

# Stormwater Management Report

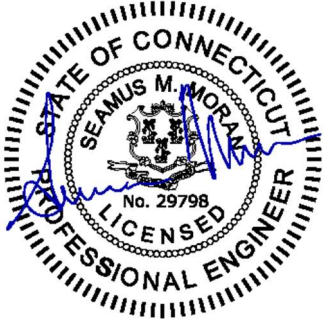
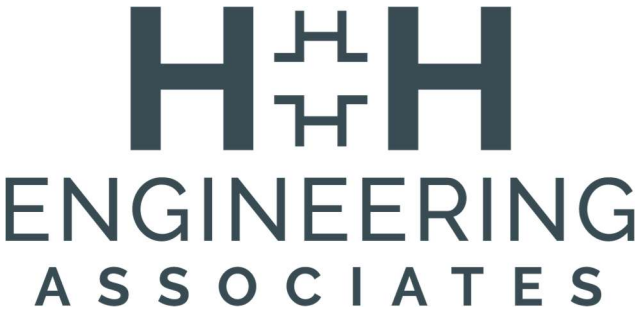
## Resubdivision Plans

23-Lot Residential Resubdivision  
47 Sharp Hill Road  
Montville, CT 06382

July 10, 2025  
Revised: September 4, 2025

Prepared for:  
**Mt. Kineo Builders, LLC**  
P.O. Box 246  
West Mystic, CT 06388

Prepared by:  
**H+H Engineering Associates, LLC**  
232 Greenmanville Avenue  
Suite 201  
Mystic, CT 06355



---

## Table of Contents

	Page
<b>1. INTRODUCTION</b>	<b>3</b>
<b>2. PURPOSE OF REPORT</b>	<b>3</b>
<b>3. BASIS OF DESIGN</b>	<b>5</b>
<b>4. HYDROLOGIC AND HYDRAULIC METHODS</b>	<b>5</b>
<b>5. STORMWATER MANAGEMENT</b>	<b>5</b>
5.1 Pre-Development Drainage Areas and Analysis Points	6
5.2 Post-Development Drainage Areas	6
5.3 Stormwater Management BMPs	7
5.4 Storm System Outlet Location	8
<b>6. SOURCE CONTROL AND POLLUTION PREVENTION MAINTENANCE AND OPERATION</b>	<b>18</b>
<b>7. CONCLUSION</b>	<b>20</b>

---

**FIGURES**

**FIGURE 1 – SITE LOCATION MAP**

**FIGURE 2 – PRE-DEVELOPMENT DRAINAGE AREA MAP**

**FIGURE 3 – POST-DEVELOPMENT DRAINAGE AREA MAP**

**FIGURE 4 – STORMWATER RUNOFF SUMMARY**

**FIGURE 5 – STAGE-STORAGE SUMMARIES**

**TECHNICAL APPENDIX**

**APPENDIX A – NRCS SOIL MAPPING**

**APPENDIX B – NOAA POINT PRECIPITATION FREQUENCY ESTIMATES**

**APPENDIX C – WATER QUALITY VOLUME CALCULATIONS**

**APPENDIX D – RIPRAP APRON CALCULATIONS**

**APPENDIX E – BMP INSPECTION CHECKLIST**

**APPENDIX F – PRE-DEVELOPMENT HYDROCAD REPORT**

**APPENDIX G – POST-DEVELOPMENT HYDROCAD REPORT**

## **1. INTRODUCTION**

The 24-lot residential resubdivision is located at 47 Sharp Hill Road in Montville, Connecticut (the "Site") and is further identified as Lot 23 on the Town of Montville Tax Assessor's Map 63. The property is 19.5 acres, more or less, with frontage on Sharp Hill Road to the south and the Carol Drive to the west (See Figure 1 – Site Location Map). With the exception of the riprap drainage basin at the end of the Carol Drive cul-de-sac, the property is undeveloped.

Existing topography across the Site is moderate to steep with elevations ranging from 435 at the high point to the west, to 326 at the low point at the wetlands to the east. Per NRCS soil mapping (see Technical Appendix 'A'), the underlying soil consists of Woodbridge (Hydrologic Soil Group 'C/D'), Canton and Charlton (Hydrologic Soil Group 'B') and Paxton and Montauk (Hydrologic Soil Group 'C').

The Site is located in the residential 'R-20' Zone. The Site is not located within a Connecticut Department of Energy and Environmental Protection ("CT DEEP") Drinking Water Watershed, or a CT DEEP National Diversity Data Base Critical Area

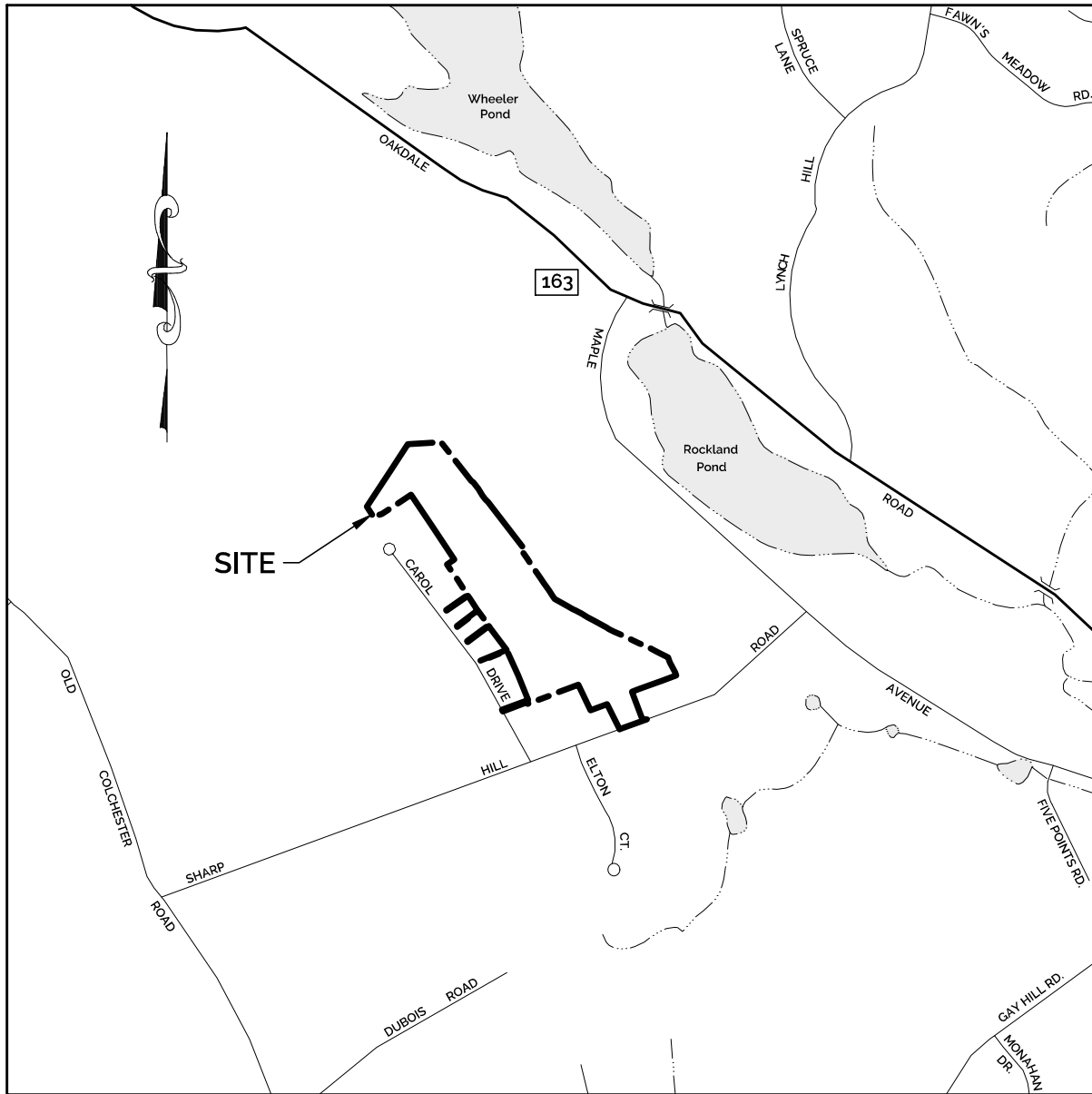
The applicant is proposing a 24-lot residential resubdivision, consisting of 22 building lots, an open space lot on the northwest side of the parcel, and a lot for stormwater management. As part of the resubdivision, the roadway, associated roadway drainage and stormwater management improvements, and common utilities (sanitary sewer, electric, telephone, cable) will be installed. The residences, driveways, individual lot grading, and drilled wells shown on the site plans for the new building lots are shown for conceptual purposes only. No lot development is proposed at this time. Prior to any individual lot development, a site plan shall be prepared in conformance with all applicable local regulations, and reviewed and approved by the zoning enforcement officer.

This report presents the basis of the project hydrologic and hydraulic analysis of the Site, the design for the new stormwater management systems, and Best Management Practices (BMPs) incorporated into the site design to manage and treat stormwater runoff in accordance with the 2024 CT DEEP Stormwater Quality Manual ("SQM") and the Town of Montville Zoning Regulations.

## **2. PURPOSE OF REPORT**

This report presents the basis of design for stormwater management including drainage and stormwater treatment. The report demonstrates that the development:

- Improves the quality of receiving groundwater, waterbodies, or watercourses.
- Complies with the 2024 CT DEEP SQM and the Town of Montville Stormwater Management Standards.



PROJECT NO. 2025-0197	SCALE: 1" = 1,000'
DRAWN BY: REG	DATE: 7/10/2025
CHECKED BY: SMM	DATE: 7/10/2025
SHEET NUMBER: 1 OF 1	
DRAWING: <b>FIGURE 1</b>	

**SITE LOCATION MAP**

**24-LOT RESIDENTIAL RESUBDIVISION**  
 47 SHARP HILL ROAD, MONTVILLE, CT 06382  
**MT KINEO BUILDERS, LLC**  
 P.O. BOX 246, WEST MYSTIC, CT 06388

**H#H**  
**ENGINEERING**  
**ASSOCIATES**

232 Greenmanville Avenue  
 Suite 201  
 Mystic, CT 06355  
 860-980-8008  
 www.hh-engineers.com

### **3. BASIS OF DESIGN**

The layout, grading, and stormwater management design for the development are shown on the Site Development Plans. The basis of the stormwater management design is as follows:

1. Rainfall data is from the National Weather Service NOAA Atlas 14, Volume 10, Version 3 (see Technical Appendix 'B').
2. Stormwater system is designed to meet or exceed the water quality and peak rate of runoff goals established in the CT DEEP SQM.
3. Stormwater treatment Best Management Practices (BMPs) are designed to remove pollutants, such as nutrients, solids, metals, pathogens, pesticides, and hydrocarbons from stormwater runoff and to reduce temperatures of runoff from paved surfaces during hot weather.
4. Pretreatment of runoff for the removal of sediments, oil and grease will be accomplished using a deep sump catch basin and outlet hood.

### **4. HYDROLOGIC AND HYDRAULIC METHODS**

The methods described in Urban Hydrology for Small Watersheds, 2nd Edition, (Technical Release Number 55 [TR-55]) from the Natural Resources Conservation Service (formerly the Soil Conservation Service – [SCS], 1986) were used to calculate stormwater peak-flow generated from pre- and post-development conditions. These methods, which are incorporated into the HydroCAD computer software program, use well documented procedures to calculate stormwater runoff volume, peak-flow rate of discharge, hydrographs and storage volumes required for floodwater reservoirs in small watersheds. The method uses the SCS Runoff Curve Number method to estimate runoff volume, calculate times of concentration, produce tabular hydrographs, and estimate basin storage capacity. Output data from all computer analysis and design are provided in Technical Appendices “F” and “G.”

This report presents the basis of the hydrologic and hydraulic analysis and design of the stormwater management systems completed in accordance with the 2024 CT DEEP SQM. Times of concentration applicable to the existing and proposed conditions were developed using the NRCS-velocity method. A minimum time of concentration of 5 minutes was used for small drainage areas and drainage areas consisting mostly of impervious surfaces, and 10 minutes for vegetated areas.

### **5. STORMWATER MANAGEMENT**

The Site is undeveloped. The proposed improvements will increase impervious areas, resulting in changes in stormwater runoff from the Site. Hydrologic analyses of pre- and post-development conditions were completed to assess these changes and to design water quality enhancements.

## 5.1 Pre-Development Drainage Areas and Analysis Points

The pre-development drainage pattern for the Site consists of four drainage subareas (see Figure 3 – Pre-Development Drainage Area Map) and are described as follows:

- **Drainage Subarea #1 'SA1'**: Approximately 1.93 acres consisting of 0.21 acres of buildings/impervious surfaces, 0.05 acres of gravel surfaces, 0.01 acres open decking, 1.06 acres of lawn, and 0.60 acres of woods that drains to Drainage Analysis Line #1.
- **Drainage Subarea #2 'SA2'**: Approximately 10.03 acres consisting of 0.42 acres of buildings/impervious surfaces, 0.02 acres of gravel surfaces, 0.03 acres open decking, 1.76 acres of lawn, and 7.80 acres of woods that drains to Drainage Analysis Line #2.
- **Drainage Subarea #3 'SA3'**: Approximately 6.64 acres consisting of 0.16 acres of buildings/impervious surfaces, 0.01 acres of gravel surfaces, 0.91 acres of lawn, and 5.57 acres of woods that drains to Drainage Analysis Line #3.
- **Drainage Subarea #4 'SA4'**: Approximately 0.21 acres of woods that drains to Drainage Analysis Line #4.
- **Drainage Analysis Line #1 'AL1'**: Drainage Analysis Line #1 is the southeastern property line.
- **Drainage Analysis Line #2 'AL2'**: Drainage Analysis Line #2 is the wetlands at the eastern property line.
- **Drainage Analysis Line #3 'AL3'**: Drainage Analysis Line #3 is the northern property line.
- **Drainage Analysis Line #4 'AL4'**: Drainage Analysis Line #4 is the northeastern property line.

## 5.2 Post-Development Drainage Areas

The post-development improvements result in the modification of the drainage areas along with changes in impervious coverage. These conditions are shown on Figure 4 – Post-Development Drainage Area Map, and described as follows:

- **Drainage Subarea #1 'SA1'**: Approximately 0.39 acres consisting of 0.12 acres of buildings/impervious surfaces, 0.26 acres of lawn, and 0.004 acres of woods that drains to Drainage Analysis Line #1.
- **Drainage Subarea #2 'SA2'**: For analysis purposes, the drainage area SA2 was subdivided into 4 subareas.
  - **SA2A**: Approximately 10.74 acres consisting of 1.98 acres of buildings/impervious surfaces, 0.06 acres of gravel surfaces, 0.08 acres open decking, 5.77 acres of lawn, and 2.85 acres of woods that drains to Stormwater Management Area '2A'.

- **SA2B:** Approximately 0.56 acres consisting of 0.02 acres of buildings/impervious surfaces, 0.003 acres open decking, and 0.54 acres and receives the outflow from Stormwater Management Area '2A'.
- **SA2C:** Approximately 0.32 acres of lawn and coinciding with the interior Stormwater Management Area '2C' and receives the outflow from Stormwater Management Area '2B'.
- **SA2D:** Approximately 0.15 acres consisting of 0.10 acres of lawn and 0.06 acres of woods that drains to Drainage Analysis Line #2 and receives the outflow from Stormwater Management Area '2C'.
- **Drainage Subarea #3 'SA3':** For analysis purposes, the drainage area SA3 was subdivided into 4 subareas.
  - **SA3A:** Approximately 1.36 acres consisting of 0.36 acres of buildings/impervious surfaces, 0.01 acres open decking, 0.91 acres of lawn, and 0.09 acres of woods that drains to Drainage Management Area '3A'.
  - **SA3B:** Approximately 5.11 acres consisting of 0.46 acres of buildings/impervious surfaces, 0.01 acres of compact gravel, 0.03 acres of open decking, 2.51 acres of lawn, and 2.11 acres of woods that drains to Drainage Analysis Line #3 and receives the outflow from Stormwater Management Area '3A'.
- **Drainage Subarea #4 SA4:** Approximately 0.17 acres consisting of 0.10 acres of lawn, and 0.07 acres of woods that drains to Drainage Analysis Line #4.

Modeling results for the pre- and post-development drainage areas are provided in Figure 5 – Stormwater Runoff Summary, and the hydrologic and hydraulic modeling parameters are provided in the HydroCAD printouts (Technical Appendices 'E' and 'F').

### 5.3 Stormwater Management BMPs

For the proposed improvements, the intent of the stormwater BMPs are to manage rooftop runoff adjacent to the source, collect and manage stormwater runoff generated from the new pavement and the buildings that could not be managed at the source, and reduce limits of disturbance by reducing the area of clearing/grading. Bioretention basins are proposed to provide water quality treatment and promote groundwater recharge through infiltration. The Stormwater Management Areas are described below:

- **Stormwater Management Area '2A':** Bioretention Basin – The stormwater runoff generated from the majority of the proposed development and contributing existing developed residential properties along Sharp Hill Road and Carol Drive will be directed into the proposed Bioretention Basin which will retain, attenuate, and infiltrate stormwater runoff and treat stormwater runoff through plant filtration and infiltration. The Bioretention Basin is designed to infiltrate the majority of the water quality event (1.3" storm event).

- **Stormwater Management Area '2B':** Bioretention Basin – The stormwater runoff generated from said drainage basin, the outflow from Stormwater Management Area '2A' and the contributing rear portion of the building for proposed Building Lot 24 will be directed into the proposed Bioretention Basin. The Bioretention Basin is designed to infiltrate the water quality event (1.3" storm event).
- **Stormwater Management Area '2C':** Bioretention Basin – The stormwater runoff generated from said drainage basin and outflow from Stormwater Management Area '2B'.
- **Stormwater Management Area '3A':** Bioretention Basin – The stormwater runoff generated from proposed Building Lots 13 and 14 and the contributing area from one of the existing residential houses on Carol Drive will be directed into the proposed Bioretention Basin. The Raingarden is designed to infiltrate through the water quality event. The Bioretention Basin is designed to infiltrate the water quality event (1.3" storm event).

Field Measured infiltration rates in the vicinity of Stormwater Management Area 'A' varied between 6.51 inches/hour (Test Hole #101), 0.05 inches/hour (Test Hole #102), 1.89 inches/hour (Test Hole #104), and 4.08 inches/hour (Test Hole #105). The unsuitable soil layer found in proximity to Test Hole #102 will be removed. Additionally, a Bioretention Soil Mix will be used for the bottom of the basins which utilize a consistent infiltration rate of 1.0 inch/hour.

#### 5.4 Storm System Outlet Location

At a minimum, Stormwater Management Areas '2A,' '2B,' '2C', and '3A' are designed to infiltrate through the water quality storm event. Beyond the design event, each stormwater management system will discharge runoff as described below:

- **Stormwater Management Area '2A':** An outlet control structure is proposed to allow for a controlled discharge through the 100-year storm event and riprap spillway is proposed to allow a controlled discharge beyond the 100-year storm event. The overflow discharge routed through the outlet control structure outlets to a flared end section and riprap apron to Stormwater Management Basin '2B'. The overflow discharge is routed over the riprap spillway and to the aforementioned basin.
- **Stormwater Management Area '2B':** An outlet control structure is proposed to allow for a controlled discharge through the 100-year storm event and riprap spillway is proposed to allow a controlled discharge beyond the 100-year storm event. The overflow discharge routed through the outlet control structure outlets to a flared end section and riprap apron to Stormwater Management Basin '2C'. The overflow discharge is routed over the riprap spillway and to the aforementioned basin.
- A riprap spillway is proposed to allow a controlled discharge beyond the water quality event. The overflow discharge routed over the riprap spillway is directed toward Analysis Line #1.

- **Stormwater Management Area '2C':** An outlet control structure is proposed to allow for a controlled discharge through the 100-year storm event and riprap spillway is proposed to allow a controlled discharge beyond the 100-year storm event. The overflow discharge routed through the outlet control structure outlets to a flared end section and riprap apron. The overflow discharge routed over the riprap spillway is directed toward Analysis Line #2.
- **Stormwater Management Area '3A':** An outlet control structure is proposed to allow for a controlled discharge through the 100-year storm event and riprap spillway is proposed to allow a controlled discharge beyond the 100-year storm event. The overflow discharge routed through the outlet control structure outlets to a flared end section and riprap apron. The overflow discharge routed over the riprap spillway is directed toward Analysis Line #3.

**Figure 4A – Runoff Summary**

Storm Frequency (depth of rainfall (in.))	Analysis Line #1 – Southeastern Property Line					
	Existing		Proposed		Change	
	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)
WQS (1.30)	0.09	819	0.00	0	-0.09	-819
1-year (2.90)	1.48	6,652	0.50	1,250	-0.98	-5,402
2-year (3.45)	2.14	9,324	0.68	1,847	-1.46	-7,477
10-year (5.12)	4.37	18,482	1.25	3,830	-3.12	-14,652
25-year (6.16)	5.85	24,682	1.62	5,137	-4.23	-19,545
100-year (7.76)	8.18	34,653	2.18	7,211	-6.00	-27,442

**Figure 4B – Runoff Summary**

Storm Frequency (depth of rainfall (in.))	Analysis Line #2 – Wetlands					
	Existing		Proposed		Change	
	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)
WQV (1.30)	0.12	2,251	0.00	40	-0.12	-2,211
1-year (2.90)	4.94	27,281	0.11	435	-4.83	-26,846
2-year (3.45)	7.56	39,628	1.66	15,021	-5.90	-24,607
10-year (5.12)	16.75	83,408	12.00	69,744	-4.75	-13,664
25-year (6.16)	23.05	113,771	22.39	107,201	-0.66	-6,570
100-year (7.76)	33.19	163,288	31.07	167,351	-2.12	+4,063

**Figure 4C – Runoff Summary**

Storm Frequency (depth of rainfall (in.))	Analysis Line #3 – Northern Property Line					
	Existing		Proposed		Change	
	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)
WQV (1.30)	0.04	1,000	0.06	1,148	+0.02	+148
1-year (2.90)	2.80	15,901	2.69	16,761	-0.11	+860
2-year (3.45)	4.45	23,567	4.32	24,979	-0.13	+1,412
10-year (5.12)	10.40	51,258	10.33	53,944	-0.07	+2,686
25-year (6.16)	14.54	70,716	14.41	73,882	-0.13	+3,166
100-year (7.76)	21.22	102,692	21.18	106,255	-0.04	+3,563

**Figure 4D – Runoff Summary**

Storm Frequency (depth of rainfall (in.))	Analysis Line #4 – Northeastern Property Line					
	Existing		Proposed		Change	
	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)
WQV (1.30)	0.00	32	0.00	38	No Change	No Change
1-year (2.90)	0.12	506	0.11	464	-0.01	-42
2-year (3.45)	0.19	749	0.17	674	-0.02	-75
10-year (5.12)	0.44	1,630	0.39	1,418	-0.05	-212
25-year (6.16)	0.62	2,249	0.53	1,934	-0.09	-315
100-year (7.76)	0.91	3,265	0.77	2,776	-0.14	-489

**Figure 4E – Runoff Summary**

Storm Frequency (depth of rainfall (in.))	Total Site Discharge					
	Existing		Proposed		Change	
	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)	Peak Rate (CFS)	Volume (CF)
WQS (1.30)	0.20	4,102	0.06	1,226	-0.14	-2,876
1-year (2.83)	9.08	50,340	3.07	18,911	-6.01	-31,429
2-year (3.40)	13.95	73,269	4.90	42,521	-9.05	-30,748
10-year (5.08)	31.19	154,777	20.13	128,966	-11.06	-25,811
25-year (6.14)	43.07	211,418	35.19	188,154	-7.88	-23,264
100-year (7.76)	62.19	303,898	52.48	283,593	-9.71	-20,305

<b>Figure 5A – Stage Storage Summary</b>		
<b>Storm Frequency (rainfall depth (in.))</b>	<b>Stormwater Management Area #1 'SW1' – Infiltration Trench</b>	
	<b>Water Surface Elevation (FT.)</b>	<b>Storage Volume (CF)</b>
WQS (1.30)	360.83	124
1-year (2.83)	361.09	161
2-year (3.40)	361.11	165
10-year (5.08)	361.16	173
25-year (6.14)	361.09	177
100-year (7.76)	361.23	183

<p align="center"><b>Treatment Practice Elevations (FT.)</b></p> <p align="center">Top of Infiltration Trench Elevation = 365.50 – 361.00 (Varies)</p> <p align="center">Spillway Elevation = 361.00</p> <p align="center">Bottom of Infiltration Trench Elevation = 360.00</p> <p align="center">Design Exfiltration Rate = 1.0 inches/hour</p> <p align="center">(Receiving soil below basin to be replaced with Biofiltration Soil Mix)</p>
--

**Figure 5B – Stage Storage Summary**

Storm Frequency (rainfall depth (in.))	Stormwater Management Area #2A 'SW2A' – Bioretention Basin	
	Water Surface Elevation (FT.)	Storage Volume (CF)
WQS (1.30)	355.79	2,850
1-year (2.83)	356.26	4,100
2-year (3.40)	356.26	4,120
10-year (5.08)	356.30	4,224
25-year (6.14)	356.35	4,358
100-year (7.76)	356.45	4,663

**Treatment Practice Elevations (FT.)**

Top of Berm Elevation = 357.00  
 Spillway Elevation = 356.50  
 Bottom of Basin Elevation = 354.00

**Outlet Control Structure Elevations (FT.)**

Top of Frame Elevation = 356.25  
 Orifice Invert Elevation = 355.75  
 Outlet Pipe Invert Elevation = 345.00

Design Exfiltration Rate = 1.0 inches/hour

(Receiving soil below infiltration trench to be replaced with Biofiltration Soil Mix)

**Figure 5C – Stage Storage Summary**

Storm Frequency (rainfall depth (in.))	Stormwater Management Area #2B 'SW2B' – Bioretention Basin	
	Water Surface Elevation (FT.)	Storage Volume (CF)
WQS (1.30)	343.52	138
1-year (2.83)	346.37	23,262
2-year (3.40)	346.57	25,343
10-year (5.08)	346.80	27,825
25-year (6.14)	346.85	28,370
100-year (7.76)	346.98	29,775

**Treatment Practice Elevations (FT.)**

Top of Berm Elevation = 347.50  
 Spillway Elevation = 347.00  
 Bottom of Basin Elevation = 343.50

**Outlet Control Structure Elevations (FT.)**

Top of Frame Elevation = 346.75  
 Orifice Invert Elevation = 346.25  
 Outlet Pipe Invert Elevation = 339.00

Design Exfiltration Rate = 1.0 inches/hour  
 (Receiving soil below basin to be replaced with Biofiltration Soil Mix)

**Figure 5D – Stage Storage Summary**

Storm Frequency (rainfall depth (in.))	Stormwater Management Area #2C 'SW1C' – Bioretention Basin	
	Water Surface Elevation (FT.)	Storage Volume (CF)
WQS (1.30)	338.00	11
1-year (2.83)	339.12	4,126
2-year (3.40)	339.40	5,363
10-year (5.08)	340.92	13,516
25-year (6.14)	341.76	19,105
100-year (7.76)	342.98	28,751

**Treatment Practice Elevations (FT.)**

Top of Berm Elevation = 344.00  
 Spillway Elevation = 343.00  
 Bottom of Basin Elevation = 338.00

**Outlet Control Structure Elevations (FT.)**

Top of Frame Elevation = 342.00  
 High Level Orifice Invert Elevation = 340.90  
 Low Level Orifice Invert Elevation = 339.15  
 Outlet Pipe Invert Elevation = 335.00

Design Exfiltration Rate = 1.0 inches/hour  
 (Receiving soil below basin to be replaced with Biofiltration Soil Mix)

**Figure 5E – Stage Storage Summary**

Storm Frequency (rainfall depth (in.))	Stormwater Management Area #3A 'SW3A' – Bioretention Basin	
	Water Surface Elevation (FT.)	Storage Volume (CF)
WQS (1.30)	388.35	326
1-year (2.83)	389.47	2,078
2-year (3.40)	389.79	2,748
10-year (5.08)	390.43	4,262
25-year (6.14)	390.74	5,082
100-year (7.76)	391.07	6,004

**Treatment Practice Elevations (FT.)**

Top of Berm Elevation = 392.00  
 Spillway Elevation = 343.00  
 Bottom of Basin Elevation = 388.00

**Outlet Control Structure Elevations (FT.)**

Top of Frame Elevation = 391.25  
 High Level Orifice Invert Elevation = 390.75  
 Mid Level Orifice Invert Elevation = 390.00  
 Low Level Orifice Invert Elevation = 389.00  
 Outlet Pipe Invert Elevation = 385.50

Design Exfiltration Rate = 1.0 inches/hour  
 (Receiving soil below basin to be replaced with Biofiltration Soil Mix)

## **6. SOURCE CONTROL AND POLLUTION PREVENTION MAINTENANCE AND OPERATION**

Source control and pollution prevention practices for this development are intended to eliminate the generation of pollutants at their source, reduce the types and concentration of pollutants in stormwater runoff and to assure that the BMPs continue to function to remove oil and grease and TSS. The site property manager will be responsible for maintaining the stormwater management system and the goal of this section is to inform managers about system operations.

The following maintenance and operation measures are recommended for source control.

### **Roadway**

The access drive and parking areas shall be swept once per year, preferably after the end of the winter sanding season.

### **Landscaping**

Normal landscaping maintenance shall consist of pruning, mulching, planting, mowing lawns, raking leaves, etc. Use of fertilizers and pesticides will be controlled and limited to minimal amounts necessary for healthy landscape maintenance.

Trees will be fertilized no more than once in the spring with an organic fertilizer. Shrubs and lawn will be fertilized with an organic slow-release fertilizer each spring. Liming of lawn areas to control pH will also be done in the spring if soil testing indicates that it is necessary.

Pesticides will only be used as a control method when a problem has been clearly identified, and other natural control methods are not successful. All pesticide applications shall be by licensed applicators, where necessary.

### **Trash Collection**

Trash will be disposed of using rollaway refuse bins. The pickup of trash will occur on a regular basis and all trash will be disposed of legally off-site.

### **Outdoor Storage**

There will be no outdoor storage of hazardous chemicals, fertilizer, pesticides, or herbicides anywhere on site.

### **Snow Removal & Storage**

Snow shall be shoveled and plowed from the roadway areas as soon as practical during and after winter storms and deposited in snow storage areas on the site or removed.

### **Catch Basins and Manholes**

A Connecticut-licensed hauler shall pump the sumps of on-site catch basins and manholes, and shall dispose of the pumping legally. Road sand may be reused for winter sanding, but may not

be stored on-site. As part of the hauling contract, the hauler shall notify the property owner in writing where the material is being disposed.

For the first two years, each catch basin and manhole shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by vacuum "Vactor" type of maintenance equipment. After the first two years the inspection schedule may be adjusted to meet actual operating conditions, however, one inspection shall always be conducted in April. All sediment shall be disposed of in accordance with all rules and regulations of the CT DEEP.

### **Bioretention Basin**

The Bioretention Basins shall be cleaned at the end of construction once the contributing areas are fully stabilized.

Following construction, the Bioretention Basin/Raingarden shall be inspected every six months and/or after storm events of two inches of rainfall or greater. Inspections shall include the following:

- Inspect filter media standing water or other evidence of clogging.
- Check for sediment accumulation, trash, and debris.
- Check for blockages, structural integrity, and evidence of erosion at inlet, outlet, and overflow spillway.

Regular maintenance shall include the following:

- Basin floor/side slopes shall be mowed 6" to 8" as needed. grass clippings, leaves and accumulated sediment and debris shall be removed during the summer, however, plant matter shall be left in place over winter months to insulate the soil and add organic matter to the soil. Removal criteria shall include when plant matter is smothering or killing vegetation and aesthetics.
- Remove sediment greater than 1.0 inch deep in March-April in the filter media bed in a manner to minimize damage to vegetation.
- Inspect soil and repair eroded areas seasonally or as necessary.
- Remove any invasive species (including roots) that have become established within the basin and embankments.
- If there is an accumulation of organic debris or sediment on the floor of the basin, or if ponded water is regularly observed more than 48 hours after a rainfall event, the top 6" shall be removed and the exposed soil surface rototilled to a depth of 12". Sedimentation should be removed when it is visibly dry and readily separates from the basin floor to minimize smearing. After this work has been done, the bottom of the basin shall be restored to its original condition.
- No pesticides or non-organic fertilizers shall be used in areas draining to the bioretention basin.

### **Infiltration Trench**

The infiltration trench shall be cleaned at the end of construction once the contributing areas are fully stabilized.

For the first 6 months after construction, the infiltration trench shall be inspected after major storms (1" or more of precipitation).

After the first 6 months of operation, the infiltration trench shall be inspected annually, and an inspection report shall be completed and filed with management staff. A typical BMP inspection checklist is included in Technical Appendix 'C.'

Typical maintenance shall include the following:

- Remove trash and organic debris (leaves).
- Remove sediment from the infiltration trench surface when the sediment accumulation exceeds 2" or when drawdown time exceeds 48 hours after the end of a storm event, indicating that the soil media is clogged.
- Weed, as necessary.
- Mow grass within proximity of the infiltration trench to a height of 4" to 6".
- Periodically remove grass clippings to prevent clogging of the surface of the infiltration trench.

## **7. CONCLUSION**

The new stormwater management improvements were designed in accordance with the 2024 CT DEEP SQM and Town of Lebanon Zoning regulations. BMPs were incorporated in the site design that treat stormwater runoff through the water quality event. Overall, the stormwater management system provides qualitative improvements for the site.



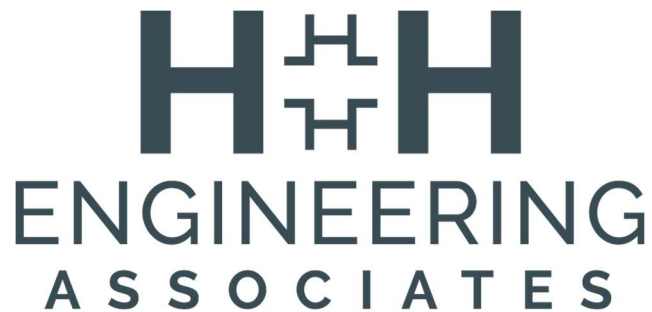
# Technical Appendices for Stormwater Management Report

## Resubdivision Plans 23-Lot Residential Resubdivision 47 Sharp Hill Road Montville, CT 06382

July 10, 2025  
Revised: September 4, 2025

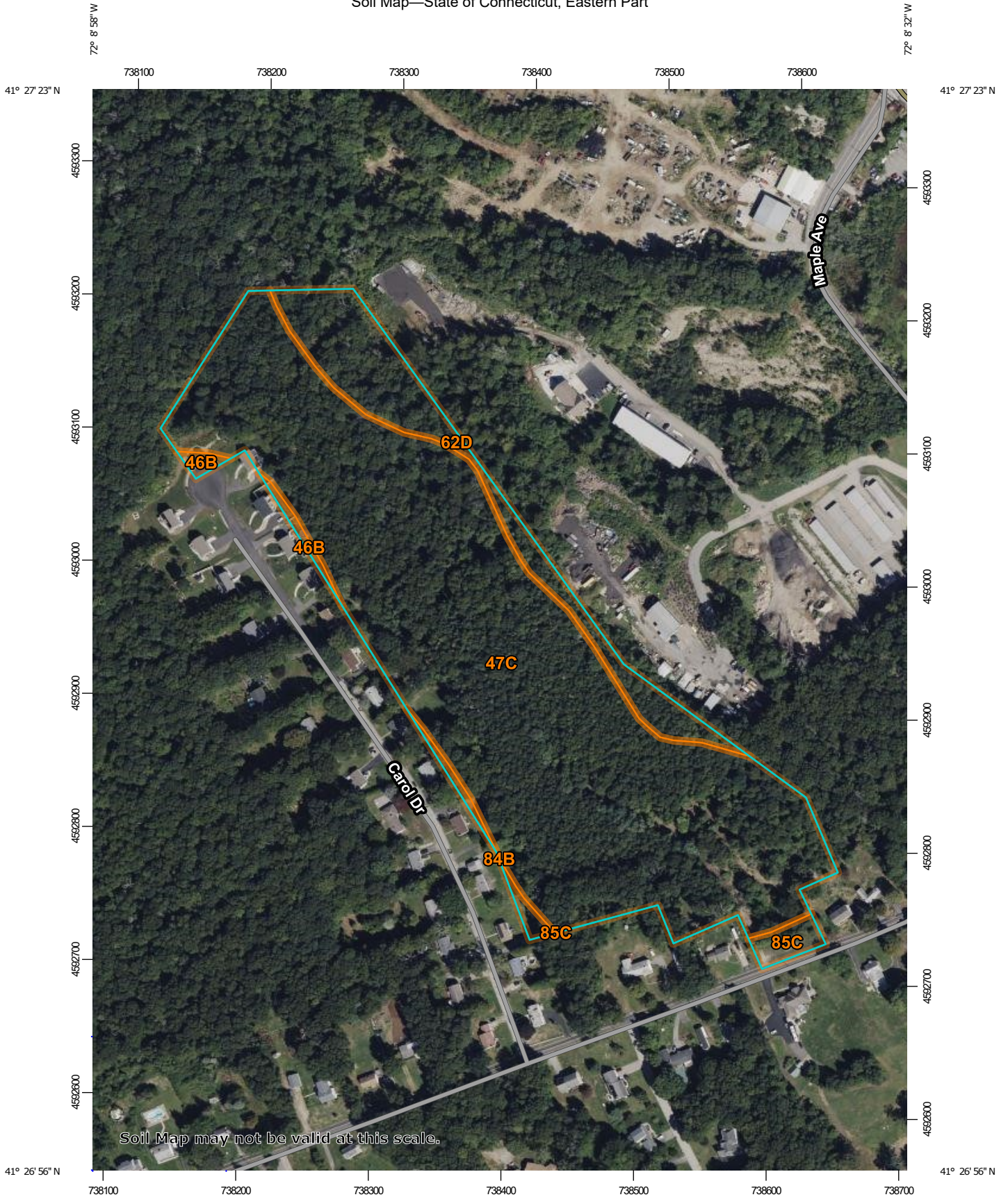
Prepared for:  
**Mt. Kineo Builders, LLC**  
P.O. Box 246  
West Mystic, CT 06388

Prepared by:  
**H+H Engineering Associates, LLC**  
232 Greenmanville Avenue  
Suite 201  
Mystic, CT 06355

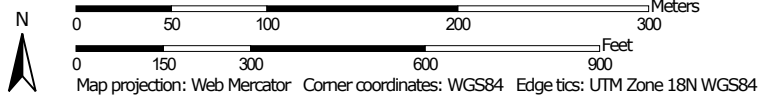


**Appendix A –  
NRCS Soil Mapping**

Soil Map—State of Connecticut, Eastern Part



Map Scale: 1:3,960 if printed on A portrait (8.5" x 11") sheet.




Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

7/10/2025  
Page 1 of 3

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: State of Connecticut, Eastern Part  
 Survey Area Data: Version 2, Aug 30, 2024

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

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	0.2	0.9%
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	19.9	84.5%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	2.9	12.3%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	0.2	1.0%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	0.3	1.3%
<b>Totals for Area of Interest</b>		<b>23.6</b>	<b>100.0%</b>

## State of Connecticut, Eastern Part

### 47C—Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony

#### Map Unit Setting

*National map unit symbol:* 2w685

*Elevation:* 10 to 1,470 feet

*Mean annual precipitation:* 36 to 71 inches

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 145 to 240 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Woodbridge, extremely stony, and similar soils:* 83 percent

*Minor components:* 17 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Woodbridge, Extremely Stony

##### Setting

*Landform:* Ground moraines, hills, drumlins

*Landform position (two-dimensional):* Backslope, footslope, summit

*Landform position (three-dimensional):* Side slope, crest

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

##### Typical profile

*Oe - 0 to 2 inches:* moderately decomposed plant material

*A - 2 to 9 inches:* fine sandy loam

*Bw1 - 9 to 20 inches:* fine sandy loam

*Bw2 - 20 to 32 inches:* fine sandy loam

*Cd - 32 to 67 inches:* gravelly fine sandy loam

##### Properties and qualities

*Slope:* 3 to 15 percent

*Surface area covered with cobbles, stones or boulders:* 9.0 percent

*Depth to restrictive feature:* 20 to 43 inches to densic material

*Drainage class:* Moderately well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.14 in/hr)

*Depth to water table:* About 19 to 27 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 5.3 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* C/D

*Ecological site:* F144AY037MA - Moist Dense Till Uplands

*Hydric soil rating:* No

### **Minor Components**

#### **Paxton, extremely stony**

*Percent of map unit:* 9 percent

*Landform:* Ground moraines, hills, drumlins

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Crest, side slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

#### **Ridgebury, extremely stony**

*Percent of map unit:* 5 percent

*Landform:* Drumlins, depressions, hills, drainageways, ground moraines

*Landform position (two-dimensional):* Toeslope, footslope

*Landform position (three-dimensional):* Base slope, head slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

#### **Sutton, extremely stony**

*Percent of map unit:* 2 percent

*Landform:* Hills, ground moraines

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Whitman, extremely stony**

*Percent of map unit:* 1 percent

*Landform:* Drainageways, depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

## **Data Source Information**

Soil Survey Area: State of Connecticut, Eastern Part

Survey Area Data: Version 2, Aug 30, 2024

## State of Connecticut, Eastern Part

### 62D—Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony

#### Map Unit Setting

*National map unit symbol:* 2w81r

*Elevation:* 0 to 1,640 feet

*Mean annual precipitation:* 36 to 71 inches

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 145 to 240 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Canton, extremely stony, and similar soils:* 55 percent

*Charlton, extremely stony, and similar soils:* 30 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Canton, Extremely Stony

##### Setting

*Landform:* Moraines, hills, ridges

*Landform position (two-dimensional):* Backslope, summit, shoulder

*Landform position (three-dimensional):* Crest, nose slope, side slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Convex

*Parent material:* Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

##### Typical profile

*O<sub>i</sub> - 0 to 2 inches:* slightly decomposed plant material

*A - 2 to 5 inches:* fine sandy loam

*B<sub>w</sub>1 - 5 to 16 inches:* fine sandy loam

*B<sub>w</sub>2 - 16 to 22 inches:* gravelly fine sandy loam

*2C - 22 to 67 inches:* gravelly loamy sand

##### Properties and qualities

*Slope:* 15 to 35 percent

*Surface area covered with cobbles, stones or boulders:* 9.0 percent

*Depth to restrictive feature:* 19 to 39 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water*

*(K<sub>sat</sub>):* Moderately low to high (0.14 to 14.17 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 3.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* B

*Ecological site:* F144AY034CT - Well Drained Till Uplands

*Hydric soil rating:* No

#### **Description of Charlton, Extremely Stony**

##### **Setting**

*Landform:* Ridges, ground moraines, hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Convex

*Parent material:* Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

##### **Typical profile**

*Oe - 0 to 2 inches:* moderately decomposed plant material

*A - 2 to 4 inches:* fine sandy loam

*Bw - 4 to 27 inches:* gravelly fine sandy loam

*C - 27 to 65 inches:* gravelly fine sandy loam

##### **Properties and qualities**

*Slope:* 15 to 35 percent

*Surface area covered with cobbles, stones or boulders:* 9.0 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water*

*(Ksat):* Moderately low to high (0.14 to 14.17 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Moderate (about 8.7 inches)

##### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* B

*Ecological site:* F144AY034CT - Well Drained Till Uplands

*Hydric soil rating:* No

#### **Minor Components**

##### **Hollis, extremely stony**

*Percent of map unit:* 5 percent

*Landform:* Ridges, hills

*Landform position (two-dimensional):* Shoulder, backslope, summit

*Landform position (three-dimensional):* Crest, side slope, nose slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

**Chatfield, extremely stony**

*Percent of map unit:* 5 percent

*Landform:* Ridges, hills

*Landform position (two-dimensional):* Summit, backslope, shoulder

*Landform position (three-dimensional):* Crest, side slope, nose slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

**Sutton, extremely stony**

*Percent of map unit:* 5 percent

*Landform:* Ground moraines, hills

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: State of Connecticut, Eastern Part

Survey Area Data: Version 2, Aug 30, 2024

## State of Connecticut, Eastern Part

### 85C—Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony

#### Map Unit Setting

*National map unit symbol:* 2w67f

*Elevation:* 0 to 1,520 feet

*Mean annual precipitation:* 36 to 71 inches

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 145 to 240 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Paxton, very stony, and similar soils:* 55 percent

*Montauk, very stony, and similar soils:* 30 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Paxton, Very Stony

##### Setting

*Landform:* Hills, drumlins, ground moraines

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Convex

*Parent material:* Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

##### Typical profile

*Oe - 0 to 2 inches:* moderately decomposed plant material

*A - 2 to 10 inches:* fine sandy loam

*Bw1 - 10 to 17 inches:* fine sandy loam

*Bw2 - 17 to 28 inches:* fine sandy loam

*Cd - 28 to 67 inches:* gravelly fine sandy loam

##### Properties and qualities

*Slope:* 8 to 15 percent

*Surface area covered with cobbles, stones or boulders:* 1.6 percent

*Depth to restrictive feature:* 20 to 43 inches to densic material

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.14 in/hr)

*Depth to water table:* About 18 to 37 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 4.8 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* C

*Ecological site:* F144AY007CT - Well Drained Dense Till Uplands

*Hydric soil rating:* No

### **Description of Montauk, Very Stony**

#### **Setting**

*Landform:* Recessional moraines, ground moraines, hills, drumlins

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Convex

*Parent material:* Coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist

#### **Typical profile**

*Oe - 0 to 2 inches:* moderately decomposed plant material

*A - 2 to 6 inches:* fine sandy loam

*Bw1 - 6 to 28 inches:* fine sandy loam

*Bw2 - 28 to 36 inches:* sandy loam

*2Cd - 36 to 74 inches:* gravelly loamy sand

#### **Properties and qualities**

*Slope:* 8 to 15 percent

*Surface area covered with cobbles, stones or boulders:* 1.6 percent

*Depth to restrictive feature:* 20 to 43 inches to densic material

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 1.42 in/hr)

*Depth to water table:* About 18 to 37 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 5.6 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* C

*Ecological site:* F144AY007CT - Well Drained Dense Till Uplands

*Hydric soil rating:* No

### **Minor Components**

#### **Woodbridge, very stony**

*Percent of map unit:* 6 percent

*Landform:* Ground moraines, hills, drumlins

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Charlton, very stony**

*Percent of map unit:* 5 percent

*Landform:* Hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Convex

*Hydric soil rating:* No

**Ridgebury, very stony**

*Percent of map unit:* 3 percent

*Landform:* Drumlins, depressions, ground moraines, hills, drainageways

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Base slope, head slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

**Stockbridge, very stony**

*Percent of map unit:* 1 percent

*Landform:* Hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: State of Connecticut, Eastern Part

Survey Area Data: Version 2, Aug 30, 2024

**Appendix B –  
NOAA Point Precipitation  
Frequency Estimates**



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps & aerials](#)

**PF tabular**

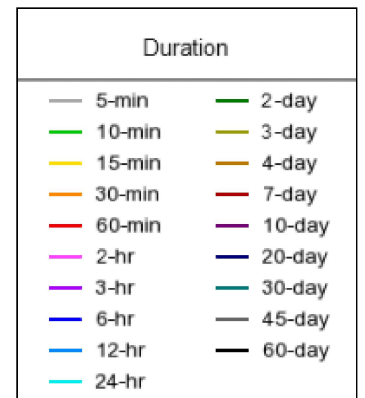
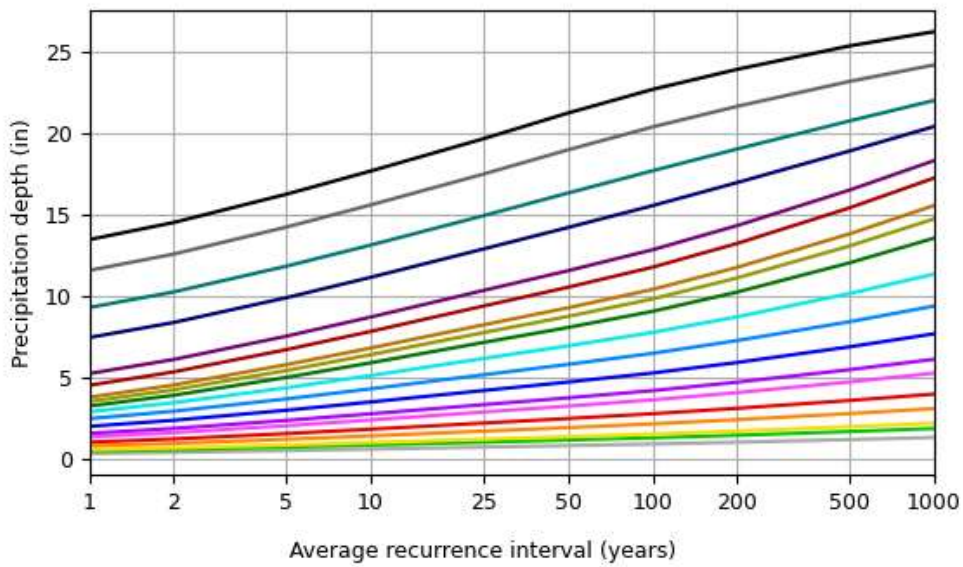
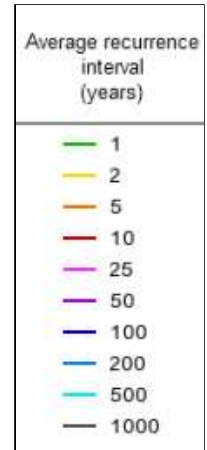
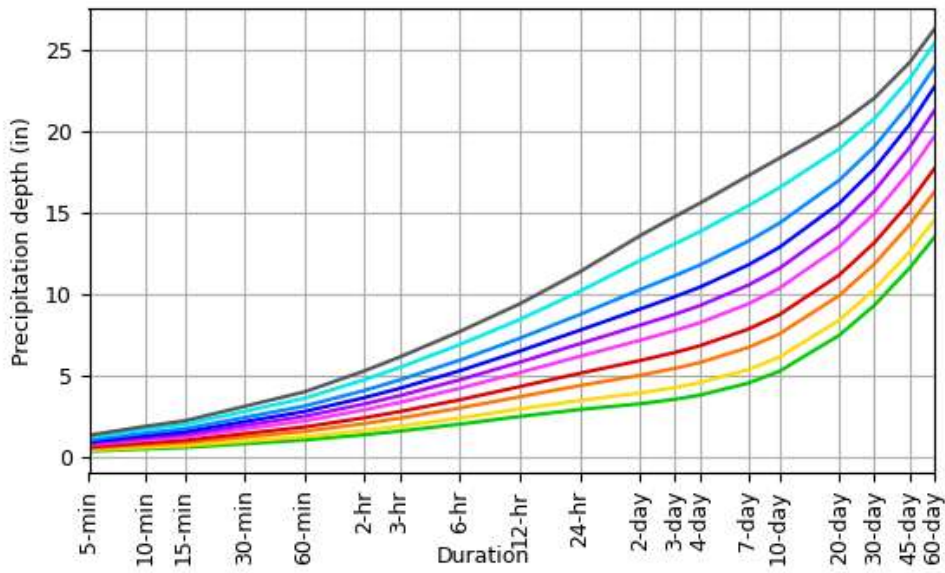
<b>PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)<sup>1</sup></b>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
<b>5-min</b>	<b>0.340</b> (0.265-0.426)	<b>0.406</b> (0.316-0.509)	<b>0.514</b> (0.399-0.647)	<b>0.604</b> (0.466-0.763)	<b>0.728</b> (0.544-0.953)	<b>0.821</b> (0.601-1.09)	<b>0.918</b> (0.654-1.26)	<b>1.03</b> (0.693-1.44)	<b>1.19</b> (0.770-1.70)	<b>1.32</b> (0.836-1.93)
<b>10-min</b>	<b>0.482</b> (0.375-0.603)	<b>0.576</b> (0.448-0.721)	<b>0.729</b> (0.566-0.916)	<b>0.856</b> (0.660-1.08)	<b>1.03</b> (0.771-1.35)	<b>1.16</b> (0.852-1.55)	<b>1.30</b> (0.926-1.79)	<b>1.46</b> (0.982-2.03)	<b>1.68</b> (1.09-2.42)	<b>1.87</b> (1.18-2.73)
<b>15-min</b>	<b>0.567</b> (0.442-0.710)	<b>0.677</b> (0.527-0.849)	<b>0.857</b> (0.665-1.08)	<b>1.01</b> (0.777-1.27)	<b>1.21</b> (0.907-1.59)	<b>1.37</b> (1.00-1.82)	<b>1.53</b> (1.09-2.10)	<b>1.72</b> (1.16-2.39)	<b>1.98</b> (1.28-2.84)	<b>2.20</b> (1.39-3.21)
<b>30-min</b>	<b>0.798</b> (0.622-1.00)	<b>0.953</b> (0.742-1.20)	<b>1.21</b> (0.937-1.52)	<b>1.42</b> (1.09-1.79)	<b>1.71</b> (1.28-2.24)	<b>1.92</b> (1.41-2.56)	<b>2.15</b> (1.53-2.96)	<b>2.41</b> (1.62-3.36)	<b>2.78</b> (1.80-4.00)	<b>3.09</b> (1.96-4.51)
<b>60-min</b>	<b>1.03</b> (0.802-1.29)	<b>1.23</b> (0.957-1.54)	<b>1.56</b> (1.21-1.96)	<b>1.83</b> (1.41-2.31)	<b>2.20</b> (1.64-2.88)	<b>2.48</b> (1.82-3.31)	<b>2.78</b> (1.98-3.82)	<b>3.11</b> (2.10-4.34)	<b>3.59</b> (2.33-5.15)	<b>3.98</b> (2.52-5.81)
<b>2-hr</b>	<b>1.35</b> (1.06-1.68)	<b>1.61</b> (1.27-2.01)	<b>2.04</b> (1.59-2.54)	<b>2.39</b> (1.86-3.00)	<b>2.88</b> (2.17-3.74)	<b>3.24</b> (2.39-4.29)	<b>3.63</b> (2.60-4.96)	<b>4.07</b> (2.76-5.63)	<b>4.73</b> (3.08-6.72)	<b>5.27</b> (3.35-7.62)
<b>3-hr</b>	<b>1.57</b> (1.24-1.95)	<b>1.87</b> (1.48-2.32)	<b>2.36</b> (1.86-2.94)	<b>2.77</b> (2.16-3.46)	<b>3.33</b> (2.52-4.32)	<b>3.75</b> (2.78-4.94)	<b>4.19</b> (3.02-5.71)	<b>4.71</b> (3.20-6.48)	<b>5.48</b> (3.57-7.75)	<b>6.12</b> (3.90-8.79)
<b>6-hr</b>	<b>2.00</b> (1.59-2.46)	<b>2.37</b> (1.88-2.92)	<b>2.99</b> (2.36-3.69)	<b>3.50</b> (2.75-4.33)	<b>4.20</b> (3.19-5.39)	<b>4.72</b> (3.52-6.17)	<b>5.27</b> (3.82-7.12)	<b>5.92</b> (4.04-8.08)	<b>6.88</b> (4.51-9.64)	<b>7.68</b> (4.91-10.9)
<b>12-hr</b>	<b>2.47</b> (1.98-3.02)	<b>2.93</b> (2.34-3.58)	<b>3.68</b> (2.93-4.51)	<b>4.30</b> (3.41-5.30)	<b>5.16</b> (3.95-6.58)	<b>5.80</b> (4.35-7.53)	<b>6.48</b> (4.72-8.67)	<b>7.27</b> (4.98-9.83)	<b>8.42</b> (5.54-11.7)	<b>9.38</b> (6.02-13.2)
<b>24-hr</b>	<b>2.90</b> (2.34-3.52)	<b>3.45</b> (2.78-4.20)	<b>4.36</b> (3.50-5.31)	<b>5.12</b> (4.08-6.26)	<b>6.16</b> (4.75-7.80)	<b>6.94</b> (5.24-8.93)	<b>7.76</b> (5.69-10.3)	<b>8.72</b> (6.01-11.7)	<b>10.1</b> (6.71-14.0)	<b>11.3</b> (7.31-15.8)
<b>2-day</b>	<b>3.25</b> (2.64-3.91)	<b>3.91</b> (3.18-4.72)	<b>5.00</b> (4.04-6.04)	<b>5.90</b> (4.74-7.16)	<b>7.14</b> (5.55-8.99)	<b>8.06</b> (6.14-10.3)	<b>9.06</b> (6.70-12.0)	<b>10.2</b> (7.09-13.6)	<b>12.0</b> (7.98-16.4)	<b>13.6</b> (8.77-18.8)
<b>3-day</b>	<b>3.52</b> (2.88-4.23)	<b>4.24</b> (3.46-5.10)	<b>5.42</b> (4.40-6.53)	<b>6.40</b> (5.16-7.73)	<b>7.74</b> (6.05-9.71)	<b>8.74</b> (6.68-11.2)	<b>9.82</b> (7.29-12.9)	<b>11.1</b> (7.71-14.7)	<b>13.1</b> (8.69-17.7)	<b>14.7</b> (9.55-20.3)
<b>4-day</b>	<b>3.78</b> (3.10-4.53)	<b>4.54</b> (3.72-5.44)	<b>5.78</b> (4.71-6.94)	<b>6.81</b> (5.51-8.20)	<b>8.22</b> (6.44-10.3)	<b>9.27</b> (7.11-11.8)	<b>10.4</b> (7.74-13.7)	<b>11.8</b> (8.18-15.5)	<b>13.8</b> (9.20-18.7)	<b>15.6</b> (10.1-21.3)
<b>7-day</b>	<b>4.52</b> (3.72-5.37)	<b>5.34</b> (4.40-6.36)	<b>6.70</b> (5.50-8.00)	<b>7.83</b> (6.38-9.38)	<b>9.38</b> (7.38-11.6)	<b>10.5</b> (8.10-13.3)	<b>11.8</b> (8.78-15.3)	<b>13.2</b> (9.24-17.3)	<b>15.4</b> (10.3-20.6)	<b>17.2</b> (11.2-23.4)
<b>10-day</b>	<b>5.24</b> (4.33-6.21)	<b>6.10</b> (5.05-7.24)	<b>7.53</b> (6.20-8.95)	<b>8.71</b> (7.12-10.4)	<b>10.3</b> (8.15-12.7)	<b>11.5</b> (8.90-14.5)	<b>12.8</b> (9.57-16.5)	<b>14.3</b> (10.0-18.6)	<b>16.5</b> (11.1-22.0)	<b>18.3</b> (12.0-24.8)
<b>20-day</b>	<b>7.45</b> (6.21-8.76)	<b>8.37</b> (6.98-9.86)	<b>9.89</b> (8.20-11.7)	<b>11.1</b> (9.19-13.2)	<b>12.9</b> (10.2-15.7)	<b>14.2</b> (11.0-17.5)	<b>15.5</b> (11.6-19.6)	<b>17.0</b> (12.0-21.8)	<b>18.9</b> (12.8-24.9)	<b>20.4</b> (13.4-27.3)
<b>30-day</b>	<b>9.29</b> (7.78-10.9)	<b>10.2</b> (8.58-12.0)	<b>11.8</b> (9.85-13.9)	<b>13.1</b> (10.9-15.5)	<b>14.9</b> (11.9-18.0)	<b>16.3</b> (12.6-19.9)	<b>17.7</b> (13.1-22.0)	<b>19.0</b> (13.5-24.3)	<b>20.7</b> (14.1-27.2)	<b>22.0</b> (14.5-29.3)
<b>45-day</b>	<b>11.6</b> (9.74-13.5)	<b>12.6</b> (10.6-14.7)	<b>14.2</b> (11.9-16.6)	<b>15.6</b> (13.0-18.3)	<b>17.5</b> (13.9-20.9)	<b>19.0</b> (14.7-23.0)	<b>20.4</b> (15.1-25.1)	<b>21.6</b> (15.4-27.5)	<b>23.2</b> (15.8-30.2)	<b>24.2</b> (15.9-32.0)
<b>60-day</b>	<b>13.5</b> (11.4-15.7)	<b>14.5</b> (12.2-16.9)	<b>16.2</b> (13.6-18.9)	<b>17.7</b> (14.7-20.7)	<b>19.6</b> (15.7-23.4)	<b>21.2</b> (16.5-25.6)	<b>22.7</b> (16.8-27.8)	<b>23.9</b> (17.1-30.3)	<b>25.3</b> (17.3-32.9)	<b>26.2</b> (17.4-34.5)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

**PF graphical**

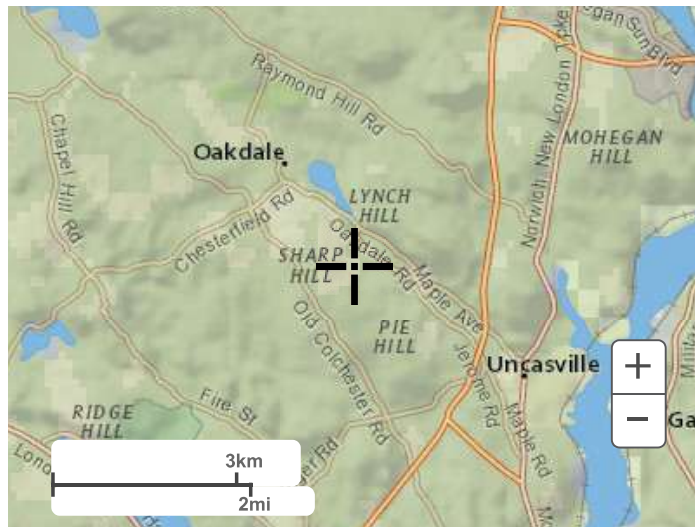
PDS-based depth-duration-frequency (DDF) curves  
 Latitude: 41.4506°, Longitude: -72.1433°



[Back to Top](#)

**Maps & aerials**

**Small scale terrain**



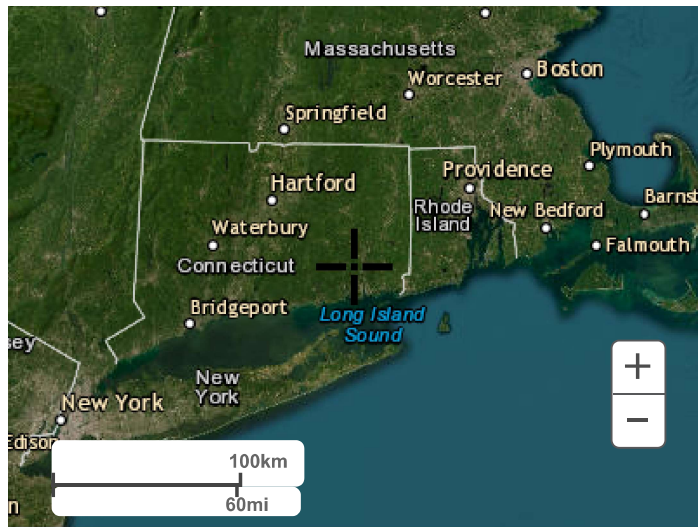
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

---

[US Department of Commerce](#)  
[National Oceanic and Atmospheric Administration](#)  
[National Weather Service](#)  
[National Water Center](#)  
1325 East West Highway  
Silver Spring, MD 20910  
Questions?: [HDSC.Questions@noaa.gov](mailto:HDSC.Questions@noaa.gov)

[Disclaimer](#)

**Appendix C –  
Water Quality Volume  
Calculations**

**WQV CALCULATIONS - STORMWATER MANAGEMENT AREA 'SA1' - INFILTRATION TRENCH**

<b>Project:</b> 47 Sharp Hill Road	<b>Calculated By</b>	<b>Date</b>
<b>Client:</b> Mt Kineo Builders, LLC	REG	7/10/2025

**Water Quality Volume (WQV)**

0.387 ac	A = Area draining to the practice
0.122 ac	A <sub>i</sub> = Impervious area draining to the practice
0.315 decimal	I = Percent impervious area draining to the practice, in decimal form
0.333 unitless	R <sub>v</sub> = Runoff coefficient = 0.05 + (0.9 x I)
0.168 ac-in	WQV = 1.3" x R <sub>v</sub> x A
609 cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

<b>Designer</b>	<b>Infiltration Trench</b>
<b>Notes:</b>	The 1.3" WQV storm event was analyzed using HydroCAD, which takes into account both the ground coverage and underlying soil conditions and demonstrates that the stormwater runoff from the first 1.3" WQV is completely contained within the proposed infiltration trench along the east side of the roadway entrance.



**WQV CALCULATIONS - STORMWATER MANAGEMENT AREA 'SA2B' - BIORETENTION BASIN 'A'**

<b>Project:</b> 47 Sharp Hill Road	<b>Calculated By</b>	<b>Date</b>
<b>Client:</b> Mt Kineo Builders, LLC	REG	7/10/2025

**Water Quality Volume (WQV)**

0.563 ac	A = Area draining to the practice
0.018 ac	$A_i$ = Impervious area draining to the practice
0.032 decimal	I = Percent impervious area draining to the practice, in decimal form
0.079 unitless	$R_v$ = Runoff coefficient = $0.05 + (0.9 \times I)$
0.058 ac-in	$WQV = 1.3" \times R_v \times A$
209 cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

<b>Designer</b>	<b>Stormwater Management Area 'SA2A'</b>
<b>Notes:</b>	The 1.3" WQV storm event was analyzed using HydroCAD, which takes into account both the ground coverage and underlying soil conditions and demonstrates that the stormwater runoff from the first 1.3" WQV is completely contained up to the top of the first orifice in the outlet control structure for the second basin ('SA2B')



**WQV CALCULATIONS - STORMWATER MANAGEMENT AREA 'SA3A' - BIORETENTION BASIN 'C'**

<b>Project:</b> 47 Sharp Hill Road	<b>Calculated By</b>	<b>Date</b>
<b>Client:</b> Mt Kineo Builders, LLC	REG	7/10/2025

**Water Quality Volume (WQV)**

0.563 ac	A = Area draining to the practice
0.018 ac	$A_i$ = Impervious area draining to the practice
0.032 decimal	I = Percent impervious area draining to the practice, in decimal form
0.079 unitless	$R_v$ = Runoff coefficient = $0.05 + (0.9 \times I)$
0.058 ac-in	$WQV = 1.3" \times R_v \times A$
209 cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

<b>Designer</b>	<b>Stormwater Management Area 'SA3A'</b>
<b>Notes:</b>	The 1.3" WQV storm event was analyzed using HydroCAD, which takes into account both the ground coverage and underlying soil conditions and demonstrates that the stormwater runoff from the first 1.3" WQV is completely contained up to the top of the first orifice in the outlet control structure for the second basin ("SW2A")



**WQV CALCULATIONS - STORMWATER MANAGEMENT AREA 'SA2A' - WATER QUALITY BASIN**

<b>Project:</b> 47 Sharp Hill Road	<b>Calculated By</b>	<b>Date</b>
<b>Client:</b> Mt Kineo Builders, LLC	REG	7/10/2025

**Water Quality Volume (WQV)**

10.739 ac	A = Area draining to the practice
1.980 ac	$A_i$ = Impervious area draining to the practice
0.184 decimal	I = Percent impervious area draining to the practice, in decimal form
0.216 unitless	$R_v$ = Runoff coefficient = $0.05 + (0.9 \times I)$
3.014 ac-in	$WQV = 1.3" \times R_v \times A$
10,942 cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

<b>Designer</b>	<b>Stormwater Management Area 'SA2A'</b>
<b>Notes:</b>	<p>The 1.3" WQV storm event was analyzed using HydroCAD, which takes into account both the ground coverage and underlying soil conditions and demonstrates that 77% of the stormwater runoff from the first 1.3" WQV is contained up to the top of the first orifice in the outlet control structure for the first basin ('SW2A'). The remaining runoff is completely contained within the second basin ('SW2B').</p>



# **Appendix D – Riprap Apron Calculations**

**Outlet Protection Design**

Outlet EW-1

Reference: Connecticut Department of Transportation Drainage Manual, Dated October 2000

- A. Apron width at culvert end ( $W_1$ ) = 3 Sp where Sp = outlet pipe diameter
- B. Apron length (La) =  $\frac{1.8(Q-5)}{(Sp)^{3/2}} + 10$
- C. Apron width at downstream end (W) = 3Sp + 0.7La where La = apron length

Type A Riprap Apron (Tailwater Condition) : TW < 0.5 dia of outlet

Peak Q(25yr)=  cfs      PIPE DIA=  ft

A.  $W_1 = 3(Sp) =$  ft  ft

B. La =  $\frac{1.8(Q-5)}{(Sp)^{1.5}} + 10 =$  ft  ft

C.  $W_2 = 3(Sp) + 0.7(La) =$  ft  ft

**Table 11.11 Allowable Outlet Velocities for Type A and B Riprap Aprons**

Outlet Velocity - mps (fps)	Riprap Specification
0-2.44 (0-8)	Modified
2.44-3.05 (8-10)	Intermediate
3.05-4.27 (10-14)	Standard

V(25yr)=  fps      Therefore; Use Modified Riprap

**Appendix E –  
BMP Inspection  
Checklist**

# INSPECTION CHECKLIST

DATE/ TIME: \_\_\_\_\_

INSPECTOR: \_\_\_\_\_

TYPE OF BMP: \_\_\_\_\_

WEATHER DURING INSPECTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

TYPE OF INSPECTION (check if applicable):

Storm Event       Complaint Response       Routine

AS IS BUILT PLANS AVAILABLE: Yes       No

PRECIPITATION AMOUNT IN 24 HR PRIOR TO INSPECTION: \_\_\_\_\_

<b>INLET</b>	APPLICABLE: Yes <input type="checkbox"/> No <input type="checkbox"/>	
<u>Circle or note applicable element(s):</u> level spreader, inlet curb cut opening, inlet structure, piped flow entrance, flow diversion structure _____	<u>Guidance on what to look for:</u> -Accumulated debris/ sediment at the inlet and within the structure (if applicable) -Structural damage or erosion	
<b>CONDITION:</b>	Satisfactory <input type="checkbox"/>	Unsatisfactory <input type="checkbox"/>

**RECOMMENDED MAINTANENCE**

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

**NOTES**

_____
_____
_____
_____

**DATE FOR FOLLOW UP**

_____
-------

<b>PRETREATMENT</b>	APPLICABLE: Yes <input type="checkbox"/> No <input type="checkbox"/>
<u>Circle or note applicable element(s):</u> sediment forebay, pretreatment vegetated filter strip, deep sump pump catch basin, oil grit separator, proprietary treatment device <hr/>	<u>Guidance on what to look for:</u> -Accumulated debris/ sediment -Structural damage or erosion
CONDITION: Satisfactory <input type="checkbox"/>	Unsatisfactory <input type="checkbox"/>

<b>RECOMMENDED MAINTANENCE</b>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

<b>NOTES</b>
<hr/> <hr/> <hr/> <hr/>
<b>DATE FOR FOLLOW UP</b>
<hr/>

<b>BASIN CELL</b>	APPLICABLE: Yes <input type="checkbox"/> No <input type="checkbox"/>
<u>Circle or note applicable element(s):</u> infiltration trench, infiltration basin, bioretention, sand filter, subsurface gravel wetland <hr/>	<u>Guidance on what to look for:</u> -Accumulated debris -Damage (e.g. erosion/ animal burrowing) -Overgrown/ dead vegetation -Standing water -Condition of wetland vegetation
CONDITION: Satisfactory <input type="checkbox"/>	Unsatisfactory <input type="checkbox"/>

<b>RECOMMENDED MAINTANENCE</b>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

<b>NOTES</b>
<hr/> <hr/> <hr/> <hr/>
<b>DATE FOR FOLLOW UP</b>
<hr/>

**FILTER BED** APPLICABLE: Yes  No

<p><u>Circle or note applicable element(s):</u>          bioretention, sand filter, tree filter, dry water quality swale, permeable pavement</p> <p>_____</p>	<p><u>Guidance on what to look for:</u>          - Accumulated debris/ sediment          -Overgrown/ dead vegetation and weeds          -Standing water above filter bed          -Erosion/ rutting in upgradient areas          -Cracks or damage to permeable pavement</p>
---	--

CONDITION: Satisfactory  Unsatisfactory

**RECOMMENDED MAINTANENCE**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**NOTES**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DATE FOR FOLLOW UP**

\_\_\_\_\_

**SUBSURFACE RESERVOIR/ OBSERVATION WELL** APPLICABLE: Yes  No

<p><u>Circle or note applicable element(s):</u>          infiltration trench, underground infiltration system, dry well, bioretention, tree filter, dry water quality swale, subsurface gravel wetland*</p> <p>_____</p>	<p><u>Guidance on what to look for:</u>          -Standing water in the</p> <p style="text-align: right;">*if underdrain present</p>
--	--

CONDITION: Satisfactory  Unsatisfactory

**RECOMMENDED MAINTANENCE**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**NOTES**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DATE FOR FOLLOW UP**

\_\_\_\_\_

<b>Berm/ Weir</b>	APPLICABLE: Yes <input type="checkbox"/>	No <input type="checkbox"/>
<p><u>Circle or note applicable element(s):</u>                  stormwater ponds, stormwater wetlands including subsurface gravel wetland, water quality swales</p> <p>_____</p>	<p><u>Guidance on what to look for:</u>                  -Debris sediment buildup                  -Damage (e.g. erosion, cracks, spalling, seepage/ weeps, failure, animal burrows)</p>	
<p><b>CONDITION:</b>            Satisfactory <input type="checkbox"/></p>		
<p>Unsatisfactory <input type="checkbox"/></p>		

<b>RECOMMENDED MAINTANENCE</b>
<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

<b>NOTES</b>
<p>_____</p> <p>_____</p> <p>_____</p>
<b>DATE FOR FOLLOW UP</b>
<p>_____</p>

<b>Outlet</b>	APPLICABLE: Yes <input type="checkbox"/>	No <input type="checkbox"/>
<p><u>Circle or note applicable element(s):</u>                  outlet curb cut openings, raised overflow structures or risers, outflow weirs, outlet pipes/ culverts, stone riprap apron, stone riprap stilling basin or plunge pool</p> <p>_____</p>	<p><u>Guidance on what to look for:</u>                  -Accumulated debris/ sediment at the outlet and within the structure (if applicable)                  -Structural damage or erosion</p>	
<p><b>CONDITION:</b>            Satisfactory <input type="checkbox"/></p>		
<p>Unsatisfactory <input type="checkbox"/></p>		

<b>RECOMMENDED MAINTANENCE</b>
<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

<b>NOTES</b>
<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<b>DATE FOR FOLLOW UP</b>
<p>_____</p>

**Maintenance Access**      APPLICABLE: Yes       No

All BMPs are applicable  
Guidance on what to look for:  
-Access to pretreatment and all parts of BMP that require routine maintenance or sediment removal  
-Structural damage or erosion access road  
-Overgrown/ dead vegetation preventing or impeding access by maintenance personnel or equipment

CONDITION:      Satisfactory       Unsatisfactory

**RECOMMENDED MAINTANENCE**

---

---

---

---

---

---

---

---

---

---

**NOTES**

---

---

---

**DATE FOR FOLLOW UP**

---

**Other:** \_\_\_\_\_

Note applicable element(s):  
\_\_\_\_\_  
\_\_\_\_\_

CONDITION:      Satisfactory       Unsatisfactory

**RECOMMENDED MAINTANENCE**

---

---

---

---

---

---

---

---

---

---

**NOTES**

---

---

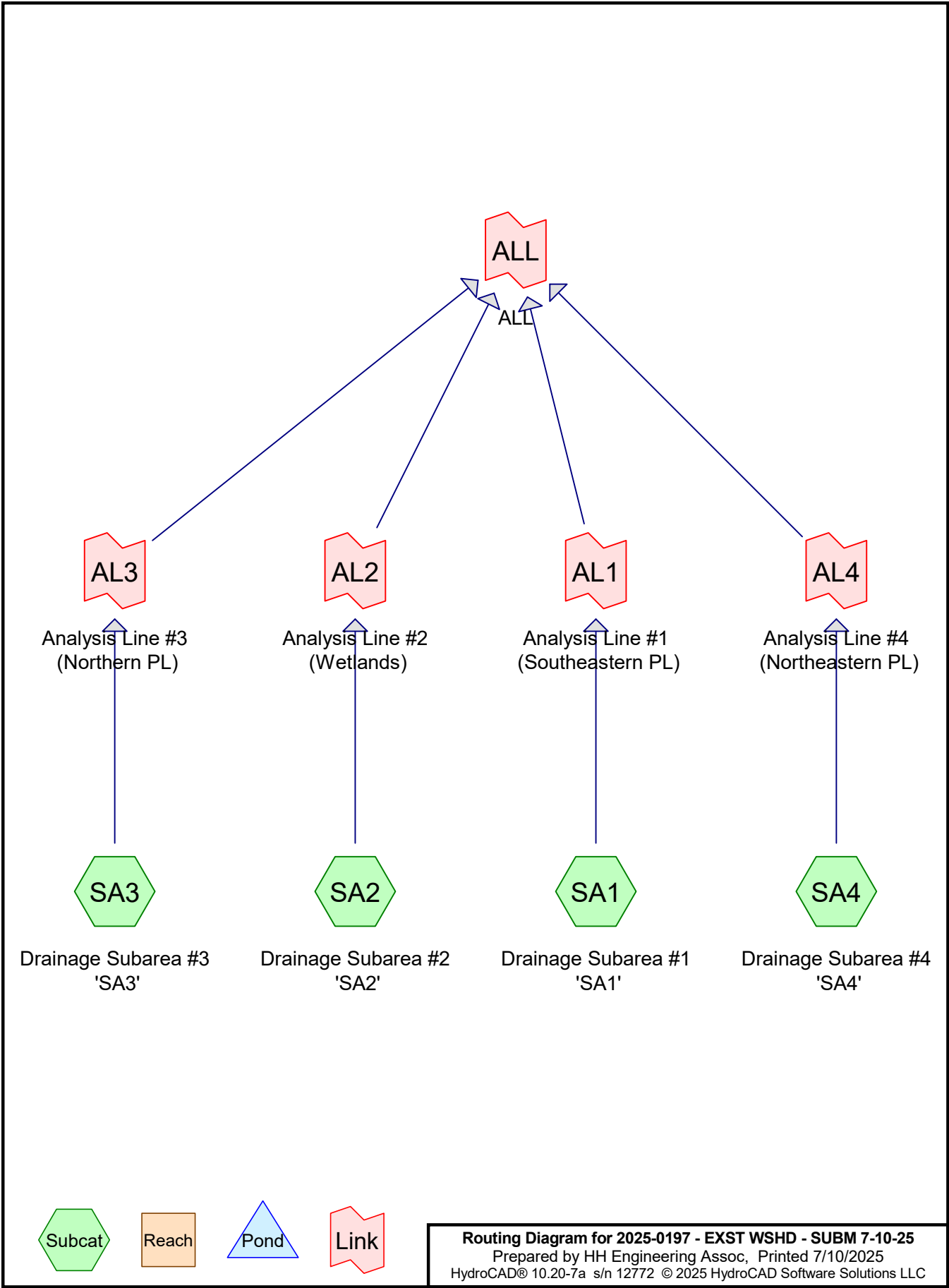
---

---

**DATE FOR FOLLOW UP**

---

**Appendix F –  
Pre-Development  
HydroCAD Report**



**2025-0197 - EXST WSHD - SUBM 7-10-25**

Prepared by HH Engineering Assoc

HydroCAD® 10.20-7a s/n 12772 © 2025 HydroCAD Software Solutions LLC

Printed 7/10/2025

Page 2

**Area Listing (selected nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
34,240	98	Bldgs./Impervious (SA1, SA2, SA3)
3,938	92	Compact Gravel (est.), HSG C (SA1, SA2, SA3)
162,130	74	Lawn, Good, HSG C (SA1, SA2, SA3)
1,689	86	Open Deck (est.), HSG C (SA1, SA2)
33,140	55	Woods, Good, HSG B (SA2, SA3)
584,148	70	Woods, Good, HSG C (SA1, SA2, SA3, SA4)
390	77	Woods, Good, HSG D (SA2)
<b>819,675</b>	<b>71</b>	<b>TOTAL AREA</b>

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=84,177 sf 10.80% Impervious Runoff Depth=0.12"  
Flow Length=781' Tc=16.3 min CN=76 Runoff=0.09 cfs 819 cf

**Subcatchment SA2: Drainage Subarea #2** Runoff Area=436,939 sf 4.21% Impervious Runoff Depth=0.06"  
Flow Length=1,108' Tc=23.5 min CN=72 Runoff=0.12 cfs 2,251 cf

**Subcatchment SA3: Drainage Subarea #3** Runoff Area=289,358 sf 2.33% Impervious Runoff Depth=0.04"  
Flow Length=660' Tc=22.6 min CN=70 Runoff=0.04 cfs 1,000 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=9,201 sf 0.00% Impervious Runoff Depth=0.04"  
Flow Length=231' Tc=10.5 min CN=70 Runoff=0.00 cfs 32 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=0.09 cfs 819 cf  
Primary=0.09 cfs 819 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=0.12 cfs 2,251 cf  
Primary=0.12 cfs 2,251 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=0.04 cfs 1,000 cf  
Primary=0.04 cfs 1,000 cf

**Link AL4: Analysis Line #4 (Northeastern PL)** Inflow=0.00 cfs 32 cf  
Primary=0.00 cfs 32 cf

**Link ALL: ALL** Inflow=0.20 cfs 4,102 cf  
Primary=0.20 cfs 4,102 cf

**Total Runoff Area = 819,675 sf Runoff Volume = 4,102 cf Average Runoff Depth = 0.06"**  
**95.82% Pervious = 785,435 sf 4.18% Impervious = 34,240 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 0.09 cfs @ 12.46 hrs, Volume= 819 cf, Depth= 0.12"

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 9,093	98	Bldgs./Impervious
* 2,325	92	Compact Gravel (est.), HSG C
* 575	86	Open Deck (est.), HSG C
* 46,031	74	Lawn, Good, HSG C
* 26,153	70	Woods, Good, HSG C
84,177	76	Weighted Average
75,084	73	89.20% Pervious Area
9,093	98	10.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	106	0.0920	0.23		<b>Sheet Flow, SF1A, Lawn</b> n= 0.240 P2= 3.43"
2.9	11	0.0730	0.06		<b>Sheet Flow, SF1B, Woods</b> n= 0.600 P2= 3.43"
3.5	33	0.0670	0.16		<b>Sheet Flow, SF1C, Lawn</b> n= 0.240 P2= 3.43"
0.7	195	0.0760	4.44		<b>Shallow Concentrated Flow, SCF1A, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	3	0.0670	5.25		<b>Shallow Concentrated Flow, SCF1B, Paved</b> Paved Kv= 20.3 fps
0.1	29	0.2280	7.69		<b>Shallow Concentrated Flow, SCF1C, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	16	0.0810	5.78		<b>Shallow Concentrated Flow, SCF1D, Paved</b> Paved Kv= 20.3 fps
0.6	158	0.0850	4.69		<b>Shallow Concentrated Flow, SCF1E, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	4	0.0750	5.56		<b>Shallow Concentrated Flow, SCF1F, Paved</b> Paved Kv= 20.3 fps
0.0	1	0.1000	6.42		<b>Shallow Concentrated Flow, SCF1H, Unpaved</b> Paved Kv= 20.3 fps
0.7	225	0.1000	5.09		<b>Shallow Concentrated Flow, SCF1I, Paved</b> Unpaved Kv= 16.1 fps
16.3	781	Total			

**Summary for Subcatchment SA2: Drainage Subarea #2 'SA2'**

Runoff = 0.12 cfs @ 12.72 hrs, Volume= 2,251 cf, Depth= 0.06"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 18,392	98	Bldgs./Impervious
* 1,017	92	Compact Gravel (est.), HSG C
* 1,114	86	Open Deck (est.), HSG C
* 76,515	74	Lawn, Good, HSG C
* 2,776	55	Woods, Good, HSG B
* 336,735	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
436,939	72	Weighted Average
418,547	71	95.79% Pervious Area
18,392	98	4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA3: Drainage Subarea #3 'SA3'**

Runoff = 0.04 cfs @ 13.99 hrs, Volume= 1,000 cf, Depth= 0.04"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 6,755	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 39,584	74	Lawn, Good, HSG C
* 30,364	55	Woods, Good, HSG B
* 212,059	70	Woods, Good, HSG C
289,358	70	Weighted Average
282,603	69	97.67% Pervious Area
6,755	98	2.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	18	0.0830	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
19.0	132	0.0970	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
1.6	510	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
22.6	660	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.00 cfs @ 13.80 hrs, Volume= 32 cf, Depth= 0.04"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 9,201	70	Woods, Good, HSG C
9,201	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	150	0.0930	0.24		<b>Sheet Flow, SF4A</b> n= 0.240 P2= 3.43"
0.2	81	0.1300	5.80		<b>Shallow Concentrated Flow, SCF4A</b> Unpaved Kv= 16.1 fps
10.5	231	Total			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 84,177 sf, 10.80% Impervious, Inflow Depth = 0.12" for WQV event  
Inflow = 0.09 cfs @ 12.46 hrs, Volume= 819 cf  
Primary = 0.09 cfs @ 12.46 hrs, Volume= 819 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 436,939 sf, 4.21% Impervious, Inflow Depth = 0.06" for WQV event  
Inflow = 0.12 cfs @ 12.72 hrs, Volume= 2,251 cf  
Primary = 0.12 cfs @ 12.72 hrs, Volume= 2,251 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 289,358 sf, 2.33% Impervious, Inflow Depth = 0.04" for WQV event  
Inflow = 0.04 cfs @ 13.99 hrs, Volume= 1,000 cf  
Primary = 0.04 cfs @ 13.99 hrs, Volume= 1,000 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 9,201 sf, 0.00% Impervious, Inflow Depth = 0.04" for WQV event  
Inflow = 0.00 cfs @ 13.80 hrs, Volume= 32 cf  
Primary = 0.00 cfs @ 13.80 hrs, Volume= 32 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,675 sf, 4.18% Impervious, Inflow Depth = 0.06" for WQV event  
Inflow = 0.20 cfs @ 12.67 hrs, Volume= 4,102 cf  
Primary = 0.20 cfs @ 12.67 hrs, Volume= 4,102 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 x 2  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=84,177 sf 10.80% Impervious Runoff Depth=0.95"  
Flow Length=781' Tc=16.3 min CN=76 Runoff=1.48 cfs 6,652 cf

**Subcatchment SA2: Drainage Subarea #2** Runoff Area=436,939 sf 4.21% Impervious Runoff Depth=0.75"  
Flow Length=1,108' Tc=23.5 min CN=72 Runoff=4.94 cfs 27,281 cf

