INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

STORMWATER POLLUTION PREVENTION PLAN

For

Artis Senior Living of Tarrytown

153 White Plains Road

Village of Tarrytown, New York

January 30th, 2019

Owner Information:
Crescent Associates, LLC
238 Mamaroneck Ave
White Plains, NY 10601

Applicant Information:
Artis Senior Living of Tarrytown
1651 Old Meadow Road, Suite 100
McLean, VA 22102

Note: This report in conjunction with the project plans make up the complete Stormwater Pollution Prevention Plan.

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1.0 INTRODUCTION

1.1 Project Description

Artis Senior Living of Tarrytown is proposing to construct a two story, 64 bed Alzheimer's and Dementia Care facility, with associated parking and other appurtenances on the 153 White Plains Road parcel. Access to the site is provided via the existing driveway servicing the adjoining 155 White Plains Road parcel. The proposed building is to be served by public water and public sewer.

Artis Senior Living of Tarrytown is proposed to be located at 153 White Plains Road in the Village of Tarrytown. The 4.6-acre property is in the OB Zone and is identified as Tax Map #1.201-121-5.12. The lot is currently vacant, except for a P-1, micropool extended detention pond constructed under a previously approved project SWPPP for the porous pavement parking lot on the 155 White Plains Road parcel. The micropool extended detention pond and porous pavement parking lot (located on the 155 White Plains Road parcel) were constructed from 2014 to 2015.

The following permits are required for the project:

VILLAGE OF TARRYTOWN PLANNING BOARD
Site Plan Approval
VILLAGE OF TARRYTOWN BOARD OF TRUSTEES
Zoning Text Amendment
WESTCHESTER COUNTY DEPARTMENT OF HEALTH
Service Connection for Residential Sewage, > 2,500 gpd
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SWPPP General Permit Coverage
NEW YORK STATE DEPARTMENT OF TRANSPORTATION
Utility Highway Work Permit

1.2 Existing Site Conditions

The stormwater runoff from the project site and previously constructed porous pavement parking lot flows west to east towards the Old Croton Aqueduct. The Old Croton Aqueduct is located along the western property line of the project site. There is an existing inlet adjacent to the Old Croton Aqueduct which serves as the project design point. This point has been designated as Design Point 1 on the pre- and post-development drainage figures.

The ground cover for the areas of the proposed development are mostly wooded with some grass, meadow or brushland. There are also existing remains of abandoned asphalt driveways. The terrain varies from gently sloping to steeply sloped. The soil types on the project site vary from well drained to moderately drained soils per the USDA Natural Resources Conservation Service Web Soil Survey and were modeled as Hydrologic Soil Group B. This is consistent with the previous stormwater modeling performed onsite.

An office building was previously proposed on the subject site and area where the porous pavement parking lot was constructed on 155 White Plains Road. The previously proposed office building was the subject of the SWPPP included in the *Draft Environmental Impact Statement for the Crescent Associates*. The original SWPPP had coverage under GP-0-002-001 and was amended in 2014 to allow the construction of a porous asphalt pavement parking lot. The 2014 amendment was updated to comply with the latest General Permit in effect at the time, GP-0-10-001. The amendment preserved the micropool extended detention pond (SMP 1.2P), which was designed to treat the runoff from the entire site per the original SWPPP. It should be noted the sizing of SMP 1.2P did not include the now required benefit of green infrastructure practices, and as such is oversized utilizing today's standards.

For the quantity modeling contained herein pre-development condition is considered the same as that modeled in the original SWPPP and accounts for the area that was developed with the porous

pavement parking lot. This was done to account for the entire tributary area to Design Point 1 and remain consistent with the SWPPP modeling from the original Findings Statement. As such the existing conditions have been taken as all natural land, i.e., the site condition prior to construction of the porous pavement parking lot and pond SMP 1.2P.

1.3 Proposed Site Conditions

This SWPPP addresses the onsite development of the improvements discussed in Section 1.1 above and detailed on the project drawings. A total of 2.9± acres of disturbance is proposed.

All proposed development (including the improvements constructed from 2014 to 2015) are tributary to Design Point 1 which is adjacent to the Old Croton Aqueduct. This was the same Design Point analyzed in the original Findings Statement. It is proposed to construct one bioretention filter (NYSDEC Design F-5), GIP 1, and two areas of Porous Pavement, GIP 2.1 & 2.2. The afore mentioned green infrastructure practices will provide the required runoff reduction volume and serve to initially treat the stormwater runoff. From the green infrastructure practices the stormwater will flow to the downstream micropool extended detention basin, SMP 1.2P, to treat the balance of the water quality and provide quantity as required in the New York State Stormwater Design Manual, 2015 (Design Manual). The porous pavement will be constructed in the parking lots east of the proposed facility. The bioretention filter will be constructed adjacent to the proposed facility and integrated into the landscape areas. Sizing calculations for the practices are contained in Appendix C and all practices are included in the HydroCAD routings.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for this SWPPP has been designed to meet the requirements of local and state stormwater ordinances and guidelines, including but not limited to those of the Village of Tarrytown and the NYSDEC. Specifically, the following codes / regulations have been used to design this SWPPP:

- *NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-15-002* (GP-0-15-002).
- *Village of Tarrytown Chapter 258, Stormwater Management*.

Relative to stormwater permitting this project will require coverage under, the NYSDEC *SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit No. GP-0-15-002* (General Permit).

The Design Manual specifies five design criteria that are discussed in detail below. They are Water Quality Volume (WQ_v), Runoff Reduction Volume (RRv), Stream Channel Protection Volume (CP_v), Overbank Flood Control (Q_f), and Extreme Flood Control (Q_p). The first two requirements relate to treating water quality, while the latter pertain to stormwater quantity (peak flow) attenuation.

To meet the above referenced requirements, the following post construction stormwater management practices are proposed for the project:

Table 2.0.1 – Proposed SMP Design Criteria Summary Table

Proposed SMP ID	NYSSMDM Ch. 6 Design Designation	Contributing Subcatchments	NYSDEC Uniform Stormwater Sizing Criteria Satisfied
GIP 1	F-5, Bioretention Filter	GIP 1	RR_v
GIP 2.1	Porous Pavement	GIP 2.1	RR_v
GIP 2.1	Porous Pavement	GIP 2.1	RR_v
GIP 3	Porous Pavement (previously constructed in accordance with the previously approved project SWPPP)	GIP 3	RR_v
SMP 1.2P	P-1 Micropool Extended Detention Pond (previously constructed in accordance with the previously approved project SWPPP)	1.2S	WQ_v, CP_v, Q_p, & Q_f,

To address stormwater quantity requirements of both the Village and NYSDEC, the "HydroCAD" Stormwater Modeling System," by HydroCAD Software Solutions LLC in Tamworth, New Hampshire, was used to model and assess the peak stormwater flows for the subject project. HydroCAD is a computer aided design program for modeling the hydrology and hydraulics of stormwater runoff. It is based primarily on hydrology techniques developed by the United States Department of Agriculture, Soil Conservation Service (USDA, SCS) TR-20 method combined with standard hydraulic calculations. For details on the input data for the subcatchments and design storms, refer to Appendices D and E:

The input requirements for the HydroCAD computer program are as follows:

Subcatchments (contributing watershed/sub-watersheds)

- Design storm rainfall in inches
- CN (runoff curve number) values which are based on soil type and land use/ground cover
- Tc (time of concentration) flow path information

Stormwater Basins

- Surface area at appropriate elevations
- Flood elevation
- Outlet structure information

The precipitation values and intensity duration frequency (IDF) curves for the 1-Year, 10-Year, 100-Year 24-hour design storm events and rainfall valves utilized for this report were obtained from the information provided by Northeast Regional Climate Center (NRCC) and the Natural Resources Conservation Service (NRCS) which is available online at *www.precip.eas.cornell.edu.* The values provided for all design storms analyzed have been listed below.

Design Storm	24-Hour Rainfall
1-Year	2.80"
10-Year	5.09"
100-Year	9.05"

2.1 NYSDEC Water Quality Volume, WQ_v

As stated in the Design Manual, "The Water Quality Volume (denoted as the WQv) is intended to improve water quality by capturing and treating runoff from small, frequent storm events that tend to contain higher pollutant levels." The Design Manual has defined the WQv as the volume of runoff generated from the entire 90th percentile rain event. The 90% storm event for the project site as determined from Chapter 4 of the Design Manual is 1.5.

Appendix C contains the WQ_v calculations for subcatchments 1.2S, GIP 1, GIP 2.1, GIP 2.2 and GIP 3. These subcatchments contain the proposed development as well as the adjacent porous pavement parking lot constructed from 2014 to 2015. Sizing calculations for the proposed bioretention filter and proposed porous pavement are contained in Appendix C. These calculations verify adequate volume and filter area have been provided based on the required WQ_v.

