.43'	**6.0" Round Culvert** L= 8.0' Ke= 0.500 Inlet / Outlet Invert= 163.43' / 163.30' S= 0.0162 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.30 cfs @ 12.07 hrs HW=163.80' TW=163.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.30 cfs @ 2.70 fps)

Summary for Pond 35P: 24" Petro-Barrier

Inflow Area = 1,600 sf,100.00% Impervious, Inflow Depth = 7.96" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf
Outflow = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.07 hrs, Volume= 1,061 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.75' @ 12.07 hrs
Flood Elev= 172.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	164.39'	**6.0" Round Culvert** L= 38.0' Ke= 0.500 Inlet / Outlet Invert= 164.39' / 164.00' S= 0.0103 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 12.07 hrs HW=164.75' TW=163.59' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.31 cfs @ 2.04 fps)

Summary for Pond 40P: DMH

Inflow Area = 105,170 sf, 0.00% Impervious, Inflow Depth = 2.65" for RMAT 50-YR 24H TIER 3 event
Inflow = 5.72 cfs @ 12.13 hrs, Volume= 23,199 cf
Outflow = 5.72 cfs @ 12.13 hrs, Volume= 23,199 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.72 cfs @ 12.13 hrs, Volume= 23,199 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.08' @ 12.14 hrs
Flood Elev= 160.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	158.00'	**24.0" W x 12.0" H Box Culvert** L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 158.00' / 157.70' S= 0.0300 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=5.66 cfs @ 12.13 hrs HW=159.07' TW=158.66' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 5.66 cfs @ 2.83 fps)

Summary for Pond 41P: CULVERT

Inflow Area = 87,839 sf, 0.00% Impervious, Inflow Depth = 2.07" for RMAT 50-YR 24H TIER 3 event
Inflow = 3.83 cfs @ 12.16 hrs, Volume= 15,146 cf
Outflow = 3.83 cfs @ 12.16 hrs, Volume= 15,146 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.83 cfs @ 12.16 hrs, Volume= 15,146 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 159.71' @ 12.16 hrs
Flood Elev= 161.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	159.00'	**24.0" W x 12.0" H Box Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 159.00' / 158.00' S= 0.0182 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 2.00 sf

Primary OutFlow Max=3.83 cfs @ 12.16 hrs HW=159.71' TW=159.06' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 3.83 cfs @ 2.70 fps)

Summary for Link 1L: OVERFLOW

Inflow Area = 782,870 sf, 7.42% Impervious, Inflow Depth = 0.00" for RMAT 50-YR 24H TIER 3 event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Link 10L: OFF-SITE

Inflow Area = 258,650 sf, 0.00% Impervious, Inflow Depth = 0.62" for RMAT 50-YR 24H TIER 3 event
Inflow = 1.49 cfs @ 12.32 hrs, Volume= 13,345 cf
Primary = 1.49 cfs @ 12.32 hrs, Volume= 13,345 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Section 3

Erosion & Sediment Control Plan

Erosion & Sedimentation Control Plan for the Stormwater Management Plan for 275/345KV Substation for New England Wind 2 Connector Project

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TABLE OF CONTENTS

1.0 – Plan Objectives

- To protect abutting properties, public ways and drainage infrastructure from construction related pollutant impacts generated from land disturbance and construction activities;
- Control existing, and potential erosion, sediment transport and pollutant impact events by installing and maintaining construction related Best Management Practices (BMP's) to reduce and/or prevent the discharge of stormwater pollutants into groundwater of the Commonwealth of Massachusetts;
- To protect surface stormwater quality, ground water quality, and minimize off-site sediment transport during construction;
- To prevent local and off-site flooding by controlling peak rates and volumes of stormwater runoff during construction; and
- To eliminate illicit discharges to stormwater drainage systems that may cause pollution during construction.

2.0 – Introduction

This Erosion and Sedimentation Control Plan (The "Plan") has been devised for the construction of a new substation consisting of gravel roadways, crushed stone surfacing, buildings, and electrical equipment for the proposed 275/245KV Substation for the New England Wind 2 Connector project.