**Subcatchment SA3: Drainage Subarea #3** Runoff Area=289,358 sf 2.33% Impervious Runoff Depth=0.66"  
Flow Length=660' Tc=22.6 min CN=70 Runoff=2.80 cfs 15,901 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=9,201 sf 0.00% Impervious Runoff Depth=0.66"  
Flow Length=231' Tc=10.5 min CN=70 Runoff=0.12 cfs 506 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=1.48 cfs 6,652 cf  
Primary=1.48 cfs 6,652 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=4.94 cfs 27,281 cf  
Primary=4.94 cfs 27,281 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=2.80 cfs 15,901 cf  
Primary=2.80 cfs 15,901 cf

**Link AL4: Analysis Line #4 (Northeastern PL)** Inflow=0.12 cfs 506 cf  
Primary=0.12 cfs 506 cf

**Link ALL: ALL** Inflow=9.08 cfs 50,340 cf  
Primary=9.08 cfs 50,340 cf

**Total Runoff Area = 819,675 sf Runoff Volume = 50,340 cf Average Runoff Depth = 0.74"**  
**95.82% Pervious = 785,435 sf 4.18% Impervious = 34,240 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 1.48 cfs @ 12.24 hrs, Volume= 6,652 cf, Depth= 0.95"

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 9,093	98	Bldgs./Impervious
* 2,325	92	Compact Gravel (est.), HSG C
* 575	86	Open Deck (est.), HSG C
* 46,031	74	Lawn, Good, HSG C
* 26,153	70	Woods, Good, HSG C
84,177	76	Weighted Average
75,084	73	89.20% Pervious Area
9,093	98	10.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	106	0.0920	0.23		<b>Sheet Flow, SF1A, Lawn</b> n= 0.240 P2= 3.43"
2.9	11	0.0730	0.06		<b>Sheet Flow, SF1B, Woods</b> n= 0.600 P2= 3.43"
3.5	33	0.0670	0.16		<b>Sheet Flow, SF1C, Lawn</b> n= 0.240 P2= 3.43"
0.7	195	0.0760	4.44		<b>Shallow Concentrated Flow, SCF1A, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	3	0.0670	5.25		<b>Shallow Concentrated Flow, SCF1B, Paved</b> Paved Kv= 20.3 fps
0.1	29	0.2280	7.69		<b>Shallow Concentrated Flow, SCF1C, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	16	0.0810	5.78		<b>Shallow Concentrated Flow, SCF1D, Paved</b> Paved Kv= 20.3 fps
0.6	158	0.0850	4.69		<b>Shallow Concentrated Flow, SCF1E, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	4	0.0750	5.56		<b>Shallow Concentrated Flow, SCF1F, Paved</b> Paved Kv= 20.3 fps
0.0	1	0.1000	6.42		<b>Shallow Concentrated Flow, SCF1H, Unpaved</b> Paved Kv= 20.3 fps
0.7	225	0.1000	5.09		<b>Shallow Concentrated Flow, SCF1I, Paved</b> Unpaved Kv= 16.1 fps
16.3	781	Total			

**Summary for Subcatchment SA2: Drainage Subarea #2 'SA2'**

Runoff = 4.94 cfs @ 12.37 hrs, Volume= 27,281 cf, Depth= 0.75"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 18,392	98	Bldgs./Impervious
* 1,017	92	Compact Gravel (est.), HSG C
* 1,114	86	Open Deck (est.), HSG C
* 76,515	74	Lawn, Good, HSG C
* 2,776	55	Woods, Good, HSG B
* 336,735	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
436,939	72	Weighted Average
418,547	71	95.79% Pervious Area
18,392	98	4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA3: Drainage Subarea #3 'SA3'**

Runoff = 2.80 cfs @ 12.38 hrs, Volume= 15,901 cf, Depth= 0.66"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 6,755	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 39,584	74	Lawn, Good, HSG C
* 30,364	55	Woods, Good, HSG B
* 212,059	70	Woods, Good, HSG C
289,358	70	Weighted Average
282,603	69	97.67% Pervious Area
6,755	98	2.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	18	0.0830	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
19.0	132	0.0970	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
1.6	510	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
22.6	660	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.12 cfs @ 12.17 hrs, Volume= 506 cf, Depth= 0.66"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 9,201	70	Woods, Good, HSG C
9,201	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	150	0.0930	0.24		<b>Sheet Flow, SF4A</b> n= 0.240 P2= 3.43"
0.2	81	0.1300	5.80		<b>Shallow Concentrated Flow, SCF4A</b> Unpaved Kv= 16.1 fps
10.5	231	Total			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 84,177 sf, 10.80% Impervious, Inflow Depth = 0.95" for 1-year event  
Inflow = 1.48 cfs @ 12.24 hrs, Volume= 6,652 cf  
Primary = 1.48 cfs @ 12.24 hrs, Volume= 6,652 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 436,939 sf, 4.21% Impervious, Inflow Depth = 0.75" for 1-year event  
Inflow = 4.94 cfs @ 12.37 hrs, Volume= 27,281 cf  
Primary = 4.94 cfs @ 12.37 hrs, Volume= 27,281 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 289,358 sf, 2.33% Impervious, Inflow Depth = 0.66" for 1-year event  
Inflow = 2.80 cfs @ 12.38 hrs, Volume= 15,901 cf  
Primary = 2.80 cfs @ 12.38 hrs, Volume= 15,901 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 9,201 sf, 0.00% Impervious, Inflow Depth = 0.66" for 1-year event  
Inflow = 0.12 cfs @ 12.17 hrs, Volume= 506 cf  
Primary = 0.12 cfs @ 12.17 hrs, Volume= 506 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,675 sf, 4.18% Impervious, Inflow Depth = 0.74" for 1-year event  
Inflow = 9.08 cfs @ 12.35 hrs, Volume= 50,340 cf  
Primary = 9.08 cfs @ 12.35 hrs, Volume= 50,340 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 x 2  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=84,177 sf 10.80% Impervious Runoff Depth=1.33"  
Flow Length=781' Tc=16.3 min CN=76 Runoff=2.14 cfs 9,324 cf

**Subcatchment SA2: Drainage Subarea #2** Runoff Area=436,939 sf 4.21% Impervious Runoff Depth=1.09"  
Flow Length=1,108' Tc=23.5 min CN=72 Runoff=7.56 cfs 39,628 cf

**Subcatchment SA3: Drainage Subarea #3** Runoff Area=289,358 sf 2.33% Impervious Runoff Depth=0.98"  
Flow Length=660' Tc=22.6 min CN=70 Runoff=4.45 cfs 23,567 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=9,201 sf 0.00% Impervious Runoff Depth=0.98"  
Flow Length=231' Tc=10.5 min CN=70 Runoff=0.19 cfs 749 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=2.14 cfs 9,324 cf  
Primary=2.14 cfs 9,324 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=7.56 cfs 39,628 cf  
Primary=7.56 cfs 39,628 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=4.45 cfs 23,567 cf  
Primary=4.45 cfs 23,567 cf

**Link AL4: Analysis Line #4 (Northeastern PL)** Inflow=0.19 cfs 749 cf  
Primary=0.19 cfs 749 cf

**Link ALL: ALL** Inflow=13.95 cfs 73,269 cf  
Primary=13.95 cfs 73,269 cf

**Total Runoff Area = 819,675 sf Runoff Volume = 73,269 cf Average Runoff Depth = 1.07"**  
**95.82% Pervious = 785,435 sf 4.18% Impervious = 34,240 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 2.14 cfs @ 12.23 hrs, Volume= 9,324 cf, Depth= 1.33"

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 9,093	98	Bldgs./Impervious
* 2,325	92	Compact Gravel (est.), HSG C
* 575	86	Open Deck (est.), HSG C
* 46,031	74	Lawn, Good, HSG C
* 26,153	70	Woods, Good, HSG C
84,177	76	Weighted Average
75,084	73	89.20% Pervious Area
9,093	98	10.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	106	0.0920	0.23		<b>Sheet Flow, SF1A, Lawn</b> n= 0.240 P2= 3.43"
2.9	11	0.0730	0.06		<b>Sheet Flow, SF1B, Woods</b> n= 0.600 P2= 3.43"
3.5	33	0.0670	0.16		<b>Sheet Flow, SF1C, Lawn</b> n= 0.240 P2= 3.43"
0.7	195	0.0760	4.44		<b>Shallow Concentrated Flow, SCF1A, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	3	0.0670	5.25		<b>Shallow Concentrated Flow, SCF1B, Paved</b> Paved Kv= 20.3 fps
0.1	29	0.2280	7.69		<b>Shallow Concentrated Flow, SCF1C, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	16	0.0810	5.78		<b>Shallow Concentrated Flow, SCF1D, Paved</b> Paved Kv= 20.3 fps
0.6	158	0.0850	4.69		<b>Shallow Concentrated Flow, SCF1E, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	4	0.0750	5.56		<b>Shallow Concentrated Flow, SCF1F, Paved</b> Paved Kv= 20.3 fps
0.0	1	0.1000	6.42		<b>Shallow Concentrated Flow, SCF1H, Unpaved</b> Paved Kv= 20.3 fps
0.7	225	0.1000	5.09		<b>Shallow Concentrated Flow, SCF1I, Paved</b> Unpaved Kv= 16.1 fps
16.3	781	Total			

**Summary for Subcatchment SA2: Drainage Subarea #2 'SA2'**

Runoff = 7.56 cfs @ 12.35 hrs, Volume= 39,628 cf, Depth= 1.09"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 18,392	98	Bldgs./Impervious
* 1,017	92	Compact Gravel (est.), HSG C
* 1,114	86	Open Deck (est.), HSG C
* 76,515	74	Lawn, Good, HSG C
* 2,776	55	Woods, Good, HSG B
* 336,735	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
436,939	72	Weighted Average
418,547	71	95.79% Pervious Area
18,392	98	4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA3: Drainage Subarea #3 'SA3'**

Runoff = 4.45 cfs @ 12.35 hrs, Volume= 23,567 cf, Depth= 0.98"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 6,755	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 39,584	74	Lawn, Good, HSG C
* 30,364	55	Woods, Good, HSG B
* 212,059	70	Woods, Good, HSG C
289,358	70	Weighted Average
282,603	69	97.67% Pervious Area
6,755	98	2.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	18	0.0830	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
19.0	132	0.0970	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
1.6	510	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
22.6	660	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.19 cfs @ 12.16 hrs, Volume= 749 cf, Depth= 0.98"  
 Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 9,201	70	Woods, Good, HSG C
9,201	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	150	0.0930	0.24		<b>Sheet Flow, SF4A</b> n= 0.240 P2= 3.43"
0.2	81	0.1300	5.80		<b>Shallow Concentrated Flow, SCF4A</b> Unpaved Kv= 16.1 fps
10.5	231	Total			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 84,177 sf, 10.80% Impervious, Inflow Depth = 1.33" for 2-Year event  
Inflow = 2.14 cfs @ 12.23 hrs, Volume= 9,324 cf  
Primary = 2.14 cfs @ 12.23 hrs, Volume= 9,324 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 436,939 sf, 4.21% Impervious, Inflow Depth = 1.09" for 2-Year event  
Inflow = 7.56 cfs @ 12.35 hrs, Volume= 39,628 cf  
Primary = 7.56 cfs @ 12.35 hrs, Volume= 39,628 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 289,358 sf, 2.33% Impervious, Inflow Depth = 0.98" for 2-Year event  
Inflow = 4.45 cfs @ 12.35 hrs, Volume= 23,567 cf  
Primary = 4.45 cfs @ 12.35 hrs, Volume= 23,567 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 9,201 sf, 0.00% Impervious, Inflow Depth = 0.98" for 2-Year event  
Inflow = 0.19 cfs @ 12.16 hrs, Volume= 749 cf  
Primary = 0.19 cfs @ 12.16 hrs, Volume= 749 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,675 sf, 4.18% Impervious, Inflow Depth = 1.07" for 2-Year event  
Inflow = 13.95 cfs @ 12.33 hrs, Volume= 73,269 cf  
Primary = 13.95 cfs @ 12.33 hrs, Volume= 73,269 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 x 2  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=84,177 sf 10.80% Impervious Runoff Depth=2.63"  
Flow Length=781' Tc=16.3 min CN=76 Runoff=4.37 cfs 18,482 cf

**Subcatchment SA2: Drainage Subarea #2** Runoff Area=436,939 sf 4.21% Impervious Runoff Depth=2.29"  
Flow Length=1,108' Tc=23.5 min CN=72 Runoff=16.75 cfs 83,408 cf

**Subcatchment SA3: Drainage Subarea #3** Runoff Area=289,358 sf 2.33% Impervious Runoff Depth=2.13"  
Flow Length=660' Tc=22.6 min CN=70 Runoff=10.40 cfs 51,258 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=9,201 sf 0.00% Impervious Runoff Depth=2.13"  
Flow Length=231' Tc=10.5 min CN=70 Runoff=0.44 cfs 1,630 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=4.37 cfs 18,482 cf  
Primary=4.37 cfs 18,482 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=16.75 cfs 83,408 cf  
Primary=16.75 cfs 83,408 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=10.40 cfs 51,258 cf  
Primary=10.40 cfs 51,258 cf

**Link AL4: Analysis Line #4 (Northeastern PL)** Inflow=0.44 cfs 1,630 cf  
Primary=0.44 cfs 1,630 cf

**Link ALL: ALL** Inflow=31.19 cfs 154,777 cf  
Primary=31.19 cfs 154,777 cf

**Total Runoff Area = 819,675 sf Runoff Volume = 154,777 cf Average Runoff Depth = 2.27"**  
**95.82% Pervious = 785,435 sf 4.18% Impervious = 34,240 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 4.37 cfs @ 12.23 hrs, Volume= 18,482 cf, Depth= 2.63"

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 9,093	98	Bldgs./Impervious
* 2,325	92	Compact Gravel (est.), HSG C
* 575	86	Open Deck (est.), HSG C
* 46,031	74	Lawn, Good, HSG C
* 26,153	70	Woods, Good, HSG C
84,177	76	Weighted Average
75,084	73	89.20% Pervious Area
9,093	98	10.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	106	0.0920	0.23		<b>Sheet Flow, SF1A, Lawn</b> n= 0.240 P2= 3.43"
2.9	11	0.0730	0.06		<b>Sheet Flow, SF1B, Woods</b> n= 0.600 P2= 3.43"
3.5	33	0.0670	0.16		<b>Sheet Flow, SF1C, Lawn</b> n= 0.240 P2= 3.43"
0.7	195	0.0760	4.44		<b>Shallow Concentrated Flow, SCF1A, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	3	0.0670	5.25		<b>Shallow Concentrated Flow, SCF1B, Paved</b> Paved Kv= 20.3 fps
0.1	29	0.2280	7.69		<b>Shallow Concentrated Flow, SCF1C, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	16	0.0810	5.78		<b>Shallow Concentrated Flow, SCF1D, Paved</b> Paved Kv= 20.3 fps
0.6	158	0.0850	4.69		<b>Shallow Concentrated Flow, SCF1E, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	4	0.0750	5.56		<b>Shallow Concentrated Flow, SCF1F, Paved</b> Paved Kv= 20.3 fps
0.0	1	0.1000	6.42		<b>Shallow Concentrated Flow, SCF1H, Unpaved</b> Paved Kv= 20.3 fps
0.7	225	0.1000	5.09		<b>Shallow Concentrated Flow, SCF1I, Paved</b> Unpaved Kv= 16.1 fps
16.3	781	Total			

**Summary for Subcatchment SA2: Drainage Subarea #2 'SA2'**

Runoff = 16.75 cfs @ 12.34 hrs, Volume= 83,408 cf, Depth= 2.29"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 18,392	98	Bldgs./Impervious
* 1,017	92	Compact Gravel (est.), HSG C
* 1,114	86	Open Deck (est.), HSG C
* 76,515	74	Lawn, Good, HSG C
* 2,776	55	Woods, Good, HSG B
* 336,735	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
436,939	72	Weighted Average
418,547	71	95.79% Pervious Area
18,392	98	4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA3: Drainage Subarea #3 'SA3'**

Runoff = 10.40 cfs @ 12.33 hrs, Volume= 51,258 cf, Depth= 2.13"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 6,755	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 39,584	74	Lawn, Good, HSG C
* 30,364	55	Woods, Good, HSG B
* 212,059	70	Woods, Good, HSG C
289,358	70	Weighted Average
282,603	69	97.67% Pervious Area
6,755	98	2.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	18	0.0830	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
19.0	132	0.0970	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
1.6	510	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
22.6	660	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.44 cfs @ 12.15 hrs, Volume= 1,630 cf, Depth= 2.13"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 9,201	70	Woods, Good, HSG C
9,201	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	150	0.0930	0.24		<b>Sheet Flow, SF4A</b> n= 0.240 P2= 3.43"
0.2	81	0.1300	5.80		<b>Shallow Concentrated Flow, SCF4A</b> Unpaved Kv= 16.1 fps
10.5	231	Total			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 84,177 sf, 10.80% Impervious, Inflow Depth = 2.63" for 10-Year event  
Inflow = 4.37 cfs @ 12.23 hrs, Volume= 18,482 cf  
Primary = 4.37 cfs @ 12.23 hrs, Volume= 18,482 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 436,939 sf, 4.21% Impervious, Inflow Depth = 2.29" for 10-Year event  
Inflow = 16.75 cfs @ 12.34 hrs, Volume= 83,408 cf  
Primary = 16.75 cfs @ 12.34 hrs, Volume= 83,408 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 289,358 sf, 2.33% Impervious, Inflow Depth = 2.13" for 10-Year event  
Inflow = 10.40 cfs @ 12.33 hrs, Volume= 51,258 cf  
Primary = 10.40 cfs @ 12.33 hrs, Volume= 51,258 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 9,201 sf, 0.00% Impervious, Inflow Depth = 2.13" for 10-Year event  
Inflow = 0.44 cfs @ 12.15 hrs, Volume= 1,630 cf  
Primary = 0.44 cfs @ 12.15 hrs, Volume= 1,630 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,675 sf, 4.18% Impervious, Inflow Depth = 2.27" for 10-Year event  
Inflow = 31.19 cfs @ 12.32 hrs, Volume= 154,777 cf  
Primary = 31.19 cfs @ 12.32 hrs, Volume= 154,777 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 x 2  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=84,177 sf 10.80% Impervious Runoff Depth=3.52"  
Flow Length=781' Tc=16.3 min CN=76 Runoff=5.85 cfs 24,682 cf

**Subcatchment SA2: Drainage Subarea #2** Runoff Area=436,939 sf 4.21% Impervious Runoff Depth=3.12"  
Flow Length=1,108' Tc=23.5 min CN=72 Runoff=23.05 cfs 113,771 cf

**Subcatchment SA3: Drainage Subarea #3** Runoff Area=289,358 sf 2.33% Impervious Runoff Depth=2.93"  
Flow Length=660' Tc=22.6 min CN=70 Runoff=14.54 cfs 70,716 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=9,201 sf 0.00% Impervious Runoff Depth=2.93"  
Flow Length=231' Tc=10.5 min CN=70 Runoff=0.62 cfs 2,249 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=5.85 cfs 24,682 cf  
Primary=5.85 cfs 24,682 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=23.05 cfs 113,771 cf  
Primary=23.05 cfs 113,771 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=14.54 cfs 70,716 cf  
Primary=14.54 cfs 70,716 cf

**Link AL4: Analysis Line #4 (Northeastern PL)** Inflow=0.62 cfs 2,249 cf  
Primary=0.62 cfs 2,249 cf

**Link ALL: ALL** Inflow=43.07 cfs 211,418 cf  
Primary=43.07 cfs 211,418 cf

**Total Runoff Area = 819,675 sf Runoff Volume = 211,418 cf Average Runoff Depth = 3.10"**  
**95.82% Pervious = 785,435 sf 4.18% Impervious = 34,240 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 5.85 cfs @ 12.22 hrs, Volume= 24,682 cf, Depth= 3.52"

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 9,093	98	Bldgs./Impervious
* 2,325	92	Compact Gravel (est.), HSG C
* 575	86	Open Deck (est.), HSG C
* 46,031	74	Lawn, Good, HSG C
* 26,153	70	Woods, Good, HSG C
84,177	76	Weighted Average
75,084	73	89.20% Pervious Area
9,093	98	10.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	106	0.0920	0.23		<b>Sheet Flow, SF1A, Lawn</b> n= 0.240 P2= 3.43"
2.9	11	0.0730	0.06		<b>Sheet Flow, SF1B, Woods</b> n= 0.600 P2= 3.43"
3.5	33	0.0670	0.16		<b>Sheet Flow, SF1C, Lawn</b> n= 0.240 P2= 3.43"
0.7	195	0.0760	4.44		<b>Shallow Concentrated Flow, SCF1A, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	3	0.0670	5.25		<b>Shallow Concentrated Flow, SCF1B, Paved</b> Paved Kv= 20.3 fps
0.1	29	0.2280	7.69		<b>Shallow Concentrated Flow, SCF1C, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	16	0.0810	5.78		<b>Shallow Concentrated Flow, SCF1D, Paved</b> Paved Kv= 20.3 fps
0.6	158	0.0850	4.69		<b>Shallow Concentrated Flow, SCF1E, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	4	0.0750	5.56		<b>Shallow Concentrated Flow, SCF1F, Paved</b> Paved Kv= 20.3 fps
0.0	1	0.1000	6.42		<b>Shallow Concentrated Flow, SCF1H, Unpaved</b> Paved Kv= 20.3 fps
0.7	225	0.1000	5.09		<b>Shallow Concentrated Flow, SCF1I, Paved</b> Unpaved Kv= 16.1 fps
16.3	781	Total			

**Summary for Subcatchment SA2: Drainage Subarea #2 'SA2'**

Runoff = 23.05 cfs @ 12.33 hrs, Volume= 113,771 cf, Depth= 3.12"

Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 18,392	98	Bldgs./Impervious
* 1,017	92	Compact Gravel (est.), HSG C
* 1,114	86	Open Deck (est.), HSG C
* 76,515	74	Lawn, Good, HSG C
* 2,776	55	Woods, Good, HSG B
* 336,735	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
436,939	72	Weighted Average
418,547	71	95.79% Pervious Area
18,392	98	4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA3: Drainage Subarea #3 'SA3'**

Runoff = 14.54 cfs @ 12.33 hrs, Volume= 70,716 cf, Depth= 2.93"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 6,755	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 39,584	74	Lawn, Good, HSG C
* 30,364	55	Woods, Good, HSG B
* 212,059	70	Woods, Good, HSG C
289,358	70	Weighted Average
282,603	69	97.67% Pervious Area
6,755	98	2.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	18	0.0830	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
19.0	132	0.0970	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
1.6	510	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
22.6	660	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.62 cfs @ 12.15 hrs, Volume= 2,249 cf, Depth= 2.93"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 9,201	70	Woods, Good, HSG C
9,201	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	150	0.0930	0.24		<b>Sheet Flow, SF4A</b> n= 0.240 P2= 3.43"
0.2	81	0.1300	5.80		<b>Shallow Concentrated Flow, SCF4A</b> Unpaved Kv= 16.1 fps
10.5	231	Total			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 84,177 sf, 10.80% Impervious, Inflow Depth = 3.52" for 25-Year event  
Inflow = 5.85 cfs @ 12.22 hrs, Volume= 24,682 cf  
Primary = 5.85 cfs @ 12.22 hrs, Volume= 24,682 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 436,939 sf, 4.21% Impervious, Inflow Depth = 3.12" for 25-Year event  
Inflow = 23.05 cfs @ 12.33 hrs, Volume= 113,771 cf  
Primary = 23.05 cfs @ 12.33 hrs, Volume= 113,771 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 289,358 sf, 2.33% Impervious, Inflow Depth = 2.93" for 25-Year event  
Inflow = 14.54 cfs @ 12.33 hrs, Volume= 70,716 cf  
Primary = 14.54 cfs @ 12.33 hrs, Volume= 70,716 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 9,201 sf, 0.00% Impervious, Inflow Depth = 2.93" for 25-Year event  
Inflow = 0.62 cfs @ 12.15 hrs, Volume= 2,249 cf  
Primary = 0.62 cfs @ 12.15 hrs, Volume= 2,249 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,675 sf, 4.18% Impervious, Inflow Depth = 3.10" for 25-Year event  
Inflow = 43.07 cfs @ 12.30 hrs, Volume= 211,418 cf  
Primary = 43.07 cfs @ 12.30 hrs, Volume= 211,418 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 x 2  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=84,177 sf 10.80% Impervious Runoff Depth=4.94"  
Flow Length=781' Tc=16.3 min CN=76 Runoff=8.18 cfs 34,653 cf

**Subcatchment SA2: Drainage Subarea #2** Runoff Area=436,939 sf 4.21% Impervious Runoff Depth=4.48"  
Flow Length=1,108' Tc=23.5 min CN=72 Runoff=33.19 cfs 163,288 cf

**Subcatchment SA3: Drainage Subarea #3** Runoff Area=289,358 sf 2.33% Impervious Runoff Depth=4.26"  
Flow Length=660' Tc=22.6 min CN=70 Runoff=21.22 cfs 102,692 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=9,201 sf 0.00% Impervious Runoff Depth=4.26"  
Flow Length=231' Tc=10.5 min CN=70 Runoff=0.91 cfs 3,265 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=8.18 cfs 34,653 cf  
Primary=8.18 cfs 34,653 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=33.19 cfs 163,288 cf  
Primary=33.19 cfs 163,288 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=21.22 cfs 102,692 cf  
Primary=21.22 cfs 102,692 cf

**Link AL4: Analysis Line #4 (Northeastern PL)** Inflow=0.91 cfs 3,265 cf  
Primary=0.91 cfs 3,265 cf

**Link ALL: ALL** Inflow=62.19 cfs 303,898 cf  
Primary=62.19 cfs 303,898 cf

**Total Runoff Area = 819,675 sf Runoff Volume = 303,898 cf Average Runoff Depth = 4.45"**  
**95.82% Pervious = 785,435 sf 4.18% Impervious = 34,240 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 8.18 cfs @ 12.22 hrs, Volume= 34,653 cf, Depth= 4.94"

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 9,093	98	Bldgs./Impervious
* 2,325	92	Compact Gravel (est.), HSG C
* 575	86	Open Deck (est.), HSG C
* 46,031	74	Lawn, Good, HSG C
* 26,153	70	Woods, Good, HSG C
84,177	76	Weighted Average
75,084	73	89.20% Pervious Area
9,093	98	10.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	106	0.0920	0.23		<b>Sheet Flow, SF1A, Lawn</b> n= 0.240 P2= 3.43"
2.9	11	0.0730	0.06		<b>Sheet Flow, SF1B, Woods</b> n= 0.600 P2= 3.43"
3.5	33	0.0670	0.16		<b>Sheet Flow, SF1C, Lawn</b> n= 0.240 P2= 3.43"
0.7	195	0.0760	4.44		<b>Shallow Concentrated Flow, SCF1A, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	3	0.0670	5.25		<b>Shallow Concentrated Flow, SCF1B, Paved</b> Paved Kv= 20.3 fps
0.1	29	0.2280	7.69		<b>Shallow Concentrated Flow, SCF1C, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	16	0.0810	5.78		<b>Shallow Concentrated Flow, SCF1D, Paved</b> Paved Kv= 20.3 fps
0.6	158	0.0850	4.69		<b>Shallow Concentrated Flow, SCF1E, Unpaved</b> Unpaved Kv= 16.1 fps
0.0	4	0.0750	5.56		<b>Shallow Concentrated Flow, SCF1F, Paved</b> Paved Kv= 20.3 fps
0.0	1	0.1000	6.42		<b>Shallow Concentrated Flow, SCF1H, Unpaved</b> Paved Kv= 20.3 fps
0.7	225	0.1000	5.09		<b>Shallow Concentrated Flow, SCF1I, Paved</b> Unpaved Kv= 16.1 fps
16.3	781	Total			

**Summary for Subcatchment SA2: Drainage Subarea #2 'SA2'**

Runoff = 33.19 cfs @ 12.32 hrs, Volume= 163,288 cf, Depth= 4.48"

Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 18,392	98	Bldgs./Impervious
* 1,017	92	Compact Gravel (est.), HSG C
* 1,114	86	Open Deck (est.), HSG C
* 76,515	74	Lawn, Good, HSG C
* 2,776	55	Woods, Good, HSG B
* 336,735	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
436,939	72	Weighted Average
418,547	71	95.79% Pervious Area
18,392	98	4.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA3: Drainage Subarea #3 'SA3'**

Runoff = 21.22 cfs @ 12.32 hrs, Volume= 102,692 cf, Depth= 4.26"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 6,755	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 39,584	74	Lawn, Good, HSG C
* 30,364	55	Woods, Good, HSG B
* 212,059	70	Woods, Good, HSG C
289,358	70	Weighted Average
282,603	69	97.67% Pervious Area
6,755	98	2.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	18	0.0830	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
19.0	132	0.0970	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
1.6	510	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
22.6	660	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.91 cfs @ 12.15 hrs, Volume= 3,265 cf, Depth= 4.26"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 9,201	70	Woods, Good, HSG C
9,201	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	150	0.0930	0.24		<b>Sheet Flow, SF4A</b> n= 0.240 P2= 3.43"
0.2	81	0.1300	5.80		<b>Shallow Concentrated Flow, SCF4A</b> Unpaved Kv= 16.1 fps
10.5	231	Total			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 84,177 sf, 10.80% Impervious, Inflow Depth = 4.94" for 100-Year event  
Inflow = 8.18 cfs @ 12.22 hrs, Volume= 34,653 cf  
Primary = 8.18 cfs @ 12.22 hrs, Volume= 34,653 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 436,939 sf, 4.21% Impervious, Inflow Depth = 4.48" for 100-Year event  
Inflow = 33.19 cfs @ 12.32 hrs, Volume= 163,288 cf  
Primary = 33.19 cfs @ 12.32 hrs, Volume= 163,288 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 289,358 sf, 2.33% Impervious, Inflow Depth = 4.26" for 100-Year event  
Inflow = 21.22 cfs @ 12.32 hrs, Volume= 102,692 cf  
Primary = 21.22 cfs @ 12.32 hrs, Volume= 102,692 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 9,201 sf, 0.00% Impervious, Inflow Depth = 4.26" for 100-Year event  
Inflow = 0.91 cfs @ 12.15 hrs, Volume= 3,265 cf  
Primary = 0.91 cfs @ 12.15 hrs, Volume= 3,265 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

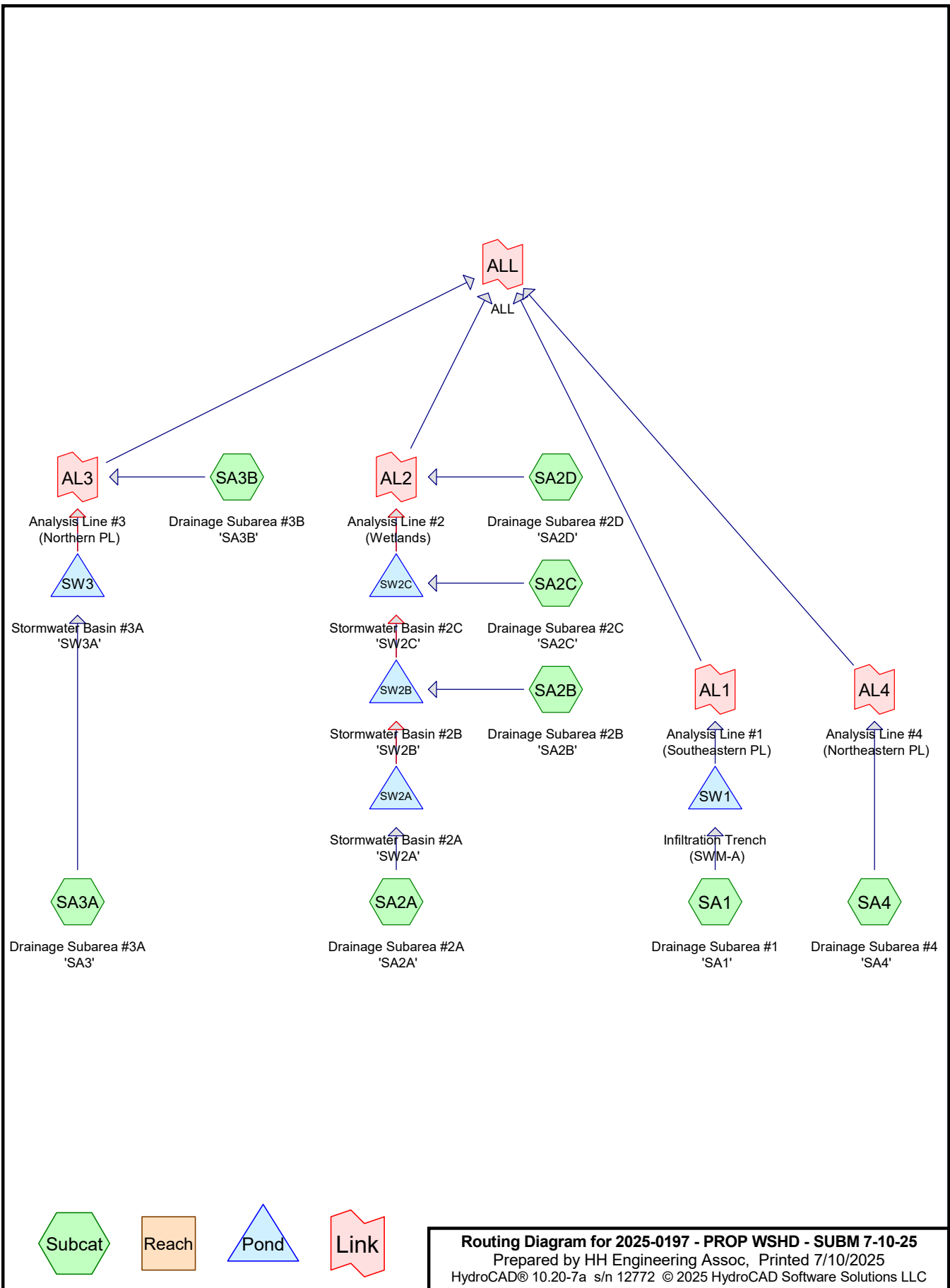
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

**Summary for Link ALL: ALL**

Inflow Area = 819,675 sf, 4.18% Impervious, Inflow Depth = 4.45" for 100-Year event  
Inflow = 62.19 cfs @ 12.30 hrs, Volume= 303,898 cf  
Primary = 62.19 cfs @ 12.30 hrs, Volume= 303,898 cf, Atten= 0%, Lag= 0.0 min

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

**Appendix G –  
Post-Development  
HydroCAD Report**



**2025-0197 - PROP WSHD - SUBM 7-10-25**

Prepared by HH Engineering Assoc  
HydroCAD® 10.20-7a s/n 12772 © 2025 HydroCAD Software Solutions LLC

Printed 7/10/2025

Page 2

**Area Listing (selected nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
128,204	98	Bldgs./Impervious (SA1, SA2A, SA2B, SA3A, SA3B)
3,405	92	Compact Gravel (est.), HSG C (SA2A, SA3B)
478	61	Lawn, Good, HSG B (SA3B)
457,092	74	Lawn, Good, HSG C (SA1, SA2A, SA2B, SA2C, SA2D, SA3A, SA3B, SA4)
5,169	86	Open Deck (est.), HSG C (SA2A, SA2B, SA3A, SA3B)
32,649	55	Woods, Good, HSG B (SA3B)
192,252	70	Woods, Good, HSG C (SA1, SA2A, SA2D, SA3A, SA3B, SA4)
390	77	Woods, Good, HSG D (SA2D)
<b>819,639</b>	<b>76</b>	<b>TOTAL AREA</b>

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 Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=16,871 sf 31.47% Impervious Runoff Depth=0.24"  
Tc=10.0 min CN=82 Runoff=0.07 cfs 341 cf

**Subcatchment SA2A: Drainage Subarea** Runoff Area=467,771 sf 18.44% Impervious Runoff Depth=0.15"  
Flow Length=1,108' Tc=23.5 min CN=78 Runoff=0.73 cfs 5,936 cf

**Subcatchment SA2B: Drainage Subarea** Runoff Area=24,515 sf 3.20% Impervious Runoff Depth=0.10"  
Tc=5.0 min CN=75 Runoff=0.02 cfs 207 cf

**Subcatchment SA2C: Drainage Subarea** Runoff Area=13,888 sf 0.00% Impervious Runoff Depth=0.09"  
Tc=5.0 min CN=74 Runoff=0.01 cfs 100 cf

**Subcatchment SA2D: Drainage Subarea #2D** Runoff Area=6,560 sf 0.00% Impervious Runoff Depth=0.07"  
Flow Length=94' Tc=10.5 min CN=73 Runoff=0.00 cfs 40 cf

**Subcatchment SA3A: Drainage Subarea** Runoff Area=59,872 sf 26.45% Impervious Runoff Depth=0.19"  
Flow Length=339' Tc=19.9 min CN=80 Runoff=0.14 cfs 968 cf

**Subcatchment SA3B: Drainage Subarea** Runoff Area=222,734 sf 8.99% Impervious Runoff Depth=0.06"  
Flow Length=731' Tc=23.0 min CN=72 Runoff=0.06 cfs 1,148 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=7,428 sf 0.00% Impervious Runoff Depth=0.06"  
Flow Length=233' Tc=10.7 min CN=72 Runoff=0.00 cfs 38 cf

**Pond SW1: Infiltration Trench (SWM-A)** Peak Elev=360.83' Storage=124 cf Inflow=0.07 cfs 341 cf  
Discarded=0.01 cfs 341 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 341 cf

**Pond SW2A: Stormwater Basin #2A 'SW2A'** Peak Elev=355.79' Storage=2,850 cf Inflow=0.73 cfs 5,936 cf  
Discarded=0.06 cfs 5,071 cf Primary=0.09 cfs 865 cf Secondary=0.00 cfs 0 cf Outflow=0.15 cfs 5,936 cf

**Pond SW2B: Stormwater Basin #2B 'SW2B'** Peak Elev=343.52' Storage=138 cf Inflow=0.10 cfs 1,071 cf  
Discarded=0.08 cfs 1,071 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.08 cfs 1,071 cf

**Pond SW2C: Stormwater Basin #2C 'SW2C'** Peak Elev=338.00' Storage=11 cf Inflow=0.01 cfs 100 cf  
Discarded=0.00 cfs 100 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.00 cfs 100 cf

**Pond SW3: Stormwater Basin #3A 'SW3A'** Peak Elev=388.35' Storage=326 cf Inflow=0.14 cfs 968 cf  
Discarded=0.03 cfs 968 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.03 cfs 968 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=0.00 cfs 0 cf  
Primary=0.00 cfs 0 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=0.00 cfs 40 cf  
Primary=0.00 cfs 40 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=0.06 cfs 1,148 cf  
Primary=0.06 cfs 1,148 cf

**2025-0197 - PROP WSHD - SUBM 7-10-25**

*Type III 24-hr WQV Rainfall=1.30"*

Prepared by HH Engineering Assoc

Printed 7/10/2025

HydroCAD® 10.20-7a s/n 12772 © 2025 HydroCAD Software Solutions LLC

Page 4

**Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow=0.00 cfs 38 cf  
Primary=0.00 cfs 38 cf

**Link ALL: ALL**

Inflow=0.06 cfs 1,226 cf  
Primary=0.06 cfs 1,226 cf

**Total Runoff Area = 819,639 sf   Runoff Volume = 8,778 cf   Average Runoff Depth = 0.13"**  
**84.36% Pervious = 691,435 sf   15.64% Impervious = 128,204 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 0.07 cfs @ 12.17 hrs, Volume= 341 cf, Depth= 0.24"

Routed to Pond SW1 : Infiltration Trench (SWM-A)

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 WQV Rainfall=1.30"

	Area (sf)	CN	Description
*	5,309	98	Bldgs./Impervious
*	11,384	74	Lawn, Good, HSG C
*	178	70	Woods, Good, HSG C
	16,871	82	Weighted Average
	11,562	74	68.53% Pervious Area
	5,309	98	31.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'**

Runoff = 0.73 cfs @ 12.51 hrs, Volume= 5,936 cf, Depth= 0.15"

Routed to Pond SW2A : Stormwater Basin #2A 'SW2A'

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 86,243	98	Bldgs./Impervious
* 2,809	92	Compact Gravel (est.), HSG C
* 3,353	86	Open Deck (est.), HSG C
* 251,334	74	Lawn, Good, HSG C
* 124,032	70	Woods, Good, HSG C
467,771	78	Weighted Average
381,528	73	81.56% Pervious Area
86,243	98	18.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'**

Runoff = 0.02 cfs @ 12.32 hrs, Volume= 207 cf, Depth= 0.10"

Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

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 WQV Rainfall=1.30"

	Area (sf)	CN	Description
*	785	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	23,579	74	Lawn, Good, HSG C
	24,515	75	Weighted Average
	23,730	74	96.80% Pervious Area
	785	98	3.20% Impervious Area

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

**Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'**

Runoff = 0.01 cfs @ 12.35 hrs, Volume= 100 cf, Depth= 0.09"

Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 13,888	74	Lawn, Good, HSG C
13,888	74	100.00% Pervious Area

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

**Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'**

Runoff = 0.00 cfs @ 12.47 hrs, Volume= 40 cf, Depth= 0.07"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 4,140	74	Lawn, Good, HSG C
* 2,030	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
6,560	73	Weighted Average
6,560	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	27	0.1850	0.23		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
8.5	67	0.1870	0.13		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
10.5	94	Total			

**Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'**

Runoff = 0.14 cfs @ 12.38 hrs, Volume= 968 cf, Depth= 0.19"  
 Routed to Pond SW3 : Stormwater Basin #3A 'SW3A'

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 15,836	98	Bldgs./Impervious
* 454	86	Open Deck (est.), HSG C
* 39,826	74	Lawn, Good, HSG C
* 3,756	70	Woods, Good, HSG C
59,872	80	Weighted Average
44,036	74	73.55% Pervious Area
15,836	98	26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	89	0.0730	0.10		<b>Sheet Flow, SF3A, Woods</b> n= 0.600 P2= 3.43"
3.4	61	0.2380	0.29		<b>Sheet Flow, SF3B, Lawn</b> n= 0.240 P2= 3.43"
0.3	105	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
0.6	84	0.0120	2.22		<b>Shallow Concentrated Flow, SCF3B, Paved</b> Paved Kv= 20.3 fps
19.9	339	Total			

**Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'**

Runoff = 0.06 cfs @ 12.71 hrs, Volume= 1,148 cf, Depth= 0.06"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 WQV Rainfall=1.30"

Area (sf)	CN	Description
* 20,031	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 1,211	86	Open Deck (est.), HSG C
* 478	61	Lawn, Good, HSG B
* 108,649	74	Lawn, Good, HSG C
* 32,649	55	Woods, Good, HSG B
* 59,120	70	Woods, Good, HSG C
222,734	72	Weighted Average
202,703	70	91.01% Pervious Area
20,031	98	8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
2.0	581	0.0930	4.91		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
23.0	731	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.00 cfs @ 12.51 hrs, Volume= 38 cf, Depth= 0.06"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 WQV Rainfall=1.30"

	Area (sf)	CN	Description
*	4,292	74	Lawn, Good, HSG C
*	3,136	70	Woods, Good, HSG C
	7,428	72	Weighted Average
	7,428	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	150	0.0920	0.24		<b>Sheet Flow, SF4A, Lawn</b> n= 0.240 P2= 3.43"
0.3	83	0.1110	5.36		<b>Shallow Concentrated Flow, SCF4A, Woods</b> Unpaved Kv= 16.1 fps
10.7	233	Total			