The initial WQ_v generated by each of these subcatchments from the 90% storm event has been calculated in Appendix A and is summarized below.

The Initial WQ_v tributary to SMP GIP 1, the Bioretention Filter, is 0.06 acre-feet.

The Initial WQ_v tributary to SMP GIP 2.1, the Porous Pavement, is 0.02 acre-feet.

The Initial WQ_v tributary to SMP GIP 2.2, the Porous Pavement, is 0.01 acre-feet.

The Initial WQ_v tributary to SMP GIP 3 (as stated in the previously approved SWPPP), the previously constructed Porous Pavement, is 0.09 acre-feet.

Following the initial WQ_v calculation in Appendix A, the RR_v credit associated with each of the above practices is then calculated in Appendix B. The result is the remaining WQ_v that must be treated in the downstream standard stormwater management practice SMP 1.2P. As previously noted, SMP 1.2P was designed to treat the runoff from the proposed office building and parking lot without the benefit of the above green infrastructure practices. Therefore, the above practices are providing an additional level of treatment then contemplated in the previous findings statement.

The Remaining WQ_v tributary to SMP 1.2P (1.2S), the previously constructed Micropool Extended Detention Basin, is 0.157 acre-feet and is the sum of the initial WQ_v's stated in Appendix A minus credit provided by the Green Infrastructure Practices as calculated in Appendix B.

2.2 NYSDEC Runoff Reduction Volume, RR_v

The Runoff Reduction Volume (RR_v) criterion is intended to replicate pre-development hydrology by maintaining preconstruction infiltration, peak flow runoff, discharge volume, as well as minimizing concentrated stormwater flow. As stated in Chapter 4 of the NYSSMDM, RR_v may be treated with standard stormwater management practices (SMP's) sized in accordance with the Chapter 4/6 requirements, or with green infrastructure practices (GIP's) sized in accordance with the requirements set forth for each practice in Chapter 5. This requirement has been achieved to the greatest extent practical on the subject project by providing infiltration practices as suitable soils exist onsite. Runoff reduction is achieved when runoff from a percentage of the impervious area on the site is captured, routed through an SMP or a GIP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site.

Section 4.3 of the NYSSMDM states for sites that do not achieve runoff reduction to pre-construction condition must, at a minimum reduce a percentage of the runoff from impervious areas to be constructed on the site a minimum RR_v. The following equation can be used to determine the minimum runoff reduction volume:

The minimum runoff reduction volume shall be $RRv_{minimum} = \frac{(P)(R_v)(Ai)}{12}$

Where:

S = Hydrologic Soil Group (HSG) Specific Reduction Factor
A*ic* = Total Area of New Impervious Cover
A*i* = Impervious cover targeted for Runoff Reduction
= (S)(A*ic*)
Rv = 0.95

For detailed calculations of the runoff reduction for the site see Appendix B. Standard stormwater management practices (SMP's) with RRv credit and green infrastructure practices are proposed to treat the required RRv to the greatest extent practical. They include the porous pavement parking lot and the proposed bioretention filter. RRv practices have been employed to the maximum extent practicable throughout the site by utilizing infiltration where feasible, and where ledge rock was encountered utilizing standard SMP's with the higher RRv credit.

A summary of the RRv required vs provided for the entire development area is provided below.

Table 2.2.1 RRv Summary

RRv Criteria	Volume (c.f.)
RRv Initial = Water Quality Volume	13,079
RRv Minimum	4,966
RRv Provided	6,225

Due to the presence of groundwater and ledge rock, the entire RRv cannot be provided, however, the more RRv minimum has been provided. The remaining WQ_v 6,854 c.f. will be treated in the micropool extended detention pond, which was sized to provide treatment for 10,748 c.f. of WQv. The downstream basin was sized and approved by the village and constructed prior to the requirement to provide RRv.

2.3 NYSDEC Stream Channel Protection Volume, CP_v

The Stream Channel Protection (CP_v) criterion is intended to protect stream channels from erosion and is accomplished by completely infiltrating the one-year, 24-hour storm volume, or providing 24-hour extended detention of the one-year, 24-hour storm event, using either the center of mass or plug flow methods. As the storage volume provided in the micropool extended detention pond exceeds the one-year, 24-hour storm volume, the plug flow detention time is infinite, thus exceeding the 24-hour detention requirement.

2.4 NYSDEC Overbank Flood Control, Q_p, and Extreme Flood Control, Q_f

The Overbank Flood Control (Q_p) requirement is intended to prevent an increase in the frequency and magnitude of out-of-bank flooding events generated by urban development. Overbank Flood Control requires storage to attenuate the post-development 10-year, 24-hour peak discharge to pre-development rates. The Extreme Flood Control (Q_p) requirement is intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year flood plain, and protect the physical integrity of SMP's. Extreme Flood Control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates.

The pre-versus post-development analysis is contained in Appendix A and B, and compares the pre- versus post-development peak flows the Design Point. A summary of the pre-development versus post-development peak flows are provided in the Table below:

Table 2.5.1 Pre and Post-Development Peak Flows at the Design Point

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)				
	10-YEAR (Channel Protection Volume)		100-YEAR (Overbank Flood Control)	
	Pre	Post	Pre	Post
Design Line 1	13.6	13.3	33.7	31.7

3.0 STORMWATER CONVEYANCE SYSTEM

3.1 Onsite Stormwater Collection System

The stormwater collection and conveyance systems for the project will consist of catch basins, drain inlets, drainage manholes, and HDPE pipe. The onsite pipe system will be sized in the final project SWPPP to collect and convey at minimum the 10-year, 1-hour design storm using the Rational Method. The Rational Method is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. Pipe sizing calculations will be provided in the final project SWPPP.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control should be accomplished by four basic principles: diversion of clean water, containment of sediment, treatment of dirty water, and stabilization of disturbed areas. Diversion of clean water should be accomplished with swales. This diverted water should be safely conveyed around the construction area as necessary and discharged downstream of the disturbed areas. Sediment should be contained with the use of silt fence at the toe of disturbed slopes. Disturbed areas should be permanently stabilized within 14 days of final grading to limit the required length of time that the temporary facilities must be utilized. The owner will be responsible for the maintenance of the temporary erosion control facilities. Refer to the Project Drawings for further information implementation of the Erosion Control Plan and Construction Sequence.

All erosion and sediment controls have been designed in accordance with the *New York Standards and Specifications for Erosion and Sediment Control* (Blue Book), November 2016.

4.1 Temporary Erosion and Sediment Control Facilities

Temporary erosion and sediment control facilities should be installed and maintained as required to reduce the impacts to off-site properties. The owner will be required to provide maintenance for the temporary erosion and sediment control facilities. In general, the following temporary methods and materials should be used to control erosion and sedimentation from the project site:

- Stabilized Construction Entrance
- Dust Control
- Silt Fence Barriers
- Storm Drain Inlet Protection
- Temporary Soil Stabilization

All temporary erosion control measures shall be maintained as discussed below. In accordance with GP-0-15-002 a NYSDEC trained contractor shall be onsite at all times soil disturbing

activities are commencing. In addition, the owner shall retain a Qualified Professional to perform weekly inspections of the erosion control facilities.

A stabilized construction entrance should be installed at the entrance to the site as shown on the plan. The design drawings will include details to guide the contractor in the construction of this entrance. The intent of the stabilized construction entrance is to prevent the "tracking" of soil from the site.

Dust control should be accomplished with water sprinkling trucks if required. During dry periods, sprinkler trucks should wet all exposed earth surfaces as required to prevent the transport of air-borne particles to adjoining areas.

Siltation barriers constructed of geosynthetic filter cloth should be installed at the toe of all disturbed slopes. The intent of these barriers is to contain silt and sediment at the source and inhibit its transport by stormwater runoff. The siltation barriers will also help reduce the rate of runoff by creating filters through which the stormwater must pass. During construction the siltation barriers shall be inspected weekly and after a rainfall event and shall be cleaned/replaced when needed.

Storm drain inlet protection in the form of stone drop inlet protection will be installed around all proposed inlets. The stone drop inlet protection will serve to filter stormwater runoff before it enters the collection system. Throughout construction the concrete drainage structures, associated piping and inlet protections shall be inspected weekly and after a rainfall event. These items shall be cleaned, repaired and/or replaced when needed.

When land is exposed during development, the exposure shall be kept to the shortest practical period, but in no case more than 14 days. Temporary grass seed and mulch shall be applied to any construction area idle for seven days. The temporary seeding and mulching shall be performed in accordance with the seeding notes illustrated the Project Drawings. Disturbance shall be minimized in the areas required to perform construction. Upon completion of final grading, topsoil, permanent seeding and mulch shall be applied in accordance the Project Drawings.