The purpose of the Plan is to protect the surrounding environment from sediment-laden stormwater during construction of the electrical equipment and supporting infrastructure. The stormwater will be treated before release or infiltration, and surfaces stabilized to minimize erosive events by implementing, installing and maintaining construction related Best Management Practices (BMP's). These BMPs will reduce and/or prevent the discharge of stormwater pollutants into groundwater resources of the Commonwealth of Massachusetts. The BMP's are described in the MassDEP Stormwater Policy Manual as developed by the Massachusetts Department for Environmental Protection (MassDEP) and it is our belief that short-term construction related pollution prevention generated from this Site can be achieved.

3.0 - Current Site Conditions

The proposed project site is comprised of four adjacent properties in Barnstable, Massachusetts. Property areas, from west to east, are 5.4 acres, 7.3 acres, 7.5 acres and 3.4 acres. All 4 properties are currently entirely forested, with the exception of a small 'panhandle' spur in the north of the center property that is partially occupied by a clear-cut electrical easement. The proposed substation will occupy a portion of the areas of the properties, primarily in the south and center. An existing access road, leading from Oak Street to the fire tower at Clay Hill, passes the southern boundary of the three easternmost properties and will be connected to the proposed substation.

An Existing Conditions Tributary Area Plan is attached to the Stormwater Management Report. SCS Method[1] CN and time of concentration values were calculated to determine the peak runoff rates and volumes for each existing sub-catchment area.

The highest elevation at the Site is approximately 195' above mean sea level (msl) in the south of the site, while the lowest elevation is approximately 83' in the north-center of the site. Generally, much of the site topography slopes from the south to the low point in the north, although smaller sub-catchments are present along the boundaries of the site (see the Existing Conditions Plan, attached to the Stormwater Management Report, for more details).

4.0 - Project Description

4.1 - Proposed Project

The proposed project includes the construction of a new substation with electrical equipment, buildings, crushed stone surfaced area, gravel ring road and access road, and a paved driveway apron. The proposed project will also require significant re-grading and retaining structures in order to maintain a grade of no greater than 2 percent within the substation yard. The primary purpose of this project is to build a substation that will allow transmission of electrical energy while allowing safe and secure access to the site by authorized personnel.

The new electrical equipment area, and interior roads will be graded such that stormwater is directed to perforated drains beneath crushed rock surfacing on the site, and then contained on site in a detention/infiltration basin. For a complete description of the stormwater management and drainage facilities, refer to the Stormwater Management Plan.

The lot which is to be developed is already well vegetated with native species, however a landscape buffer will be maintained on the boundaries to the extent feasible so that some native woodland is preserved around the site.

All areas disturbed by construction activity shall be stabilized, and either paved, or covered with crushed stone, or planted and maintained. During site work construction, there will be a soil stockpile area and one temporary sediment basin at the northern end of the Site. The specific location, size, and design of these areas will be submitted as part of final Site design plans at a later date.

[1] Soil Conservation Service hydrologic method TR-55 was used to develop the Curve Number (CN) and Time of Concentration (Tc) values used for hydrologic analysis of pre-and post-development stormwater runoff values.

5.0 - Erosion & Sedimentation Control Plan

The contractor shall implement an Erosion and Sedimentation Control Plan that protects the surrounding environment from sediment laden stormwater runoff generated during construction activities and from other pollutants generated from construction activities such as litter and dust. Construction sequencing is part of managing a site as is implementing BMP's that assist in controlling construction related stormwater and pollutants.

5.1 - Major Construction Sequence for Site Work

The following sequence has been developed to contain all potential sedimentation and erosion incidents that could occur during the construction of the project. The contractor however is responsible to manage the site effectively to control offsite sediment transport which may not be included in this plan. The sequence will coordinate the work within the erosion barrier and coordinate other sedimentation control features to reduce the stress upon a silt fence or other deployed sediment barrier as well as limit off-site sediment transport or entry of construction related sediment to any catch basin located at the Site. The sequencing is as follows:

- Clear and grub such that a construction safety fence can be immediately installed around the property, to limit access and protect the public.
- Place an erosion control or sediment control barrier (straw wattle) at the limit of work where possible
- Carry out re-grading and expansion works to the Clay Hill fire tower access road, which is to be used for construction and permanent access to the proposed substation.
- Have a water truck on-site and use as necessary to minimize fugitive dust during excavation, demolition of existing pavement surfaces and general construction processes.
- Clear and grub, and remove top soils, and excavate as necessary to create the temporary sedimentation basin (at northern end of the Site) as intended to manage stormwater during the construction. Please note the location and design of this temporary basin will be determined during the final design phase of the project.
- Grade the gravel subbase for areas where a finished crushed stone surface will be placed (i.e. for the electrical equipment yard). Install retaining walls on the northern and southern ends (including partial sides) of the Site.
- Finalize grading of the site's sand & gravel sub-base surface, which will become the sub-base elevations of the substation.
- Install the footings and foundations for the proposed electrical equipment, containment areas, building, etc.
- Install all drainage features including the infiltration basin, deep sump catch basins, a vortex water quality unit, and two oil-water separators.

- Construct the proposed ring road and associated parking areas.
- Finalize grading within the confines of the substation yard, including the double washed crushed stone surface
- Clean up the Site, remove silt sacks, clean catch basin(s), and remove siltation barriers, construction entrance apron, and construction limit fencing.

The contractor has several procedures to perform in order to maintain the site. They include but are not limited to:

- Replace erosion control barriers at limit of work as needed. Barrier to be inspected on a weekly basis.
- Empty silt sacks that have been installed at any relevant catch basins after each rain event. Catch basins and manholes are to be cleaned once sediment occupies 1/2 the sump available. Structures are to be inspected on a weekly basis.
- Stone apron used for construction egress is to be replaced as sediment builds up; and this apron is to be inspected on a daily basis.
- All stockpiled soils (topsoil, special structural fill, etc.) are to be covered to minimize fugitive dust.
- All exposed slopes are to be stabilized with erosion control netting and/or temporary plantings.
- Maintain a covered dumpster on site to minimize windblown debris from littering neighborhood and resource areas.
- Have a water truck onsite for use during the demolition portion of the project and during rough grading to provide water to minimize fugitive dust.

5.2 - Best Management Practices

The contractor shall employ various types of structural and non-structural methodologies to minimize offsite pollution from construction activities. The following is a list of some BMP's that can be utilized; however, it is the contractor's responsibility to implement their strategies to minimize offsite sediment transport and fugitive dust and trash:

5.2.1 - Dumpster

The contractor shall have a dumpster on-site for the disposal of construction debris. The contractor shall cover the dumpster as needed to prevent wind-blown debris from becoming litter in the environment.

5.2.2 - Erosion Control Barrier

An erosion control barrier, as detailed on the project plans, shall be installed at the downgradient Limits of Work and used around the site as needed. In addition, a barrier of the same type shall be used around soil stockpiles and localized excavations on site. The barrier needs to be effective in controlling sediment transport and shall not be allowed to become strained or stressed as the project moves forward. The contractor shall inspect the barrier weekly or

after a large storm event to identify any stressed areas and replace the barrier as needed. The barrier can be one or many of several types. Staked haybales, straw wattles, or geotextile fabric or a geotextile erosion control sock are typically acceptable types of barriers; and these shall be backed up by silt fence material placed on the interior side of the proposed construction fence. The contractor shall inspect erosion control barriers daily and repair the barriers as needed.

5.2.3 - Dust Control

The use of a water truck or other method to spray water over the site shall be implemented during the dry season to minimize blown dust. The water shall not be excessively spread so erosive forces occur. The contractor shall sweep new pavement once installed and cover stockpiled soils as needed to minimize dust.

5.2.4 - Disturbed Surface Maintenance

The contractor shall stabilize the ground surface as needed to prevent erosion. Stabilization of surfaces includes the placement of pavement, crushed stone in yard areas, rip rap, erosion control netting, wood bark or haymulch, and the establishment of vegetated surfaces. Upon the completion of construction of a phase, all surfaces should be stabilized even though it is apparent that future construction efforts will cause their disturbance. Vegetated cover should be established during the proper growing season and should be enhanced by soil adjustment for proper pH, nutrients and moisture content. Surfaces that are disturbed by erosion processes or vandalism should be stabilized as soon as possible. Areas where construction activities have permanently or temporarily ceased should be stabilized within 14 days from the date of last construction activity, except when construction activity will resume within 21 days (e.g., the total time that construction activity is temporarily ceased is less than 21 days). Haybale dikes or silt fences should be set where required to trap products of erosion and should be maintained on a continuing basis during the construction process. Wheel ruts should be filled in and graded to prevent concentration of stormwater runoff. Vehicle tracks leading downhill should be blocked during periods of intense precipitation by haybales, dikes or silt fences which should be constructed to entrap the sediment.