**Summary for Pond SW1: Infiltration Trench (SWM-A)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 0.24" for WQV event  
 Inflow = 0.07 cfs @ 12.17 hrs, Volume= 341 cf  
 Outflow = 0.01 cfs @ 12.07 hrs, Volume= 341 cf, Atten= 88%, Lag= 0.0 min  
 Discarded = 0.01 cfs @ 12.07 hrs, Volume= 341 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.83' @ 14.78 hrs Surf.Area= 372 sf Storage= 124 cf

Plug-Flow detention time= 152.4 min calculated for 341 cf (100% of inflow)  
 Center-of-Mass det. time= 152.4 min ( 1,051.8 - 899.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	818 cf	<b>2.00'W x 186.00'L x 5.50'H Prismatic</b> 2,046 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	<b>6.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Discarded	360.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.01 cfs @ 12.07 hrs HW=360.06' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=360.00' (Free Discharge)  
 ↳ **1=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
360.00	0.00	<b>0.00</b>	0.00	365.20	145.24	0.01	145.24
360.10	0.01	<b>0.01</b>	0.00	365.30	149.88	0.01	149.87
360.20	0.01	0.01	0.00	365.40	154.53	0.01	154.52
360.30	0.01	0.01	0.00	365.50	<b>159.21</b>	0.01	<b>159.20</b>
360.40	0.01	0.01	0.00				
360.50	0.01	0.01	0.00				
360.60	0.01	0.01	0.00				
360.70	0.01	0.01	0.00				
360.80	0.01	0.01	0.00				
360.90	0.01	0.01	0.00				
361.00	0.01	0.01	0.00				
361.10	0.63	0.01	0.62				
361.20	1.75	0.01	1.74				
361.30	3.20	0.01	3.19				
361.40	4.91	0.01	4.90				
361.50	6.83	0.01	6.82				
361.60	8.94	0.01	8.94				
361.70	11.23	0.01	11.22				
361.80	13.67	0.01	13.66				
361.90	16.26	0.01	16.25				
362.00	18.97	0.01	18.97				
362.10	21.81	0.01	21.81				
362.20	24.77	0.01	24.76				
362.30	27.83	0.01	27.82				
362.40	30.99	0.01	30.98				
362.50	34.25	0.01	34.24				
362.60	37.60	0.01	37.59				
362.70	41.03	0.01	41.02				
362.80	44.55	0.01	44.54				
362.90	48.14	0.01	48.13				
363.00	51.80	0.01	51.79				
363.10	55.54	0.01	55.53				
363.20	59.34	0.01	59.33				
363.30	63.20	0.01	63.19				
363.40	67.12	0.01	67.11				
363.50	71.10	0.01	71.09				
363.60	75.13	0.01	75.13				
363.70	79.22	0.01	79.21				
363.80	83.35	0.01	83.35				
363.90	87.54	0.01	87.53				
364.00	91.76	0.01	91.75				
364.10	96.03	0.01	96.02				
364.20	100.34	0.01	100.33				
364.30	104.69	0.01	104.68				
364.40	109.07	0.01	109.06				
364.50	113.49	0.01	113.48				
364.60	117.94	0.01	117.93				
364.70	122.42	0.01	122.42				
364.80	126.94	0.01	126.93				
364.90	131.48	0.01	131.47				
365.00	136.04	0.01	136.03				
365.10	140.63	0.01	140.62				

**Stage-Area-Storage for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
360.00	372	0	365.20	372	774
360.10	372	15	365.30	372	789
360.20	372	30	365.40	372	804
360.30	372	45	365.50	372	818
360.40	372	60			
360.50	372	74			
360.60	372	89			
360.70	372	104			
360.80	372	119			
360.90	372	134			
361.00	372	149			
361.10	372	164			
361.20	372	179			
361.30	372	193			
361.40	372	208			
361.50	372	223			
361.60	372	238			
361.70	372	253			
361.80	372	268			
361.90	372	283			
362.00	372	298			
362.10	372	312			
362.20	372	327			
362.30	372	342			
362.40	372	357			
362.50	372	372			
362.60	372	387			
362.70	372	402			
362.80	372	417			
362.90	372	432			
363.00	372	446			
363.10	372	461			
363.20	372	476			
363.30	372	491			
363.40	372	506			
363.50	372	521			
363.60	372	536			
363.70	372	551			
363.80	372	565			
363.90	372	580			
364.00	372	595			
364.10	372	610			
364.20	372	625			
364.30	372	640			
364.40	372	655			
364.50	372	670			
364.60	372	684			
364.70	372	699			
364.80	372	714			
364.90	372	729			
365.00	372	744			
365.10	372	759			

**Summary for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Inflow Area = 467,771 sf, 18.44% Impervious, Inflow Depth = 0.15" for WQV event  
 Inflow = 0.73 cfs @ 12.51 hrs, Volume= 5,936 cf  
 Outflow = 0.15 cfs @ 15.57 hrs, Volume= 5,936 cf, Atten= 79%, Lag= 184.0 min  
 Discarded = 0.06 cfs @ 15.57 hrs, Volume= 5,071 cf  
 Primary = 0.09 cfs @ 15.57 hrs, Volume= 865 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 355.79' @ 15.57 hrs Surf.Area= 2,434 sf Storage= 2,850 cf

Plug-Flow detention time= 550.3 min calculated for 5,935 cf (100% of inflow)  
 Center-of-Mass det. time= 550.4 min ( 1,492.9 - 942.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,490 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
354.00	689	0	0
355.00	1,735	1,212	1,212
356.00	2,625	2,180	3,392
357.00	3,571	3,098	6,490

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	<b>24.0" Round Outlet Pipe</b> L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	356.50'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	354.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.06 cfs @ 15.57 hrs HW=355.79' (Free Discharge)  
 ↑5=Exfiltration (Exfiltration Controls 0.06 cfs)

**Primary OutFlow** Max=0.09 cfs @ 15.57 hrs HW=355.79' (Free Discharge)  
 ↑1=Outlet Pipe (Passes 0.09 cfs of 47.32 cfs potential flow)  
 ↑2=Orifice (Orifice Controls 0.09 cfs @ 0.61 fps)  
 ↑3=Grate ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)  
 ↑4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
354.00	0.00	0.00	0.00	0.00
354.10	0.02	0.02	0.00	0.00
354.20	0.02	0.02	0.00	0.00
354.30	0.02	0.02	0.00	0.00
354.40	0.03	0.03	0.00	0.00
354.50	0.03	0.03	0.00	0.00
354.60	0.03	0.03	0.00	0.00
354.70	0.03	0.03	0.00	0.00
354.80	0.04	0.04	0.00	0.00
354.90	0.04	0.04	0.00	0.00
355.00	0.04	0.04	0.00	0.00
355.10	0.04	0.04	0.00	0.00
355.20	0.04	0.04	0.00	0.00
355.30	0.05	0.05	0.00	0.00
355.40	0.05	0.05	0.00	0.00
355.50	0.05	0.05	0.00	0.00
355.60	0.05	0.05	0.00	0.00
355.70	0.05	0.05	0.00	0.00
355.80	0.20	0.06	0.14	0.00
355.90	0.80	0.06	0.75	0.00
356.00	1.67	0.06	1.60	0.00
356.10	2.72	0.06	2.66	0.00
356.20	3.94	0.07	3.88	0.00
356.30	22.39	0.07	22.32	0.00
356.40	35.89	0.07	35.82	0.00
356.50	45.33	0.07	45.25	0.00
356.60	50.87	0.07	49.25	1.55
356.70	53.93	0.08	49.48	4.38
356.80	57.82	0.08	49.71	8.03
356.90	62.36	0.08	49.94	12.34
357.00	<b>67.48</b>	<b>0.08</b>	<b>50.17</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
354.00	689	0	356.60	3,193	5,137
354.05	741	36	356.65	3,240	5,298
354.10	794	74	356.70	3,287	5,461
354.15	846	115	356.75	3,335	5,627
354.20	898	159	356.80	3,382	5,795
354.25	951	205	356.85	3,429	5,965
354.30	1,003	254	356.90	3,476	6,138
354.35	1,055	305	356.95	3,524	6,313
354.40	1,107	359	357.00	<b>3,571</b>	<b>6,490</b>
354.45	1,160	416			
354.50	1,212	475			
354.55	1,264	537			
354.60	1,317	602			
354.65	1,369	669			
354.70	1,421	739			
354.75	1,474	811			
354.80	1,526	886			
354.85	1,578	964			
354.90	1,630	1,044			
354.95	1,683	1,127			
355.00	1,735	1,212			
355.05	1,780	1,300			
355.10	1,824	1,390			
355.15	1,868	1,482			
355.20	1,913	1,577			
355.25	1,958	1,674			
355.30	2,002	1,773			
355.35	2,047	1,874			
355.40	2,091	1,977			
355.45	2,135	2,083			
355.50	2,180	2,191			
355.55	2,225	2,301			
355.60	2,269	2,413			
355.65	2,313	2,528			
355.70	2,358	2,645			
355.75	2,403	2,764			
355.80	2,447	2,885			
355.85	2,492	3,008			
355.90	2,536	3,134			
355.95	2,580	3,262			
356.00	2,625	3,392			
356.05	2,672	3,524			
356.10	2,720	3,659			
356.15	2,767	3,796			
356.20	2,814	3,936			
356.25	2,862	4,078			
356.30	2,909	4,222			
356.35	2,956	4,369			
356.40	3,003	4,518			
356.45	3,051	4,669			
356.50	3,098	4,823			
356.55	3,145	4,979			

**Summary for Pond SW2B: Stormwater Basin #2B 'SW2B'**

[79] Warning: Submerged Pond SW2A Primary device # 1 OUTLET by 0.02'

Inflow Area = 492,286 sf, 17.68% Impervious, Inflow Depth = 0.03" for WQV event  
 Inflow = 0.10 cfs @ 15.56 hrs, Volume= 1,071 cf  
 Outflow = 0.08 cfs @ 16.17 hrs, Volume= 1,071 cf, Atten= 18%, Lag= 36.2 min  
 Discarded = 0.08 cfs @ 16.17 hrs, Volume= 1,071 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 343.52' @ 16.17 hrs Surf.Area= 6,075 sf Storage= 138 cf

Plug-Flow detention time= 28.7 min calculated for 1,071 cf (100% of inflow)  
 Center-of-Mass det. time= 28.7 min ( 1,038.6 - 1,009.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	343.50'	35,844 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.50	6,043	0	0
344.00	6,741	3,196	3,196
345.00	8,179	7,460	10,656
346.00	9,674	8,927	19,583
347.00	11,225	10,450	30,032
347.50	12,022	5,812	35,844

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	<b>24.0" Round Outlet Pipe</b> L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	346.25'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.75'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	347.00'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	343.50'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.14 cfs @ 16.17 hrs HW=343.52' (Free Discharge)

↑**5=Exfiltration** (Exfiltration Controls 0.14 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↑**1=Outlet Pipe** (Passes 0.00 cfs of 28.30 cfs potential flow)

↑**2=Orifice** ( Controls 0.00 cfs)

↑**3=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↑**4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
343.50	0.00	0.00	0.00	0.00
343.60	0.14	0.14	0.00	0.00
343.70	0.15	0.15	0.00	0.00
343.80	0.15	0.15	0.00	0.00
343.90	0.15	0.15	0.00	0.00
344.00	0.16	0.16	0.00	0.00
344.10	0.16	0.16	0.00	0.00
344.20	0.16	0.16	0.00	0.00
344.30	0.17	0.17	0.00	0.00
344.40	0.17	0.17	0.00	0.00
344.50	0.17	0.17	0.00	0.00
344.60	0.18	0.18	0.00	0.00
344.70	0.18	0.18	0.00	0.00
344.80	0.18	0.18	0.00	0.00
344.90	0.19	0.19	0.00	0.00
345.00	0.19	0.19	0.00	0.00
345.10	0.19	0.19	0.00	0.00
345.20	0.20	0.20	0.00	0.00
345.30	0.20	0.20	0.00	0.00
345.40	0.20	0.20	0.00	0.00
345.50	0.21	0.21	0.00	0.00
345.60	0.21	0.21	0.00	0.00
345.70	0.21	0.21	0.00	0.00
345.80	0.22	0.22	0.00	0.00
345.90	0.22	0.22	0.00	0.00
346.00	0.22	0.22	0.00	0.00
346.10	0.23	0.23	0.00	0.00
346.20	0.23	0.23	0.00	0.00
346.30	0.38	0.23	0.14	0.00
346.40	0.98	0.24	0.75	0.00
346.50	1.85	0.24	1.60	0.00
346.60	2.90	0.25	2.66	0.00
346.70	4.13	0.25	3.88	0.00
346.80	22.57	0.25	22.32	0.00
346.90	36.08	0.26	35.82	0.00
347.00	40.28	0.26	40.02	0.00
347.10	42.12	0.26	40.31	1.55
347.20	45.23	0.27	40.59	4.38
347.30	49.17	0.27	40.87	8.03
347.40	53.77	0.27	41.15	12.34
347.50	<b>58.93</b>	<b>0.28</b>	<b>41.43</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
343.50	6,043	0	346.10	9,829	20,558
343.55	6,113	304	346.15	9,907	21,051
343.60	6,183	611	346.20	9,984	21,548
343.65	6,252	922	346.25	10,062	22,049
343.70	6,322	1,237	346.30	10,139	22,554
343.75	6,392	1,554	346.35	10,217	23,063
343.80	6,462	1,876	346.40	10,294	23,576
343.85	6,532	2,201	346.45	10,372	24,093
343.90	6,601	2,529	346.50	10,450	24,613
343.95	6,671	2,861	346.55	10,527	25,138
344.00	6,741	3,196	346.60	10,605	25,666
344.05	6,813	3,535	346.65	10,682	26,198
344.10	6,885	3,877	346.70	10,760	26,734
344.15	6,957	4,223	346.75	10,837	27,274
344.20	7,029	4,573	346.80	10,915	27,818
344.25	7,101	4,926	346.85	10,992	28,366
344.30	7,172	5,283	346.90	11,070	28,917
344.35	7,244	5,643	346.95	11,147	29,473
344.40	7,316	6,007	347.00	11,225	30,032
344.45	7,388	6,375	347.05	11,305	30,595
344.50	7,460	6,746	347.10	11,384	31,162
344.55	7,532	7,121	347.15	11,464	31,734
344.60	7,604	7,499	347.20	11,544	32,309
344.65	7,676	7,881	347.25	11,624	32,888
344.70	7,748	8,267	347.30	11,703	33,471
344.75	7,820	8,656	347.35	11,783	34,058
344.80	7,891	9,049	347.40	11,863	34,650
344.85	7,963	9,445	347.45	11,942	35,245
344.90	8,035	9,845	347.50	<b>12,022</b>	<b>35,844</b>
344.95	8,107	10,249			
345.00	8,179	10,656			
345.05	8,254	11,067			
345.10	8,329	11,481			
345.15	8,403	11,900			
345.20	8,478	12,322			
345.25	8,553	12,747			
345.30	8,628	13,177			
345.35	8,702	13,610			
345.40	8,777	14,047			
345.45	8,852	14,488			
345.50	8,927	14,932			
345.55	9,001	15,381			
345.60	9,076	15,833			
345.65	9,151	16,288			
345.70	9,225	16,748			
345.75	9,300	17,211			
345.80	9,375	17,678			
345.85	9,450	18,148			
345.90	9,524	18,623			
345.95	9,599	19,101			
346.00	9,674	19,583			
346.05	9,752	20,068			

**Summary for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Inflow Area = 506,174 sf, 17.19% Impervious, Inflow Depth = 0.00" for WQV event  
 Inflow = 0.01 cfs @ 12.35 hrs, Volume= 100 cf  
 Outflow = 0.00 cfs @ 13.02 hrs, Volume= 100 cf, Atten= 56%, Lag= 40.3 min  
 Discarded = 0.00 cfs @ 13.02 hrs, Volume= 100 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 338.00' @ 13.02 hrs Surf.Area= 3,123 sf Storage= 11 cf

Plug-Flow detention time= 42.8 min calculated for 100 cf (100% of inflow)  
 Center-of-Mass det. time= 42.8 min ( 1,009.7 - 966.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	338.00'	38,267 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
338.00	3,119	0	0
339.00	4,119	3,619	3,619
340.00	5,175	4,647	8,266
341.00	6,288	5,732	13,998
342.00	7,458	6,873	20,871
343.00	8,684	8,071	28,942
344.00	9,966	9,325	38,267

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	<b>21.0" Round Outlet Pipe</b> L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	339.15'	<b>48.0" W x 6.0" H Vert. Low level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	340.90'	<b>48.0" W x 6.0" H Vert. High Level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	342.00'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	343.00'	<b>15.0' long Spillway</b> 2 End Contraction(s)
#6	Discarded	338.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 13.02 hrs HW=338.00' (Free Discharge)

↑**6=Exfiltration** (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑**1=Outlet Pipe** (Passes 0.00 cfs of 16.88 cfs potential flow)

↑**2=Low level Orifice** ( Controls 0.00 cfs)

↑**3=High Level Orifice** ( Controls 0.00 cfs)

↑**4=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑**5=Spillway** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
338.00	0.00	0.00	0.00	0.00
338.20	0.08	0.08	0.00	0.00
338.40	0.08	0.08	0.00	0.00
338.60	0.09	0.09	0.00	0.00
338.80	0.09	0.09	0.00	0.00
339.00	0.10	0.10	0.00	0.00
339.20	0.24	0.10	0.14	0.00
339.40	1.71	0.11	1.60	0.00
339.60	3.99	0.11	3.88	0.00
339.80	6.10	0.11	5.98	0.00
340.00	7.52	0.12	7.40	0.00
340.20	8.70	0.12	8.58	0.00
340.40	9.73	0.13	9.60	0.00
340.60	10.67	0.14	10.53	0.00
340.80	11.52	0.14	11.38	0.00
341.00	12.72	0.15	12.57	0.00
341.20	15.17	0.15	15.02	0.00
341.40	18.31	0.16	18.15	0.00
341.60	20.81	0.16	20.65	0.00
341.80	22.79	0.17	22.63	0.00
342.00	24.54	0.17	24.37	0.00
342.20	29.30	0.18	29.13	0.00
342.40	29.77	0.18	29.58	0.00
342.60	30.22	0.19	30.03	0.00
342.80	30.67	0.20	30.48	0.00
343.00	31.11	0.20	30.91	0.00
343.20	35.93	0.21	31.34	4.38
343.40	44.33	0.21	31.77	12.34
343.60	55.02	0.22	32.19	22.61
343.80	67.55	0.22	32.60	34.72
344.00	<b>81.64</b>	<b>0.23</b>	<b>33.01</b>	<b>48.40</b>

**Stage-Area-Storage for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
338.00	3,119	0	343.20	8,940	30,704
338.10	3,219	317	343.30	9,069	31,604
338.20	3,319	644	343.40	9,197	32,518
338.30	3,419	981	343.50	9,325	33,444
338.40	3,519	1,328	343.60	9,453	34,383
338.50	3,619	1,685	343.70	9,581	35,334
338.60	3,719	2,051	343.80	9,710	36,299
338.70	3,819	2,428	343.90	9,838	37,276
338.80	3,919	2,815	344.00	<b>9,966</b>	<b>38,267</b>
338.90	4,019	3,212			
339.00	4,119	3,619			
339.10	4,225	4,036			
339.20	4,330	4,464			
339.30	4,436	4,902			
339.40	4,541	5,351			
339.50	4,647	5,811			
339.60	4,753	6,280			
339.70	4,858	6,761			
339.80	4,964	7,252			
339.90	5,069	7,754			
340.00	5,175	8,266			
340.10	5,286	8,789			
340.20	5,398	9,323			
340.30	5,509	9,869			
340.40	5,620	10,425			
340.50	5,732	10,993			
340.60	5,843	11,571			
340.70	5,954	12,161			
340.80	6,065	12,762			
340.90	6,177	13,374			
341.00	6,288	13,998			
341.10	6,405	14,632			
341.20	6,522	15,278			
341.30	6,639	15,937			
341.40	6,756	16,606			
341.50	6,873	17,288			
341.60	6,990	17,981			
341.70	7,107	18,686			
341.80	7,224	19,402			
341.90	7,341	20,131			
342.00	7,458	20,871			
342.10	7,581	21,622			
342.20	7,703	22,387			
342.30	7,826	23,163			
342.40	7,948	23,952			
342.50	8,071	24,753			
342.60	8,194	25,566			
342.70	8,316	26,391			
342.80	8,439	27,229			
342.90	8,561	28,079			
343.00	8,684	28,942			
343.10	8,812	29,816			

**Summary for Pond SW3: Stormwater Basin #3A 'SW3A'**

Inflow Area = 59,872 sf, 26.45% Impervious, Inflow Depth = 0.19" for WQV event  
 Inflow = 0.14 cfs @ 12.38 hrs, Volume= 968 cf  
 Outflow = 0.03 cfs @ 15.08 hrs, Volume= 968 cf, Atten= 83%, Lag= 162.0 min  
 Discarded = 0.03 cfs @ 15.08 hrs, Volume= 968 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 388.35' @ 15.08 hrs Surf.Area= 1,090 sf Storage= 326 cf

Plug-Flow detention time= 149.1 min calculated for 967 cf (100% of inflow)  
 Center-of-Mass det. time= 149.1 min ( 1,072.0 - 922.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	388.00'	9,083 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.00	765	0	0
389.00	1,690	1,228	1,228
390.00	2,276	1,983	3,211
391.00	2,922	2,599	5,810
392.00	3,625	3,274	9,083

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	<b>15.0" Round Outlet Pipe</b> L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	389.00'	<b>6.0" W x 4.0" H Vert. Low-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	390.00'	<b>18.0" W x 4.0" H Vert. Mid-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.75'	<b>24.0" W x 6.0" H Vert. High-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#6	Secondary	391.50'	<b>10.0' long x 11.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.53 2.59 2.70 2.68 2.67 2.68 2.66 2.64
#7	Discarded	388.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.03 cfs @ 15.08 hrs HW=388.35' (Free Discharge)

↑ **7=Exfiltration** (Exfiltration Controls 0.03 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑ **1=Outlet Pipe** (Passes 0.00 cfs of 8.09 cfs potential flow)

↑ **2=Low-level Orifice** ( Controls 0.00 cfs)

↑ **3=Mid-level Orifice** ( Controls 0.00 cfs)

↑ **4=High-level Orifice** ( Controls 0.00 cfs)

↑ **5=Grate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑ **6=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
388.00	0.00	0.00	0.00	0.00
388.10	0.02	0.02	0.00	0.00
388.20	0.02	0.02	0.00	0.00
388.30	0.02	0.02	0.00	0.00
388.40	0.03	0.03	0.00	0.00
388.50	0.03	0.03	0.00	0.00
388.60	0.03	0.03	0.00	0.00
388.70	0.03	0.03	0.00	0.00
388.80	0.03	0.03	0.00	0.00
388.90	0.04	0.04	0.00	0.00
389.00	0.04	0.04	0.00	0.00
389.10	0.09	0.04	0.05	0.00
389.20	0.19	0.04	0.14	0.00
389.30	0.31	0.04	0.26	0.00
389.40	0.42	0.04	0.38	0.00
389.50	0.50	0.05	0.46	0.00
389.60	0.57	0.05	0.52	0.00
389.70	0.63	0.05	0.58	0.00
389.80	0.69	0.05	0.64	0.00
389.90	0.74	0.05	0.69	0.00
390.00	0.78	0.05	0.73	0.00
390.10	0.98	0.05	0.93	0.00
390.20	1.30	0.06	1.25	0.00
390.30	1.70	0.06	1.64	0.00
390.40	2.08	0.06	2.03	0.00
390.50	2.36	0.06	2.30	0.00
390.60	2.60	0.06	2.53	0.00
390.70	2.81	0.06	2.74	0.00
390.80	3.07	0.06	3.01	0.00
390.90	3.55	0.07	3.49	0.00
391.00	4.15	0.07	4.08	0.00
391.10	4.84	0.07	4.77	0.00
391.20	5.60	0.07	5.53	0.00
391.30	13.51	0.07	13.44	0.00
391.40	13.65	0.07	13.57	0.00
391.50	13.77	0.08	13.70	0.00
391.60	14.70	0.08	13.83	0.80
391.70	16.29	0.08	13.95	2.26
391.80	18.36	0.08	14.08	4.21
391.90	20.83	0.08	14.20	6.55
392.00	<b>23.76</b>	<b>0.08</b>	<b>14.32</b>	<b>9.35</b>

**Stage-Area-Storage for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
388.00	765	0	390.60	2,664	4,692
388.05	811	39	390.65	2,696	4,826
388.10	858	81	390.70	2,728	4,962
388.15	904	125	390.75	2,761	5,099
388.20	950	171	390.80	2,793	5,238
388.25	996	220	390.85	2,825	5,378
388.30	1,043	271	390.90	2,857	5,521
388.35	1,089	324	390.95	2,890	5,664
388.40	1,135	380	391.00	2,922	5,810
388.45	1,181	438	391.05	2,957	5,956
388.50	1,228	498	391.10	2,992	6,105
388.55	1,274	561	391.15	3,027	6,256
388.60	1,320	626	391.20	3,063	6,408
388.65	1,366	693	391.25	3,098	6,562
388.70	1,412	762	391.30	3,133	6,718
388.75	1,459	834	391.35	3,168	6,875
388.80	1,505	908	391.40	3,203	7,035
388.85	1,551	984	391.45	3,238	7,196
388.90	1,597	1,063	391.50	3,274	7,358
388.95	1,644	1,144	391.55	3,309	7,523
389.00	1,690	1,228	391.60	3,344	7,689
389.05	1,719	1,313	391.65	3,379	7,857
389.10	1,749	1,399	391.70	3,414	8,027
389.15	1,778	1,488	391.75	3,449	8,199
389.20	1,807	1,577	391.80	3,484	8,372
389.25	1,837	1,668	391.85	3,520	8,547
389.30	1,866	1,761	391.90	3,555	8,724
389.35	1,895	1,855	391.95	3,590	8,903
389.40	1,924	1,950	392.00	<b>3,625</b>	<b>9,083</b>
389.45	1,954	2,047			
389.50	1,983	2,146			
389.55	2,012	2,246			
389.60	2,042	2,347			
389.65	2,071	2,450			
389.70	2,100	2,554			
389.75	2,130	2,660			
389.80	2,159	2,767			
389.85	2,188	2,876			
389.90	2,217	2,986			
389.95	2,247	3,097			
390.00	2,276	3,211			
390.05	2,308	3,325			
390.10	2,341	3,441			
390.15	2,373	3,559			
390.20	2,405	3,679			
390.25	2,438	3,800			
390.30	2,470	3,922			
390.35	2,502	4,047			
390.40	2,534	4,173			
390.45	2,567	4,300			
390.50	2,599	4,429			
390.55	2,631	4,560			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 0.00" for WQV 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  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 512,734 sf, 16.97% Impervious, Inflow Depth = 0.00" for WQV event  
Inflow = 0.00 cfs @ 12.47 hrs, Volume= 40 cf  
Primary = 0.00 cfs @ 12.47 hrs, Volume= 40 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 282,606 sf, 12.69% Impervious, Inflow Depth = 0.05" for WQV event  
Inflow = 0.06 cfs @ 12.71 hrs, Volume= 1,148 cf  
Primary = 0.06 cfs @ 12.71 hrs, Volume= 1,148 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 7,428 sf, 0.00% Impervious, Inflow Depth = 0.06" for WQV event  
Inflow = 0.00 cfs @ 12.51 hrs, Volume= 38 cf  
Primary = 0.00 cfs @ 12.51 hrs, Volume= 38 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,639 sf, 15.64% Impervious, Inflow Depth = 0.02" for WQV event  
Inflow = 0.06 cfs @ 12.70 hrs, Volume= 1,226 cf  
Primary = 0.06 cfs @ 12.70 hrs, Volume= 1,226 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 Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=16,871 sf 31.47% Impervious Runoff Depth=1.30"  
Tc=10.0 min CN=82 Runoff=0.51 cfs 1,829 cf

**Subcatchment SA2A: Drainage Subarea** Runoff Area=467,771 sf 18.44% Impervious Runoff Depth=1.06"  
Flow Length=1,108' Tc=23.5 min CN=78 Runoff=8.09 cfs 41,249 cf

**Subcatchment SA2B: Drainage Subarea** Runoff Area=24,515 sf 3.20% Impervious Runoff Depth=0.90"  
Tc=5.0 min CN=75 Runoff=0.58 cfs 1,830 cf

**Subcatchment SA2C: Drainage Subarea** Runoff Area=13,888 sf 0.00% Impervious Runoff Depth=0.85"  
Tc=5.0 min CN=74 Runoff=0.30 cfs 978 cf

**Subcatchment SA2D: Drainage Subarea #2D** Runoff Area=6,560 sf 0.00% Impervious Runoff Depth=0.80"  
Flow Length=94' Tc=10.5 min CN=73 Runoff=0.11 cfs 435 cf

**Subcatchment SA3A: Drainage Subarea** Runoff Area=59,872 sf 26.45% Impervious Runoff Depth=1.18"  
Flow Length=339' Tc=19.9 min CN=80 Runoff=1.25 cfs 5,865 cf

**Subcatchment SA3B: Drainage Subarea** Runoff Area=222,734 sf 8.99% Impervious Runoff Depth=0.75"  
Flow Length=731' Tc=23.0 min CN=72 Runoff=2.54 cfs 13,907 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=7,428 sf 0.00% Impervious Runoff Depth=0.75"  
Flow Length=233' Tc=10.7 min CN=72 Runoff=0.11 cfs 464 cf

**Pond SW1: Infiltration Trench (SWM-A)** Peak Elev=361.09' Storage=161 cf Inflow=0.51 cfs 1,829 cf  
Discarded=0.01 cfs 579 cf Primary=0.50 cfs 1,250 cf Outflow=0.51 cfs 1,829 cf

**Pond SW2A: Stormwater Basin #2A 'SW2A'** Peak Elev=356.26' Storage=4,100 cf Inflow=8.09 cfs 41,249 cf  
Discarded=0.07 cfs 5,567 cf Primary=8.02 cfs 35,681 cf Secondary=0.00 cfs 0 cf Outflow=8.08 cfs 41,249 cf

**Pond SW2B: Stormwater Basin #2B** Peak Elev=346.37' Storage=23,262 cf Inflow=8.26 cfs 37,512 cf  
Discarded=0.24 cfs 31,795 cf Primary=0.53 cfs 5,717 cf Secondary=0.00 cfs 0 cf Outflow=0.77 cfs 37,512 cf

**Pond SW2C: Stormwater Basin #2C 'SW2C'** Peak Elev=339.12' Storage=4,126 cf Inflow=0.55 cfs 6,695 cf  
Discarded=0.10 cfs 6,695 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.10 cfs 6,695 cf

**Pond SW3: Stormwater Basin #3A 'SW3A'** Peak Elev=389.47' Storage=2,078 cf Inflow=1.25 cfs 5,865 cf  
Discarded=0.05 cfs 3,011 cf Primary=0.43 cfs 2,854 cf Secondary=0.00 cfs 0 cf Outflow=0.48 cfs 5,865 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=0.50 cfs 1,250 cf  
Primary=0.50 cfs 1,250 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=0.11 cfs 435 cf  
Primary=0.11 cfs 435 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=2.69 cfs 16,761 cf  
Primary=2.69 cfs 16,761 cf

**Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow=0.11 cfs 464 cf  
Primary=0.11 cfs 464 cf

**Link ALL: ALL**

Inflow=3.07 cfs 18,911 cf  
Primary=3.07 cfs 18,911 cf

**Total Runoff Area = 819,639 sf   Runoff Volume = 66,558 cf   Average Runoff Depth = 0.97"**  
**84.36% Pervious = 691,435 sf   15.64% Impervious = 128,204 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 0.51 cfs @ 12.14 hrs, Volume= 1,829 cf, Depth= 1.30"

Routed to Pond SW1 : Infiltration Trench (SWM-A)

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 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	5,309	98	Bldgs./Impervious
*	11,384	74	Lawn, Good, HSG C
*	178	70	Woods, Good, HSG C
	16,871	82	Weighted Average
	11,562	74	68.53% Pervious Area
	5,309	98	31.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'**

Runoff = 8.09 cfs @ 12.35 hrs, Volume= 41,249 cf, Depth= 1.06"  
 Routed to Pond SW2A : Stormwater Basin #2A 'SW2A'

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 86,243	98	Bldgs./Impervious
* 2,809	92	Compact Gravel (est.), HSG C
* 3,353	86	Open Deck (est.), HSG C
* 251,334	74	Lawn, Good, HSG C
* 124,032	70	Woods, Good, HSG C
467,771	78	Weighted Average
381,528	73	81.56% Pervious Area
86,243	98	18.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'**

Runoff = 0.58 cfs @ 12.08 hrs, Volume= 1,830 cf, Depth= 0.90"

Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

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 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	785	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	23,579	74	Lawn, Good, HSG C
	24,515	75	Weighted Average
	23,730	74	96.80% Pervious Area
	785	98	3.20% Impervious Area

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

**Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'**

Runoff = 0.30 cfs @ 12.08 hrs, Volume= 978 cf, Depth= 0.85"

Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

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 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	13,888	74	Lawn, Good, HSG C
	13,888	74	100.00% Pervious Area

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

**Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'**

Runoff = 0.11 cfs @ 12.16 hrs, Volume= 435 cf, Depth= 0.80"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 4,140	74	Lawn, Good, HSG C
* 2,030	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
6,560	73	Weighted Average
6,560	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	27	0.1850	0.23		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
8.5	67	0.1870	0.13		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
10.5	94	Total			

**Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'**

Runoff = 1.25 cfs @ 12.28 hrs, Volume= 5,865 cf, Depth= 1.18"  
 Routed to Pond SW3 : Stormwater Basin #3A 'SW3A'

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 15,836	98	Bldgs./Impervious
* 454	86	Open Deck (est.), HSG C
* 39,826	74	Lawn, Good, HSG C
* 3,756	70	Woods, Good, HSG C
59,872	80	Weighted Average
44,036	74	73.55% Pervious Area
15,836	98	26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	89	0.0730	0.10		<b>Sheet Flow, SF3A, Woods</b> n= 0.600 P2= 3.43"
3.4	61	0.2380	0.29		<b>Sheet Flow, SF3B, Lawn</b> n= 0.240 P2= 3.43"
0.3	105	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
0.6	84	0.0120	2.22		<b>Shallow Concentrated Flow, SCF3B, Paved</b> Paved Kv= 20.3 fps
19.9	339	Total			

**Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'**

Runoff = 2.54 cfs @ 12.36 hrs, Volume= 13,907 cf, Depth= 0.75"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 1-year Rainfall=2.90"

Area (sf)	CN	Description
* 20,031	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 1,211	86	Open Deck (est.), HSG C
* 478	61	Lawn, Good, HSG B
* 108,649	74	Lawn, Good, HSG C
* 32,649	55	Woods, Good, HSG B
* 59,120	70	Woods, Good, HSG C
222,734	72	Weighted Average
202,703	70	91.01% Pervious Area
20,031	98	8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
2.0	581	0.0930	4.91		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
23.0	731	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.11 cfs @ 12.16 hrs, Volume= 464 cf, Depth= 0.75"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 1-year Rainfall=2.90"

	Area (sf)	CN	Description
*	4,292	74	Lawn, Good, HSG C
*	3,136	70	Woods, Good, HSG C
	7,428	72	Weighted Average
	7,428	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	150	0.0920	0.24		<b>Sheet Flow, SF4A, Lawn</b> n= 0.240 P2= 3.43"
0.3	83	0.1110	5.36		<b>Shallow Concentrated Flow, SCF4A, Woods</b> Unpaved Kv= 16.1 fps
10.7	233	Total			

**Summary for Pond SW1: Infiltration Trench (SWM-A)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 1.30" for 1-year event  
 Inflow = 0.51 cfs @ 12.14 hrs, Volume= 1,829 cf  
 Outflow = 0.51 cfs @ 12.15 hrs, Volume= 1,829 cf, Atten= 0%, Lag= 0.3 min  
 Discarded = 0.01 cfs @ 10.74 hrs, Volume= 579 cf  
 Primary = 0.50 cfs @ 12.15 hrs, Volume= 1,250 cf  
 Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.09' @ 12.15 hrs Surf.Area= 372 sf Storage= 161 cf

Plug-Flow detention time= 73.0 min calculated for 1,828 cf (100% of inflow)  
 Center-of-Mass det. time= 73.0 min ( 917.9 - 844.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	818 cf	<b>2.00'W x 186.00'L x 5.50'H Prismatic</b> 2,046 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	<b>6.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Discarded	360.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.01 cfs @ 10.74 hrs HW=360.06' (Free Discharge)  
 ↳**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.49 cfs @ 12.15 hrs HW=361.09' (Free Discharge)  
 ↳**1=Sharp-Crested Rectangular Weir** (Weir Controls 0.49 cfs @ 0.95 fps)

**Stage-Discharge for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
360.00	0.00	<b>0.00</b>	0.00	365.20	145.24	0.01	145.24
360.10	0.01	<b>0.01</b>	0.00	365.30	149.88	0.01	149.87
360.20	0.01	0.01	0.00	365.40	154.53	0.01	154.52
360.30	0.01	0.01	0.00	365.50	<b>159.21</b>	0.01	<b>159.20</b>
360.40	0.01	0.01	0.00				
360.50	0.01	0.01	0.00				
360.60	0.01	0.01	0.00				
360.70	0.01	0.01	0.00				
360.80	0.01	0.01	0.00				
360.90	0.01	0.01	0.00				
361.00	0.01	0.01	0.00				
361.10	0.63	0.01	0.62				
361.20	1.75	0.01	1.74				
361.30	3.20	0.01	3.19				
361.40	4.91	0.01	4.90				
361.50	6.83	0.01	6.82				
361.60	8.94	0.01	8.94				
361.70	11.23	0.01	11.22				
361.80	13.67	0.01	13.66				
361.90	16.26	0.01	16.25				
362.00	18.97	0.01	18.97				
362.10	21.81	0.01	21.81				
362.20	24.77	0.01	24.76				
362.30	27.83	0.01	27.82				
362.40	30.99	0.01	30.98				
362.50	34.25	0.01	34.24				
362.60	37.60	0.01	37.59				
362.70	41.03	0.01	41.02				
362.80	44.55	0.01	44.54				
362.90	48.14	0.01	48.13				
363.00	51.80	0.01	51.79				
363.10	55.54	0.01	55.53				
363.20	59.34	0.01	59.33				
363.30	63.20	0.01	63.19				
363.40	67.12	0.01	67.11				
363.50	71.10	0.01	71.09				
363.60	75.13	0.01	75.13				
363.70	79.22	0.01	79.21				
363.80	83.35	0.01	83.35				
363.90	87.54	0.01	87.53				
364.00	91.76	0.01	91.75				
364.10	96.03	0.01	96.02				
364.20	100.34	0.01	100.33				
364.30	104.69	0.01	104.68				
364.40	109.07	0.01	109.06				
364.50	113.49	0.01	113.48				
364.60	117.94	0.01	117.93				
364.70	122.42	0.01	122.42				
364.80	126.94	0.01	126.93				
364.90	131.48	0.01	131.47				
365.00	136.04	0.01	136.03				
365.10	140.63	0.01	140.62				

**Stage-Area-Storage for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
360.00	372	0	365.20	372	774
360.10	372	15	365.30	372	789
360.20	372	30	365.40	372	804
360.30	372	45	365.50	372	818
360.40	372	60			
360.50	372	74			
360.60	372	89			
360.70	372	104			
360.80	372	119			
360.90	372	134			
361.00	372	149			
361.10	372	164			
361.20	372	179			
361.30	372	193			
361.40	372	208			
361.50	372	223			
361.60	372	238			
361.70	372	253			
361.80	372	268			
361.90	372	283			
362.00	372	298			
362.10	372	312			
362.20	372	327			
362.30	372	342			
362.40	372	357			
362.50	372	372			
362.60	372	387			
362.70	372	402			
362.80	372	417			
362.90	372	432			
363.00	372	446			
363.10	372	461			
363.20	372	476			
363.30	372	491			
363.40	372	506			
363.50	372	521			
363.60	372	536			
363.70	372	551			
363.80	372	565			
363.90	372	580			
364.00	372	595			
364.10	372	610			
364.20	372	625			
364.30	372	640			
364.40	372	655			
364.50	372	670			
364.60	372	684			
364.70	372	699			
364.80	372	714			
364.90	372	729			
365.00	372	744			
365.10	372	759			

**Summary for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Inflow Area = 467,771 sf, 18.44% Impervious, Inflow Depth = 1.06" for 1-year event  
 Inflow = 8.09 cfs @ 12.35 hrs, Volume= 41,249 cf  
 Outflow = 8.08 cfs @ 12.35 hrs, Volume= 41,249 cf, Atten= 0%, Lag= 0.1 min  
 Discarded = 0.07 cfs @ 12.35 hrs, Volume= 5,567 cf  
 Primary = 8.02 cfs @ 12.35 hrs, Volume= 35,681 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 356.26' @ 12.35 hrs Surf.Area= 2,869 sf Storage= 4,100 cf

Plug-Flow detention time= 92.3 min calculated for 41,243 cf (100% of inflow)  
 Center-of-Mass det. time= 92.4 min ( 963.4 - 871.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,490 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
354.00	689	0	0
355.00	1,735	1,212	1,212
356.00	2,625	2,180	3,392
357.00	3,571	3,098	6,490

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	<b>24.0" Round Outlet Pipe</b> L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	356.50'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	354.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 12.35 hrs HW=356.26' (Free Discharge)  
 ↳5=Exfiltration (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=11.36 cfs @ 12.35 hrs HW=356.26' (Free Discharge)  
 ↳1=Outlet Pipe (Passes 11.36 cfs of 48.45 cfs potential flow)  
 ↳2=Orifice (Orifice Controls 4.64 cfs @ 2.32 fps)  
 ↳3=Grate (Orifice Controls 6.72 cfs @ 0.42 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)  
 ↳4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
354.00	0.00	0.00	0.00	0.00
354.10	0.02	0.02	0.00	0.00
354.20	0.02	0.02	0.00	0.00
354.30	0.02	0.02	0.00	0.00
354.40	0.03	0.03	0.00	0.00
354.50	0.03	0.03	0.00	0.00
354.60	0.03	0.03	0.00	0.00
354.70	0.03	0.03	0.00	0.00
354.80	0.04	0.04	0.00	0.00
354.90	0.04	0.04	0.00	0.00
355.00	0.04	0.04	0.00	0.00
355.10	0.04	0.04	0.00	0.00
355.20	0.04	0.04	0.00	0.00
355.30	0.05	0.05	0.00	0.00
355.40	0.05	0.05	0.00	0.00
355.50	0.05	0.05	0.00	0.00
355.60	0.05	0.05	0.00	0.00
355.70	0.05	0.05	0.00	0.00
355.80	0.20	0.06	0.14	0.00
355.90	0.80	0.06	0.75	0.00
356.00	1.67	0.06	1.60	0.00
356.10	2.72	0.06	2.66	0.00
356.20	3.94	0.07	3.88	0.00
356.30	22.39	0.07	22.32	0.00
356.40	35.89	0.07	35.82	0.00
356.50	45.33	0.07	45.25	0.00
356.60	50.87	0.07	49.25	1.55
356.70	53.93	0.08	49.48	4.38
356.80	57.82	0.08	49.71	8.03
356.90	62.36	0.08	49.94	12.34
357.00	<b>67.48</b>	<b>0.08</b>	<b>50.17</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
354.00	689	0	356.60	3,193	5,137
354.05	741	36	356.65	3,240	5,298
354.10	794	74	356.70	3,287	5,461
354.15	846	115	356.75	3,335	5,627
354.20	898	159	356.80	3,382	5,795
354.25	951	205	356.85	3,429	5,965
354.30	1,003	254	356.90	3,476	6,138
354.35	1,055	305	356.95	3,524	6,313
354.40	1,107	359	357.00	<b>3,571</b>	<b>6,490</b>
354.45	1,160	416			
354.50	1,212	475			
354.55	1,264	537			
354.60	1,317	602			
354.65	1,369	669			
354.70	1,421	739			
354.75	1,474	811			
354.80	1,526	886			
354.85	1,578	964			
354.90	1,630	1,044			
354.95	1,683	1,127			
355.00	1,735	1,212			
355.05	1,780	1,300			
355.10	1,824	1,390			
355.15	1,868	1,482			
355.20	1,913	1,577			
355.25	1,958	1,674			
355.30	2,002	1,773			
355.35	2,047	1,874			
355.40	2,091	1,977			
355.45	2,135	2,083			
355.50	2,180	2,191			
355.55	2,225	2,301			
355.60	2,269	2,413			
355.65	2,313	2,528			
355.70	2,358	2,645			
355.75	2,403	2,764			
355.80	2,447	2,885			
355.85	2,492	3,008			
355.90	2,536	3,134			
355.95	2,580	3,262			
356.00	2,625	3,392			
356.05	2,672	3,524			
356.10	2,720	3,659			
356.15	2,767	3,796			
356.20	2,814	3,936			
356.25	2,862	4,078			
356.30	2,909	4,222			
356.35	2,956	4,369			
356.40	3,003	4,518			
356.45	3,051	4,669			
356.50	3,098	4,823			
356.55	3,145	4,979			