4.2 Permanent Erosion and Sediment Control Facilities

Permanent erosion and sediment control will be accomplished by diverting stormwater runoff from steep slopes, controlling/reducing stormwater runoff velocities and volumes, and vegetative and structural surface stabilization. All of the permanent facilities are relatively maintenance free and only require periodic inspections. The owner will provide maintenance for all the permanent erosion and sediment control facilities.

Rock outlet protection will be provided at the discharge end where the piped drainage system discharges to daylight and is designed in accordance with the Blue Book. The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach. The rock outlet protection shall be inspected for evidence of scour beneath the riprap and/or for any dislodged stones. Inspections of the rock outlet protection shall be performed during the inspections of the post-construction SMP's for the project. Sizing calculations for the Rock Outlet Protection will be provided in the final project SWPPP.

Other than the parking and surfaces, disturbed surfaces shall be stabilized with vegetation within 7 days of final grading. Permanent seed mix and mulch shall be applied to idle areas to minimize the amount of exposed soil. Types and application rates for the seed and mulch are provided on the Project Drawings. The vegetation will control stormwater runoff by preventing soil erosion, reducing runoff volume and velocities, and providing a filter medium. Permanent seeding should optimally be undertaken in the spring from March 21st through May 20th and in late summer from August 15th to October 15th.

5.0 IMPLEMENTATION, MAINTENANCE & GENERAL HOUSEKEEPING

5.1 Construction Phase

Details associated with the implementation and maintenance of the proposed stormwater facilities and erosion control measures during construction are shown on the Project Drawings. Soil disturbance shall not exceed five acres unless permitted under Part II.C.3 of the General Permit GP-0-15-002. The erosion control plan will include associated details and notes to aid the contractor in implementing the plan. We anticipate that construction will commence in 2019 and conclude in 2021.

During construction, a Site Log Book, Appendix G, is required to be kept per NYSDEC SPDES General Permit GP-0-15-002. Erosion and sediment control inspections are required to be conducted as necessary under coverage of the permit and an updated logbook and a copy of the SWPPP is required to be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the Blue Book.

As required by Part III.A.6 of the General Permit a NYSDEC Trained Contractor shall be onsite any time soil disturbing activities are being undertaken. The Trained Contractor shall sign the Contractor's Certification statement contained in the Blue Book and provide copy of the same to the project's Qualified Professional and Municipality. The Trained Contractor is responsible for implementation of the SWPPP. Each day the Trained Contractor shall inspect the onsite erosion control practices to ensure they are functioning properly. In addition, the Trained Contractor shall implement any corrective action identified by the Qualified Inspector and/or municipality.

In addition to the proposed erosion and sediment control facilities, the following good housekeeping best management practices shall be implemented to mitigate potential pollution during the construction phase of the project. The general contractor overseeing the day-to-day site operation shall be responsible for the good housekeeping best management practices included in the following general categories:

- Material Handling and Waste Management
- Establishment of Building Material Staging Areas
- Establishment of Washout Areas
- Proper Equipment Fueling and Maintenance Practices
- Spill Prevention and Control Plan

All construction waste materials shall be collected and removed from the site regularly by the general contractor. The general contractor shall supply waste barrels for proper disposal of waste materials. All personnel working on the site shall be instructed of the proper procedures for construction waste disposal.

Although it is not anticipated that any hazardous waste materials will be utilized during construction, any hazardous waste materials shall be disposed of in accordance with federal, state, and local regulations. No hazardous waste shall be disposed of on-site. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from the other non-waste materials. All hazardous waste shall be stored in a structurally sound and sealed shipping container located in the limits of construction. Material safety data sheets, material inventory, and emergency contact numbers will be maintained onsite. All personnel working on the site shall be instructed in the proper procedures for hazardous waste disposal.

Temporary sanitary facilities (portable toilets) shall be provided on site during the entire length of construction. The sanitary facilities shall be located in the staging areas, or in an alternate area away from the construction activities on the site. The portable toilets shall be inspected weekly for evidence of leaking holding tanks.

All recyclables, including wood pallets, cardboard boxes, and all other recyclable construction scraps shall be disposed of in a designated recycling barrel provided by the contractor and removed from the site regularly. All personnel working on the site shall be instructed in the proper procedures for construction waste recycling.

All construction equipment and maintenance materials shall be stored in the limits of construction. Silt fence shall be installed down gradient of construction. Shipping containers shall be utilized to store hand tools, small parts, and other construction materials not taken off site daily. Construction waste barrels, recycling barrels and if necessary hazardous waste containers shall be located within the limits of the construction staging area.

Throughout the construction of the project several types of vehicles and equipment will be used on-site. Fueling of the equipment shall occur within the limits of the construction staging area. Fuel will be delivered to the site as needed, by the general contractor, or a party chosen by the general contractor. Only minor vehicle equipment maintenance shall occur on-site, all major maintenance shall be performed off-site. All equipment fluids generated from minor maintenance activities shall be disposed of into designated drums and stored in accordance with the hazardous waste storage as previously discussed.

Vehicles and equipment shall be inspected on each day of use. Any leak discovered shall be repaired immediately. All leaking equipment unable to be repaired shall be removed from the site. Ample supplies of absorbent, spill-cleanup materials, and spill kits shall be located in the construction staging area. All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned for disposal at a local landfill. All personnel working on the site shall be instructed in the proper procedures for spill prevention and control. Any spill large enough to discharge to surface water will be immediately reported to the local fire / police departments and the National Response Center 1-800-424-8802.

5.2 Long Term Maintenance Plan

The owner will be responsible for the maintenance of the permanent erosion control and stormwater facilities. Each spring and fall the porous pavement parking areas shall be vacuum swept. In addition traction sand shall not be used on the porous pavement.

In addition each fall, all drain inlets sumps and the stormwater management practices should be cleaned. All pipes should be checked for debris and blockages and cleaned as required. During the cleaning process, the drain inlets and pipes should be inspected for structural integrity and overall condition; repairs and/or replacement will be made as required.

The bioretention filter should be inspected after major storm events and semi-annually. During the inspections, the following should be checked:

- Evidence of clogging of outlet structure.
- Draindown after storm events is occurring.
- Erosion of the flow path through the basin.
- Subsidence, erosion, cracking or tree growth on the embankment/berm.
- Condition of the emergency spillway.
- Accumulation of sediment around the outlet structure.
- Adequacy of upstream/downstream channel erosion control measures.
- Erosion of the basin bed and banks.
- Sources of erosion in the contributory drainage, which should be stabilized.

In addition to guidelines discussed above all maintenance requirements outlined in the Design Manual and included as an Appendix herein shall be followed.

APPENDIX A

WQv Calculations

WQv Initial Summary Calculation Worksheet

Project: Artis Senior Living of Tarrytown
Project #: 17200.100
Date: 1/8/2019

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Subcatchment ID:	**1.2S (Area directly tributary to SMP 1.2P)**		
	WQv = Water Quality Volume	=	5,037 CF
Subcatchment ID:	**GIP 1 (Bioretention)**		
	WQv = Water Quality Volume	=	2,657 CF
Subcatchment ID:	**GIP 2.1 (Porous Pavement)**		
	WQv = Water Quality Volume	=	1,035 CF
Subcatchment ID:	**GIP 2.2 (Porous Pavement)**		
	WQv = Water Quality Volume	=	517 CF
Subcatchment ID:	**GIP 3 (Porous Pavement)**		
	WQv = Water Quality Volume	=	3,833 CF
	Initial WQv Tributary to 1.2P = WQv 1.2S + WQv GIP1 + WQv GIP 2.1 + WQv GIP 2.2 + WQv GIP 3	=	13,079 CF

WQv Calculation Worksheet

Project: Artis Senior Living of Tarrytown
Project #: 17200.100
Date: 1/8/2019

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Subcatchment ID: 1.2S (Area directly tributary to SMP 1.2P)

Water Quality Volume = $WQ_v = \frac{P * R_v * A}{12}$

P = WQv 24-hour Rainfall Amount	=	1.5	in.
A = Subcatchment Area	=	108900	SF
Ai= Impervious Area within Subcatchment Area	=	39204	
I = Ai/A	=	36.0	%
Rv = 0.05 + 0.009 (I%)	=	0.37	
WQv = Water Quality Volume	=	5,037	CF

Subcatchment ID: GIP 1 (Bioretention)

Water Quality Volume = $WQ_v = \frac{P * R_v * A}{12}$

P = WQv 24-hour Rainfall Amount	=	1.5	in.
A = Subcatchment Area	=	34848	SF
Ai= Impervious Area within Subcatchment Area	=	21780	
I = Ai/A	=	62.5	%
Rv = 0.05 + 0.009 (I%)	=	0.61	
WQv = Water Quality Volume	=	2,657	CF

Subcatchment ID: GIP 2.1 (Porous Pavement)

Water Quality Volume = $WQ_v = \frac{P * R_v * A}{12}$

P = WQv 24-hour Rainfall Amount	=	1.5	in.
A = Subcatchment Area	=	8712	SF
Ai= Impervious Area within Subcatchment Area	=	8712	
I = Ai/A	=	100.0	%
Rv = 0.05 + 0.009 (I%)	=	0.95	
WQv = Water Quality Volume	=	1,035	CF

Subcatchment ID: GIP 2.2 (Porous Pavement)

Water Quality Volume = $WQ_v = \frac{P * R_v * A}{12}$

P = WQv 24-hour Rainfall Amount	=	1.5	in.
A = Subcatchment Area	=	4356	SF
Ai= Impervious Area within Subcatchment Area	=	4356	
I = Ai/A	=	100.0	%
Rv = 0.05 + 0.009 (I%)	=	0.95	
WQv = Water Quality Volume	=	517	CF

Subcatchment ID: GIP 3 (Porous Pavementv-Previously Constructed)

Based on the previously approved SWPPP the initial WQv is equal to 3,833 cf or 0.09 ac-ft.