5.2.5 - Temporary Stormwater Controls

Generally, if possible, the contractor shall rough grade the site so as to not concentrate the stormwater runoff and cause erosive forces. The contractor shall use a level spreader or other temporary stormwater control device to treat construction site runoff for suspended solids. Once final installation of the stormwater BMPs occurs, which should be after base course paving is completed, they will need to be cleaned of all construction sediment before hydraulically connecting them to each other. The use of silt sacks on deep sump catch basins will help minimize the cleaning of the sump. Temporary sediment basins installed to assist in capturing construction site runoff will need to be cleaned of all sediment by over-excavation before they are backfilled and properly compacted back to proposed finished grades. If any infiltration basin area or

other future construction zones are to be used as temporary stormwater management basins, then these areas shall be re-excavated prior to final construction to a depth necessary to completely remove any accumulated sediments and silts or impacts on existing soil that might have resulted from such accumulations during construction.

Section 4

Operations and Maintenance Plan for Proposed Stormwater BMPs
(to be submitted during final design)

Section 5

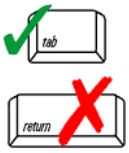
Massachusetts Checklist for Stormwater Report

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☒ New development

☐ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☒ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of “country drainage” versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☒ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☐ Static ☒ Simple Dynamic ☐ Dynamic Field[1]

☒ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☐ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☒ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

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

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☐ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☐ Name of the stormwater management system owners;
- ☐ Party responsible for operation and maintenance;
- ☐ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☐ Estimated operation and maintenance budget; and
- ☐ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☐ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Section 6

Nitrogen Loading Calculation

Nitrogen Loading Calculation

December 16, 2022

Based on Cape Cod Commission Technical Bulletin 91-001 (April 1992)

Total Developed Area: 423,714 ft^2
Impervious Surfaces: Roof 34,667 ft^2, Concrete Containment 23,427 ft^2, Other Impervious areas 62,463 ft^2
Pervious Surfaces: 303,157 ft^2.
Wastewater Flows: N/A

Wastewater – 0 L/d

Lawns – 0 L/d

Impervious Surfaces –

Roof area, concrete containments, and other impervious areas

$$120{,}557 \text{ ft}^2 \text{ x } \left[\frac{40\ in}{yr}\right]\left[\frac{ft}{12\ in}\right]\left[\frac{28.32\ L}{ft^3}\right]\left[\frac{1\ yr}{365\ d}\right] = 31{,}179.7 \text{ L/d x } \left[\frac{0.75\ mg}{L}\right] = 23{,}384.8 \text{ mg/d}$$

Pervious Surfaces –

$$303{,}157 \text{ ft}^2 \text{ x } \left[\frac{18\ in}{yr}\right]\left[\frac{ft}{12\ in}\right]\left[\frac{28.32\ L}{ft^3}\right]\left[\frac{1\ yr}{365\ d}\right] = 35{,}282.5 \text{ L/d}$$

Summary

$$\frac{23{,}384.8\ mg}{31{,}179.7+35{,}282.5\ L} = \underline{\mathbf{0.35\ ppm}}$$

APPENDED DRAWING SHEETS
(See DEIR Attachment C2)

SHEET 1	**COVER SHEET**
SHEET 2	**GENERAL NOTES**
SHEET 3	**EXISTING CONDITIONS**
SHEET 4	**EXISTING SUBCATCHMENT AREAS**
SHEET 5	**PROPOSED EQUIPMENT LAYOUT**
SHEETS 6-7	**ACCESS ROAD LAYOUT & 345KV DUCT BANK LAYOUT**
SHEET 8	**PROPOSED GRADING AND DRAINAGE**
SHEET 9	**PROPOSED SUBCATCHMENT AREAS**
SHEET 10	**TYPICAL DETAIL SHEET**