**Summary for Pond SW2B: Stormwater Basin #2B 'SW2B'**

[79] Warning: Submerged Pond SW2A Primary device # 1 INLET by 1.37'

Inflow Area = 492,286 sf, 17.68% Impervious, Inflow Depth = 0.91" for 1-year event  
 Inflow = 8.26 cfs @ 12.35 hrs, Volume= 37,512 cf  
 Outflow = 0.77 cfs @ 15.28 hrs, Volume= 37,512 cf, Atten= 91%, Lag= 175.9 min  
 Discarded = 0.24 cfs @ 15.28 hrs, Volume= 31,795 cf  
 Primary = 0.53 cfs @ 15.28 hrs, Volume= 5,717 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 346.37' @ 15.28 hrs Surf.Area= 10,247 sf Storage= 23,262 cf

Plug-Flow detention time= 929.3 min calculated for 37,507 cf (100% of inflow)  
 Center-of-Mass det. time= 929.5 min ( 1,803.0 - 873.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	343.50'	35,844 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.50	6,043	0	0
344.00	6,741	3,196	3,196
345.00	8,179	7,460	10,656
346.00	9,674	8,927	19,583
347.00	11,225	10,450	30,032
347.50	12,022	5,812	35,844

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	<b>24.0" Round Outlet Pipe</b> L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	346.25'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.75'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	347.00'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	343.50'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.24 cfs @ 15.28 hrs HW=346.37' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.24 cfs)

**Primary OutFlow** Max=0.53 cfs @ 15.28 hrs HW=346.37' (Free Discharge)

↳ **1=Outlet Pipe** (Passes 0.53 cfs of 38.18 cfs potential flow)

↳ **2=Orifice** (Orifice Controls 0.53 cfs @ 1.11 fps)

↳ **3=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↳ **4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
343.50	0.00	0.00	0.00	0.00
343.60	0.14	0.14	0.00	0.00
343.70	0.15	0.15	0.00	0.00
343.80	0.15	0.15	0.00	0.00
343.90	0.15	0.15	0.00	0.00
344.00	0.16	0.16	0.00	0.00
344.10	0.16	0.16	0.00	0.00
344.20	0.16	0.16	0.00	0.00
344.30	0.17	0.17	0.00	0.00
344.40	0.17	0.17	0.00	0.00
344.50	0.17	0.17	0.00	0.00
344.60	0.18	0.18	0.00	0.00
344.70	0.18	0.18	0.00	0.00
344.80	0.18	0.18	0.00	0.00
344.90	0.19	0.19	0.00	0.00
345.00	0.19	0.19	0.00	0.00
345.10	0.19	0.19	0.00	0.00
345.20	0.20	0.20	0.00	0.00
345.30	0.20	0.20	0.00	0.00
345.40	0.20	0.20	0.00	0.00
345.50	0.21	0.21	0.00	0.00
345.60	0.21	0.21	0.00	0.00
345.70	0.21	0.21	0.00	0.00
345.80	0.22	0.22	0.00	0.00
345.90	0.22	0.22	0.00	0.00
346.00	0.22	0.22	0.00	0.00
346.10	0.23	0.23	0.00	0.00
346.20	0.23	0.23	0.00	0.00
346.30	0.38	0.23	0.14	0.00
346.40	0.98	0.24	0.75	0.00
346.50	1.85	0.24	1.60	0.00
346.60	2.90	0.25	2.66	0.00
346.70	4.13	0.25	3.88	0.00
346.80	22.57	0.25	22.32	0.00
346.90	36.08	0.26	35.82	0.00
347.00	40.28	0.26	40.02	0.00
347.10	42.12	0.26	40.31	1.55
347.20	45.23	0.27	40.59	4.38
347.30	49.17	0.27	40.87	8.03
347.40	53.77	0.27	41.15	12.34
347.50	<b>58.93</b>	<b>0.28</b>	<b>41.43</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
343.50	6,043	0	346.10	9,829	20,558
343.55	6,113	304	346.15	9,907	21,051
343.60	6,183	611	346.20	9,984	21,548
343.65	6,252	922	346.25	10,062	22,049
343.70	6,322	1,237	346.30	10,139	22,554
343.75	6,392	1,554	346.35	10,217	23,063
343.80	6,462	1,876	346.40	10,294	23,576
343.85	6,532	2,201	346.45	10,372	24,093
343.90	6,601	2,529	346.50	10,450	24,613
343.95	6,671	2,861	346.55	10,527	25,138
344.00	6,741	3,196	346.60	10,605	25,666
344.05	6,813	3,535	346.65	10,682	26,198
344.10	6,885	3,877	346.70	10,760	26,734
344.15	6,957	4,223	346.75	10,837	27,274
344.20	7,029	4,573	346.80	10,915	27,818
344.25	7,101	4,926	346.85	10,992	28,366
344.30	7,172	5,283	346.90	11,070	28,917
344.35	7,244	5,643	346.95	11,147	29,473
344.40	7,316	6,007	347.00	11,225	30,032
344.45	7,388	6,375	347.05	11,305	30,595
344.50	7,460	6,746	347.10	11,384	31,162
344.55	7,532	7,121	347.15	11,464	31,734
344.60	7,604	7,499	347.20	11,544	32,309
344.65	7,676	7,881	347.25	11,624	32,888
344.70	7,748	8,267	347.30	11,703	33,471
344.75	7,820	8,656	347.35	11,783	34,058
344.80	7,891	9,049	347.40	11,863	34,650
344.85	7,963	9,445	347.45	11,942	35,245
344.90	8,035	9,845	347.50	<b>12,022</b>	<b>35,844</b>
344.95	8,107	10,249			
345.00	8,179	10,656			
345.05	8,254	11,067			
345.10	8,329	11,481			
345.15	8,403	11,900			
345.20	8,478	12,322			
345.25	8,553	12,747			
345.30	8,628	13,177			
345.35	8,702	13,610			
345.40	8,777	14,047			
345.45	8,852	14,488			
345.50	8,927	14,932			
345.55	9,001	15,381			
345.60	9,076	15,833			
345.65	9,151	16,288			
345.70	9,225	16,748			
345.75	9,300	17,211			
345.80	9,375	17,678			
345.85	9,450	18,148			
345.90	9,524	18,623			
345.95	9,599	19,101			
346.00	9,674	19,583			
346.05	9,752	20,068			

**Summary for Pond SW2C: Stormwater Basin #2C 'SW2C'**

[79] Warning: Submerged Pond SW2B Primary device # 1 INLET by 0.12'

Inflow Area = 506,174 sf, 17.19% Impervious, Inflow Depth = 0.16" for 1-year event  
 Inflow = 0.55 cfs @ 15.27 hrs, Volume= 6,695 cf  
 Outflow = 0.10 cfs @ 19.11 hrs, Volume= 6,695 cf, Atten= 82%, Lag= 230.4 min  
 Discarded = 0.10 cfs @ 19.11 hrs, Volume= 6,695 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 339.12' @ 19.11 hrs Surf.Area= 4,247 sf Storage= 4,126 cf

Plug-Flow detention time= 408.7 min calculated for 6,695 cf (100% of inflow)  
 Center-of-Mass det. time= 408.6 min ( 1,377.0 - 968.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	338.00'	38,267 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
338.00	3,119	0	0
339.00	4,119	3,619	3,619
340.00	5,175	4,647	8,266
341.00	6,288	5,732	13,998
342.00	7,458	6,873	20,871
343.00	8,684	8,071	28,942
344.00	9,966	9,325	38,267

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	<b>21.0" Round Outlet Pipe</b> L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	339.15'	<b>48.0" W x 6.0" H Vert. Low level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	340.90'	<b>48.0" W x 6.0" H Vert. High Level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	342.00'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	343.00'	<b>15.0' long Spillway</b> 2 End Contraction(s)
#6	Discarded	338.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.10 cfs @ 19.11 hrs HW=339.12' (Free Discharge)

↑**6=Exfiltration** (Exfiltration Controls 0.10 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑**1=Outlet Pipe** (Passes 0.00 cfs of 16.88 cfs potential flow)

↑**2=Low level Orifice** ( Controls 0.00 cfs)

↑**3=High Level Orifice** ( Controls 0.00 cfs)

↑**4=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑**5=Spillway** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
338.00	0.00	0.00	0.00	0.00
338.20	0.08	0.08	0.00	0.00
338.40	0.08	0.08	0.00	0.00
338.60	0.09	0.09	0.00	0.00
338.80	0.09	0.09	0.00	0.00
339.00	0.10	0.10	0.00	0.00
339.20	0.24	0.10	0.14	0.00
339.40	1.71	0.11	1.60	0.00
339.60	3.99	0.11	3.88	0.00
339.80	6.10	0.11	5.98	0.00
340.00	7.52	0.12	7.40	0.00
340.20	8.70	0.12	8.58	0.00
340.40	9.73	0.13	9.60	0.00
340.60	10.67	0.14	10.53	0.00
340.80	11.52	0.14	11.38	0.00
341.00	12.72	0.15	12.57	0.00
341.20	15.17	0.15	15.02	0.00
341.40	18.31	0.16	18.15	0.00
341.60	20.81	0.16	20.65	0.00
341.80	22.79	0.17	22.63	0.00
342.00	24.54	0.17	24.37	0.00
342.20	29.30	0.18	29.13	0.00
342.40	29.77	0.18	29.58	0.00
342.60	30.22	0.19	30.03	0.00
342.80	30.67	0.20	30.48	0.00
343.00	31.11	0.20	30.91	0.00
343.20	35.93	0.21	31.34	4.38
343.40	44.33	0.21	31.77	12.34
343.60	55.02	0.22	32.19	22.61
343.80	67.55	0.22	32.60	34.72
344.00	<b>81.64</b>	<b>0.23</b>	<b>33.01</b>	<b>48.40</b>

**Stage-Area-Storage for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
338.00	3,119	0	343.20	8,940	30,704
338.10	3,219	317	343.30	9,069	31,604
338.20	3,319	644	343.40	9,197	32,518
338.30	3,419	981	343.50	9,325	33,444
338.40	3,519	1,328	343.60	9,453	34,383
338.50	3,619	1,685	343.70	9,581	35,334
338.60	3,719	2,051	343.80	9,710	36,299
338.70	3,819	2,428	343.90	9,838	37,276
338.80	3,919	2,815	344.00	<b>9,966</b>	<b>38,267</b>
338.90	4,019	3,212			
339.00	4,119	3,619			
339.10	4,225	4,036			
339.20	4,330	4,464			
339.30	4,436	4,902			
339.40	4,541	5,351			
339.50	4,647	5,811			
339.60	4,753	6,280			
339.70	4,858	6,761			
339.80	4,964	7,252			
339.90	5,069	7,754			
340.00	5,175	8,266			
340.10	5,286	8,789			
340.20	5,398	9,323			
340.30	5,509	9,869			
340.40	5,620	10,425			
340.50	5,732	10,993			
340.60	5,843	11,571			
340.70	5,954	12,161			
340.80	6,065	12,762			
340.90	6,177	13,374			
341.00	6,288	13,998			
341.10	6,405	14,632			
341.20	6,522	15,278			
341.30	6,639	15,937			
341.40	6,756	16,606			
341.50	6,873	17,288			
341.60	6,990	17,981			
341.70	7,107	18,686			
341.80	7,224	19,402			
341.90	7,341	20,131			
342.00	7,458	20,871			
342.10	7,581	21,622			
342.20	7,703	22,387			
342.30	7,826	23,163			
342.40	7,948	23,952			
342.50	8,071	24,753			
342.60	8,194	25,566			
342.70	8,316	26,391			
342.80	8,439	27,229			
342.90	8,561	28,079			
343.00	8,684	28,942			
343.10	8,812	29,816			

**Summary for Pond SW3: Stormwater Basin #3A 'SW3A'**

Inflow Area = 59,872 sf, 26.45% Impervious, Inflow Depth = 1.18" for 1-year event  
 Inflow = 1.25 cfs @ 12.28 hrs, Volume= 5,865 cf  
 Outflow = 0.48 cfs @ 12.74 hrs, Volume= 5,865 cf, Atten= 62%, Lag= 27.3 min  
 Discarded = 0.05 cfs @ 12.74 hrs, Volume= 3,011 cf  
 Primary = 0.43 cfs @ 12.74 hrs, Volume= 2,854 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 389.47' @ 12.74 hrs Surf.Area= 1,963 sf Storage= 2,078 cf

Plug-Flow detention time= 231.3 min calculated for 5,864 cf (100% of inflow)  
 Center-of-Mass det. time= 231.4 min ( 1,092.2 - 860.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	388.00'	9,083 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.00	765	0	0
389.00	1,690	1,228	1,228
390.00	2,276	1,983	3,211
391.00	2,922	2,599	5,810
392.00	3,625	3,274	9,083

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	<b>15.0" Round Outlet Pipe</b> L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	389.00'	<b>6.0" W x 4.0" H Vert. Low-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	390.00'	<b>18.0" W x 4.0" H Vert. Mid-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.75'	<b>24.0" W x 6.0" H Vert. High-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#6	Secondary	391.50'	<b>10.0' long x 11.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.53 2.59 2.70 2.68 2.67 2.68 2.66 2.64
#7	Discarded	388.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.05 cfs @ 12.74 hrs HW=389.47' (Free Discharge)

↑7=Exfiltration (Exfiltration Controls 0.05 cfs)

**Primary OutFlow** Max=0.43 cfs @ 12.74 hrs HW=389.47' (Free Discharge)

↑1=Outlet Pipe (Passes 0.43 cfs of 10.80 cfs potential flow)

↑2=Low-level Orifice (Orifice Controls 0.43 cfs @ 2.60 fps)

↑3=Mid-level Orifice ( Controls 0.00 cfs)

↑4=High-level Orifice ( Controls 0.00 cfs)

↑5=Gate ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
388.00	0.00	0.00	0.00	0.00
388.10	0.02	0.02	0.00	0.00
388.20	0.02	0.02	0.00	0.00
388.30	0.02	0.02	0.00	0.00
388.40	0.03	0.03	0.00	0.00
388.50	0.03	0.03	0.00	0.00
388.60	0.03	0.03	0.00	0.00
388.70	0.03	0.03	0.00	0.00
388.80	0.03	0.03	0.00	0.00
388.90	0.04	0.04	0.00	0.00
389.00	0.04	0.04	0.00	0.00
389.10	0.09	0.04	0.05	0.00
389.20	0.19	0.04	0.14	0.00
389.30	0.31	0.04	0.26	0.00
389.40	0.42	0.04	0.38	0.00
389.50	0.50	0.05	0.46	0.00
389.60	0.57	0.05	0.52	0.00
389.70	0.63	0.05	0.58	0.00
389.80	0.69	0.05	0.64	0.00
389.90	0.74	0.05	0.69	0.00
390.00	0.78	0.05	0.73	0.00
390.10	0.98	0.05	0.93	0.00
390.20	1.30	0.06	1.25	0.00
390.30	1.70	0.06	1.64	0.00
390.40	2.08	0.06	2.03	0.00
390.50	2.36	0.06	2.30	0.00
390.60	2.60	0.06	2.53	0.00
390.70	2.81	0.06	2.74	0.00
390.80	3.07	0.06	3.01	0.00
390.90	3.55	0.07	3.49	0.00
391.00	4.15	0.07	4.08	0.00
391.10	4.84	0.07	4.77	0.00
391.20	5.60	0.07	5.53	0.00
391.30	13.51	0.07	13.44	0.00
391.40	13.65	0.07	13.57	0.00
391.50	13.77	0.08	13.70	0.00
391.60	14.70	0.08	13.83	0.80
391.70	16.29	0.08	13.95	2.26
391.80	18.36	0.08	14.08	4.21
391.90	20.83	0.08	14.20	6.55
392.00	<b>23.76</b>	<b>0.08</b>	<b>14.32</b>	<b>9.35</b>

**Stage-Area-Storage for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
388.00	765	0	390.60	2,664	4,692
388.05	811	39	390.65	2,696	4,826
388.10	858	81	390.70	2,728	4,962
388.15	904	125	390.75	2,761	5,099
388.20	950	171	390.80	2,793	5,238
388.25	996	220	390.85	2,825	5,378
388.30	1,043	271	390.90	2,857	5,521
388.35	1,089	324	390.95	2,890	5,664
388.40	1,135	380	391.00	2,922	5,810
388.45	1,181	438	391.05	2,957	5,956
388.50	1,228	498	391.10	2,992	6,105
388.55	1,274	561	391.15	3,027	6,256
388.60	1,320	626	391.20	3,063	6,408
388.65	1,366	693	391.25	3,098	6,562
388.70	1,412	762	391.30	3,133	6,718
388.75	1,459	834	391.35	3,168	6,875
388.80	1,505	908	391.40	3,203	7,035
388.85	1,551	984	391.45	3,238	7,196
388.90	1,597	1,063	391.50	3,274	7,358
388.95	1,644	1,144	391.55	3,309	7,523
389.00	1,690	1,228	391.60	3,344	7,689
389.05	1,719	1,313	391.65	3,379	7,857
389.10	1,749	1,399	391.70	3,414	8,027
389.15	1,778	1,488	391.75	3,449	8,199
389.20	1,807	1,577	391.80	3,484	8,372
389.25	1,837	1,668	391.85	3,520	8,547
389.30	1,866	1,761	391.90	3,555	8,724
389.35	1,895	1,855	391.95	3,590	8,903
389.40	1,924	1,950	392.00	<b>3,625</b>	<b>9,083</b>
389.45	1,954	2,047			
389.50	1,983	2,146			
389.55	2,012	2,246			
389.60	2,042	2,347			
389.65	2,071	2,450			
389.70	2,100	2,554			
389.75	2,130	2,660			
389.80	2,159	2,767			
389.85	2,188	2,876			
389.90	2,217	2,986			
389.95	2,247	3,097			
390.00	2,276	3,211			
390.05	2,308	3,325			
390.10	2,341	3,441			
390.15	2,373	3,559			
390.20	2,405	3,679			
390.25	2,438	3,800			
390.30	2,470	3,922			
390.35	2,502	4,047			
390.40	2,534	4,173			
390.45	2,567	4,300			
390.50	2,599	4,429			
390.55	2,631	4,560			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 0.89" for 1-year event  
Inflow = 0.50 cfs @ 12.15 hrs, Volume= 1,250 cf  
Primary = 0.50 cfs @ 12.15 hrs, Volume= 1,250 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 512,734 sf, 16.97% Impervious, Inflow Depth = 0.01" for 1-year event  
Inflow = 0.11 cfs @ 12.16 hrs, Volume= 435 cf  
Primary = 0.11 cfs @ 12.16 hrs, Volume= 435 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 282,606 sf, 12.69% Impervious, Inflow Depth = 0.71" for 1-year event  
Inflow = 2.69 cfs @ 12.40 hrs, Volume= 16,761 cf  
Primary = 2.69 cfs @ 12.40 hrs, Volume= 16,761 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 7,428 sf, 0.00% Impervious, Inflow Depth = 0.75" for 1-year event  
Inflow = 0.11 cfs @ 12.16 hrs, Volume= 464 cf  
Primary = 0.11 cfs @ 12.16 hrs, Volume= 464 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,639 sf, 15.64% Impervious, Inflow Depth = 0.28" for 1-year event  
Inflow = 3.07 cfs @ 12.39 hrs, Volume= 18,911 cf  
Primary = 3.07 cfs @ 12.39 hrs, Volume= 18,911 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 Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=16,871 sf 31.47% Impervious Runoff Depth=1.74"  
Tc=10.0 min CN=82 Runoff=0.69 cfs 2,448 cf

**Subcatchment SA2A: Drainage Subarea** Runoff Area=467,771 sf 18.44% Impervious Runoff Depth=1.46"  
Flow Length=1,108' Tc=23.5 min CN=78 Runoff=11.37 cfs 56,892 cf

**Subcatchment SA2B: Drainage Subarea** Runoff Area=24,515 sf 3.20% Impervious Runoff Depth=1.27"  
Tc=5.0 min CN=75 Runoff=0.84 cfs 2,587 cf

**Subcatchment SA2C: Drainage Subarea** Runoff Area=13,888 sf 0.00% Impervious Runoff Depth=1.21"  
Tc=5.0 min CN=74 Runoff=0.45 cfs 1,395 cf

**Subcatchment SA2D: Drainage Subarea #2D** Runoff Area=6,560 sf 0.00% Impervious Runoff Depth=1.15"  
Flow Length=94' Tc=10.5 min CN=73 Runoff=0.16 cfs 627 cf

**Subcatchment SA3A: Drainage Subarea** Runoff Area=59,872 sf 26.45% Impervious Runoff Depth=1.60"  
Flow Length=339' Tc=19.9 min CN=80 Runoff=1.72 cfs 7,967 cf

**Subcatchment SA3B: Drainage Subarea** Runoff Area=222,734 sf 8.99% Impervious Runoff Depth=1.09"  
Flow Length=731' Tc=23.0 min CN=72 Runoff=3.89 cfs 20,201 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=7,428 sf 0.00% Impervious Runoff Depth=1.09"  
Flow Length=233' Tc=10.7 min CN=72 Runoff=0.17 cfs 674 cf

**Pond SW1: Infiltration Trench (SWM-A)** Peak Elev=361.11' Storage=165 cf Inflow=0.69 cfs 2,448 cf  
Discarded=0.01 cfs 601 cf Primary=0.68 cfs 1,847 cf Outflow=0.69 cfs 2,448 cf

**Pond SW2A: Stormwater Basin #2A** Peak Elev=356.26' Storage=4,120 cf Inflow=11.37 cfs 56,892 cf  
Discarded=0.07 cfs 5,706 cf Primary=11.30 cfs 51,186 cf Secondary=0.00 cfs 0 cf Outflow=11.37 cfs 56,892 cf

**Pond SW2B: Stormwater Basin #2B** Peak Elev=346.57' Storage=25,343 cf Inflow=11.64 cfs 53,773 cf  
Discarded=0.24 cfs 32,643 cf Primary=2.32 cfs 21,130 cf Secondary=0.00 cfs 0 cf Outflow=2.57 cfs 53,773 cf

**Pond SW2C: Stormwater Basin #2C 'SW2C'** Peak Elev=339.40' Storage=5,363 cf Inflow=2.37 cfs 22,525 cf  
Discarded=0.11 cfs 8,130 cf Primary=1.64 cfs 14,395 cf Secondary=0.00 cfs 0 cf Outflow=1.74 cfs 22,525 cf

**Pond SW3: Stormwater Basin #3A 'SW3A'** Peak Elev=389.79' Storage=2,748 cf Inflow=1.72 cfs 7,967 cf  
Discarded=0.05 cfs 3,189 cf Primary=0.63 cfs 4,778 cf Secondary=0.00 cfs 0 cf Outflow=0.68 cfs 7,967 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=0.68 cfs 1,847 cf  
Primary=0.68 cfs 1,847 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=1.66 cfs 15,021 cf  
Primary=1.66 cfs 15,021 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=4.32 cfs 24,979 cf  
Primary=4.32 cfs 24,979 cf

**Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow=0.17 cfs 674 cf  
Primary=0.17 cfs 674 cf

**Link ALL: ALL**

Inflow=4.90 cfs 42,521 cf  
Primary=4.90 cfs 42,521 cf

**Total Runoff Area = 819,639 sf   Runoff Volume = 92,791 cf   Average Runoff Depth = 1.36"**  
**84.36% Pervious = 691,435 sf   15.64% Impervious = 128,204 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 0.69 cfs @ 12.14 hrs, Volume= 2,448 cf, Depth= 1.74"

Routed to Pond SW1 : Infiltration Trench (SWM-A)

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 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	5,309	98	Bldgs./Impervious
*	11,384	74	Lawn, Good, HSG C
*	178	70	Woods, Good, HSG C
	16,871	82	Weighted Average
	11,562	74	68.53% Pervious Area
	5,309	98	31.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'**

Runoff = 11.37 cfs @ 12.35 hrs, Volume= 56,892 cf, Depth= 1.46"  
 Routed to Pond SW2A : Stormwater Basin #2A 'SW2A'

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 86,243	98	Bldgs./Impervious
* 2,809	92	Compact Gravel (est.), HSG C
* 3,353	86	Open Deck (est.), HSG C
* 251,334	74	Lawn, Good, HSG C
* 124,032	70	Woods, Good, HSG C
467,771	78	Weighted Average
381,528	73	81.56% Pervious Area
86,243	98	18.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'**

Runoff = 0.84 cfs @ 12.08 hrs, Volume= 2,587 cf, Depth= 1.27"

Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

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 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	785	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	23,579	74	Lawn, Good, HSG C
	24,515	75	Weighted Average
	23,730	74	96.80% Pervious Area
	785	98	3.20% Impervious Area

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

**Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'**

Runoff = 0.45 cfs @ 12.08 hrs, Volume= 1,395 cf, Depth= 1.21"

Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

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 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	13,888	74	Lawn, Good, HSG C
	13,888	74	100.00% Pervious Area

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

**Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'**

Runoff = 0.16 cfs @ 12.16 hrs, Volume= 627 cf, Depth= 1.15"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 4,140	74	Lawn, Good, HSG C
* 2,030	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
6,560	73	Weighted Average
6,560	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	27	0.1850	0.23		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
8.5	67	0.1870	0.13		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
10.5	94	Total			

**Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'**

Runoff = 1.72 cfs @ 12.28 hrs, Volume= 7,967 cf, Depth= 1.60"  
 Routed to Pond SW3 : Stormwater Basin #3A 'SW3A'

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 15,836	98	Bldgs./Impervious
* 454	86	Open Deck (est.), HSG C
* 39,826	74	Lawn, Good, HSG C
* 3,756	70	Woods, Good, HSG C
59,872	80	Weighted Average
44,036	74	73.55% Pervious Area
15,836	98	26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	89	0.0730	0.10		<b>Sheet Flow, SF3A, Woods</b> n= 0.600 P2= 3.43"
3.4	61	0.2380	0.29		<b>Sheet Flow, SF3B, Lawn</b> n= 0.240 P2= 3.43"
0.3	105	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
0.6	84	0.0120	2.22		<b>Shallow Concentrated Flow, SCF3B, Paved</b> Paved Kv= 20.3 fps
19.9	339	Total			

**Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'**

Runoff = 3.89 cfs @ 12.34 hrs, Volume= 20,201 cf, Depth= 1.09"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 2-Year Rainfall=3.45"

Area (sf)	CN	Description
* 20,031	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 1,211	86	Open Deck (est.), HSG C
* 478	61	Lawn, Good, HSG B
* 108,649	74	Lawn, Good, HSG C
* 32,649	55	Woods, Good, HSG B
* 59,120	70	Woods, Good, HSG C
222,734	72	Weighted Average
202,703	70	91.01% Pervious Area
20,031	98	8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
2.0	581	0.0930	4.91		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
23.0	731	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.17 cfs @ 12.16 hrs, Volume= 674 cf, Depth= 1.09"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 2-Year Rainfall=3.45"

	Area (sf)	CN	Description
*	4,292	74	Lawn, Good, HSG C
*	3,136	70	Woods, Good, HSG C
	7,428	72	Weighted Average
	7,428	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	150	0.0920	0.24		<b>Sheet Flow, SF4A, Lawn</b> n= 0.240 P2= 3.43"
0.3	83	0.1110	5.36		<b>Shallow Concentrated Flow, SCF4A, Woods</b> Unpaved Kv= 16.1 fps
10.7	233	Total			

**Summary for Pond SW1: Infiltration Trench (SWM-A)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 1.74" for 2-Year event  
 Inflow = 0.69 cfs @ 12.14 hrs, Volume= 2,448 cf  
 Outflow = 0.69 cfs @ 12.15 hrs, Volume= 2,448 cf, Atten= 0%, Lag= 0.2 min  
 Discarded = 0.01 cfs @ 10.15 hrs, Volume= 601 cf  
 Primary = 0.68 cfs @ 12.15 hrs, Volume= 1,847 cf  
 Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.11' @ 12.15 hrs Surf.Area= 372 sf Storage= 165 cf

Plug-Flow detention time= 56.3 min calculated for 2,448 cf (100% of inflow)  
 Center-of-Mass det. time= 56.3 min ( 892.7 - 836.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	818 cf	<b>2.00'W x 186.00'L x 5.50'H Prismatic</b> 2,046 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	<b>6.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Discarded	360.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.01 cfs @ 10.15 hrs HW=360.06' (Free Discharge)  
 ↳ **2=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.67 cfs @ 12.15 hrs HW=361.11' (Free Discharge)  
 ↳ **1=Sharp-Crested Rectangular Weir** (Weir Controls 0.67 cfs @ 1.06 fps)

**Stage-Discharge for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
360.00	0.00	<b>0.00</b>	0.00	365.20	145.24	0.01	145.24
360.10	0.01	<b>0.01</b>	0.00	365.30	149.88	0.01	149.87
360.20	0.01	0.01	0.00	365.40	154.53	0.01	154.52
360.30	0.01	0.01	0.00	365.50	<b>159.21</b>	0.01	<b>159.20</b>
360.40	0.01	0.01	0.00				
360.50	0.01	0.01	0.00				
360.60	0.01	0.01	0.00				
360.70	0.01	0.01	0.00				
360.80	0.01	0.01	0.00				
360.90	0.01	0.01	0.00				
361.00	0.01	0.01	0.00				
361.10	0.63	0.01	0.62				
361.20	1.75	0.01	1.74				
361.30	3.20	0.01	3.19				
361.40	4.91	0.01	4.90				
361.50	6.83	0.01	6.82				
361.60	8.94	0.01	8.94				
361.70	11.23	0.01	11.22				
361.80	13.67	0.01	13.66				
361.90	16.26	0.01	16.25				
362.00	18.97	0.01	18.97				
362.10	21.81	0.01	21.81				
362.20	24.77	0.01	24.76				
362.30	27.83	0.01	27.82				
362.40	30.99	0.01	30.98				
362.50	34.25	0.01	34.24				
362.60	37.60	0.01	37.59				
362.70	41.03	0.01	41.02				
362.80	44.55	0.01	44.54				
362.90	48.14	0.01	48.13				
363.00	51.80	0.01	51.79				
363.10	55.54	0.01	55.53				
363.20	59.34	0.01	59.33				
363.30	63.20	0.01	63.19				
363.40	67.12	0.01	67.11				
363.50	71.10	0.01	71.09				
363.60	75.13	0.01	75.13				
363.70	79.22	0.01	79.21				
363.80	83.35	0.01	83.35				
363.90	87.54	0.01	87.53				
364.00	91.76	0.01	91.75				
364.10	96.03	0.01	96.02				
364.20	100.34	0.01	100.33				
364.30	104.69	0.01	104.68				
364.40	109.07	0.01	109.06				
364.50	113.49	0.01	113.48				
364.60	117.94	0.01	117.93				
364.70	122.42	0.01	122.42				
364.80	126.94	0.01	126.93				
364.90	131.48	0.01	131.47				
365.00	136.04	0.01	136.03				
365.10	140.63	0.01	140.62				

**Stage-Area-Storage for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
360.00	372	0	365.20	372	774
360.10	372	15	365.30	372	789
360.20	372	30	365.40	372	804
360.30	372	45	365.50	372	818
360.40	372	60			
360.50	372	74			
360.60	372	89			
360.70	372	104			
360.80	372	119			
360.90	372	134			
361.00	372	149			
361.10	372	164			
361.20	372	179			
361.30	372	193			
361.40	372	208			
361.50	372	223			
361.60	372	238			
361.70	372	253			
361.80	372	268			
361.90	372	283			
362.00	372	298			
362.10	372	312			
362.20	372	327			
362.30	372	342			
362.40	372	357			
362.50	372	372			
362.60	372	387			
362.70	372	402			
362.80	372	417			
362.90	372	432			
363.00	372	446			
363.10	372	461			
363.20	372	476			
363.30	372	491			
363.40	372	506			
363.50	372	521			
363.60	372	536			
363.70	372	551			
363.80	372	565			
363.90	372	580			
364.00	372	595			
364.10	372	610			
364.20	372	625			
364.30	372	640			
364.40	372	655			
364.50	372	670			
364.60	372	684			
364.70	372	699			
364.80	372	714			
364.90	372	729			
365.00	372	744			
365.10	372	759			

**Summary for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Inflow Area = 467,771 sf, 18.44% Impervious, Inflow Depth = 1.46" for 2-Year event  
 Inflow = 11.37 cfs @ 12.35 hrs, Volume= 56,892 cf  
 Outflow = 11.37 cfs @ 12.35 hrs, Volume= 56,892 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.07 cfs @ 12.35 hrs, Volume= 5,706 cf  
 Primary = 11.30 cfs @ 12.35 hrs, Volume= 51,186 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 356.26' @ 12.35 hrs Surf.Area= 2,876 sf Storage= 4,120 cf

Plug-Flow detention time= 69.3 min calculated for 56,892 cf (100% of inflow)  
 Center-of-Mass det. time= 69.3 min ( 930.6 - 861.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,490 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
354.00	689	0	0
355.00	1,735	1,212	1,212
356.00	2,625	2,180	3,392
357.00	3,571	3,098	6,490

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	<b>24.0" Round Outlet Pipe</b> L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	356.50'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	354.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 12.35 hrs HW=356.26' (Free Discharge)  
 ↑5=Exfiltration (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=14.09 cfs @ 12.35 hrs HW=356.26' (Free Discharge)  
 ↑1=Outlet Pipe (Passes 14.09 cfs of 48.46 cfs potential flow)  
 ↑2=Orifice (Orifice Controls 4.72 cfs @ 2.36 fps)  
 ↑3=Grate (Orifice Controls 9.38 cfs @ 0.59 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)  
 ↑4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
354.00	0.00	0.00	0.00	0.00
354.10	0.02	0.02	0.00	0.00
354.20	0.02	0.02	0.00	0.00
354.30	0.02	0.02	0.00	0.00
354.40	0.03	0.03	0.00	0.00
354.50	0.03	0.03	0.00	0.00
354.60	0.03	0.03	0.00	0.00
354.70	0.03	0.03	0.00	0.00
354.80	0.04	0.04	0.00	0.00
354.90	0.04	0.04	0.00	0.00
355.00	0.04	0.04	0.00	0.00
355.10	0.04	0.04	0.00	0.00
355.20	0.04	0.04	0.00	0.00
355.30	0.05	0.05	0.00	0.00
355.40	0.05	0.05	0.00	0.00
355.50	0.05	0.05	0.00	0.00
355.60	0.05	0.05	0.00	0.00
355.70	0.05	0.05	0.00	0.00
355.80	0.20	0.06	0.14	0.00
355.90	0.80	0.06	0.75	0.00
356.00	1.67	0.06	1.60	0.00
356.10	2.72	0.06	2.66	0.00
356.20	3.94	0.07	3.88	0.00
356.30	22.39	0.07	22.32	0.00
356.40	35.89	0.07	35.82	0.00
356.50	45.33	0.07	45.25	0.00
356.60	50.87	0.07	49.25	1.55
356.70	53.93	0.08	49.48	4.38
356.80	57.82	0.08	49.71	8.03
356.90	62.36	0.08	49.94	12.34
357.00	<b>67.48</b>	<b>0.08</b>	<b>50.17</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
354.00	689	0	356.60	3,193	5,137
354.05	741	36	356.65	3,240	5,298
354.10	794	74	356.70	3,287	5,461
354.15	846	115	356.75	3,335	5,627
354.20	898	159	356.80	3,382	5,795
354.25	951	205	356.85	3,429	5,965
354.30	1,003	254	356.90	3,476	6,138
354.35	1,055	305	356.95	3,524	6,313
354.40	1,107	359	357.00	<b>3,571</b>	<b>6,490</b>
354.45	1,160	416			
354.50	1,212	475			
354.55	1,264	537			
354.60	1,317	602			
354.65	1,369	669			
354.70	1,421	739			
354.75	1,474	811			
354.80	1,526	886			
354.85	1,578	964			
354.90	1,630	1,044			
354.95	1,683	1,127			
355.00	1,735	1,212			
355.05	1,780	1,300			
355.10	1,824	1,390			
355.15	1,868	1,482			
355.20	1,913	1,577			
355.25	1,958	1,674			
355.30	2,002	1,773			
355.35	2,047	1,874			
355.40	2,091	1,977			
355.45	2,135	2,083			
355.50	2,180	2,191			
355.55	2,225	2,301			
355.60	2,269	2,413			
355.65	2,313	2,528			
355.70	2,358	2,645			
355.75	2,403	2,764			
355.80	2,447	2,885			
355.85	2,492	3,008			
355.90	2,536	3,134			
355.95	2,580	3,262			
356.00	2,625	3,392			
356.05	2,672	3,524			
356.10	2,720	3,659			
356.15	2,767	3,796			
356.20	2,814	3,936			
356.25	2,862	4,078			
356.30	2,909	4,222			
356.35	2,956	4,369			
356.40	3,003	4,518			
356.45	3,051	4,669			
356.50	3,098	4,823			
356.55	3,145	4,979			

**Summary for Pond SW2B: Stormwater Basin #2B 'SW2B'**

[79] Warning: Submerged Pond SW2A Primary device # 1 INLET by 1.57'

Inflow Area = 492,286 sf, 17.68% Impervious, Inflow Depth = 1.31" for 2-Year event  
 Inflow = 11.64 cfs @ 12.34 hrs, Volume= 53,773 cf  
 Outflow = 2.57 cfs @ 13.19 hrs, Volume= 53,773 cf, Atten= 78%, Lag= 50.9 min  
 Discarded = 0.24 cfs @ 13.19 hrs, Volume= 32,643 cf  
 Primary = 2.32 cfs @ 13.19 hrs, Volume= 21,130 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 346.57' @ 13.19 hrs Surf.Area= 10,557 sf Storage= 25,343 cf

Plug-Flow detention time= 682.2 min calculated for 53,773 cf (100% of inflow)  
 Center-of-Mass det. time= 682.2 min ( 1,546.7 - 864.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	343.50'	35,844 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.50	6,043	0	0
344.00	6,741	3,196	3,196
345.00	8,179	7,460	10,656
346.00	9,674	8,927	19,583
347.00	11,225	10,450	30,032
347.50	12,022	5,812	35,844

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	<b>24.0" Round Outlet Pipe</b> L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	346.25'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.75'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	347.00'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	343.50'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.24 cfs @ 13.19 hrs HW=346.57' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.24 cfs)

**Primary OutFlow** Max=2.32 cfs @ 13.19 hrs HW=346.57' (Free Discharge)

↳ **1=Outlet Pipe** (Passes 2.32 cfs of 38.77 cfs potential flow)

↳ **2=Orifice** (Orifice Controls 2.32 cfs @ 1.81 fps)

↳ **3=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↳ **4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
343.50	0.00	0.00	0.00	0.00
343.60	0.14	0.14	0.00	0.00
343.70	0.15	0.15	0.00	0.00
343.80	0.15	0.15	0.00	0.00
343.90	0.15	0.15	0.00	0.00
344.00	0.16	0.16	0.00	0.00
344.10	0.16	0.16	0.00	0.00
344.20	0.16	0.16	0.00	0.00
344.30	0.17	0.17	0.00	0.00
344.40	0.17	0.17	0.00	0.00
344.50	0.17	0.17	0.00	0.00
344.60	0.18	0.18	0.00	0.00
344.70	0.18	0.18	0.00	0.00
344.80	0.18	0.18	0.00	0.00
344.90	0.19	0.19	0.00	0.00
345.00	0.19	0.19	0.00	0.00
345.10	0.19	0.19	0.00	0.00
345.20	0.20	0.20	0.00	0.00
345.30	0.20	0.20	0.00	0.00
345.40	0.20	0.20	0.00	0.00
345.50	0.21	0.21	0.00	0.00
345.60	0.21	0.21	0.00	0.00
345.70	0.21	0.21	0.00	0.00
345.80	0.22	0.22	0.00	0.00
345.90	0.22	0.22	0.00	0.00
346.00	0.22	0.22	0.00	0.00
346.10	0.23	0.23	0.00	0.00
346.20	0.23	0.23	0.00	0.00
346.30	0.38	0.23	0.14	0.00
346.40	0.98	0.24	0.75	0.00
346.50	1.85	0.24	1.60	0.00
346.60	2.90	0.25	2.66	0.00
346.70	4.13	0.25	3.88	0.00
346.80	22.57	0.25	22.32	0.00
346.90	36.08	0.26	35.82	0.00
347.00	40.28	0.26	40.02	0.00
347.10	42.12	0.26	40.31	1.55
347.20	45.23	0.27	40.59	4.38
347.30	49.17	0.27	40.87	8.03
347.40	53.77	0.27	41.15	12.34
347.50	<b>58.93</b>	<b>0.28</b>	<b>41.43</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
343.50	6,043	0	346.10	9,829	20,558
343.55	6,113	304	346.15	9,907	21,051
343.60	6,183	611	346.20	9,984	21,548
343.65	6,252	922	346.25	10,062	22,049
343.70	6,322	1,237	346.30	10,139	22,554
343.75	6,392	1,554	346.35	10,217	23,063
343.80	6,462	1,876	346.40	10,294	23,576
343.85	6,532	2,201	346.45	10,372	24,093
343.90	6,601	2,529	346.50	10,450	24,613
343.95	6,671	2,861	346.55	10,527	25,138
344.00	6,741	3,196	346.60	10,605	25,666
344.05	6,813	3,535	346.65	10,682	26,198
344.10	6,885	3,877	346.70	10,760	26,734
344.15	6,957	4,223	346.75	10,837	27,274
344.20	7,029	4,573	346.80	10,915	27,818
344.25	7,101	4,926	346.85	10,992	28,366
344.30	7,172	5,283	346.90	11,070	28,917
344.35	7,244	5,643	346.95	11,147	29,473
344.40	7,316	6,007	347.00	11,225	30,032
344.45	7,388	6,375	347.05	11,305	30,595
344.50	7,460	6,746	347.10	11,384	31,162
344.55	7,532	7,121	347.15	11,464	31,734
344.60	7,604	7,499	347.20	11,544	32,309
344.65	7,676	7,881	347.25	11,624	32,888
344.70	7,748	8,267	347.30	11,703	33,471
344.75	7,820	8,656	347.35	11,783	34,058
344.80	7,891	9,049	347.40	11,863	34,650
344.85	7,963	9,445	347.45	11,942	35,245
344.90	8,035	9,845	347.50	<b>12,022</b>	<b>35,844</b>
344.95	8,107	10,249			
345.00	8,179	10,656			
345.05	8,254	11,067			
345.10	8,329	11,481			
345.15	8,403	11,900			
345.20	8,478	12,322			
345.25	8,553	12,747			
345.30	8,628	13,177			
345.35	8,702	13,610			
345.40	8,777	14,047			
345.45	8,852	14,488			
345.50	8,927	14,932			
345.55	9,001	15,381			
345.60	9,076	15,833			
345.65	9,151	16,288			
345.70	9,225	16,748			
345.75	9,300	17,211			
345.80	9,375	17,678			
345.85	9,450	18,148			
345.90	9,524	18,623			
345.95	9,599	19,101			
346.00	9,674	19,583			
346.05	9,752	20,068			