APPENDIX B

RRv Calculations

RRv Calculation Worksheet

Project: Artis Senior Living of Tarrytown
Project #: 17200.100
Date: 1/30/2019

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1. RRv Initial = Water Quality Volume (WQv) *0.300 ac-ft* = *13,079 c.f.*
(refer to WQv Calculation Worksheet for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	2.4	Acres
RRv Minimum	=	*4,966*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appe	= 13,079	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement	5,385	100%	5,385
Infiltration Practice (Standard SMP)		100%	N/A
Bioretention Practice (Standard SMP)	2,099	40%	840
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		40%	
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*6,225*

5. Summary

RRv Initial	=	13,079	c.f.
RRv Required	=	13,079	c.f.
RRv Minimum	=	4,966	c.f.
RRv Provided	=	6,225	c.f.
WQv Required for Downstream SMP	=	6,854	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

APPENDIX C

SMP Sizing Calculations

The sizing calculations for GIP 1, 2.1 and 2.2 are provided below.

GIP 3 was previously sized as part of the SWPPP prepared August 12, 2014.

GIP 1 - NYSDEC Bioretention Filter (Design F-5)

Project: Artis Senior Living of Somers
Project #: 17200.100
Date: 1/30/2019

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1a. WQv = 0.061 ac-ft 2657 c.f.

1b. Subcatchment % Imperviousness = 62%

2. Required Practice Volume

2a. Total required volume = 75% of WQv (in filter and pretreatment) = 1993 c.f.

2b. Total volume provided in filter and pretreatment = = 2099 c.f.
(See 4c below.)

3. Pretreatment Requirements:

Pretreatment will be provided by a gravel spalsh block, and 10 foot long grass filter strip. As the inflow length is less that 75 feet, and less than 2% slope, a 10 foot grass filter strip is required.

4. Required Filter Area:

4a. Required Filter Area = $\frac{WQv\ (df)}{k\ (hf + df) + tf}$

df= 2.50 ft.
hf= 0.25 ft.
k= 0.50 ft./day
tf= 2.00 days
Required Filter Area= 2415.45 s.f.

4b. Provided Filter Area = 2462.00 s.f.

4c. Volume provided in filter below broad crested weir in GIP 1 = 1,524 c.f.
Volume provided in pretreatment basin = 575 c.f.

Porous Pavement (GIP 2.1) Sizing Summary

Required Volume (WQ_v calculated above) **(cf)**	**Green Infrastructure Practice**	**Porous Asphalt Area System** (full depth area, see plan and detail) **(sf)**	**Porosity of Filter Layer** (ASSHTO No. 2 Stone, see detail)	**Depth of Filter / Drainage Layer Below Overflow Pipe** (see detail) **(in)**	**Volume Provided (cf)**	**Infiltration Rate* (in/hr)**	**Exfiltration Rate (cfs)**
1,035	Porous Asphalt	2,300	0.4	15	1,564	3.5	0.18

*The previously measured infiltration was used with a factor of safety of 2 applied.

As shown in the table above the volume provided in the drainage layer sections of the porous asphalt below the underdrain piping is greater than the volume generated by the WQ_v for the contributing area, therefore the intent of the NYSDEC porous asphalt design has been met.

Porous Pavement (GIP 2.2) Sizing Summary

Required Volume (WQ_v calculated above) **(cf)**	**Green Infrastructure Practice**	**Porous Asphalt Area System** (full depth area, see plan and detail) **(sf)**	**Porosity of Filter Layer** (ASSHTO No. 2 Stone, see detail)	**Depth of Filter / Drainage Layer Below Overflow Pipe** (see detail) **(in)**	**Volume Provided (cf)**	**Infiltration Rate* (in/hr)**	**Exfiltration Rate (cfs)**
517	Porous Asphalt	1,200	0.4	15	816	3.5	0.10

*The previously measured infiltration was used with a factor of safety of 2 applied

As shown in the table above the volume provided in the drainage layer sections of the porous asphalt below the underdrain piping is greater than the volume generated by the WQ_v for the contributing area, therefore the intent of the NYSDEC porous asphalt design has been met.

APPENDIX D

Pre-Development HydroCAD Output

Subcat Reach Pond Link

Routing Diagram for Pre Developement - Artis Tarrytown

Prepared by Insite Engineering, Surveying, and Landscape Architecture, Printed 1/8/2019

Summary for Subcatchment 1.0S:

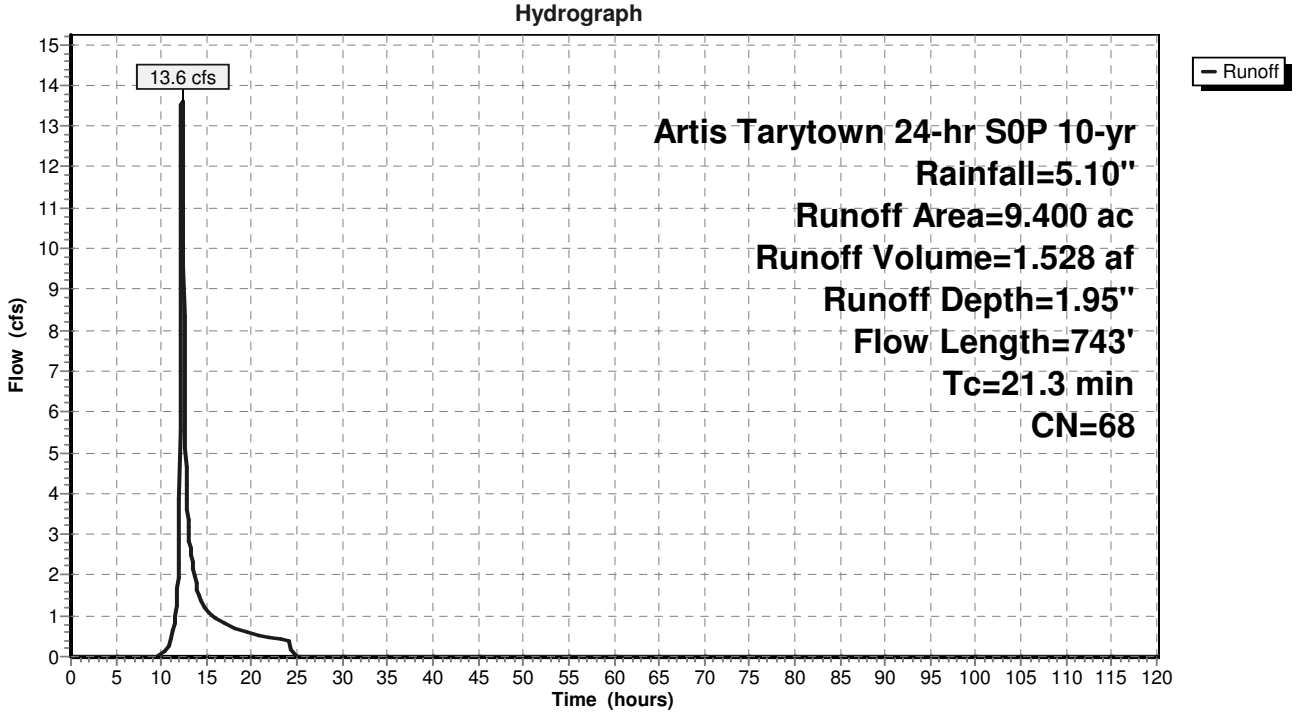
Runoff = 13.6 cfs @ 12.27 hrs, Volume= 1.528 af, Depth= 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
1.500	98	Paved parking, HSG B
0.400	96	Gravel surface, HSG B
1.000	55	Woods, Good, HSG B
6.500	61	>75% Grass cover, Good, HSG B
9.400	68	Weighted Average
7.900		84.04% Pervious Area
1.500		15.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	100	0.0300	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 1.00"
0.3	28	0.0370	1.35		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.1	615	0.1120	1.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.3	743	Total			