**Summary for Pond SW2C: Stormwater Basin #2C 'SW2C'**

[79] Warning: Submerged Pond SW2B Primary device # 1 INLET by 0.40'

Inflow Area = 506,174 sf, 17.19% Impervious, Inflow Depth = 0.53" for 2-Year event  
 Inflow = 2.37 cfs @ 13.19 hrs, Volume= 22,525 cf  
 Outflow = 1.74 cfs @ 13.77 hrs, Volume= 22,525 cf, Atten= 26%, Lag= 34.6 min  
 Discarded = 0.11 cfs @ 13.77 hrs, Volume= 8,130 cf  
 Primary = 1.64 cfs @ 13.77 hrs, Volume= 14,395 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 339.40' @ 13.77 hrs Surf.Area= 4,544 sf Storage= 5,363 cf

Plug-Flow detention time= 194.7 min calculated for 22,525 cf (100% of inflow)  
 Center-of-Mass det. time= 194.7 min ( 1,102.9 - 908.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	338.00'	38,267 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
338.00	3,119	0	0
339.00	4,119	3,619	3,619
340.00	5,175	4,647	8,266
341.00	6,288	5,732	13,998
342.00	7,458	6,873	20,871
343.00	8,684	8,071	28,942
344.00	9,966	9,325	38,267

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	<b>21.0" Round Outlet Pipe</b> L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	339.15'	<b>48.0" W x 6.0" H Vert. Low level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	340.90'	<b>48.0" W x 6.0" H Vert. High Level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	342.00'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	343.00'	<b>15.0' long Spillway</b> 2 End Contraction(s)
#6	Discarded	338.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.11 cfs @ 13.77 hrs HW=339.40' (Free Discharge)

↑**6=Exfiltration** (Exfiltration Controls 0.11 cfs)

**Primary OutFlow** Max=1.63 cfs @ 13.77 hrs HW=339.40' (Free Discharge)

↑**1=Outlet Pipe** (Passes 1.63 cfs of 21.75 cfs potential flow)

↑**2=Low level Orifice** (Orifice Controls 1.63 cfs @ 1.61 fps)

↑**3=High Level Orifice** ( Controls 0.00 cfs)

↑**4=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑**5=Spillway** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
338.00	0.00	0.00	0.00	0.00
338.20	0.08	0.08	0.00	0.00
338.40	0.08	0.08	0.00	0.00
338.60	0.09	0.09	0.00	0.00
338.80	0.09	0.09	0.00	0.00
339.00	0.10	0.10	0.00	0.00
339.20	0.24	0.10	0.14	0.00
339.40	1.71	0.11	1.60	0.00
339.60	3.99	0.11	3.88	0.00
339.80	6.10	0.11	5.98	0.00
340.00	7.52	0.12	7.40	0.00
340.20	8.70	0.12	8.58	0.00
340.40	9.73	0.13	9.60	0.00
340.60	10.67	0.14	10.53	0.00
340.80	11.52	0.14	11.38	0.00
341.00	12.72	0.15	12.57	0.00
341.20	15.17	0.15	15.02	0.00
341.40	18.31	0.16	18.15	0.00
341.60	20.81	0.16	20.65	0.00
341.80	22.79	0.17	22.63	0.00
342.00	24.54	0.17	24.37	0.00
342.20	29.30	0.18	29.13	0.00
342.40	29.77	0.18	29.58	0.00
342.60	30.22	0.19	30.03	0.00
342.80	30.67	0.20	30.48	0.00
343.00	31.11	0.20	30.91	0.00
343.20	35.93	0.21	31.34	4.38
343.40	44.33	0.21	31.77	12.34
343.60	55.02	0.22	32.19	22.61
343.80	67.55	0.22	32.60	34.72
344.00	<b>81.64</b>	<b>0.23</b>	<b>33.01</b>	<b>48.40</b>

**Stage-Area-Storage for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
338.00	3,119	0	343.20	8,940	30,704
338.10	3,219	317	343.30	9,069	31,604
338.20	3,319	644	343.40	9,197	32,518
338.30	3,419	981	343.50	9,325	33,444
338.40	3,519	1,328	343.60	9,453	34,383
338.50	3,619	1,685	343.70	9,581	35,334
338.60	3,719	2,051	343.80	9,710	36,299
338.70	3,819	2,428	343.90	9,838	37,276
338.80	3,919	2,815	344.00	<b>9,966</b>	<b>38,267</b>
338.90	4,019	3,212			
339.00	4,119	3,619			
339.10	4,225	4,036			
339.20	4,330	4,464			
339.30	4,436	4,902			
339.40	4,541	5,351			
339.50	4,647	5,811			
339.60	4,753	6,280			
339.70	4,858	6,761			
339.80	4,964	7,252			
339.90	5,069	7,754			
340.00	5,175	8,266			
340.10	5,286	8,789			
340.20	5,398	9,323			
340.30	5,509	9,869			
340.40	5,620	10,425			
340.50	5,732	10,993			
340.60	5,843	11,571			
340.70	5,954	12,161			
340.80	6,065	12,762			
340.90	6,177	13,374			
341.00	6,288	13,998			
341.10	6,405	14,632			
341.20	6,522	15,278			
341.30	6,639	15,937			
341.40	6,756	16,606			
341.50	6,873	17,288			
341.60	6,990	17,981			
341.70	7,107	18,686			
341.80	7,224	19,402			
341.90	7,341	20,131			
342.00	7,458	20,871			
342.10	7,581	21,622			
342.20	7,703	22,387			
342.30	7,826	23,163			
342.40	7,948	23,952			
342.50	8,071	24,753			
342.60	8,194	25,566			
342.70	8,316	26,391			
342.80	8,439	27,229			
342.90	8,561	28,079			
343.00	8,684	28,942			
343.10	8,812	29,816			

**Summary for Pond SW3: Stormwater Basin #3A 'SW3A'**

Inflow Area = 59,872 sf, 26.45% Impervious, Inflow Depth = 1.60" for 2-Year event  
 Inflow = 1.72 cfs @ 12.28 hrs, Volume= 7,967 cf  
 Outflow = 0.68 cfs @ 12.71 hrs, Volume= 7,967 cf, Atten= 60%, Lag= 26.3 min  
 Discarded = 0.05 cfs @ 12.71 hrs, Volume= 3,189 cf  
 Primary = 0.63 cfs @ 12.71 hrs, Volume= 4,778 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 389.79' @ 12.71 hrs Surf.Area= 2,154 sf Storage= 2,748 cf

Plug-Flow detention time= 188.1 min calculated for 7,967 cf (100% of inflow)  
 Center-of-Mass det. time= 188.0 min ( 1,039.9 - 851.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	388.00'	9,083 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.00	765	0	0
389.00	1,690	1,228	1,228
390.00	2,276	1,983	3,211
391.00	2,922	2,599	5,810
392.00	3,625	3,274	9,083

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	<b>15.0" Round Outlet Pipe</b> L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	389.00'	<b>6.0" W x 4.0" H Vert. Low-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	390.00'	<b>18.0" W x 4.0" H Vert. Mid-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.75'	<b>24.0" W x 6.0" H Vert. High-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#6	Secondary	391.50'	<b>10.0' long x 11.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.53 2.59 2.70 2.68 2.67 2.68 2.66 2.64
#7	Discarded	388.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.05 cfs @ 12.71 hrs HW=389.79' (Free Discharge)

↑7=Exfiltration (Exfiltration Controls 0.05 cfs)

**Primary OutFlow** Max=0.63 cfs @ 12.71 hrs HW=389.79' (Free Discharge)

↑1=Outlet Pipe (Passes 0.63 cfs of 11.31 cfs potential flow)

↑2=Low-level Orifice (Orifice Controls 0.63 cfs @ 3.79 fps)

↑3=Mid-level Orifice ( Controls 0.00 cfs)

↑4=High-level Orifice ( Controls 0.00 cfs)

↑5=Grate ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
388.00	0.00	0.00	0.00	0.00
388.10	0.02	0.02	0.00	0.00
388.20	0.02	0.02	0.00	0.00
388.30	0.02	0.02	0.00	0.00
388.40	0.03	0.03	0.00	0.00
388.50	0.03	0.03	0.00	0.00
388.60	0.03	0.03	0.00	0.00
388.70	0.03	0.03	0.00	0.00
388.80	0.03	0.03	0.00	0.00
388.90	0.04	0.04	0.00	0.00
389.00	0.04	0.04	0.00	0.00
389.10	0.09	0.04	0.05	0.00
389.20	0.19	0.04	0.14	0.00
389.30	0.31	0.04	0.26	0.00
389.40	0.42	0.04	0.38	0.00
389.50	0.50	0.05	0.46	0.00
389.60	0.57	0.05	0.52	0.00
389.70	0.63	0.05	0.58	0.00
389.80	0.69	0.05	0.64	0.00
389.90	0.74	0.05	0.69	0.00
390.00	0.78	0.05	0.73	0.00
390.10	0.98	0.05	0.93	0.00
390.20	1.30	0.06	1.25	0.00
390.30	1.70	0.06	1.64	0.00
390.40	2.08	0.06	2.03	0.00
390.50	2.36	0.06	2.30	0.00
390.60	2.60	0.06	2.53	0.00
390.70	2.81	0.06	2.74	0.00
390.80	3.07	0.06	3.01	0.00
390.90	3.55	0.07	3.49	0.00
391.00	4.15	0.07	4.08	0.00
391.10	4.84	0.07	4.77	0.00
391.20	5.60	0.07	5.53	0.00
391.30	13.51	0.07	13.44	0.00
391.40	13.65	0.07	13.57	0.00
391.50	13.77	0.08	13.70	0.00
391.60	14.70	0.08	13.83	0.80
391.70	16.29	0.08	13.95	2.26
391.80	18.36	0.08	14.08	4.21
391.90	20.83	0.08	14.20	6.55
392.00	<b>23.76</b>	<b>0.08</b>	<b>14.32</b>	<b>9.35</b>

**Stage-Area-Storage for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
388.00	765	0	390.60	2,664	4,692
388.05	811	39	390.65	2,696	4,826
388.10	858	81	390.70	2,728	4,962
388.15	904	125	390.75	2,761	5,099
388.20	950	171	390.80	2,793	5,238
388.25	996	220	390.85	2,825	5,378
388.30	1,043	271	390.90	2,857	5,521
388.35	1,089	324	390.95	2,890	5,664
388.40	1,135	380	391.00	2,922	5,810
388.45	1,181	438	391.05	2,957	5,956
388.50	1,228	498	391.10	2,992	6,105
388.55	1,274	561	391.15	3,027	6,256
388.60	1,320	626	391.20	3,063	6,408
388.65	1,366	693	391.25	3,098	6,562
388.70	1,412	762	391.30	3,133	6,718
388.75	1,459	834	391.35	3,168	6,875
388.80	1,505	908	391.40	3,203	7,035
388.85	1,551	984	391.45	3,238	7,196
388.90	1,597	1,063	391.50	3,274	7,358
388.95	1,644	1,144	391.55	3,309	7,523
389.00	1,690	1,228	391.60	3,344	7,689
389.05	1,719	1,313	391.65	3,379	7,857
389.10	1,749	1,399	391.70	3,414	8,027
389.15	1,778	1,488	391.75	3,449	8,199
389.20	1,807	1,577	391.80	3,484	8,372
389.25	1,837	1,668	391.85	3,520	8,547
389.30	1,866	1,761	391.90	3,555	8,724
389.35	1,895	1,855	391.95	3,590	8,903
389.40	1,924	1,950	392.00	<b>3,625</b>	<b>9,083</b>
389.45	1,954	2,047			
389.50	1,983	2,146			
389.55	2,012	2,246			
389.60	2,042	2,347			
389.65	2,071	2,450			
389.70	2,100	2,554			
389.75	2,130	2,660			
389.80	2,159	2,767			
389.85	2,188	2,876			
389.90	2,217	2,986			
389.95	2,247	3,097			
390.00	2,276	3,211			
390.05	2,308	3,325			
390.10	2,341	3,441			
390.15	2,373	3,559			
390.20	2,405	3,679			
390.25	2,438	3,800			
390.30	2,470	3,922			
390.35	2,502	4,047			
390.40	2,534	4,173			
390.45	2,567	4,300			
390.50	2,599	4,429			
390.55	2,631	4,560			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 1.31" for 2-Year event  
Inflow = 0.68 cfs @ 12.15 hrs, Volume= 1,847 cf  
Primary = 0.68 cfs @ 12.15 hrs, Volume= 1,847 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 512,734 sf, 16.97% Impervious, Inflow Depth = 0.35" for 2-Year event  
Inflow = 1.66 cfs @ 13.77 hrs, Volume= 15,021 cf  
Primary = 1.66 cfs @ 13.77 hrs, Volume= 15,021 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 282,606 sf, 12.69% Impervious, Inflow Depth = 1.06" for 2-Year event  
Inflow = 4.32 cfs @ 12.37 hrs, Volume= 24,979 cf  
Primary = 4.32 cfs @ 12.37 hrs, Volume= 24,979 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 7,428 sf, 0.00% Impervious, Inflow Depth = 1.09" for 2-Year event  
Inflow = 0.17 cfs @ 12.16 hrs, Volume= 674 cf  
Primary = 0.17 cfs @ 12.16 hrs, Volume= 674 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,639 sf, 15.64% Impervious, Inflow Depth = 0.62" for 2-Year event  
Inflow = 4.90 cfs @ 12.35 hrs, Volume= 42,521 cf  
Primary = 4.90 cfs @ 12.35 hrs, Volume= 42,521 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 Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=16,871 sf 31.47% Impervious Runoff Depth=3.19"  
Tc=10.0 min CN=82 Runoff=1.26 cfs 4,480 cf

**Subcatchment SA2A: Drainage Subarea** Runoff Area=467,771 sf 18.44% Impervious Runoff Depth=2.81"  
Flow Length=1,108' Tc=23.5 min CN=78 Runoff=22.29 cfs 109,687 cf

**Subcatchment SA2B: Drainage Subarea** Runoff Area=24,515 sf 3.20% Impervious Runoff Depth=2.55"  
Tc=5.0 min CN=75 Runoff=1.74 cfs 5,203 cf

**Subcatchment SA2C: Drainage Subarea** Runoff Area=13,888 sf 0.00% Impervious Runoff Depth=2.46"  
Tc=5.0 min CN=74 Runoff=0.95 cfs 2,847 cf

**Subcatchment SA2D: Drainage Subarea #2D** Runoff Area=6,560 sf 0.00% Impervious Runoff Depth=2.37"  
Flow Length=94' Tc=10.5 min CN=73 Runoff=0.36 cfs 1,298 cf

**Subcatchment SA3A: Drainage Subarea** Runoff Area=59,872 sf 26.45% Impervious Runoff Depth=3.00"  
Flow Length=339' Tc=19.9 min CN=80 Runoff=3.27 cfs 14,957 cf

**Subcatchment SA3B: Drainage Subarea** Runoff Area=222,734 sf 8.99% Impervious Runoff Depth=2.29"  
Flow Length=731' Tc=23.0 min CN=72 Runoff=8.62 cfs 42,518 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=7,428 sf 0.00% Impervious Runoff Depth=2.29"  
Flow Length=233' Tc=10.7 min CN=72 Runoff=0.39 cfs 1,418 cf

**Pond SW1: Infiltration Trench (SWM-A)** Peak Elev=361.16' Storage=173 cf Inflow=1.26 cfs 4,480 cf  
Discarded=0.01 cfs 651 cf Primary=1.25 cfs 3,830 cf Outflow=1.26 cfs 4,480 cf

**Pond SW2A: Stormwater Basin #2A** Peak Elev=356.30' Storage=4,224 cf Inflow=22.29 cfs 109,687 cf  
Discarded=0.07 cfs 6,092 cf Primary=22.22 cfs 103,595 cf Secondary=0.00 cfs 0 cf Outflow=22.28 cfs 109,687 cf

**Pond SW2B: Stormwater Basin #2B** Peak Elev=346.80' Storage=27,825 cf Inflow=22.89 cfs 108,798 cf  
Discarded=0.25 cfs 33,919 cf Primary=22.08 cfs 74,879 cf Secondary=0.00 cfs 0 cf Outflow=22.33 cfs 108,798 cf

**Pond SW2C: Stormwater Basin #2C** Peak Elev=340.92' Storage=13,516 cf Inflow=22.40 cfs 77,726 cf  
Discarded=0.14 cfs 9,251 cf Primary=11.93 cfs 68,476 cf Secondary=0.00 cfs 0 cf Outflow=12.07 cfs 77,726 cf

**Pond SW3: Stormwater Basin #3A 'SW3A'** Peak Elev=390.43' Storage=4,262 cf Inflow=3.27 cfs 14,957 cf  
Discarded=0.06 cfs 3,530 cf Primary=2.13 cfs 11,427 cf Secondary=0.00 cfs 0 cf Outflow=2.19 cfs 14,957 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=1.25 cfs 3,830 cf  
Primary=1.25 cfs 3,830 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=12.00 cfs 69,774 cf  
Primary=12.00 cfs 69,774 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=10.33 cfs 53,944 cf  
Primary=10.33 cfs 53,944 cf

**Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow=0.39 cfs 1,418 cf  
Primary=0.39 cfs 1,418 cf

**Link ALL: ALL**

Inflow=20.13 cfs 128,966 cf  
Primary=20.13 cfs 128,966 cf

**Total Runoff Area = 819,639 sf Runoff Volume = 182,409 cf Average Runoff Depth = 2.67"  
84.36% Pervious = 691,435 sf 15.64% Impervious = 128,204 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 1.26 cfs @ 12.14 hrs, Volume= 4,480 cf, Depth= 3.19"  
 Routed to Pond SW1 : Infiltration Trench (SWM-A)

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 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	5,309	98	Bldgs./Impervious
*	11,384	74	Lawn, Good, HSG C
*	178	70	Woods, Good, HSG C
	16,871	82	Weighted Average
	11,562	74	68.53% Pervious Area
	5,309	98	31.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'**

Runoff = 22.29 cfs @ 12.33 hrs, Volume= 109,687 cf, Depth= 2.81"

Routed to Pond SW2A : Stormwater Basin #2A 'SW2A'

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 86,243	98	Bldgs./Impervious
* 2,809	92	Compact Gravel (est.), HSG C
* 3,353	86	Open Deck (est.), HSG C
* 251,334	74	Lawn, Good, HSG C
* 124,032	70	Woods, Good, HSG C
467,771	78	Weighted Average
381,528	73	81.56% Pervious Area
86,243	98	18.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'**

Runoff = 1.74 cfs @ 12.08 hrs, Volume= 5,203 cf, Depth= 2.55"

Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

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 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	785	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	23,579	74	Lawn, Good, HSG C
	24,515	75	Weighted Average
	23,730	74	96.80% Pervious Area
	785	98	3.20% Impervious Area

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

**Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'**

Runoff = 0.95 cfs @ 12.08 hrs, Volume= 2,847 cf, Depth= 2.46"

Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 13,888	74	Lawn, Good, HSG C
13,888	74	100.00% Pervious Area

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

**Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'**

Runoff = 0.36 cfs @ 12.15 hrs, Volume= 1,298 cf, Depth= 2.37"

Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 4,140	74	Lawn, Good, HSG C
* 2,030	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
6,560	73	Weighted Average
6,560	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	27	0.1850	0.23		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
8.5	67	0.1870	0.13		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
10.5	94	Total			

**Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'**

Runoff = 3.27 cfs @ 12.27 hrs, Volume= 14,957 cf, Depth= 3.00"

Routed to Pond SW3 : Stormwater Basin #3A 'SW3A'

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 15,836	98	Bldgs./Impervious
* 454	86	Open Deck (est.), HSG C
* 39,826	74	Lawn, Good, HSG C
* 3,756	70	Woods, Good, HSG C
59,872	80	Weighted Average
44,036	74	73.55% Pervious Area
15,836	98	26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	89	0.0730	0.10		<b>Sheet Flow, SF3A, Woods</b> n= 0.600 P2= 3.43"
3.4	61	0.2380	0.29		<b>Sheet Flow, SF3B, Lawn</b> n= 0.240 P2= 3.43"
0.3	105	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
0.6	84	0.0120	2.22		<b>Shallow Concentrated Flow, SCF3B, Paved</b> Paved Kv= 20.3 fps
19.9	339	Total			

**Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'**

Runoff = 8.62 cfs @ 12.34 hrs, Volume= 42,518 cf, Depth= 2.29"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 10-Year Rainfall=5.12"

Area (sf)	CN	Description
* 20,031	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 1,211	86	Open Deck (est.), HSG C
* 478	61	Lawn, Good, HSG B
* 108,649	74	Lawn, Good, HSG C
* 32,649	55	Woods, Good, HSG B
* 59,120	70	Woods, Good, HSG C
222,734	72	Weighted Average
202,703	70	91.01% Pervious Area
20,031	98	8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
2.0	581	0.0930	4.91		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
23.0	731	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.39 cfs @ 12.15 hrs, Volume= 1,418 cf, Depth= 2.29"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	4,292	74	Lawn, Good, HSG C
*	3,136	70	Woods, Good, HSG C
	7,428	72	Weighted Average
	7,428	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	150	0.0920	0.24		<b>Sheet Flow, SF4A, Lawn</b> n= 0.240 P2= 3.43"
0.3	83	0.1110	5.36		<b>Shallow Concentrated Flow, SCF4A, Woods</b> Unpaved Kv= 16.1 fps
10.7	233	Total			

**Summary for Pond SW1: Infiltration Trench (SWM-A)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 3.19" for 10-Year event  
 Inflow = 1.26 cfs @ 12.14 hrs, Volume= 4,480 cf  
 Outflow = 1.26 cfs @ 12.14 hrs, Volume= 4,480 cf, Atten= 0%, Lag= 0.2 min  
 Discarded = 0.01 cfs @ 8.67 hrs, Volume= 651 cf  
 Primary = 1.25 cfs @ 12.14 hrs, Volume= 3,830 cf  
 Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.16' @ 12.14 hrs Surf.Area= 372 sf Storage= 173 cf

Plug-Flow detention time= 33.6 min calculated for 4,480 cf (100% of inflow)  
 Center-of-Mass det. time= 33.6 min ( 852.7 - 819.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	818 cf	<b>2.00'W x 186.00'L x 5.50'H Prismatic</b> 2,046 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	<b>6.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Discarded	360.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.01 cfs @ 8.67 hrs HW=360.06' (Free Discharge)  
 ↳**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=1.25 cfs @ 12.14 hrs HW=361.16' (Free Discharge)  
 ↳**1=Sharp-Crested Rectangular Weir** (Weir Controls 1.25 cfs @ 1.31 fps)

**Stage-Discharge for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
360.00	0.00	<b>0.00</b>	0.00	365.20	145.24	0.01	145.24
360.10	0.01	<b>0.01</b>	0.00	365.30	149.88	0.01	149.87
360.20	0.01	0.01	0.00	365.40	154.53	0.01	154.52
360.30	0.01	0.01	0.00	365.50	<b>159.21</b>	0.01	<b>159.20</b>
360.40	0.01	0.01	0.00				
360.50	0.01	0.01	0.00				
360.60	0.01	0.01	0.00				
360.70	0.01	0.01	0.00				
360.80	0.01	0.01	0.00				
360.90	0.01	0.01	0.00				
361.00	0.01	0.01	0.00				
361.10	0.63	0.01	0.62				
361.20	1.75	0.01	1.74				
361.30	3.20	0.01	3.19				
361.40	4.91	0.01	4.90				
361.50	6.83	0.01	6.82				
361.60	8.94	0.01	8.94				
361.70	11.23	0.01	11.22				
361.80	13.67	0.01	13.66				
361.90	16.26	0.01	16.25				
362.00	18.97	0.01	18.97				
362.10	21.81	0.01	21.81				
362.20	24.77	0.01	24.76				
362.30	27.83	0.01	27.82				
362.40	30.99	0.01	30.98				
362.50	34.25	0.01	34.24				
362.60	37.60	0.01	37.59				
362.70	41.03	0.01	41.02				
362.80	44.55	0.01	44.54				
362.90	48.14	0.01	48.13				
363.00	51.80	0.01	51.79				
363.10	55.54	0.01	55.53				
363.20	59.34	0.01	59.33				
363.30	63.20	0.01	63.19				
363.40	67.12	0.01	67.11				
363.50	71.10	0.01	71.09				
363.60	75.13	0.01	75.13				
363.70	79.22	0.01	79.21				
363.80	83.35	0.01	83.35				
363.90	87.54	0.01	87.53				
364.00	91.76	0.01	91.75				
364.10	96.03	0.01	96.02				
364.20	100.34	0.01	100.33				
364.30	104.69	0.01	104.68				
364.40	109.07	0.01	109.06				
364.50	113.49	0.01	113.48				
364.60	117.94	0.01	117.93				
364.70	122.42	0.01	122.42				
364.80	126.94	0.01	126.93				
364.90	131.48	0.01	131.47				
365.00	136.04	0.01	136.03				
365.10	140.63	0.01	140.62				

**Stage-Area-Storage for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
360.00	372	0	365.20	372	774
360.10	372	15	365.30	372	789
360.20	372	30	365.40	372	804
360.30	372	45	365.50	372	818
360.40	372	60			
360.50	372	74			
360.60	372	89			
360.70	372	104			
360.80	372	119			
360.90	372	134			
361.00	372	149			
361.10	372	164			
361.20	372	179			
361.30	372	193			
361.40	372	208			
361.50	372	223			
361.60	372	238			
361.70	372	253			
361.80	372	268			
361.90	372	283			
362.00	372	298			
362.10	372	312			
362.20	372	327			
362.30	372	342			
362.40	372	357			
362.50	372	372			
362.60	372	387			
362.70	372	402			
362.80	372	417			
362.90	372	432			
363.00	372	446			
363.10	372	461			
363.20	372	476			
363.30	372	491			
363.40	372	506			
363.50	372	521			
363.60	372	536			
363.70	372	551			
363.80	372	565			
363.90	372	580			
364.00	372	595			
364.10	372	610			
364.20	372	625			
364.30	372	640			
364.40	372	655			
364.50	372	670			
364.60	372	684			
364.70	372	699			
364.80	372	714			
364.90	372	729			
365.00	372	744			
365.10	372	759			

**Summary for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Inflow Area = 467,771 sf, 18.44% Impervious, Inflow Depth = 2.81" for 10-Year event  
 Inflow = 22.29 cfs @ 12.33 hrs, Volume= 109,687 cf  
 Outflow = 22.28 cfs @ 12.33 hrs, Volume= 109,687 cf, Atten= 0%, Lag= 0.3 min  
 Discarded = 0.07 cfs @ 12.33 hrs, Volume= 6,092 cf  
 Primary = 22.22 cfs @ 12.33 hrs, Volume= 103,595 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 356.30' @ 12.33 hrs Surf.Area= 2,909 sf Storage= 4,224 cf

Plug-Flow detention time= 39.6 min calculated for 109,687 cf (100% of inflow)  
 Center-of-Mass det. time= 39.6 min ( 881.8 - 842.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,490 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
354.00	689	0	0
355.00	1,735	1,212	1,212
356.00	2,625	2,180	3,392
357.00	3,571	3,098	6,490

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	<b>24.0" Round Outlet Pipe</b> L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	356.50'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	354.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 12.33 hrs HW=356.30' (Free Discharge)  
 ↑5=Exfiltration (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=22.41 cfs @ 12.33 hrs HW=356.30' (Free Discharge)  
 ↑1=Outlet Pipe (Passes 22.41 cfs of 48.55 cfs potential flow)  
 ↑2=Orifice (Orifice Controls 5.10 cfs @ 2.55 fps)  
 ↑3=Grate (Orifice Controls 17.31 cfs @ 1.08 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)  
 ↑4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
354.00	0.00	0.00	0.00	0.00
354.10	0.02	0.02	0.00	0.00
354.20	0.02	0.02	0.00	0.00
354.30	0.02	0.02	0.00	0.00
354.40	0.03	0.03	0.00	0.00
354.50	0.03	0.03	0.00	0.00
354.60	0.03	0.03	0.00	0.00
354.70	0.03	0.03	0.00	0.00
354.80	0.04	0.04	0.00	0.00
354.90	0.04	0.04	0.00	0.00
355.00	0.04	0.04	0.00	0.00
355.10	0.04	0.04	0.00	0.00
355.20	0.04	0.04	0.00	0.00
355.30	0.05	0.05	0.00	0.00
355.40	0.05	0.05	0.00	0.00
355.50	0.05	0.05	0.00	0.00
355.60	0.05	0.05	0.00	0.00
355.70	0.05	0.05	0.00	0.00
355.80	0.20	0.06	0.14	0.00
355.90	0.80	0.06	0.75	0.00
356.00	1.67	0.06	1.60	0.00
356.10	2.72	0.06	2.66	0.00
356.20	3.94	0.07	3.88	0.00
356.30	22.39	0.07	22.32	0.00
356.40	35.89	0.07	35.82	0.00
356.50	45.33	0.07	45.25	0.00
356.60	50.87	0.07	49.25	1.55
356.70	53.93	0.08	49.48	4.38
356.80	57.82	0.08	49.71	8.03
356.90	62.36	0.08	49.94	12.34
357.00	<b>67.48</b>	<b>0.08</b>	<b>50.17</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
354.00	689	0	356.60	3,193	5,137
354.05	741	36	356.65	3,240	5,298
354.10	794	74	356.70	3,287	5,461
354.15	846	115	356.75	3,335	5,627
354.20	898	159	356.80	3,382	5,795
354.25	951	205	356.85	3,429	5,965
354.30	1,003	254	356.90	3,476	6,138
354.35	1,055	305	356.95	3,524	6,313
354.40	1,107	359	357.00	<b>3,571</b>	<b>6,490</b>
354.45	1,160	416			
354.50	1,212	475			
354.55	1,264	537			
354.60	1,317	602			
354.65	1,369	669			
354.70	1,421	739			
354.75	1,474	811			
354.80	1,526	886			
354.85	1,578	964			
354.90	1,630	1,044			
354.95	1,683	1,127			
355.00	1,735	1,212			
355.05	1,780	1,300			
355.10	1,824	1,390			
355.15	1,868	1,482			
355.20	1,913	1,577			
355.25	1,958	1,674			
355.30	2,002	1,773			
355.35	2,047	1,874			
355.40	2,091	1,977			
355.45	2,135	2,083			
355.50	2,180	2,191			
355.55	2,225	2,301			
355.60	2,269	2,413			
355.65	2,313	2,528			
355.70	2,358	2,645			
355.75	2,403	2,764			
355.80	2,447	2,885			
355.85	2,492	3,008			
355.90	2,536	3,134			
355.95	2,580	3,262			
356.00	2,625	3,392			
356.05	2,672	3,524			
356.10	2,720	3,659			
356.15	2,767	3,796			
356.20	2,814	3,936			
356.25	2,862	4,078			
356.30	2,909	4,222			
356.35	2,956	4,369			
356.40	3,003	4,518			
356.45	3,051	4,669			
356.50	3,098	4,823			
356.55	3,145	4,979			

**Summary for Pond SW2B: Stormwater Basin #2B 'SW2B'**

[79] Warning: Submerged Pond SW2A Primary device # 1 INLET by 1.80'

Inflow Area = 492,286 sf, 17.68% Impervious, Inflow Depth = 2.65" for 10-Year event  
 Inflow = 22.89 cfs @ 12.33 hrs, Volume= 108,798 cf  
 Outflow = 22.33 cfs @ 12.38 hrs, Volume= 108,798 cf, Atten= 2%, Lag= 3.2 min  
 Discarded = 0.25 cfs @ 12.38 hrs, Volume= 33,919 cf  
 Primary = 22.08 cfs @ 12.38 hrs, Volume= 74,879 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 346.80' @ 12.38 hrs Surf.Area= 10,916 sf Storage= 27,825 cf

Plug-Flow detention time= 355.1 min calculated for 108,783 cf (100% of inflow)  
 Center-of-Mass det. time= 355.3 min ( 1,201.8 - 846.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	343.50'	35,844 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.50	6,043	0	0
344.00	6,741	3,196	3,196
345.00	8,179	7,460	10,656
346.00	9,674	8,927	19,583
347.00	11,225	10,450	30,032
347.50	12,022	5,812	35,844

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	<b>24.0" Round Outlet Pipe</b> L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	346.25'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.75'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	347.00'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	343.50'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.25 cfs @ 12.38 hrs HW=346.80' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.25 cfs)

**Primary OutFlow** Max=22.44 cfs @ 12.38 hrs HW=346.80' (Free Discharge)

↳ **1=Outlet Pipe** (Passes 22.44 cfs of 39.45 cfs potential flow)

↳ **2=Orifice** (Orifice Controls 5.10 cfs @ 2.55 fps)

↳ **3=Grate** (Orifice Controls 17.34 cfs @ 1.08 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↳ **4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
343.50	0.00	0.00	0.00	0.00
343.60	0.14	0.14	0.00	0.00
343.70	0.15	0.15	0.00	0.00
343.80	0.15	0.15	0.00	0.00
343.90	0.15	0.15	0.00	0.00
344.00	0.16	0.16	0.00	0.00
344.10	0.16	0.16	0.00	0.00
344.20	0.16	0.16	0.00	0.00
344.30	0.17	0.17	0.00	0.00
344.40	0.17	0.17	0.00	0.00
344.50	0.17	0.17	0.00	0.00
344.60	0.18	0.18	0.00	0.00
344.70	0.18	0.18	0.00	0.00
344.80	0.18	0.18	0.00	0.00
344.90	0.19	0.19	0.00	0.00
345.00	0.19	0.19	0.00	0.00
345.10	0.19	0.19	0.00	0.00
345.20	0.20	0.20	0.00	0.00
345.30	0.20	0.20	0.00	0.00
345.40	0.20	0.20	0.00	0.00
345.50	0.21	0.21	0.00	0.00
345.60	0.21	0.21	0.00	0.00
345.70	0.21	0.21	0.00	0.00
345.80	0.22	0.22	0.00	0.00
345.90	0.22	0.22	0.00	0.00
346.00	0.22	0.22	0.00	0.00
346.10	0.23	0.23	0.00	0.00
346.20	0.23	0.23	0.00	0.00
346.30	0.38	0.23	0.14	0.00
346.40	0.98	0.24	0.75	0.00
346.50	1.85	0.24	1.60	0.00
346.60	2.90	0.25	2.66	0.00
346.70	4.13	0.25	3.88	0.00
346.80	22.57	0.25	22.32	0.00
346.90	36.08	0.26	35.82	0.00
347.00	40.28	0.26	40.02	0.00
347.10	42.12	0.26	40.31	1.55
347.20	45.23	0.27	40.59	4.38
347.30	49.17	0.27	40.87	8.03
347.40	53.77	0.27	41.15	12.34
347.50	<b>58.93</b>	<b>0.28</b>	<b>41.43</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
343.50	6,043	0	346.10	9,829	20,558
343.55	6,113	304	346.15	9,907	21,051
343.60	6,183	611	346.20	9,984	21,548
343.65	6,252	922	346.25	10,062	22,049
343.70	6,322	1,237	346.30	10,139	22,554
343.75	6,392	1,554	346.35	10,217	23,063
343.80	6,462	1,876	346.40	10,294	23,576
343.85	6,532	2,201	346.45	10,372	24,093
343.90	6,601	2,529	346.50	10,450	24,613
343.95	6,671	2,861	346.55	10,527	25,138
344.00	6,741	3,196	346.60	10,605	25,666
344.05	6,813	3,535	346.65	10,682	26,198
344.10	6,885	3,877	346.70	10,760	26,734
344.15	6,957	4,223	346.75	10,837	27,274
344.20	7,029	4,573	346.80	10,915	27,818
344.25	7,101	4,926	346.85	10,992	28,366
344.30	7,172	5,283	346.90	11,070	28,917
344.35	7,244	5,643	346.95	11,147	29,473
344.40	7,316	6,007	347.00	11,225	30,032
344.45	7,388	6,375	347.05	11,305	30,595
344.50	7,460	6,746	347.10	11,384	31,162
344.55	7,532	7,121	347.15	11,464	31,734
344.60	7,604	7,499	347.20	11,544	32,309
344.65	7,676	7,881	347.25	11,624	32,888
344.70	7,748	8,267	347.30	11,703	33,471
344.75	7,820	8,656	347.35	11,783	34,058
344.80	7,891	9,049	347.40	11,863	34,650
344.85	7,963	9,445	347.45	11,942	35,245
344.90	8,035	9,845	347.50	<b>12,022</b>	<b>35,844</b>
344.95	8,107	10,249			
345.00	8,179	10,656			
345.05	8,254	11,067			
345.10	8,329	11,481			
345.15	8,403	11,900			
345.20	8,478	12,322			
345.25	8,553	12,747			
345.30	8,628	13,177			
345.35	8,702	13,610			
345.40	8,777	14,047			
345.45	8,852	14,488			
345.50	8,927	14,932			
345.55	9,001	15,381			
345.60	9,076	15,833			
345.65	9,151	16,288			
345.70	9,225	16,748			
345.75	9,300	17,211			
345.80	9,375	17,678			
345.85	9,450	18,148			
345.90	9,524	18,623			
345.95	9,599	19,101			
346.00	9,674	19,583			
346.05	9,752	20,068			

**Summary for Pond SW2C: Stormwater Basin #2C 'SW2C'**

[79] Warning: Submerged Pond SW2B Primary device # 1 INLET by 1.92'

Inflow Area = 506,174 sf, 17.19% Impervious, Inflow Depth = 1.84" for 10-Year event  
 Inflow = 22.40 cfs @ 12.38 hrs, Volume= 77,726 cf  
 Outflow = 12.07 cfs @ 12.68 hrs, Volume= 77,726 cf, Atten= 46%, Lag= 18.1 min  
 Discarded = 0.14 cfs @ 12.68 hrs, Volume= 9,251 cf  
 Primary = 11.93 cfs @ 12.68 hrs, Volume= 68,476 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 340.92' @ 12.68 hrs Surf.Area= 6,202 sf Storage= 13,516 cf

Plug-Flow detention time= 73.2 min calculated for 77,716 cf (100% of inflow)  
 Center-of-Mass det. time= 73.3 min ( 938.9 - 865.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	338.00'	38,267 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
338.00	3,119	0	0
339.00	4,119	3,619	3,619
340.00	5,175	4,647	8,266
341.00	6,288	5,732	13,998
342.00	7,458	6,873	20,871
343.00	8,684	8,071	28,942
344.00	9,966	9,325	38,267

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	<b>21.0" Round Outlet Pipe</b> L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	339.15'	<b>48.0" W x 6.0" H Vert. Low level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	340.90'	<b>48.0" W x 6.0" H Vert. High Level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	342.00'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	343.00'	<b>15.0' long Spillway</b> 2 End Contraction(s)
#6	Discarded	338.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.14 cfs @ 12.68 hrs HW=340.92' (Free Discharge)

↑ **6=Exfiltration** (Exfiltration Controls 0.14 cfs)

**Primary OutFlow** Max=11.91 cfs @ 12.68 hrs HW=340.92' (Free Discharge)

↑ **1=Outlet Pipe** (Passes 11.91 cfs of 26.02 cfs potential flow)

↑ **2=Low level Orifice** (Orifice Controls 11.87 cfs @ 5.94 fps)

↑ **3=High Level Orifice** (Orifice Controls 0.04 cfs @ 0.48 fps)

↑ **4=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑ **5=Spillway** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
338.00	0.00	0.00	0.00	0.00
338.20	0.08	0.08	0.00	0.00
338.40	0.08	0.08	0.00	0.00
338.60	0.09	0.09	0.00	0.00
338.80	0.09	0.09	0.00	0.00
339.00	0.10	0.10	0.00	0.00
339.20	0.24	0.10	0.14	0.00
339.40	1.71	0.11	1.60	0.00
339.60	3.99	0.11	3.88	0.00
339.80	6.10	0.11	5.98	0.00
340.00	7.52	0.12	7.40	0.00
340.20	8.70	0.12	8.58	0.00
340.40	9.73	0.13	9.60	0.00
340.60	10.67	0.14	10.53	0.00
340.80	11.52	0.14	11.38	0.00
341.00	12.72	0.15	12.57	0.00
341.20	15.17	0.15	15.02	0.00
341.40	18.31	0.16	18.15	0.00
341.60	20.81	0.16	20.65	0.00
341.80	22.79	0.17	22.63	0.00
342.00	24.54	0.17	24.37	0.00
342.20	29.30	0.18	29.13	0.00
342.40	29.77	0.18	29.58	0.00
342.60	30.22	0.19	30.03	0.00
342.80	30.67	0.20	30.48	0.00
343.00	31.11	0.20	30.91	0.00
343.20	35.93	0.21	31.34	4.38
343.40	44.33	0.21	31.77	12.34
343.60	55.02	0.22	32.19	22.61
343.80	67.55	0.22	32.60	34.72
344.00	<b>81.64</b>	<b>0.23</b>	<b>33.01</b>	<b>48.40</b>

**Stage-Area-Storage for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
338.00	3,119	0	343.20	8,940	30,704
338.10	3,219	317	343.30	9,069	31,604
338.20	3,319	644	343.40	9,197	32,518
338.30	3,419	981	343.50	9,325	33,444
338.40	3,519	1,328	343.60	9,453	34,383
338.50	3,619	1,685	343.70	9,581	35,334
338.60	3,719	2,051	343.80	9,710	36,299
338.70	3,819	2,428	343.90	9,838	37,276
338.80	3,919	2,815	344.00	<b>9,966</b>	<b>38,267</b>
338.90	4,019	3,212			
339.00	4,119	3,619			
339.10	4,225	4,036			
339.20	4,330	4,464			
339.30	4,436	4,902			
339.40	4,541	5,351			
339.50	4,647	5,811			
339.60	4,753	6,280			
339.70	4,858	6,761			
339.80	4,964	7,252			
339.90	5,069	7,754			
340.00	5,175	8,266			
340.10	5,286	8,789			
340.20	5,398	9,323			
340.30	5,509	9,869			
340.40	5,620	10,425			
340.50	5,732	10,993			
340.60	5,843	11,571			
340.70	5,954	12,161			
340.80	6,065	12,762			
340.90	6,177	13,374			
341.00	6,288	13,998			
341.10	6,405	14,632			
341.20	6,522	15,278			
341.30	6,639	15,937			
341.40	6,756	16,606			
341.50	6,873	17,288			
341.60	6,990	17,981			
341.70	7,107	18,686			
341.80	7,224	19,402			
341.90	7,341	20,131			
342.00	7,458	20,871			
342.10	7,581	21,622			
342.20	7,703	22,387			
342.30	7,826	23,163			
342.40	7,948	23,952			
342.50	8,071	24,753			
342.60	8,194	25,566			
342.70	8,316	26,391			
342.80	8,439	27,229			
342.90	8,561	28,079			
343.00	8,684	28,942			
343.10	8,812	29,816			