Subcatchment 1.0S:



Summary for Subcatchment 1.0S:

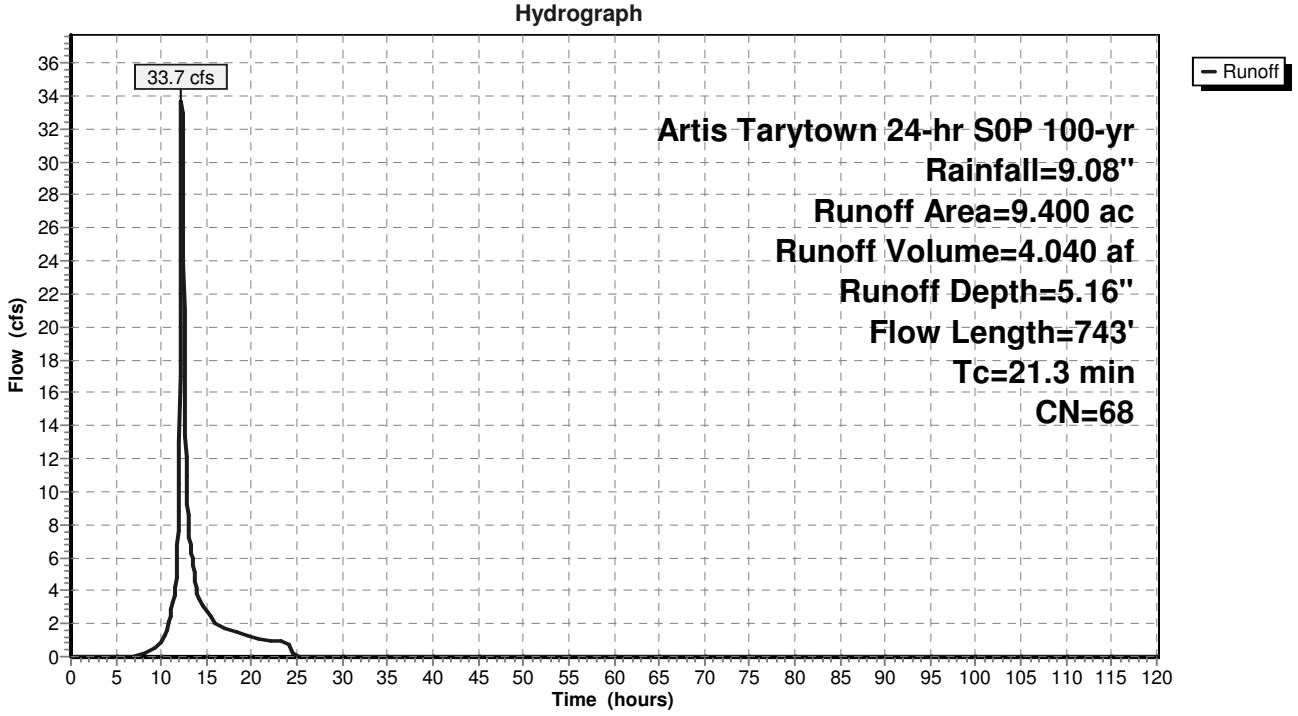
Runoff = 33.7 cfs @ 12.26 hrs, Volume= 4.040 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
1.500	98	Paved parking, HSG B
0.400	96	Gravel surface, HSG B
1.000	55	Woods, Good, HSG B
6.500	61	>75% Grass cover, Good, HSG B
9.400	68	Weighted Average
7.900		84.04% Pervious Area
1.500		15.96% Impervious Area

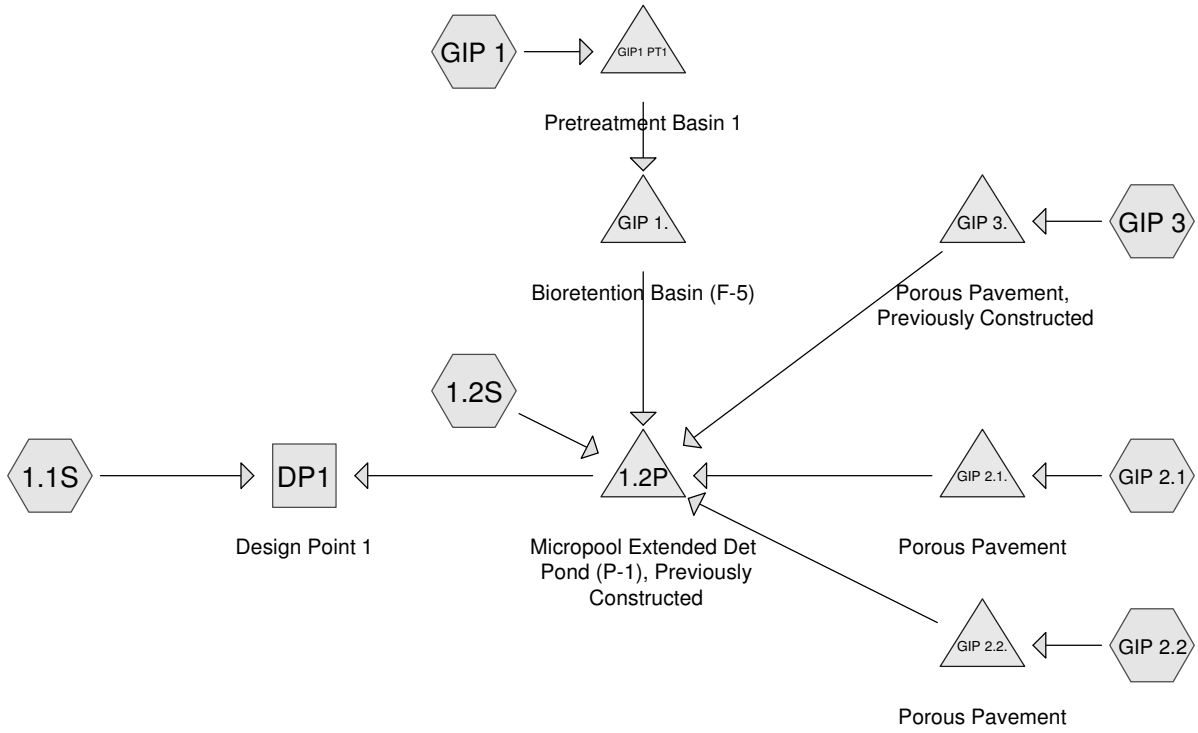
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	100	0.0300	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 1.00"
0.3	28	0.0370	1.35		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.1	615	0.1120	1.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.3	743	Total			

Subcatchment 1.0S:



APPENDIX E

Post-Development HydroCAD Output



Subcat Reach Pond Link

Routing Diagram for Post Developement - Artis Tarrytown

Prepared by Insite Engineering, Surveying, and Landscape Architecture, Printed 1/30/2019

Summary for Subcatchment 1.1S:

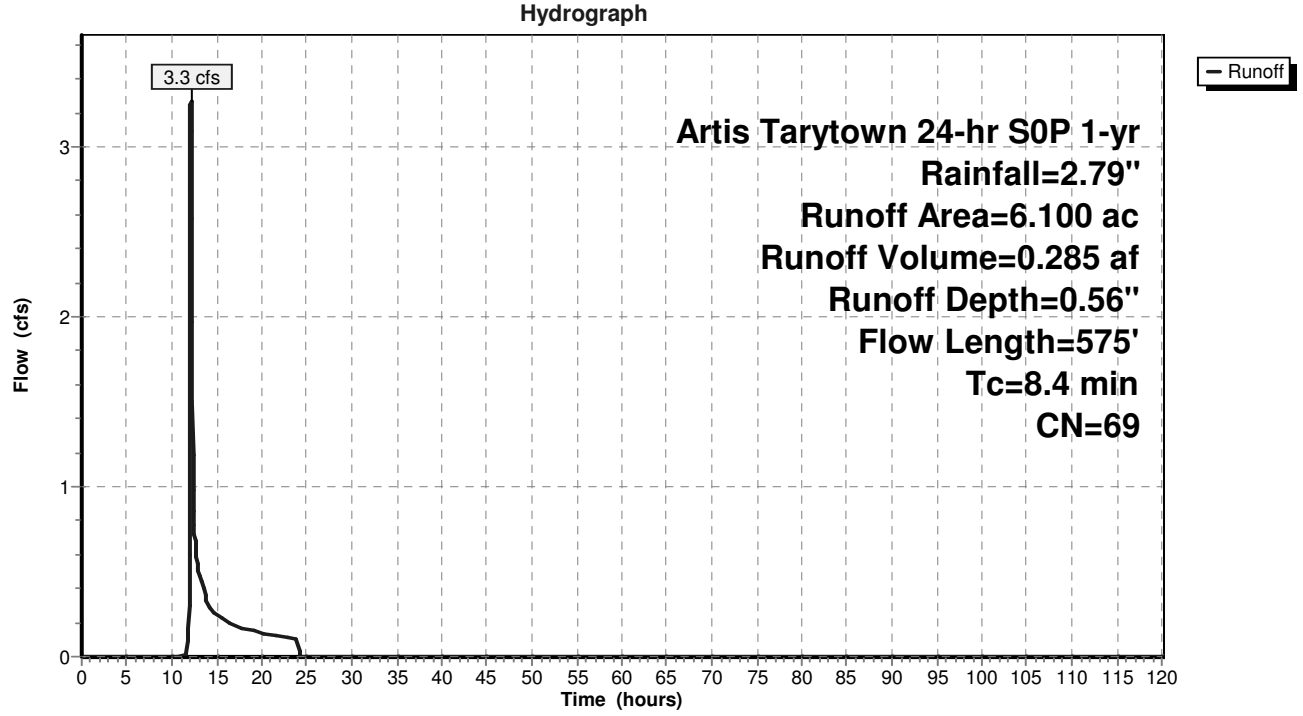
Runoff = 3.3 cfs @ 12.11 hrs, Volume= 0.285 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
1.500	98	Paved parking, HSG B
0.800	55	Woods, Good, HSG B
3.800	61	>75% Grass cover, Good, HSG B
6.100	69	Weighted Average
4.600		75.41% Pervious Area
1.500		24.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	70	0.0710	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"
0.9	215	0.0610	4.19	2.62	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.25' Z= 2.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
2.4	290	0.1690	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.4	575	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

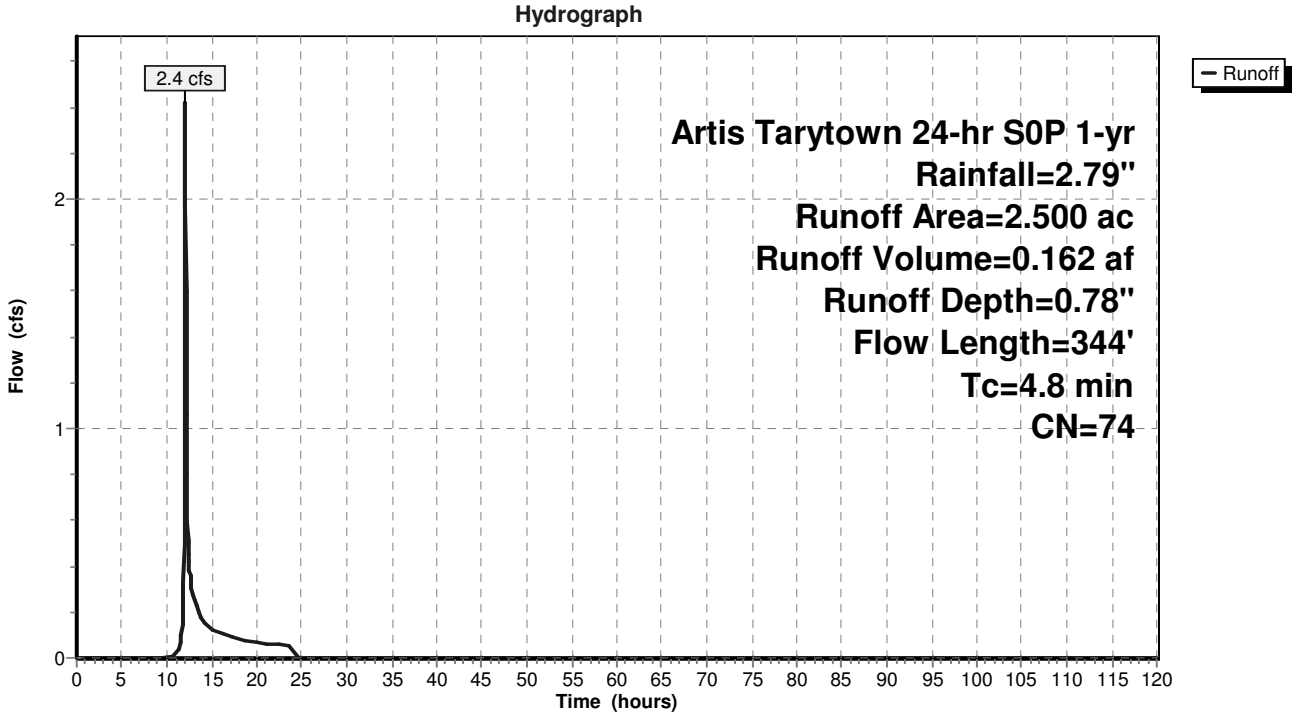
Runoff = 2.4 cfs @ 12.05 hrs, Volume= 0.162 af, Depth= 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
1.600	61	>75% Grass cover, Good, HSG B
0.900	98	Paved parking, HSG B
2.500	74	Weighted Average
1.600		64.00% Pervious Area
0.900		36.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	70	0.1700	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"
0.4	144	0.1100	5.63	3.52	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.25' Z= 2.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
0.8	130	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	344	Total			

Subcatchment 1.2S:



Summary for Subcatchment GIP 1:

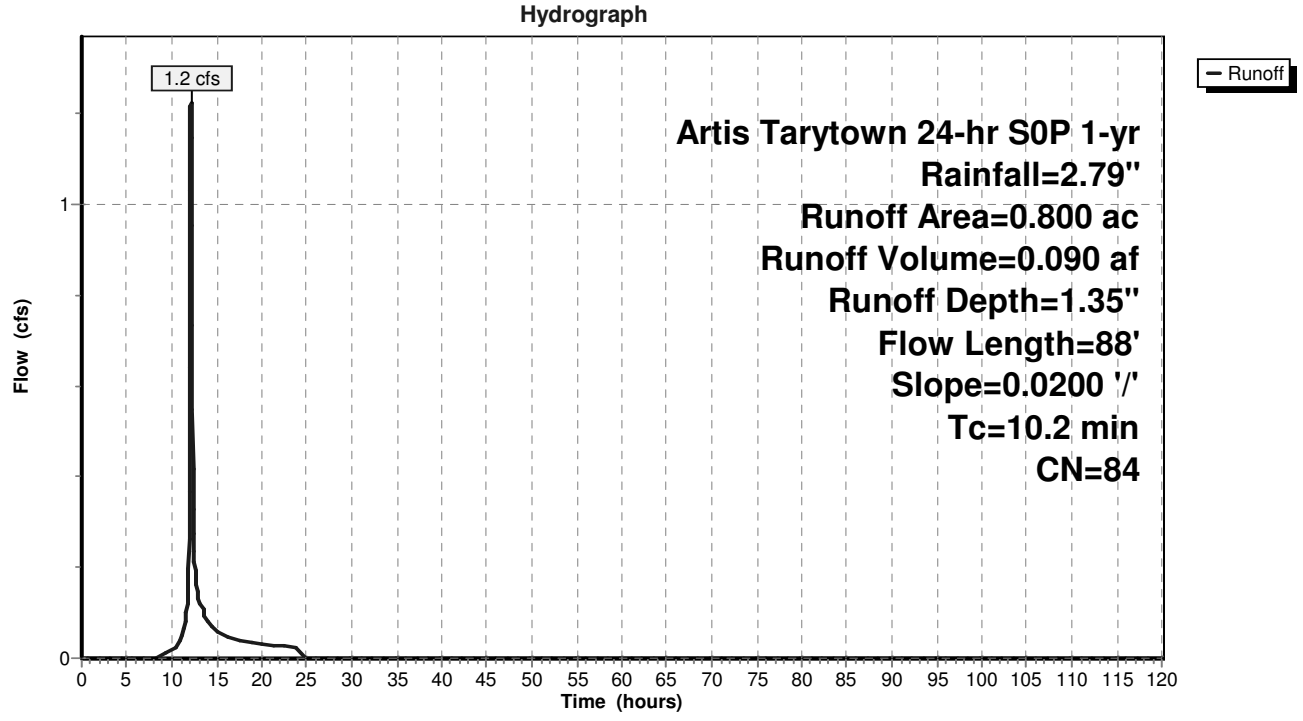
Runoff = 1.2 cfs @ 12.11 hrs, Volume= 0.090 af, Depth= 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.300	61	>75% Grass cover, Good, HSG B
0.500	98	Paved parking, HSG B
0.800	84	Weighted Average
0.300		37.50% Pervious Area
0.500		62.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	88	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"

Subcatchment GIP 1:



Summary for Subcatchment GIP 2.1:

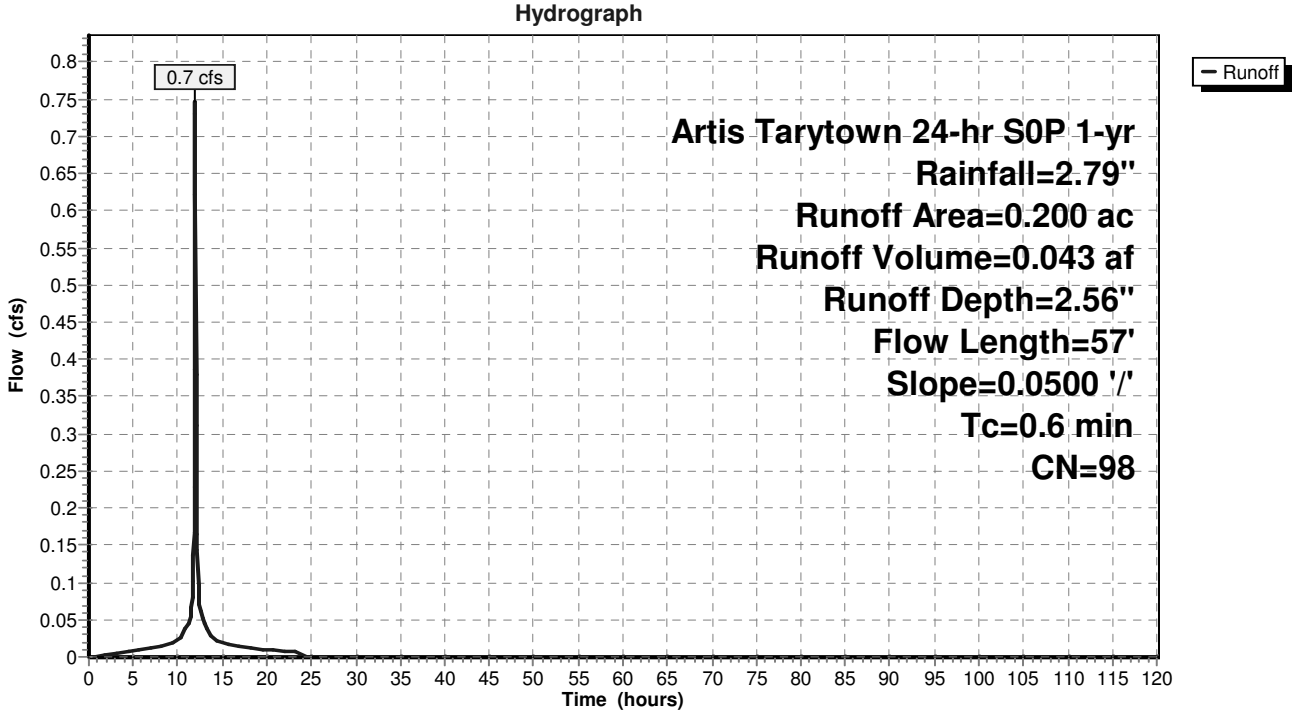
Runoff = 0.7 cfs @ 11.96 hrs, Volume= 0.043 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	57	0.0500	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.42"

Subcatchment GIP 2.1:



Summary for Subcatchment GIP 2.2:

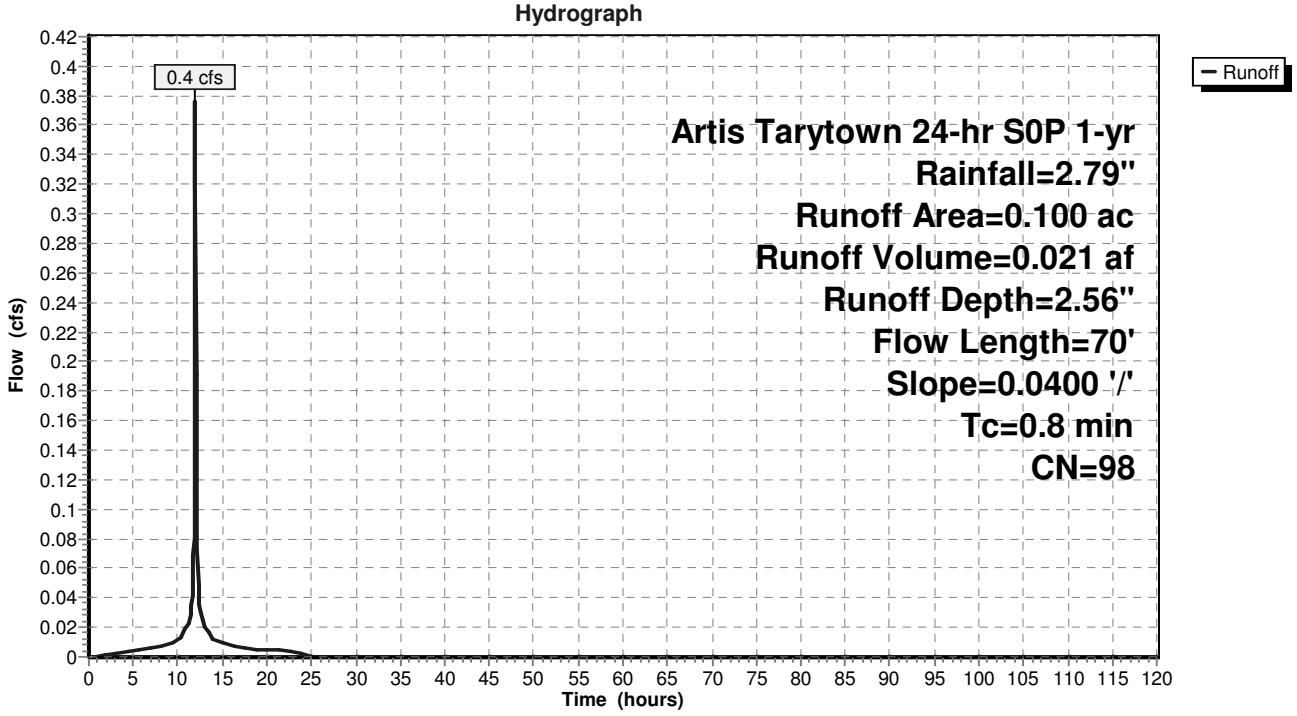
Runoff = 0.4 cfs @ 11.97 hrs, Volume= 0.021 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.100	98	Paved parking, HSG B
0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	70	0.0400	1.47		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.42"

Subcatchment GIP 2.2:



Summary for Subcatchment GIP 3:

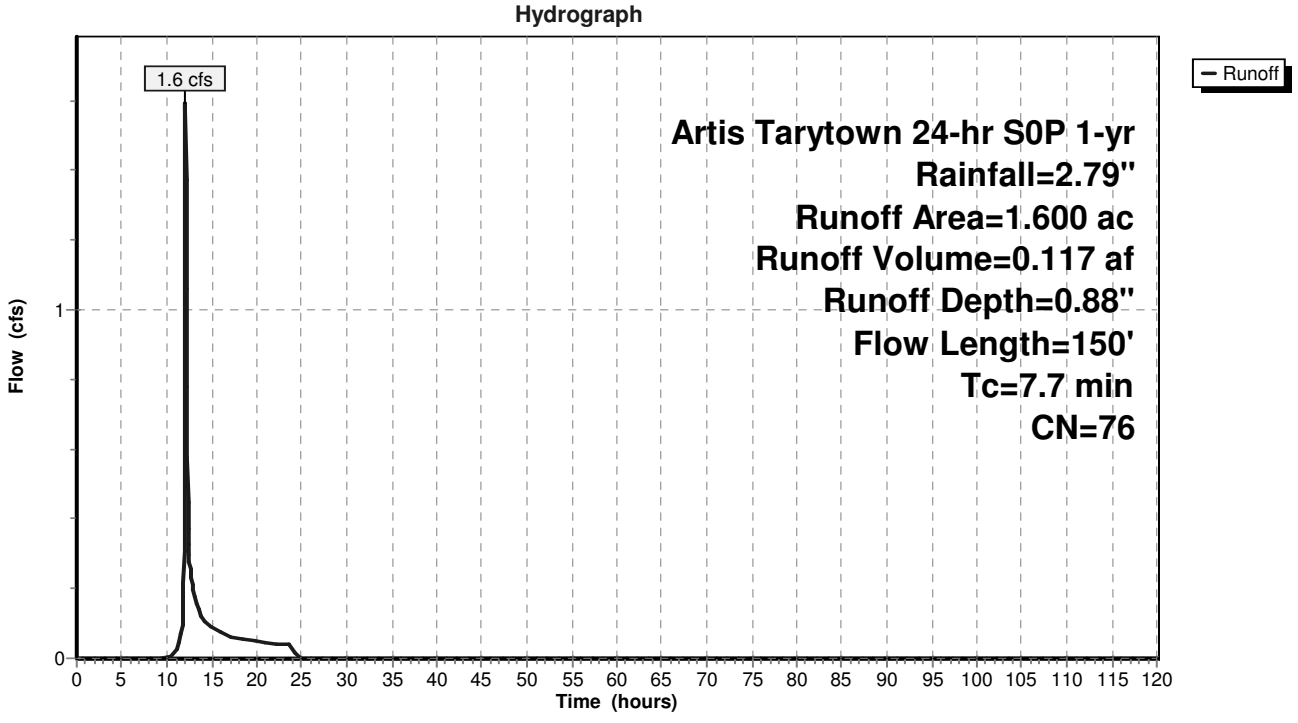
Runoff = 1.6 cfs @ 12.08 hrs, Volume= 0.117 af, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.700	98	Paved parking, HSG B
0.500	61	>75% Grass cover, Good, HSG B
0.400	55	Woods, Good, HSG B
1.600	76	Weighted Average
0.900		56.25% Pervious Area
0.700		43.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3900	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.42"
0.2	50	0.4400	4.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.7	150	Total			