**Summary for Pond SW3: Stormwater Basin #3A 'SW3A'**

Inflow Area = 59,872 sf, 26.45% Impervious, Inflow Depth = 3.00" for 10-Year event  
 Inflow = 3.27 cfs @ 12.27 hrs, Volume= 14,957 cf  
 Outflow = 2.19 cfs @ 12.50 hrs, Volume= 14,957 cf, Atten= 33%, Lag= 14.0 min  
 Discarded = 0.06 cfs @ 12.50 hrs, Volume= 3,530 cf  
 Primary = 2.13 cfs @ 12.50 hrs, Volume= 11,427 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 390.43' @ 12.50 hrs Surf.Area= 2,557 sf Storage= 4,262 cf

Plug-Flow detention time= 121.6 min calculated for 14,955 cf (100% of inflow)  
 Center-of-Mass det. time= 121.7 min ( 955.4 - 833.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	388.00'	9,083 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.00	765	0	0
389.00	1,690	1,228	1,228
390.00	2,276	1,983	3,211
391.00	2,922	2,599	5,810
392.00	3,625	3,274	9,083

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	<b>15.0" Round Outlet Pipe</b> L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	389.00'	<b>6.0" W x 4.0" H Vert. Low-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	390.00'	<b>18.0" W x 4.0" H Vert. Mid-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.75'	<b>24.0" W x 6.0" H Vert. High-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#6	Secondary	391.50'	<b>10.0' long x 11.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.53 2.59 2.70 2.68 2.67 2.68 2.66 2.64
#7	Discarded	388.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.06 cfs @ 12.50 hrs HW=390.43' (Free Discharge)

↑7=Exfiltration (Exfiltration Controls 0.06 cfs)

**Primary OutFlow** Max=2.13 cfs @ 12.50 hrs HW=390.43' (Free Discharge)

↑1=Outlet Pipe (Passes 2.13 cfs of 12.27 cfs potential flow)

↑2=Low-level Orifice (Orifice Controls 0.90 cfs @ 5.42 fps)

↑3=Mid-level Orifice (Orifice Controls 1.23 cfs @ 2.45 fps)

↑4=High-level Orifice ( Controls 0.00 cfs)

↑5=Gate ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
388.00	0.00	0.00	0.00	0.00
388.10	0.02	0.02	0.00	0.00
388.20	0.02	0.02	0.00	0.00
388.30	0.02	0.02	0.00	0.00
388.40	0.03	0.03	0.00	0.00
388.50	0.03	0.03	0.00	0.00
388.60	0.03	0.03	0.00	0.00
388.70	0.03	0.03	0.00	0.00
388.80	0.03	0.03	0.00	0.00
388.90	0.04	0.04	0.00	0.00
389.00	0.04	0.04	0.00	0.00
389.10	0.09	0.04	0.05	0.00
389.20	0.19	0.04	0.14	0.00
389.30	0.31	0.04	0.26	0.00
389.40	0.42	0.04	0.38	0.00
389.50	0.50	0.05	0.46	0.00
389.60	0.57	0.05	0.52	0.00
389.70	0.63	0.05	0.58	0.00
389.80	0.69	0.05	0.64	0.00
389.90	0.74	0.05	0.69	0.00
390.00	0.78	0.05	0.73	0.00
390.10	0.98	0.05	0.93	0.00
390.20	1.30	0.06	1.25	0.00
390.30	1.70	0.06	1.64	0.00
390.40	2.08	0.06	2.03	0.00
390.50	2.36	0.06	2.30	0.00
390.60	2.60	0.06	2.53	0.00
390.70	2.81	0.06	2.74	0.00
390.80	3.07	0.06	3.01	0.00
390.90	3.55	0.07	3.49	0.00
391.00	4.15	0.07	4.08	0.00
391.10	4.84	0.07	4.77	0.00
391.20	5.60	0.07	5.53	0.00
391.30	13.51	0.07	13.44	0.00
391.40	13.65	0.07	13.57	0.00
391.50	13.77	0.08	13.70	0.00
391.60	14.70	0.08	13.83	0.80
391.70	16.29	0.08	13.95	2.26
391.80	18.36	0.08	14.08	4.21
391.90	20.83	0.08	14.20	6.55
392.00	<b>23.76</b>	<b>0.08</b>	<b>14.32</b>	<b>9.35</b>

**Stage-Area-Storage for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
388.00	765	0	390.60	2,664	4,692
388.05	811	39	390.65	2,696	4,826
388.10	858	81	390.70	2,728	4,962
388.15	904	125	390.75	2,761	5,099
388.20	950	171	390.80	2,793	5,238
388.25	996	220	390.85	2,825	5,378
388.30	1,043	271	390.90	2,857	5,521
388.35	1,089	324	390.95	2,890	5,664
388.40	1,135	380	391.00	2,922	5,810
388.45	1,181	438	391.05	2,957	5,956
388.50	1,228	498	391.10	2,992	6,105
388.55	1,274	561	391.15	3,027	6,256
388.60	1,320	626	391.20	3,063	6,408
388.65	1,366	693	391.25	3,098	6,562
388.70	1,412	762	391.30	3,133	6,718
388.75	1,459	834	391.35	3,168	6,875
388.80	1,505	908	391.40	3,203	7,035
388.85	1,551	984	391.45	3,238	7,196
388.90	1,597	1,063	391.50	3,274	7,358
388.95	1,644	1,144	391.55	3,309	7,523
389.00	1,690	1,228	391.60	3,344	7,689
389.05	1,719	1,313	391.65	3,379	7,857
389.10	1,749	1,399	391.70	3,414	8,027
389.15	1,778	1,488	391.75	3,449	8,199
389.20	1,807	1,577	391.80	3,484	8,372
389.25	1,837	1,668	391.85	3,520	8,547
389.30	1,866	1,761	391.90	3,555	8,724
389.35	1,895	1,855	391.95	3,590	8,903
389.40	1,924	1,950	392.00	<b>3,625</b>	<b>9,083</b>
389.45	1,954	2,047			
389.50	1,983	2,146			
389.55	2,012	2,246			
389.60	2,042	2,347			
389.65	2,071	2,450			
389.70	2,100	2,554			
389.75	2,130	2,660			
389.80	2,159	2,767			
389.85	2,188	2,876			
389.90	2,217	2,986			
389.95	2,247	3,097			
390.00	2,276	3,211			
390.05	2,308	3,325			
390.10	2,341	3,441			
390.15	2,373	3,559			
390.20	2,405	3,679			
390.25	2,438	3,800			
390.30	2,470	3,922			
390.35	2,502	4,047			
390.40	2,534	4,173			
390.45	2,567	4,300			
390.50	2,599	4,429			
390.55	2,631	4,560			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 2.72" for 10-Year event  
Inflow = 1.25 cfs @ 12.14 hrs, Volume= 3,830 cf  
Primary = 1.25 cfs @ 12.14 hrs, Volume= 3,830 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 512,734 sf, 16.97% Impervious, Inflow Depth = 1.63" for 10-Year event  
Inflow = 12.00 cfs @ 12.68 hrs, Volume= 69,774 cf  
Primary = 12.00 cfs @ 12.68 hrs, Volume= 69,774 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 282,606 sf, 12.69% Impervious, Inflow Depth = 2.29" for 10-Year event  
Inflow = 10.33 cfs @ 12.37 hrs, Volume= 53,944 cf  
Primary = 10.33 cfs @ 12.37 hrs, Volume= 53,944 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 7,428 sf, 0.00% Impervious, Inflow Depth = 2.29" for 10-Year event  
Inflow = 0.39 cfs @ 12.15 hrs, Volume= 1,418 cf  
Primary = 0.39 cfs @ 12.15 hrs, Volume= 1,418 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,639 sf, 15.64% Impervious, Inflow Depth = 1.89" for 10-Year event  
Inflow = 20.13 cfs @ 12.54 hrs, Volume= 128,966 cf  
Primary = 20.13 cfs @ 12.54 hrs, Volume= 128,966 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 Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=16,871 sf 31.47% Impervious Runoff Depth=4.13"  
Tc=10.0 min CN=82 Runoff=1.63 cfs 5,813 cf

**Subcatchment SA2A: Drainage Subarea** Runoff Area=467,771 sf 18.44% Impervious Runoff Depth=3.72"  
Flow Length=1,108' Tc=23.5 min CN=78 Runoff=29.46 cfs 145,032 cf

**Subcatchment SA2B: Drainage Subarea** Runoff Area=24,515 sf 3.20% Impervious Runoff Depth=3.42"  
Tc=5.0 min CN=75 Runoff=2.34 cfs 6,984 cf

**Subcatchment SA2C: Drainage Subarea** Runoff Area=13,888 sf 0.00% Impervious Runoff Depth=3.32"  
Tc=5.0 min CN=74 Runoff=1.29 cfs 3,842 cf

**Subcatchment SA2D: Drainage Subarea #2D** Runoff Area=6,560 sf 0.00% Impervious Runoff Depth=3.22"  
Flow Length=94' Tc=10.5 min CN=73 Runoff=0.49 cfs 1,761 cf

**Subcatchment SA3A: Drainage Subarea** Runoff Area=59,872 sf 26.45% Impervious Runoff Depth=3.93"  
Flow Length=339' Tc=19.9 min CN=80 Runoff=4.27 cfs 19,588 cf

**Subcatchment SA3B: Drainage Subarea** Runoff Area=222,734 sf 8.99% Impervious Runoff Depth=3.12"  
Flow Length=731' Tc=23.0 min CN=72 Runoff=11.86 cfs 57,996 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=7,428 sf 0.00% Impervious Runoff Depth=3.12"  
Flow Length=233' Tc=10.7 min CN=72 Runoff=0.53 cfs 1,934 cf

**Pond SW1: Infiltration Trench (SWM-A)** Peak Elev=361.19' Storage=177 cf Inflow=1.63 cfs 5,813 cf  
Discarded=0.01 cfs 676 cf Primary=1.62 cfs 5,137 cf Outflow=1.63 cfs 5,813 cf

**Pond SW2A: Stormwater Basin #2A** Peak Elev=356.35' Storage=4,358 cf Inflow=29.46 cfs 145,032 cf  
Discarded=0.07 cfs 6,293 cf Primary=29.38 cfs 138,739 cf Secondary=0.00 cfs 0 cf Outflow=29.45 cfs 145,032 cf

**Pond SW2B: Stormwater Basin #2B** Peak Elev=346.85' Storage=28,370 cf Inflow=30.27 cfs 145,723 cf  
Discarded=0.25 cfs 34,563 cf Primary=29.88 cfs 111,160 cf Secondary=0.00 cfs 0 cf Outflow=30.13 cfs 145,723 cf

**Pond SW2C: Stormwater Basin #2C** Peak Elev=341.76' Storage=19,105 cf Inflow=30.34 cfs 115,002 cf  
Discarded=0.17 cfs 9,563 cf Primary=22.24 cfs 105,440 cf Secondary=0.00 cfs 0 cf Outflow=22.41 cfs 115,002 cf

**Pond SW3: Stormwater Basin #3A 'SW3A'** Peak Elev=390.74' Storage=5,082 cf Inflow=4.27 cfs 19,588 cf  
Discarded=0.06 cfs 3,701 cf Primary=2.83 cfs 15,886 cf Secondary=0.00 cfs 0 cf Outflow=2.89 cfs 19,588 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=1.62 cfs 5,137 cf  
Primary=1.62 cfs 5,137 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=22.39 cfs 107,201 cf  
Primary=22.39 cfs 107,201 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=14.41 cfs 73,882 cf  
Primary=14.41 cfs 73,882 cf

**Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow=0.53 cfs 1,934 cf  
Primary=0.53 cfs 1,934 cf

**Link ALL: ALL**

Inflow=35.19 cfs 188,154 cf  
Primary=35.19 cfs 188,154 cf

**Total Runoff Area = 819,639 sf Runoff Volume = 242,951 cf Average Runoff Depth = 3.56"**  
**84.36% Pervious = 691,435 sf 15.64% Impervious = 128,204 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 1.63 cfs @ 12.14 hrs, Volume= 5,813 cf, Depth= 4.13"

Routed to Pond SW1 : Infiltration Trench (SWM-A)

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 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	5,309	98	Bldgs./Impervious
*	11,384	74	Lawn, Good, HSG C
*	178	70	Woods, Good, HSG C
	16,871	82	Weighted Average
	11,562	74	68.53% Pervious Area
	5,309	98	31.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'**

Runoff = 29.46 cfs @ 12.32 hrs, Volume= 145,032 cf, Depth= 3.72"

Routed to Pond SW2A : Stormwater Basin #2A 'SW2A'

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 86,243	98	Bldgs./Impervious
* 2,809	92	Compact Gravel (est.), HSG C
* 3,353	86	Open Deck (est.), HSG C
* 251,334	74	Lawn, Good, HSG C
* 124,032	70	Woods, Good, HSG C
467,771	78	Weighted Average
381,528	73	81.56% Pervious Area
86,243	98	18.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'**

Runoff = 2.34 cfs @ 12.07 hrs, Volume= 6,984 cf, Depth= 3.42"

Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

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 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	785	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	23,579	74	Lawn, Good, HSG C
	24,515	75	Weighted Average
	23,730	74	96.80% Pervious Area
	785	98	3.20% Impervious Area

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

**Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'**

Runoff = 1.29 cfs @ 12.08 hrs, Volume= 3,842 cf, Depth= 3.32"

Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 13,888	74	Lawn, Good, HSG C
13,888	74	100.00% Pervious Area

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

**Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'**

Runoff = 0.49 cfs @ 12.15 hrs, Volume= 1,761 cf, Depth= 3.22"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 4,140	74	Lawn, Good, HSG C
* 2,030	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
6,560	73	Weighted Average
6,560	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	27	0.1850	0.23		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
8.5	67	0.1870	0.13		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
10.5	94	Total			

**Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'**

Runoff = 4.27 cfs @ 12.27 hrs, Volume= 19,588 cf, Depth= 3.93"

Routed to Pond SW3 : Stormwater Basin #3A 'SW3A'

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 15,836	98	Bldgs./Impervious
* 454	86	Open Deck (est.), HSG C
* 39,826	74	Lawn, Good, HSG C
* 3,756	70	Woods, Good, HSG C
59,872	80	Weighted Average
44,036	74	73.55% Pervious Area
15,836	98	26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	89	0.0730	0.10		<b>Sheet Flow, SF3A, Woods</b> n= 0.600 P2= 3.43"
3.4	61	0.2380	0.29		<b>Sheet Flow, SF3B, Lawn</b> n= 0.240 P2= 3.43"
0.3	105	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
0.6	84	0.0120	2.22		<b>Shallow Concentrated Flow, SCF3B, Paved</b> Paved Kv= 20.3 fps
19.9	339	Total			

**Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'**

Runoff = 11.86 cfs @ 12.32 hrs, Volume= 57,996 cf, Depth= 3.12"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 25-Year Rainfall=6.16"

Area (sf)	CN	Description
* 20,031	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 1,211	86	Open Deck (est.), HSG C
* 478	61	Lawn, Good, HSG B
* 108,649	74	Lawn, Good, HSG C
* 32,649	55	Woods, Good, HSG B
* 59,120	70	Woods, Good, HSG C
222,734	72	Weighted Average
202,703	70	91.01% Pervious Area
20,031	98	8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
2.0	581	0.0930	4.91		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
23.0	731	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.53 cfs @ 12.15 hrs, Volume= 1,934 cf, Depth= 3.12"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 25-Year Rainfall=6.16"

	Area (sf)	CN	Description
*	4,292	74	Lawn, Good, HSG C
*	3,136	70	Woods, Good, HSG C
	7,428	72	Weighted Average
	7,428	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	150	0.0920	0.24		<b>Sheet Flow, SF4A, Lawn</b> n= 0.240 P2= 3.43"
0.3	83	0.1110	5.36		<b>Shallow Concentrated Flow, SCF4A, Woods</b> Unpaved Kv= 16.1 fps
10.7	233	Total			

**Summary for Pond SW1: Infiltration Trench (SWM-A)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 4.13" for 25-Year event  
 Inflow = 1.63 cfs @ 12.14 hrs, Volume= 5,813 cf  
 Outflow = 1.63 cfs @ 12.14 hrs, Volume= 5,813 cf, Atten= 0%, Lag= 0.2 min  
 Discarded = 0.01 cfs @ 7.92 hrs, Volume= 676 cf  
 Primary = 1.62 cfs @ 12.14 hrs, Volume= 5,137 cf

Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.19' @ 12.14 hrs Surf.Area= 372 sf Storage= 177 cf

Plug-Flow detention time= 27.1 min calculated for 5,813 cf (100% of inflow)  
 Center-of-Mass det. time= 27.1 min ( 838.7 - 811.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	818 cf	<b>2.00'W x 186.00'L x 5.50'H Prismatic</b> 2,046 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	<b>6.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Discarded	360.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.01 cfs @ 7.92 hrs HW=360.06' (Free Discharge)  
 ↳**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=1.60 cfs @ 12.14 hrs HW=361.19' (Free Discharge)  
 ↳**1=Sharp-Crested Rectangular Weir** (Weir Controls 1.60 cfs @ 1.42 fps)

**Stage-Discharge for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
360.00	0.00	<b>0.00</b>	0.00	365.20	145.24	0.01	145.24
360.10	0.01	<b>0.01</b>	0.00	365.30	149.88	0.01	149.87
360.20	0.01	0.01	0.00	365.40	154.53	0.01	154.52
360.30	0.01	0.01	0.00	365.50	<b>159.21</b>	0.01	<b>159.20</b>
360.40	0.01	0.01	0.00				
360.50	0.01	0.01	0.00				
360.60	0.01	0.01	0.00				
360.70	0.01	0.01	0.00				
360.80	0.01	0.01	0.00				
360.90	0.01	0.01	0.00				
361.00	0.01	0.01	0.00				
361.10	0.63	0.01	0.62				
361.20	1.75	0.01	1.74				
361.30	3.20	0.01	3.19				
361.40	4.91	0.01	4.90				
361.50	6.83	0.01	6.82				
361.60	8.94	0.01	8.94				
361.70	11.23	0.01	11.22				
361.80	13.67	0.01	13.66				
361.90	16.26	0.01	16.25				
362.00	18.97	0.01	18.97				
362.10	21.81	0.01	21.81				
362.20	24.77	0.01	24.76				
362.30	27.83	0.01	27.82				
362.40	30.99	0.01	30.98				
362.50	34.25	0.01	34.24				
362.60	37.60	0.01	37.59				
362.70	41.03	0.01	41.02				
362.80	44.55	0.01	44.54				
362.90	48.14	0.01	48.13				
363.00	51.80	0.01	51.79				
363.10	55.54	0.01	55.53				
363.20	59.34	0.01	59.33				
363.30	63.20	0.01	63.19				
363.40	67.12	0.01	67.11				
363.50	71.10	0.01	71.09				
363.60	75.13	0.01	75.13				
363.70	79.22	0.01	79.21				
363.80	83.35	0.01	83.35				
363.90	87.54	0.01	87.53				
364.00	91.76	0.01	91.75				
364.10	96.03	0.01	96.02				
364.20	100.34	0.01	100.33				
364.30	104.69	0.01	104.68				
364.40	109.07	0.01	109.06				
364.50	113.49	0.01	113.48				
364.60	117.94	0.01	117.93				
364.70	122.42	0.01	122.42				
364.80	126.94	0.01	126.93				
364.90	131.48	0.01	131.47				
365.00	136.04	0.01	136.03				
365.10	140.63	0.01	140.62				

**Stage-Area-Storage for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
360.00	372	0	365.20	372	774
360.10	372	15	365.30	372	789
360.20	372	30	365.40	372	804
360.30	372	45	365.50	372	818
360.40	372	60			
360.50	372	74			
360.60	372	89			
360.70	372	104			
360.80	372	119			
360.90	372	134			
361.00	372	149			
361.10	372	164			
361.20	372	179			
361.30	372	193			
361.40	372	208			
361.50	372	223			
361.60	372	238			
361.70	372	253			
361.80	372	268			
361.90	372	283			
362.00	372	298			
362.10	372	312			
362.20	372	327			
362.30	372	342			
362.40	372	357			
362.50	372	372			
362.60	372	387			
362.70	372	402			
362.80	372	417			
362.90	372	432			
363.00	372	446			
363.10	372	461			
363.20	372	476			
363.30	372	491			
363.40	372	506			
363.50	372	521			
363.60	372	536			
363.70	372	551			
363.80	372	565			
363.90	372	580			
364.00	372	595			
364.10	372	610			
364.20	372	625			
364.30	372	640			
364.40	372	655			
364.50	372	670			
364.60	372	684			
364.70	372	699			
364.80	372	714			
364.90	372	729			
365.00	372	744			
365.10	372	759			

**Summary for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Inflow Area = 467,771 sf, 18.44% Impervious, Inflow Depth = 3.72" for 25-Year event  
 Inflow = 29.46 cfs @ 12.32 hrs, Volume= 145,032 cf  
 Outflow = 29.45 cfs @ 12.33 hrs, Volume= 145,032 cf, Atten= 0%, Lag= 0.4 min  
 Discarded = 0.07 cfs @ 12.33 hrs, Volume= 6,293 cf  
 Primary = 29.38 cfs @ 12.33 hrs, Volume= 138,739 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 356.35' @ 12.33 hrs Surf.Area= 2,953 sf Storage= 4,358 cf

Plug-Flow detention time= 31.2 min calculated for 145,012 cf (100% of inflow)  
 Center-of-Mass det. time= 31.4 min ( 865.7 - 834.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,490 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
354.00	689	0	0
355.00	1,735	1,212	1,212
356.00	2,625	2,180	3,392
357.00	3,571	3,098	6,490

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	<b>24.0" Round Outlet Pipe</b> L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	356.50'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	354.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 12.33 hrs HW=356.35' (Free Discharge)  
 ↑5=Exfiltration (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=29.42 cfs @ 12.33 hrs HW=356.35' (Free Discharge)  
 ↑1=Outlet Pipe (Passes 29.42 cfs of 48.66 cfs potential flow)  
 ↑2=Orifice (Orifice Controls 5.53 cfs @ 2.76 fps)  
 ↑3=Grate (Orifice Controls 23.90 cfs @ 1.49 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)  
 ↑4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
354.00	0.00	0.00	0.00	0.00
354.10	0.02	0.02	0.00	0.00
354.20	0.02	0.02	0.00	0.00
354.30	0.02	0.02	0.00	0.00
354.40	0.03	0.03	0.00	0.00
354.50	0.03	0.03	0.00	0.00
354.60	0.03	0.03	0.00	0.00
354.70	0.03	0.03	0.00	0.00
354.80	0.04	0.04	0.00	0.00
354.90	0.04	0.04	0.00	0.00
355.00	0.04	0.04	0.00	0.00
355.10	0.04	0.04	0.00	0.00
355.20	0.04	0.04	0.00	0.00
355.30	0.05	0.05	0.00	0.00
355.40	0.05	0.05	0.00	0.00
355.50	0.05	0.05	0.00	0.00
355.60	0.05	0.05	0.00	0.00
355.70	0.05	0.05	0.00	0.00
355.80	0.20	0.06	0.14	0.00
355.90	0.80	0.06	0.75	0.00
356.00	1.67	0.06	1.60	0.00
356.10	2.72	0.06	2.66	0.00
356.20	3.94	0.07	3.88	0.00
356.30	22.39	0.07	22.32	0.00
356.40	35.89	0.07	35.82	0.00
356.50	45.33	0.07	45.25	0.00
356.60	50.87	0.07	49.25	1.55
356.70	53.93	0.08	49.48	4.38
356.80	57.82	0.08	49.71	8.03
356.90	62.36	0.08	49.94	12.34
357.00	<b>67.48</b>	<b>0.08</b>	<b>50.17</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
354.00	689	0	356.60	3,193	5,137
354.05	741	36	356.65	3,240	5,298
354.10	794	74	356.70	3,287	5,461
354.15	846	115	356.75	3,335	5,627
354.20	898	159	356.80	3,382	5,795
354.25	951	205	356.85	3,429	5,965
354.30	1,003	254	356.90	3,476	6,138
354.35	1,055	305	356.95	3,524	6,313
354.40	1,107	359	357.00	<b>3,571</b>	<b>6,490</b>
354.45	1,160	416			
354.50	1,212	475			
354.55	1,264	537			
354.60	1,317	602			
354.65	1,369	669			
354.70	1,421	739			
354.75	1,474	811			
354.80	1,526	886			
354.85	1,578	964			
354.90	1,630	1,044			
354.95	1,683	1,127			
355.00	1,735	1,212			
355.05	1,780	1,300			
355.10	1,824	1,390			
355.15	1,868	1,482			
355.20	1,913	1,577			
355.25	1,958	1,674			
355.30	2,002	1,773			
355.35	2,047	1,874			
355.40	2,091	1,977			
355.45	2,135	2,083			
355.50	2,180	2,191			
355.55	2,225	2,301			
355.60	2,269	2,413			
355.65	2,313	2,528			
355.70	2,358	2,645			
355.75	2,403	2,764			
355.80	2,447	2,885			
355.85	2,492	3,008			
355.90	2,536	3,134			
355.95	2,580	3,262			
356.00	2,625	3,392			
356.05	2,672	3,524			
356.10	2,720	3,659			
356.15	2,767	3,796			
356.20	2,814	3,936			
356.25	2,862	4,078			
356.30	2,909	4,222			
356.35	2,956	4,369			
356.40	3,003	4,518			
356.45	3,051	4,669			
356.50	3,098	4,823			
356.55	3,145	4,979			

**Summary for Pond SW2B: Stormwater Basin #2B 'SW2B'**

[79] Warning: Submerged Pond SW2A Primary device # 1 INLET by 1.85'

Inflow Area = 492,286 sf, 17.68% Impervious, Inflow Depth = 3.55" for 25-Year event  
 Inflow = 30.27 cfs @ 12.32 hrs, Volume= 145,723 cf  
 Outflow = 30.13 cfs @ 12.35 hrs, Volume= 145,723 cf, Atten= 0%, Lag= 1.6 min  
 Discarded = 0.25 cfs @ 12.35 hrs, Volume= 34,563 cf  
 Primary = 29.88 cfs @ 12.35 hrs, Volume= 111,160 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 346.85' @ 12.35 hrs Surf.Area= 10,993 sf Storage= 28,370 cf

Plug-Flow detention time= 271.6 min calculated for 145,723 cf (100% of inflow)  
 Center-of-Mass det. time= 271.6 min ( 1,110.2 - 838.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	343.50'	35,844 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.50	6,043	0	0
344.00	6,741	3,196	3,196
345.00	8,179	7,460	10,656
346.00	9,674	8,927	19,583
347.00	11,225	10,450	30,032
347.50	12,022	5,812	35,844

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	<b>24.0" Round Outlet Pipe</b> L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	346.25'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.75'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	347.00'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	343.50'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.25 cfs @ 12.35 hrs HW=346.85' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.25 cfs)

**Primary OutFlow** Max=29.98 cfs @ 12.35 hrs HW=346.85' (Free Discharge)

↳ **1=Outlet Pipe** (Passes 29.98 cfs of 39.59 cfs potential flow)

↳ **2=Orifice** (Orifice Controls 5.56 cfs @ 2.78 fps)

↳ **3=Grate** (Orifice Controls 24.41 cfs @ 1.53 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↳ **4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
343.50	0.00	0.00	0.00	0.00
343.60	0.14	0.14	0.00	0.00
343.70	0.15	0.15	0.00	0.00
343.80	0.15	0.15	0.00	0.00
343.90	0.15	0.15	0.00	0.00
344.00	0.16	0.16	0.00	0.00
344.10	0.16	0.16	0.00	0.00
344.20	0.16	0.16	0.00	0.00
344.30	0.17	0.17	0.00	0.00
344.40	0.17	0.17	0.00	0.00
344.50	0.17	0.17	0.00	0.00
344.60	0.18	0.18	0.00	0.00
344.70	0.18	0.18	0.00	0.00
344.80	0.18	0.18	0.00	0.00
344.90	0.19	0.19	0.00	0.00
345.00	0.19	0.19	0.00	0.00
345.10	0.19	0.19	0.00	0.00
345.20	0.20	0.20	0.00	0.00
345.30	0.20	0.20	0.00	0.00
345.40	0.20	0.20	0.00	0.00
345.50	0.21	0.21	0.00	0.00
345.60	0.21	0.21	0.00	0.00
345.70	0.21	0.21	0.00	0.00
345.80	0.22	0.22	0.00	0.00
345.90	0.22	0.22	0.00	0.00
346.00	0.22	0.22	0.00	0.00
346.10	0.23	0.23	0.00	0.00
346.20	0.23	0.23	0.00	0.00
346.30	0.38	0.23	0.14	0.00
346.40	0.98	0.24	0.75	0.00
346.50	1.85	0.24	1.60	0.00
346.60	2.90	0.25	2.66	0.00
346.70	4.13	0.25	3.88	0.00
346.80	22.57	0.25	22.32	0.00
346.90	36.08	0.26	35.82	0.00
347.00	40.28	0.26	40.02	0.00
347.10	42.12	0.26	40.31	1.55
347.20	45.23	0.27	40.59	4.38
347.30	49.17	0.27	40.87	8.03
347.40	53.77	0.27	41.15	12.34
347.50	<b>58.93</b>	<b>0.28</b>	<b>41.43</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
343.50	6,043	0	346.10	9,829	20,558
343.55	6,113	304	346.15	9,907	21,051
343.60	6,183	611	346.20	9,984	21,548
343.65	6,252	922	346.25	10,062	22,049
343.70	6,322	1,237	346.30	10,139	22,554
343.75	6,392	1,554	346.35	10,217	23,063
343.80	6,462	1,876	346.40	10,294	23,576
343.85	6,532	2,201	346.45	10,372	24,093
343.90	6,601	2,529	346.50	10,450	24,613
343.95	6,671	2,861	346.55	10,527	25,138
344.00	6,741	3,196	346.60	10,605	25,666
344.05	6,813	3,535	346.65	10,682	26,198
344.10	6,885	3,877	346.70	10,760	26,734
344.15	6,957	4,223	346.75	10,837	27,274
344.20	7,029	4,573	346.80	10,915	27,818
344.25	7,101	4,926	346.85	10,992	28,366
344.30	7,172	5,283	346.90	11,070	28,917
344.35	7,244	5,643	346.95	11,147	29,473
344.40	7,316	6,007	347.00	11,225	30,032
344.45	7,388	6,375	347.05	11,305	30,595
344.50	7,460	6,746	347.10	11,384	31,162
344.55	7,532	7,121	347.15	11,464	31,734
344.60	7,604	7,499	347.20	11,544	32,309
344.65	7,676	7,881	347.25	11,624	32,888
344.70	7,748	8,267	347.30	11,703	33,471
344.75	7,820	8,656	347.35	11,783	34,058
344.80	7,891	9,049	347.40	11,863	34,650
344.85	7,963	9,445	347.45	11,942	35,245
344.90	8,035	9,845	347.50	<b>12,022</b>	<b>35,844</b>
344.95	8,107	10,249			
345.00	8,179	10,656			
345.05	8,254	11,067			
345.10	8,329	11,481			
345.15	8,403	11,900			
345.20	8,478	12,322			
345.25	8,553	12,747			
345.30	8,628	13,177			
345.35	8,702	13,610			
345.40	8,777	14,047			
345.45	8,852	14,488			
345.50	8,927	14,932			
345.55	9,001	15,381			
345.60	9,076	15,833			
345.65	9,151	16,288			
345.70	9,225	16,748			
345.75	9,300	17,211			
345.80	9,375	17,678			
345.85	9,450	18,148			
345.90	9,524	18,623			
345.95	9,599	19,101			
346.00	9,674	19,583			
346.05	9,752	20,068			

**Summary for Pond SW2C: Stormwater Basin #2C 'SW2C'**

[79] Warning: Submerged Pond SW2B Primary device # 1 INLET by 2.76'

Inflow Area = 506,174 sf, 17.19% Impervious, Inflow Depth = 2.73" for 25-Year event  
 Inflow = 30.34 cfs @ 12.35 hrs, Volume= 115,002 cf  
 Outflow = 22.41 cfs @ 12.55 hrs, Volume= 115,002 cf, Atten= 26%, Lag= 12.1 min  
 Discarded = 0.17 cfs @ 12.55 hrs, Volume= 9,563 cf  
 Primary = 22.24 cfs @ 12.55 hrs, Volume= 105,440 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 341.76' @ 12.55 hrs Surf.Area= 7,176 sf Storage= 19,105 cf

Plug-Flow detention time= 53.7 min calculated for 114,986 cf (100% of inflow)  
 Center-of-Mass det. time= 53.8 min ( 909.2 - 855.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	338.00'	38,267 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
338.00	3,119	0	0
339.00	4,119	3,619	3,619
340.00	5,175	4,647	8,266
341.00	6,288	5,732	13,998
342.00	7,458	6,873	20,871
343.00	8,684	8,071	28,942
344.00	9,966	9,325	38,267

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	<b>21.0" Round Outlet Pipe</b> L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	339.15'	<b>48.0" W x 6.0" H Vert. Low level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	340.90'	<b>48.0" W x 6.0" H Vert. High Level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	342.00'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	343.00'	<b>15.0' long Spillway</b> 2 End Contraction(s)
#6	Discarded	338.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.17 cfs @ 12.55 hrs HW=341.76' (Free Discharge)

↑**6=Exfiltration** (Exfiltration Controls 0.17 cfs)

**Primary OutFlow** Max=22.24 cfs @ 12.55 hrs HW=341.76' (Free Discharge)

↑**1=Outlet Pipe** (Passes 22.24 cfs of 28.09 cfs potential flow)

↑**2=Low level Orifice** (Orifice Controls 14.78 cfs @ 7.39 fps)

↑**3=High Level Orifice** (Orifice Controls 7.46 cfs @ 3.73 fps)

↑**4=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↑**5=Spillway** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
338.00	0.00	0.00	0.00	0.00
338.20	0.08	0.08	0.00	0.00
338.40	0.08	0.08	0.00	0.00
338.60	0.09	0.09	0.00	0.00
338.80	0.09	0.09	0.00	0.00
339.00	0.10	0.10	0.00	0.00
339.20	0.24	0.10	0.14	0.00
339.40	1.71	0.11	1.60	0.00
339.60	3.99	0.11	3.88	0.00
339.80	6.10	0.11	5.98	0.00
340.00	7.52	0.12	7.40	0.00
340.20	8.70	0.12	8.58	0.00
340.40	9.73	0.13	9.60	0.00
340.60	10.67	0.14	10.53	0.00
340.80	11.52	0.14	11.38	0.00
341.00	12.72	0.15	12.57	0.00
341.20	15.17	0.15	15.02	0.00
341.40	18.31	0.16	18.15	0.00
341.60	20.81	0.16	20.65	0.00
341.80	22.79	0.17	22.63	0.00
342.00	24.54	0.17	24.37	0.00
342.20	29.30	0.18	29.13	0.00
342.40	29.77	0.18	29.58	0.00
342.60	30.22	0.19	30.03	0.00
342.80	30.67	0.20	30.48	0.00
343.00	31.11	0.20	30.91	0.00
343.20	35.93	0.21	31.34	4.38
343.40	44.33	0.21	31.77	12.34
343.60	55.02	0.22	32.19	22.61
343.80	67.55	0.22	32.60	34.72
344.00	<b>81.64</b>	<b>0.23</b>	<b>33.01</b>	<b>48.40</b>

**Stage-Area-Storage for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
338.00	3,119	0	343.20	8,940	30,704
338.10	3,219	317	343.30	9,069	31,604
338.20	3,319	644	343.40	9,197	32,518
338.30	3,419	981	343.50	9,325	33,444
338.40	3,519	1,328	343.60	9,453	34,383
338.50	3,619	1,685	343.70	9,581	35,334
338.60	3,719	2,051	343.80	9,710	36,299
338.70	3,819	2,428	343.90	9,838	37,276
338.80	3,919	2,815	344.00	<b>9,966</b>	<b>38,267</b>
338.90	4,019	3,212			
339.00	4,119	3,619			
339.10	4,225	4,036			
339.20	4,330	4,464			
339.30	4,436	4,902			
339.40	4,541	5,351			
339.50	4,647	5,811			
339.60	4,753	6,280			
339.70	4,858	6,761			
339.80	4,964	7,252			
339.90	5,069	7,754			
340.00	5,175	8,266			
340.10	5,286	8,789			
340.20	5,398	9,323			
340.30	5,509	9,869			
340.40	5,620	10,425			
340.50	5,732	10,993			
340.60	5,843	11,571			
340.70	5,954	12,161			
340.80	6,065	12,762			
340.90	6,177	13,374			
341.00	6,288	13,998			
341.10	6,405	14,632			
341.20	6,522	15,278			
341.30	6,639	15,937			
341.40	6,756	16,606			
341.50	6,873	17,288			
341.60	6,990	17,981			
341.70	7,107	18,686			
341.80	7,224	19,402			
341.90	7,341	20,131			
342.00	7,458	20,871			
342.10	7,581	21,622			
342.20	7,703	22,387			
342.30	7,826	23,163			
342.40	7,948	23,952			
342.50	8,071	24,753			
342.60	8,194	25,566			
342.70	8,316	26,391			
342.80	8,439	27,229			
342.90	8,561	28,079			
343.00	8,684	28,942			
343.10	8,812	29,816			

**Summary for Pond SW3: Stormwater Basin #3A 'SW3A'**

Inflow Area = 59,872 sf, 26.45% Impervious, Inflow Depth = 3.93" for 25-Year event  
 Inflow = 4.27 cfs @ 12.27 hrs, Volume= 19,588 cf  
 Outflow = 2.89 cfs @ 12.49 hrs, Volume= 19,588 cf, Atten= 32%, Lag= 13.3 min  
 Discarded = 0.06 cfs @ 12.49 hrs, Volume= 3,701 cf  
 Primary = 2.83 cfs @ 12.49 hrs, Volume= 15,886 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 390.74' @ 12.49 hrs Surf.Area= 2,756 sf Storage= 5,082 cf

Plug-Flow detention time= 101.8 min calculated for 19,585 cf (100% of inflow)  
 Center-of-Mass det. time= 101.9 min ( 927.8 - 826.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	388.00'	9,083 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.00	765	0	0
389.00	1,690	1,228	1,228
390.00	2,276	1,983	3,211
391.00	2,922	2,599	5,810
392.00	3,625	3,274	9,083

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	<b>15.0" Round Outlet Pipe</b> L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	389.00'	<b>6.0" W x 4.0" H Vert. Low-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	390.00'	<b>18.0" W x 4.0" H Vert. Mid-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.75'	<b>24.0" W x 6.0" H Vert. High-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#6	Secondary	391.50'	<b>10.0' long x 11.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.53 2.59 2.70 2.68 2.67 2.68 2.66 2.64
#7	Discarded	388.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.06 cfs @ 12.49 hrs HW=390.74' (Free Discharge)

↑7=Exfiltration (Exfiltration Controls 0.06 cfs)

**Primary OutFlow** Max=2.83 cfs @ 12.49 hrs HW=390.74' (Free Discharge)

↑1=Outlet Pipe (Passes 2.83 cfs of 12.70 cfs potential flow)

↑2=Low-level Orifice (Orifice Controls 1.01 cfs @ 6.04 fps)

↑3=Mid-level Orifice (Orifice Controls 1.82 cfs @ 3.64 fps)

↑4=High-level Orifice ( Controls 0.00 cfs)

↑5=Gate ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
388.00	0.00	0.00	0.00	0.00
388.10	0.02	0.02	0.00	0.00
388.20	0.02	0.02	0.00	0.00
388.30	0.02	0.02	0.00	0.00
388.40	0.03	0.03	0.00	0.00
388.50	0.03	0.03	0.00	0.00
388.60	0.03	0.03	0.00	0.00
388.70	0.03	0.03	0.00	0.00
388.80	0.03	0.03	0.00	0.00
388.90	0.04	0.04	0.00	0.00
389.00	0.04	0.04	0.00	0.00
389.10	0.09	0.04	0.05	0.00
389.20	0.19	0.04	0.14	0.00
389.30	0.31	0.04	0.26	0.00
389.40	0.42	0.04	0.38	0.00
389.50	0.50	0.05	0.46	0.00
389.60	0.57	0.05	0.52	0.00
389.70	0.63	0.05	0.58	0.00
389.80	0.69	0.05	0.64	0.00
389.90	0.74	0.05	0.69	0.00
390.00	0.78	0.05	0.73	0.00
390.10	0.98	0.05	0.93	0.00
390.20	1.30	0.06	1.25	0.00
390.30	1.70	0.06	1.64	0.00
390.40	2.08	0.06	2.03	0.00
390.50	2.36	0.06	2.30	0.00
390.60	2.60	0.06	2.53	0.00
390.70	2.81	0.06	2.74	0.00
390.80	3.07	0.06	3.01	0.00
390.90	3.55	0.07	3.49	0.00
391.00	4.15	0.07	4.08	0.00
391.10	4.84	0.07	4.77	0.00
391.20	5.60	0.07	5.53	0.00
391.30	13.51	0.07	13.44	0.00
391.40	13.65	0.07	13.57	0.00
391.50	13.77	0.08	13.70	0.00
391.60	14.70	0.08	13.83	0.80
391.70	16.29	0.08	13.95	2.26
391.80	18.36	0.08	14.08	4.21
391.90	20.83	0.08	14.20	6.55
392.00	<b>23.76</b>	<b>0.08</b>	<b>14.32</b>	<b>9.35</b>

**Stage-Area-Storage for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
388.00	765	0	390.60	2,664	4,692
388.05	811	39	390.65	2,696	4,826
388.10	858	81	390.70	2,728	4,962
388.15	904	125	390.75	2,761	5,099
388.20	950	171	390.80	2,793	5,238
388.25	996	220	390.85	2,825	5,378
388.30	1,043	271	390.90	2,857	5,521
388.35	1,089	324	390.95	2,890	5,664
388.40	1,135	380	391.00	2,922	5,810
388.45	1,181	438	391.05	2,957	5,956
388.50	1,228	498	391.10	2,992	6,105
388.55	1,274	561	391.15	3,027	6,256
388.60	1,320	626	391.20	3,063	6,408
388.65	1,366	693	391.25	3,098	6,562
388.70	1,412	762	391.30	3,133	6,718
388.75	1,459	834	391.35	3,168	6,875
388.80	1,505	908	391.40	3,203	7,035
388.85	1,551	984	391.45	3,238	7,196
388.90	1,597	1,063	391.50	3,274	7,358
388.95	1,644	1,144	391.55	3,309	7,523
389.00	1,690	1,228	391.60	3,344	7,689
389.05	1,719	1,313	391.65	3,379	7,857
389.10	1,749	1,399	391.70	3,414	8,027
389.15	1,778	1,488	391.75	3,449	8,199
389.20	1,807	1,577	391.80	3,484	8,372
389.25	1,837	1,668	391.85	3,520	8,547
389.30	1,866	1,761	391.90	3,555	8,724
389.35	1,895	1,855	391.95	3,590	8,903
389.40	1,924	1,950	392.00	<b>3,625</b>	<b>9,083</b>
389.45	1,954	2,047			
389.50	1,983	2,146			
389.55	2,012	2,246			
389.60	2,042	2,347			
389.65	2,071	2,450			
389.70	2,100	2,554			
389.75	2,130	2,660			
389.80	2,159	2,767			
389.85	2,188	2,876			
389.90	2,217	2,986			
389.95	2,247	3,097			
390.00	2,276	3,211			
390.05	2,308	3,325			
390.10	2,341	3,441			
390.15	2,373	3,559			
390.20	2,405	3,679			
390.25	2,438	3,800			
390.30	2,470	3,922			
390.35	2,502	4,047			
390.40	2,534	4,173			
390.45	2,567	4,300			
390.50	2,599	4,429			
390.55	2,631	4,560			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 3.65" for 25-Year event  
Inflow = 1.62 cfs @ 12.14 hrs, Volume= 5,137 cf  
Primary = 1.62 cfs @ 12.14 hrs, Volume= 5,137 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 512,734 sf, 16.97% Impervious, Inflow Depth = 2.51" for 25-Year event  
Inflow = 22.39 cfs @ 12.55 hrs, Volume= 107,201 cf  
Primary = 22.39 cfs @ 12.55 hrs, Volume= 107,201 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 282,606 sf, 12.69% Impervious, Inflow Depth = 3.14" for 25-Year event  
Inflow = 14.41 cfs @ 12.34 hrs, Volume= 73,882 cf  
Primary = 14.41 cfs @ 12.34 hrs, Volume= 73,882 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 7,428 sf, 0.00% Impervious, Inflow Depth = 3.12" for 25-Year event  
Inflow = 0.53 cfs @ 12.15 hrs, Volume= 1,934 cf  
Primary = 0.53 cfs @ 12.15 hrs, Volume= 1,934 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,639 sf, 15.64% Impervious, Inflow Depth = 2.75" for 25-Year event  
Inflow = 35.19 cfs @ 12.48 hrs, Volume= 188,154 cf  
Primary = 35.19 cfs @ 12.48 hrs, Volume= 188,154 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 Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment SA1: Drainage Subarea #1** Runoff Area=16,871 sf 31.47% Impervious Runoff Depth=5.63"  
Tc=10.0 min CN=82 Runoff=2.19 cfs 7,918 cf

**Subcatchment SA2A: Drainage Subarea** Runoff Area=467,771 sf 18.44% Impervious Runoff Depth=5.17"  
Flow Length=1,108' Tc=23.5 min CN=78 Runoff=40.73 cfs 201,516 cf

**Subcatchment SA2B: Drainage Subarea** Runoff Area=24,515 sf 3.20% Impervious Runoff Depth=4.83"  
Tc=5.0 min CN=75 Runoff=3.29 cfs 9,858 cf

**Subcatchment SA2C: Drainage Subarea** Runoff Area=13,888 sf 0.00% Impervious Runoff Depth=4.71"  
Tc=5.0 min CN=74 Runoff=1.82 cfs 5,453 cf

**Subcatchment SA2D: Drainage Subarea #2D** Runoff Area=6,560 sf 0.00% Impervious Runoff Depth=4.60"  
Flow Length=94' Tc=10.5 min CN=73 Runoff=0.70 cfs 2,514 cf

**Subcatchment SA3A: Drainage Subarea** Runoff Area=59,872 sf 26.45% Impervious Runoff Depth=5.40"  
Flow Length=339' Tc=19.9 min CN=80 Runoff=5.83 cfs 26,944 cf

**Subcatchment SA3B: Drainage Subarea** Runoff Area=222,734 sf 8.99% Impervious Runoff Depth=4.48"  
Flow Length=731' Tc=23.0 min CN=72 Runoff=17.08 cfs 83,237 cf

**Subcatchment SA4: Drainage Subarea #4** Runoff Area=7,428 sf 0.00% Impervious Runoff Depth=4.48"  
Flow Length=233' Tc=10.7 min CN=72 Runoff=0.77 cfs 2,776 cf

**Pond SW1: Infiltration Trench (SWM-A)** Peak Elev=361.23' Storage=183 cf Inflow=2.19 cfs 7,918 cf  
Discarded=0.01 cfs 707 cf Primary=2.18 cfs 7,211 cf Outflow=2.19 cfs 7,918 cf

**Pond SW2A: Stormwater Basin #2A** Peak Elev=356.45' Storage=4,663 cf Inflow=40.73 cfs 201,516 cf  
Discarded=0.07 cfs 6,558 cf Primary=40.63 cfs 194,958 cf Secondary=0.00 cfs 0 cf Outflow=40.70 cfs 201,516 cf

**Pond SW2B: Stormwater Basin #2B** Peak Elev=346.98' Storage=29,775 cf Inflow=41.85 cfs 204,817 cf  
Discarded=0.26 cfs 35,430 cf Primary=39.96 cfs 169,386 cf Secondary=0.00 cfs 0 cf Outflow=40.21 cfs 204,817 cf

**Pond SW2C: Stormwater Basin #2C** Peak Elev=342.98' Storage=28,751 cf Inflow=40.57 cfs 174,839 cf  
Discarded=0.20 cfs 10,002 cf Primary=30.87 cfs 164,837 cf Secondary=0.00 cfs 0 cf Outflow=31.07 cfs 174,839 cf

**Pond SW3: Stormwater Basin #3A 'SW3A'** Peak Elev=391.07' Storage=6,004 cf Inflow=5.83 cfs 26,944 cf  
Discarded=0.07 cfs 3,926 cf Primary=4.53 cfs 23,018 cf Secondary=0.00 cfs 0 cf Outflow=4.60 cfs 26,944 cf

**Link AL1: Analysis Line #1 (Southeastern PL)** Inflow=2.18 cfs 7,211 cf  
Primary=2.18 cfs 7,211 cf

**Link AL2: Analysis Line #2 (Wetlands)** Inflow=31.07 cfs 167,351 cf  
Primary=31.07 cfs 167,351 cf

**Link AL3: Analysis Line #3 (Northern PL)** Inflow=21.18 cfs 106,255 cf  
Primary=21.18 cfs 106,255 cf

**Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow=0.77 cfs 2,776 cf  
Primary=0.77 cfs 2,776 cf

**Link ALL: ALL**

Inflow=52.48 cfs 283,593 cf  
Primary=52.48 cfs 283,593 cf

**Total Runoff Area = 819,639 sf   Runoff Volume = 340,217 cf   Average Runoff Depth = 4.98"  
84.36% Pervious = 691,435 sf   15.64% Impervious = 128,204 sf**

**Summary for Subcatchment SA1: Drainage Subarea #1 'SA1'**

Runoff = 2.19 cfs @ 12.14 hrs, Volume= 7,918 cf, Depth= 5.63"

Routed to Pond SW1 : Infiltration Trench (SWM-A)

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 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	5,309	98	Bldgs./Impervious
*	11,384	74	Lawn, Good, HSG C
*	178	70	Woods, Good, HSG C
	16,871	82	Weighted Average
	11,562	74	68.53% Pervious Area
	5,309	98	31.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment SA2A: Drainage Subarea #2A 'SA2A'**

Runoff = 40.73 cfs @ 12.32 hrs, Volume= 201,516 cf, Depth= 5.17"

Routed to Pond SW2A : Stormwater Basin #2A 'SW2A'

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 86,243	98	Bldgs./Impervious
* 2,809	92	Compact Gravel (est.), HSG C
* 3,353	86	Open Deck (est.), HSG C
* 251,334	74	Lawn, Good, HSG C
* 124,032	70	Woods, Good, HSG C
467,771	78	Weighted Average
381,528	73	81.56% Pervious Area
86,243	98	18.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	28	0.1680	0.22		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
18.2	122	0.0930	0.11		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
3.2	958	0.0960	4.99		<b>Shallow Concentrated Flow, SCF2A, Unpaved</b> Unpaved Kv= 16.1 fps
23.5	1,108	Total			

**Summary for Subcatchment SA2B: Drainage Subarea #2B 'SA2B'**

Runoff = 3.29 cfs @ 12.07 hrs, Volume= 9,858 cf, Depth= 4.83"  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

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 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	785	98	Bldgs./Impervious
*	151	86	Open Deck (est.), HSG C
*	23,579	74	Lawn, Good, HSG C
	24,515	75	Weighted Average
	23,730	74	96.80% Pervious Area
	785	98	3.20% Impervious Area

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

**Summary for Subcatchment SA2C: Drainage Subarea #2C 'SA2C'**

Runoff = 1.82 cfs @ 12.07 hrs, Volume= 5,453 cf, Depth= 4.71"

Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 13,888	74	Lawn, Good, HSG C
13,888	74	100.00% Pervious Area

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

**Summary for Subcatchment SA2D: Drainage Subarea #2D 'SA2D'**

Runoff = 0.70 cfs @ 12.15 hrs, Volume= 2,514 cf, Depth= 4.60"  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 4,140	74	Lawn, Good, HSG C
* 2,030	70	Woods, Good, HSG C
* 390	77	Woods, Good, HSG D
6,560	73	Weighted Average
6,560	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	27	0.1850	0.23		<b>Sheet Flow, SF2A, Lawn</b> n= 0.240 P2= 3.43"
8.5	67	0.1870	0.13		<b>Sheet Flow, SF2B, Woods</b> n= 0.600 P2= 3.43"
10.5	94	Total			

**Summary for Subcatchment SA3A: Drainage Subarea #3A 'SA3'**

Runoff = 5.83 cfs @ 12.27 hrs, Volume= 26,944 cf, Depth= 5.40"  
 Routed to Pond SW3 : Stormwater Basin #3A 'SW3A'

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 15,836	98	Bldgs./Impervious
* 454	86	Open Deck (est.), HSG C
* 39,826	74	Lawn, Good, HSG C
* 3,756	70	Woods, Good, HSG C
59,872	80	Weighted Average
44,036	74	73.55% Pervious Area
15,836	98	26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	89	0.0730	0.10		<b>Sheet Flow, SF3A, Woods</b> n= 0.600 P2= 3.43"
3.4	61	0.2380	0.29		<b>Sheet Flow, SF3B, Lawn</b> n= 0.240 P2= 3.43"
0.3	105	0.1030	5.17		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
0.6	84	0.0120	2.22		<b>Shallow Concentrated Flow, SCF3B, Paved</b> Paved Kv= 20.3 fps
19.9	339	Total			

**Summary for Subcatchment SA3B: Drainage Subarea #3B 'SA3B'**

Runoff = 17.08 cfs @ 12.32 hrs, Volume= 83,237 cf, Depth= 4.48"

Routed to Link AL3 : Analysis Line #3 (Northern PL)

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 100-Year Rainfall=7.76"

Area (sf)	CN	Description
* 20,031	98	Bldgs./Impervious
* 596	92	Compact Gravel (est.), HSG C
* 1,211	86	Open Deck (est.), HSG C
* 478	61	Lawn, Good, HSG B
* 108,649	74	Lawn, Good, HSG C
* 32,649	55	Woods, Good, HSG B
* 59,120	70	Woods, Good, HSG C
222,734	72	Weighted Average
202,703	70	91.01% Pervious Area
20,031	98	8.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	19	0.0790	0.15		<b>Sheet Flow, SF3A, Lawn</b> n= 0.240 P2= 3.43"
18.9	131	0.0980	0.12		<b>Sheet Flow, SF3B, Woods</b> n= 0.600 P2= 3.43"
2.0	581	0.0930	4.91		<b>Shallow Concentrated Flow, SCF3A, Unpaved</b> Unpaved Kv= 16.1 fps
23.0	731	Total			

**Summary for Subcatchment SA4: Drainage Subarea #4 'SA4'**

Runoff = 0.77 cfs @ 12.15 hrs, Volume= 2,776 cf, Depth= 4.48"

Routed to Link AL4 : Analysis Line #4 (Northeastern PL)

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 100-Year Rainfall=7.76"

	Area (sf)	CN	Description
*	4,292	74	Lawn, Good, HSG C
*	3,136	70	Woods, Good, HSG C
	7,428	72	Weighted Average
	7,428	72	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	150	0.0920	0.24		<b>Sheet Flow, SF4A, Lawn</b> n= 0.240 P2= 3.43"
0.3	83	0.1110	5.36		<b>Shallow Concentrated Flow, SCF4A, Woods</b> Unpaved Kv= 16.1 fps
10.7	233	Total			

**Summary for Pond SW1: Infiltration Trench (SWM-A)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 5.63" for 100-Year event  
 Inflow = 2.19 cfs @ 12.14 hrs, Volume= 7,918 cf  
 Outflow = 2.19 cfs @ 12.14 hrs, Volume= 7,918 cf, Atten= 0%, Lag= 0.1 min  
 Discarded = 0.01 cfs @ 6.93 hrs, Volume= 707 cf  
 Primary = 2.18 cfs @ 12.14 hrs, Volume= 7,211 cf  
 Routed to Link AL1 : Analysis Line #1 (Southeastern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.23' @ 12.14 hrs Surf.Area= 372 sf Storage= 183 cf

Plug-Flow detention time= 21.1 min calculated for 7,918 cf (100% of inflow)  
 Center-of-Mass det. time= 21.0 min ( 824.0 - 802.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	818 cf	<b>2.00'W x 186.00'L x 5.50'H Prismatic</b> 2,046 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	361.00'	<b>6.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Discarded	360.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.01 cfs @ 6.93 hrs HW=360.06' (Free Discharge)  
 ↑**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=2.17 cfs @ 12.14 hrs HW=361.23' (Free Discharge)  
 ↑**1=Sharp-Crested Rectangular Weir** (Weir Controls 2.17 cfs @ 1.57 fps)

**Stage-Discharge for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
360.00	0.00	<b>0.00</b>	0.00	365.20	145.24	0.01	145.24
360.10	0.01	<b>0.01</b>	0.00	365.30	149.88	0.01	149.87
360.20	0.01	0.01	0.00	365.40	154.53	0.01	154.52
360.30	0.01	0.01	0.00	365.50	<b>159.21</b>	0.01	<b>159.20</b>
360.40	0.01	0.01	0.00				
360.50	0.01	0.01	0.00				
360.60	0.01	0.01	0.00				
360.70	0.01	0.01	0.00				
360.80	0.01	0.01	0.00				
360.90	0.01	0.01	0.00				
361.00	0.01	0.01	0.00				
361.10	0.63	0.01	0.62				
361.20	1.75	0.01	1.74				
361.30	3.20	0.01	3.19				
361.40	4.91	0.01	4.90				
361.50	6.83	0.01	6.82				
361.60	8.94	0.01	8.94				
361.70	11.23	0.01	11.22				
361.80	13.67	0.01	13.66				
361.90	16.26	0.01	16.25				
362.00	18.97	0.01	18.97				
362.10	21.81	0.01	21.81				
362.20	24.77	0.01	24.76				
362.30	27.83	0.01	27.82				
362.40	30.99	0.01	30.98				
362.50	34.25	0.01	34.24				
362.60	37.60	0.01	37.59				
362.70	41.03	0.01	41.02				
362.80	44.55	0.01	44.54				
362.90	48.14	0.01	48.13				
363.00	51.80	0.01	51.79				
363.10	55.54	0.01	55.53				
363.20	59.34	0.01	59.33				
363.30	63.20	0.01	63.19				
363.40	67.12	0.01	67.11				
363.50	71.10	0.01	71.09				
363.60	75.13	0.01	75.13				
363.70	79.22	0.01	79.21				
363.80	83.35	0.01	83.35				
363.90	87.54	0.01	87.53				
364.00	91.76	0.01	91.75				
364.10	96.03	0.01	96.02				
364.20	100.34	0.01	100.33				
364.30	104.69	0.01	104.68				
364.40	109.07	0.01	109.06				
364.50	113.49	0.01	113.48				
364.60	117.94	0.01	117.93				
364.70	122.42	0.01	122.42				
364.80	126.94	0.01	126.93				
364.90	131.48	0.01	131.47				
365.00	136.04	0.01	136.03				
365.10	140.63	0.01	140.62				

**Stage-Area-Storage for Pond SW1: Infiltration Trench (SWM-A)**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
360.00	372	0	365.20	372	774
360.10	372	15	365.30	372	789
360.20	372	30	365.40	372	804
360.30	372	45	365.50	372	818
360.40	372	60			
360.50	372	74			
360.60	372	89			
360.70	372	104			
360.80	372	119			
360.90	372	134			
361.00	372	149			
361.10	372	164			
361.20	372	179			
361.30	372	193			
361.40	372	208			
361.50	372	223			
361.60	372	238			
361.70	372	253			
361.80	372	268			
361.90	372	283			
362.00	372	298			
362.10	372	312			
362.20	372	327			
362.30	372	342			
362.40	372	357			
362.50	372	372			
362.60	372	387			
362.70	372	402			
362.80	372	417			
362.90	372	432			
363.00	372	446			
363.10	372	461			
363.20	372	476			
363.30	372	491			
363.40	372	506			
363.50	372	521			
363.60	372	536			
363.70	372	551			
363.80	372	565			
363.90	372	580			
364.00	372	595			
364.10	372	610			
364.20	372	625			
364.30	372	640			
364.40	372	655			
364.50	372	670			
364.60	372	684			
364.70	372	699			
364.80	372	714			
364.90	372	729			
365.00	372	744			
365.10	372	759			

**Summary for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Inflow Area = 467,771 sf, 18.44% Impervious, Inflow Depth = 5.17" for 100-Year event  
 Inflow = 40.73 cfs @ 12.32 hrs, Volume= 201,516 cf  
 Outflow = 40.70 cfs @ 12.33 hrs, Volume= 201,516 cf, Atten= 0%, Lag= 0.5 min  
 Discarded = 0.07 cfs @ 12.33 hrs, Volume= 6,558 cf  
 Primary = 40.63 cfs @ 12.33 hrs, Volume= 194,958 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2B : Stormwater Basin #2B 'SW2B'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 356.45' @ 12.33 hrs Surf.Area= 3,049 sf Storage= 4,663 cf

Plug-Flow detention time= 24.1 min calculated for 201,516 cf (100% of inflow)  
 Center-of-Mass det. time= 24.1 min ( 849.0 - 824.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	354.00'	6,490 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
354.00	689	0	0
355.00	1,735	1,212	1,212
356.00	2,625	2,180	3,392
357.00	3,571	3,098	6,490

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	<b>24.0" Round Outlet Pipe</b> L= 50.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 343.50' S= 0.0300 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	355.75'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	356.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	356.50'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	354.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 12.33 hrs HW=356.45' (Free Discharge)  
 ↳5=Exfiltration (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=40.64 cfs @ 12.33 hrs HW=356.45' (Free Discharge)  
 ↳1=Outlet Pipe (Passes 40.64 cfs of 48.89 cfs potential flow)  
 ↳2=Orifice (Orifice Controls 6.36 cfs @ 3.18 fps)  
 ↳3=Grate (Orifice Controls 34.29 cfs @ 2.14 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=354.00' (Free Discharge)  
 ↳4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
354.00	0.00	0.00	0.00	0.00
354.10	0.02	0.02	0.00	0.00
354.20	0.02	0.02	0.00	0.00
354.30	0.02	0.02	0.00	0.00
354.40	0.03	0.03	0.00	0.00
354.50	0.03	0.03	0.00	0.00
354.60	0.03	0.03	0.00	0.00
354.70	0.03	0.03	0.00	0.00
354.80	0.04	0.04	0.00	0.00
354.90	0.04	0.04	0.00	0.00
355.00	0.04	0.04	0.00	0.00
355.10	0.04	0.04	0.00	0.00
355.20	0.04	0.04	0.00	0.00
355.30	0.05	0.05	0.00	0.00
355.40	0.05	0.05	0.00	0.00
355.50	0.05	0.05	0.00	0.00
355.60	0.05	0.05	0.00	0.00
355.70	0.05	0.05	0.00	0.00
355.80	0.20	0.06	0.14	0.00
355.90	0.80	0.06	0.75	0.00
356.00	1.67	0.06	1.60	0.00
356.10	2.72	0.06	2.66	0.00
356.20	3.94	0.07	3.88	0.00
356.30	22.39	0.07	22.32	0.00
356.40	35.89	0.07	35.82	0.00
356.50	45.33	0.07	45.25	0.00
356.60	50.87	0.07	49.25	1.55
356.70	53.93	0.08	49.48	4.38
356.80	57.82	0.08	49.71	8.03
356.90	62.36	0.08	49.94	12.34
357.00	<b>67.48</b>	<b>0.08</b>	<b>50.17</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2A: Stormwater Basin #2A 'SW2A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
354.00	689	0	356.60	3,193	5,137
354.05	741	36	356.65	3,240	5,298
354.10	794	74	356.70	3,287	5,461
354.15	846	115	356.75	3,335	5,627
354.20	898	159	356.80	3,382	5,795
354.25	951	205	356.85	3,429	5,965
354.30	1,003	254	356.90	3,476	6,138
354.35	1,055	305	356.95	3,524	6,313
354.40	1,107	359	357.00	<b>3,571</b>	<b>6,490</b>
354.45	1,160	416			
354.50	1,212	475			
354.55	1,264	537			
354.60	1,317	602			
354.65	1,369	669			
354.70	1,421	739			
354.75	1,474	811			
354.80	1,526	886			
354.85	1,578	964			
354.90	1,630	1,044			
354.95	1,683	1,127			
355.00	1,735	1,212			
355.05	1,780	1,300			
355.10	1,824	1,390			
355.15	1,868	1,482			
355.20	1,913	1,577			
355.25	1,958	1,674			
355.30	2,002	1,773			
355.35	2,047	1,874			
355.40	2,091	1,977			
355.45	2,135	2,083			
355.50	2,180	2,191			
355.55	2,225	2,301			
355.60	2,269	2,413			
355.65	2,313	2,528			
355.70	2,358	2,645			
355.75	2,403	2,764			
355.80	2,447	2,885			
355.85	2,492	3,008			
355.90	2,536	3,134			
355.95	2,580	3,262			
356.00	2,625	3,392			
356.05	2,672	3,524			
356.10	2,720	3,659			
356.15	2,767	3,796			
356.20	2,814	3,936			
356.25	2,862	4,078			
356.30	2,909	4,222			
356.35	2,956	4,369			
356.40	3,003	4,518			
356.45	3,051	4,669			
356.50	3,098	4,823			
356.55	3,145	4,979			

**Summary for Pond SW2B: Stormwater Basin #2B 'SW2B'**

[79] Warning: Submerged Pond SW2A Primary device # 1 INLET by 1.98'

Inflow Area = 492,286 sf, 17.68% Impervious, Inflow Depth = 4.99" for 100-Year event  
 Inflow = 41.85 cfs @ 12.32 hrs, Volume= 204,817 cf  
 Outflow = 40.21 cfs @ 12.39 hrs, Volume= 204,817 cf, Atten= 4%, Lag= 4.1 min  
 Discarded = 0.26 cfs @ 12.39 hrs, Volume= 35,430 cf  
 Primary = 39.96 cfs @ 12.39 hrs, Volume= 169,386 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Pond SW2C : Stormwater Basin #2C 'SW2C'

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 346.98' @ 12.39 hrs Surf.Area= 11,189 sf Storage= 29,775 cf

Plug-Flow detention time= 199.9 min calculated for 204,788 cf (100% of inflow)  
 Center-of-Mass det. time= 200.1 min ( 1,029.4 - 829.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	343.50'	35,844 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.50	6,043	0	0
344.00	6,741	3,196	3,196
345.00	8,179	7,460	10,656
346.00	9,674	8,927	19,583
347.00	11,225	10,450	30,032
347.50	12,022	5,812	35,844

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	<b>24.0" Round Outlet Pipe</b> L= 38.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 339.00' / 338.00' S= 0.0263 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	346.25'	<b>48.0" W x 6.0" H Vert. Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	346.75'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#4	Secondary	347.00'	<b>15.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#5	Discarded	343.50'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.26 cfs @ 12.39 hrs HW=346.98' (Free Discharge)

↑**5=Exfiltration** (Exfiltration Controls 0.26 cfs)

**Primary OutFlow** Max=39.96 cfs @ 12.39 hrs HW=346.98' (Free Discharge)

↑**1=Outlet Pipe** (Inlet Controls 39.96 cfs @ 12.72 fps)

↑**2=Orifice** (Passes < 6.57 cfs potential flow)

↑**3=Grate** (Passes < 36.70 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=343.50' (Free Discharge)

↑**4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
343.50	0.00	0.00	0.00	0.00
343.60	0.14	0.14	0.00	0.00
343.70	0.15	0.15	0.00	0.00
343.80	0.15	0.15	0.00	0.00
343.90	0.15	0.15	0.00	0.00
344.00	0.16	0.16	0.00	0.00
344.10	0.16	0.16	0.00	0.00
344.20	0.16	0.16	0.00	0.00
344.30	0.17	0.17	0.00	0.00
344.40	0.17	0.17	0.00	0.00
344.50	0.17	0.17	0.00	0.00
344.60	0.18	0.18	0.00	0.00
344.70	0.18	0.18	0.00	0.00
344.80	0.18	0.18	0.00	0.00
344.90	0.19	0.19	0.00	0.00
345.00	0.19	0.19	0.00	0.00
345.10	0.19	0.19	0.00	0.00
345.20	0.20	0.20	0.00	0.00
345.30	0.20	0.20	0.00	0.00
345.40	0.20	0.20	0.00	0.00
345.50	0.21	0.21	0.00	0.00
345.60	0.21	0.21	0.00	0.00
345.70	0.21	0.21	0.00	0.00
345.80	0.22	0.22	0.00	0.00
345.90	0.22	0.22	0.00	0.00
346.00	0.22	0.22	0.00	0.00
346.10	0.23	0.23	0.00	0.00
346.20	0.23	0.23	0.00	0.00
346.30	0.38	0.23	0.14	0.00
346.40	0.98	0.24	0.75	0.00
346.50	1.85	0.24	1.60	0.00
346.60	2.90	0.25	2.66	0.00
346.70	4.13	0.25	3.88	0.00
346.80	22.57	0.25	22.32	0.00
346.90	36.08	0.26	35.82	0.00
347.00	40.28	0.26	40.02	0.00
347.10	42.12	0.26	40.31	1.55
347.20	45.23	0.27	40.59	4.38
347.30	49.17	0.27	40.87	8.03
347.40	53.77	0.27	41.15	12.34
347.50	<b>58.93</b>	<b>0.28</b>	<b>41.43</b>	<b>17.23</b>

**Stage-Area-Storage for Pond SW2B: Stormwater Basin #2B 'SW2B'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
343.50	6,043	0	346.10	9,829	20,558
343.55	6,113	304	346.15	9,907	21,051
343.60	6,183	611	346.20	9,984	21,548
343.65	6,252	922	346.25	10,062	22,049
343.70	6,322	1,237	346.30	10,139	22,554
343.75	6,392	1,554	346.35	10,217	23,063
343.80	6,462	1,876	346.40	10,294	23,576
343.85	6,532	2,201	346.45	10,372	24,093
343.90	6,601	2,529	346.50	10,450	24,613
343.95	6,671	2,861	346.55	10,527	25,138
344.00	6,741	3,196	346.60	10,605	25,666
344.05	6,813	3,535	346.65	10,682	26,198
344.10	6,885	3,877	346.70	10,760	26,734
344.15	6,957	4,223	346.75	10,837	27,274
344.20	7,029	4,573	346.80	10,915	27,818
344.25	7,101	4,926	346.85	10,992	28,366
344.30	7,172	5,283	346.90	11,070	28,917
344.35	7,244	5,643	346.95	11,147	29,473
344.40	7,316	6,007	347.00	11,225	30,032
344.45	7,388	6,375	347.05	11,305	30,595
344.50	7,460	6,746	347.10	11,384	31,162
344.55	7,532	7,121	347.15	11,464	31,734
344.60	7,604	7,499	347.20	11,544	32,309
344.65	7,676	7,881	347.25	11,624	32,888
344.70	7,748	8,267	347.30	11,703	33,471
344.75	7,820	8,656	347.35	11,783	34,058
344.80	7,891	9,049	347.40	11,863	34,650
344.85	7,963	9,445	347.45	11,942	35,245
344.90	8,035	9,845	347.50	<b>12,022</b>	<b>35,844</b>
344.95	8,107	10,249			
345.00	8,179	10,656			
345.05	8,254	11,067			
345.10	8,329	11,481			
345.15	8,403	11,900			
345.20	8,478	12,322			
345.25	8,553	12,747			
345.30	8,628	13,177			
345.35	8,702	13,610			
345.40	8,777	14,047			
345.45	8,852	14,488			
345.50	8,927	14,932			
345.55	9,001	15,381			
345.60	9,076	15,833			
345.65	9,151	16,288			
345.70	9,225	16,748			
345.75	9,300	17,211			
345.80	9,375	17,678			
345.85	9,450	18,148			
345.90	9,524	18,623			
345.95	9,599	19,101			
346.00	9,674	19,583			
346.05	9,752	20,068			

**Summary for Pond SW2C: Stormwater Basin #2C 'SW2C'**

[79] Warning: Submerged Pond SW2B Primary device # 1 INLET by 3.98'

Inflow Area = 506,174 sf, 17.19% Impervious, Inflow Depth = 4.14" for 100-Year event  
 Inflow = 40.57 cfs @ 12.30 hrs, Volume= 174,839 cf  
 Outflow = 31.07 cfs @ 12.55 hrs, Volume= 174,839 cf, Atten= 23%, Lag= 15.2 min  
 Discarded = 0.20 cfs @ 12.55 hrs, Volume= 10,002 cf  
 Primary = 30.87 cfs @ 12.55 hrs, Volume= 164,837 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL2 : Analysis Line #2 (Wetlands)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 342.98' @ 12.55 hrs Surf.Area= 8,657 sf Storage= 28,751 cf

Plug-Flow detention time= 39.7 min calculated for 174,815 cf (100% of inflow)  
 Center-of-Mass det. time= 39.9 min ( 885.4 - 845.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	338.00'	38,267 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
338.00	3,119	0	0
339.00	4,119	3,619	3,619
340.00	5,175	4,647	8,266
341.00	6,288	5,732	13,998
342.00	7,458	6,873	20,871
343.00	8,684	8,071	28,942
344.00	9,966	9,325	38,267

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	<b>21.0" Round Outlet Pipe</b> L= 47.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 334.00' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf
#2	Device 1	339.15'	<b>48.0" W x 6.0" H Vert. Low level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	340.90'	<b>48.0" W x 6.0" H Vert. High Level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	342.00'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Secondary	343.00'	<b>15.0' long Spillway</b> 2 End Contraction(s)
#6	Discarded	338.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.20 cfs @ 12.55 hrs HW=342.98' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.20 cfs)

**Primary OutFlow** Max=30.87 cfs @ 12.55 hrs HW=342.98' (Free Discharge)

↳ **1=Outlet Pipe** (Inlet Controls 30.87 cfs @ 12.83 fps)

↳ **2=Low level Orifice** (Passes < 18.21 cfs potential flow)

↳ **3=High Level Orifice** (Passes < 13.01 cfs potential flow)

↳ **4=Grate** (Passes < 50.58 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=338.00' (Free Discharge)

↳ **5=Spillway** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
338.00	0.00	0.00	0.00	0.00
338.20	0.08	0.08	0.00	0.00
338.40	0.08	0.08	0.00	0.00
338.60	0.09	0.09	0.00	0.00
338.80	0.09	0.09	0.00	0.00
339.00	0.10	0.10	0.00	0.00
339.20	0.24	0.10	0.14	0.00
339.40	1.71	0.11	1.60	0.00
339.60	3.99	0.11	3.88	0.00
339.80	6.10	0.11	5.98	0.00
340.00	7.52	0.12	7.40	0.00
340.20	8.70	0.12	8.58	0.00
340.40	9.73	0.13	9.60	0.00
340.60	10.67	0.14	10.53	0.00
340.80	11.52	0.14	11.38	0.00
341.00	12.72	0.15	12.57	0.00
341.20	15.17	0.15	15.02	0.00
341.40	18.31	0.16	18.15	0.00
341.60	20.81	0.16	20.65	0.00
341.80	22.79	0.17	22.63	0.00
342.00	24.54	0.17	24.37	0.00
342.20	29.30	0.18	29.13	0.00
342.40	29.77	0.18	29.58	0.00
342.60	30.22	0.19	30.03	0.00
342.80	30.67	0.20	30.48	0.00
343.00	31.11	0.20	30.91	0.00
343.20	35.93	0.21	31.34	4.38
343.40	44.33	0.21	31.77	12.34
343.60	55.02	0.22	32.19	22.61
343.80	67.55	0.22	32.60	34.72
344.00	<b>81.64</b>	<b>0.23</b>	<b>33.01</b>	<b>48.40</b>

**Stage-Area-Storage for Pond SW2C: Stormwater Basin #2C 'SW2C'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
338.00	3,119	0	343.20	8,940	30,704
338.10	3,219	317	343.30	9,069	31,604
338.20	3,319	644	343.40	9,197	32,518
338.30	3,419	981	343.50	9,325	33,444
338.40	3,519	1,328	343.60	9,453	34,383
338.50	3,619	1,685	343.70	9,581	35,334
338.60	3,719	2,051	343.80	9,710	36,299
338.70	3,819	2,428	343.90	9,838	37,276
338.80	3,919	2,815	344.00	<b>9,966</b>	<b>38,267</b>
338.90	4,019	3,212			
339.00	4,119	3,619			
339.10	4,225	4,036			
339.20	4,330	4,464			
339.30	4,436	4,902			
339.40	4,541	5,351			
339.50	4,647	5,811			
339.60	4,753	6,280			
339.70	4,858	6,761			
339.80	4,964	7,252			
339.90	5,069	7,754			
340.00	5,175	8,266			
340.10	5,286	8,789			
340.20	5,398	9,323			
340.30	5,509	9,869			
340.40	5,620	10,425			
340.50	5,732	10,993			
340.60	5,843	11,571			
340.70	5,954	12,161			
340.80	6,065	12,762			
340.90	6,177	13,374			
341.00	6,288	13,998			
341.10	6,405	14,632			
341.20	6,522	15,278			
341.30	6,639	15,937			
341.40	6,756	16,606			
341.50	6,873	17,288			
341.60	6,990	17,981			
341.70	7,107	18,686			
341.80	7,224	19,402			
341.90	7,341	20,131			
342.00	7,458	20,871			
342.10	7,581	21,622			
342.20	7,703	22,387			
342.30	7,826	23,163			
342.40	7,948	23,952			
342.50	8,071	24,753			
342.60	8,194	25,566			
342.70	8,316	26,391			
342.80	8,439	27,229			
342.90	8,561	28,079			
343.00	8,684	28,942			
343.10	8,812	29,816			

**Summary for Pond SW3: Stormwater Basin #3A 'SW3A'**

Inflow Area = 59,872 sf, 26.45% Impervious, Inflow Depth = 5.40" for 100-Year event  
 Inflow = 5.83 cfs @ 12.27 hrs, Volume= 26,944 cf  
 Outflow = 4.60 cfs @ 12.42 hrs, Volume= 26,944 cf, Atten= 21%, Lag= 9.1 min  
 Discarded = 0.07 cfs @ 12.42 hrs, Volume= 3,926 cf  
 Primary = 4.53 cfs @ 12.42 hrs, Volume= 23,018 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link AL3 : Analysis Line #3 (Northern PL)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 391.07' @ 12.42 hrs Surf.Area= 2,968 sf Storage= 6,004 cf

Plug-Flow detention time= 83.2 min calculated for 26,940 cf (100% of inflow)  
 Center-of-Mass det. time= 83.3 min ( 900.3 - 816.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	388.00'	9,083 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
388.00	765	0	0
389.00	1,690	1,228	1,228
390.00	2,276	1,983	3,211
391.00	2,922	2,599	5,810
392.00	3,625	3,274	9,083

Device	Routing	Invert	Outlet Devices
#1	Primary	385.50'	<b>15.0" Round Outlet Pipe</b> L= 32.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 385.50' / 385.00' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	389.00'	<b>6.0" W x 4.0" H Vert. Low-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	390.00'	<b>18.0" W x 4.0" H Vert. Mid-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	390.75'	<b>24.0" W x 6.0" H Vert. High-level Orifice</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	391.25'	<b>48.0" x 48.0" Horiz. Grate</b> C= 0.600
#6	Secondary	391.50'	<b>10.0' long x 11.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.53 2.59 2.70 2.68 2.67 2.68 2.66 2.64
#7	Discarded	388.00'	<b>1.000 in/hr Exfiltration over Surface area</b>

**Discarded OutFlow** Max=0.07 cfs @ 12.42 hrs HW=391.07' (Free Discharge)

↑ **7=Exfiltration** (Exfiltration Controls 0.07 cfs)

**Primary OutFlow** Max=4.53 cfs @ 12.42 hrs HW=391.07' (Free Discharge)

↑ **1=Outlet Pipe** (Passes 4.53 cfs of 13.13 cfs potential flow)

↑ **2=Low-level Orifice** (Orifice Controls 1.11 cfs @ 6.63 fps)

↑ **3=Mid-level Orifice** (Orifice Controls 2.28 cfs @ 4.56 fps)

↑ **4=High-level Orifice** (Orifice Controls 1.14 cfs @ 1.80 fps)

↑ **5=Gate** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=388.00' (Free Discharge)

↑ **6=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Stage-Discharge for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
388.00	0.00	0.00	0.00	0.00
388.10	0.02	0.02	0.00	0.00
388.20	0.02	0.02	0.00	0.00
388.30	0.02	0.02	0.00	0.00
388.40	0.03	0.03	0.00	0.00
388.50	0.03	0.03	0.00	0.00
388.60	0.03	0.03	0.00	0.00
388.70	0.03	0.03	0.00	0.00
388.80	0.03	0.03	0.00	0.00
388.90	0.04	0.04	0.00	0.00
389.00	0.04	0.04	0.00	0.00
389.10	0.09	0.04	0.05	0.00
389.20	0.19	0.04	0.14	0.00
389.30	0.31	0.04	0.26	0.00
389.40	0.42	0.04	0.38	0.00
389.50	0.50	0.05	0.46	0.00
389.60	0.57	0.05	0.52	0.00
389.70	0.63	0.05	0.58	0.00
389.80	0.69	0.05	0.64	0.00
389.90	0.74	0.05	0.69	0.00
390.00	0.78	0.05	0.73	0.00
390.10	0.98	0.05	0.93	0.00
390.20	1.30	0.06	1.25	0.00
390.30	1.70	0.06	1.64	0.00
390.40	2.08	0.06	2.03	0.00
390.50	2.36	0.06	2.30	0.00
390.60	2.60	0.06	2.53	0.00
390.70	2.81	0.06	2.74	0.00
390.80	3.07	0.06	3.01	0.00
390.90	3.55	0.07	3.49	0.00
391.00	4.15	0.07	4.08	0.00
391.10	4.84	0.07	4.77	0.00
391.20	5.60	0.07	5.53	0.00
391.30	13.51	0.07	13.44	0.00
391.40	13.65	0.07	13.57	0.00
391.50	13.77	0.08	13.70	0.00
391.60	14.70	0.08	13.83	0.80
391.70	16.29	0.08	13.95	2.26
391.80	18.36	0.08	14.08	4.21
391.90	20.83	0.08	14.20	6.55
392.00	<b>23.76</b>	<b>0.08</b>	<b>14.32</b>	<b>9.35</b>

**Stage-Area-Storage for Pond SW3: Stormwater Basin #3A 'SW3A'**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
388.00	765	0	390.60	2,664	4,692
388.05	811	39	390.65	2,696	4,826
388.10	858	81	390.70	2,728	4,962
388.15	904	125	390.75	2,761	5,099
388.20	950	171	390.80	2,793	5,238
388.25	996	220	390.85	2,825	5,378
388.30	1,043	271	390.90	2,857	5,521
388.35	1,089	324	390.95	2,890	5,664
388.40	1,135	380	391.00	2,922	5,810
388.45	1,181	438	391.05	2,957	5,956
388.50	1,228	498	391.10	2,992	6,105
388.55	1,274	561	391.15	3,027	6,256
388.60	1,320	626	391.20	3,063	6,408
388.65	1,366	693	391.25	3,098	6,562
388.70	1,412	762	391.30	3,133	6,718
388.75	1,459	834	391.35	3,168	6,875
388.80	1,505	908	391.40	3,203	7,035
388.85	1,551	984	391.45	3,238	7,196
388.90	1,597	1,063	391.50	3,274	7,358
388.95	1,644	1,144	391.55	3,309	7,523
389.00	1,690	1,228	391.60	3,344	7,689
389.05	1,719	1,313	391.65	3,379	7,857
389.10	1,749	1,399	391.70	3,414	8,027
389.15	1,778	1,488	391.75	3,449	8,199
389.20	1,807	1,577	391.80	3,484	8,372
389.25	1,837	1,668	391.85	3,520	8,547
389.30	1,866	1,761	391.90	3,555	8,724
389.35	1,895	1,855	391.95	3,590	8,903
389.40	1,924	1,950	392.00	<b>3,625</b>	<b>9,083</b>
389.45	1,954	2,047			
389.50	1,983	2,146			
389.55	2,012	2,246			
389.60	2,042	2,347			
389.65	2,071	2,450			
389.70	2,100	2,554			
389.75	2,130	2,660			
389.80	2,159	2,767			
389.85	2,188	2,876			
389.90	2,217	2,986			
389.95	2,247	3,097			
390.00	2,276	3,211			
390.05	2,308	3,325			
390.10	2,341	3,441			
390.15	2,373	3,559			
390.20	2,405	3,679			
390.25	2,438	3,800			
390.30	2,470	3,922			
390.35	2,502	4,047			
390.40	2,534	4,173			
390.45	2,567	4,300			
390.50	2,599	4,429			
390.55	2,631	4,560			

**Summary for Link AL1: Analysis Line #1 (Southeastern PL)**

Inflow Area = 16,871 sf, 31.47% Impervious, Inflow Depth = 5.13" for 100-Year event  
Inflow = 2.18 cfs @ 12.14 hrs, Volume= 7,211 cf  
Primary = 2.18 cfs @ 12.14 hrs, Volume= 7,211 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL2: Analysis Line #2 (Wetlands)**

Inflow Area = 512,734 sf, 16.97% Impervious, Inflow Depth = 3.92" for 100-Year event  
Inflow = 31.07 cfs @ 12.54 hrs, Volume= 167,351 cf  
Primary = 31.07 cfs @ 12.54 hrs, Volume= 167,351 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL3: Analysis Line #3 (Northern PL)**

Inflow Area = 282,606 sf, 12.69% Impervious, Inflow Depth = 4.51" for 100-Year event  
Inflow = 21.18 cfs @ 12.34 hrs, Volume= 106,255 cf  
Primary = 21.18 cfs @ 12.34 hrs, Volume= 106,255 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link AL4: Analysis Line #4 (Northeastern PL)**

Inflow Area = 7,428 sf, 0.00% Impervious, Inflow Depth = 4.48" for 100-Year event  
Inflow = 0.77 cfs @ 12.15 hrs, Volume= 2,776 cf  
Primary = 0.77 cfs @ 12.15 hrs, Volume= 2,776 cf, Atten= 0%, Lag= 0.0 min  
Routed to Link ALL : ALL

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

**Summary for Link ALL: ALL**

Inflow Area = 819,639 sf, 15.64% Impervious, Inflow Depth = 4.15" for 100-Year event  
Inflow = 52.48 cfs @ 12.35 hrs, Volume= 283,593 cf  
Primary = 52.48 cfs @ 12.35 hrs, Volume= 283,593 cf, Atten= 0%, Lag= 0.0 min

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