Subcatchment GIP 3:

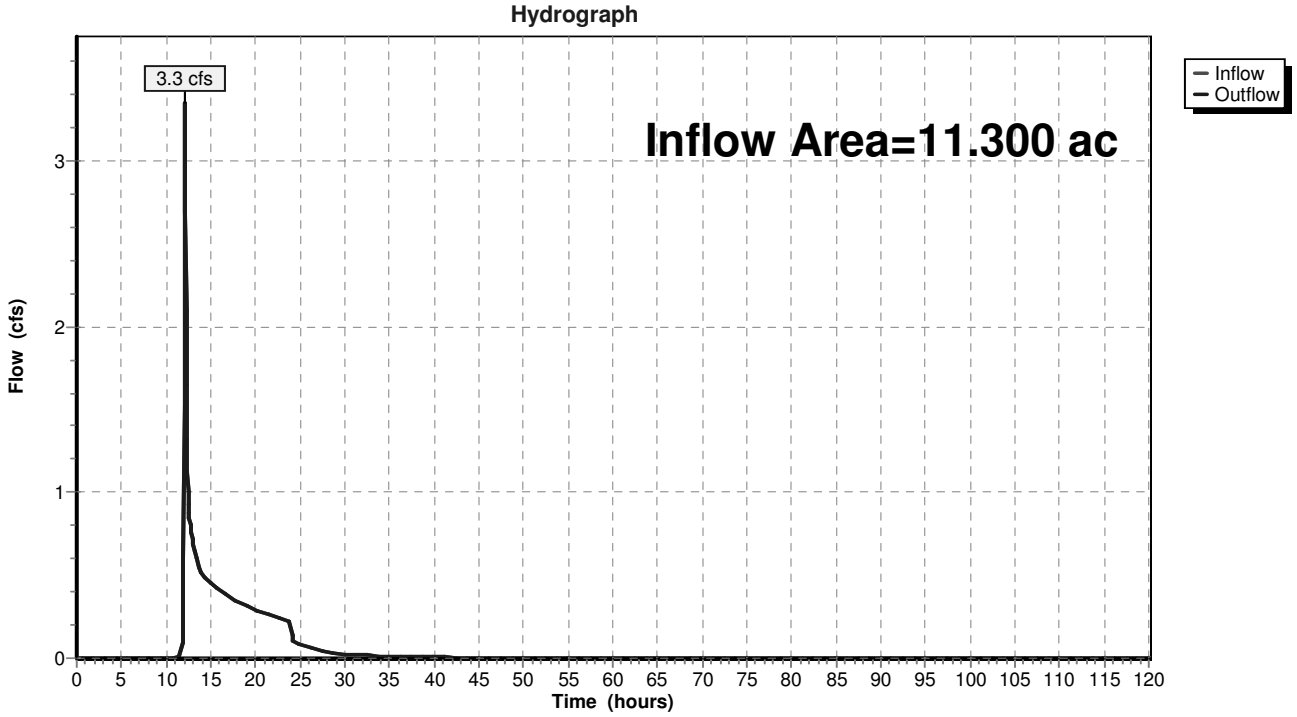


Summary for Reach DP1: Design Point 1

Inflow Area = 11.300 ac, 34.51% Impervious, Inflow Depth = 0.52" for 1-yr event
Inflow = 3.3 cfs @ 12.12 hrs, Volume= 0.494 af
Outflow = 3.3 cfs @ 12.12 hrs, Volume= 0.494 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP1: Design Point 1



Summary for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed

Inflow Area = 5.200 ac, 46.15% Impervious, Inflow Depth = 0.49" for 1-yr event
Inflow = 2.4 cfs @ 12.05 hrs, Volume= 0.211 af
Outflow = 0.2 cfs @ 14.62 hrs, Volume= 0.209 af, Atten= 91%, Lag= 154.4 min
Primary = 0.2 cfs @ 14.62 hrs, Volume= 0.209 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 143.22' Surf.Area= 8,284 sf Storage= 15,389 cf
Peak Elev= 143.63' @ 14.62 hrs Surf.Area= 9,179 sf Storage= 18,942 cf (3,553 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 346.5 min (1,264.3 - 917.8)

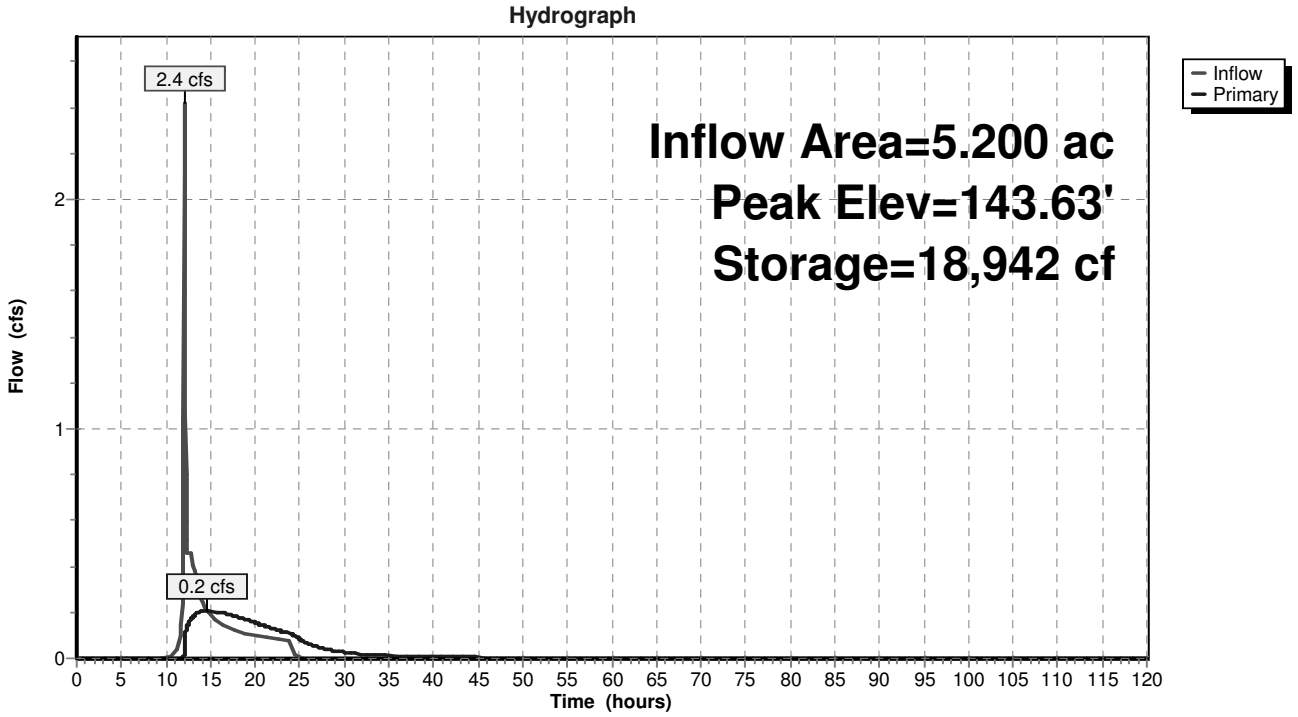
Volume	Invert	Avail.Storage	Storage Description
#1	139.60'	63,375 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
139.60	0	0	0
140.00	1,100	220	220
142.00	5,600	6,700	6,920
144.00	10,000	15,600	22,520
146.00	14,700	24,700	47,220
146.90	21,200	16,155	63,375

Device	Routing	Invert	Outlet Devices
#1	Primary	138.20'	**18.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 138.20' / 131.74' S= 0.0994 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	143.22'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	144.90'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.2 cfs @ 14.62 hrs HW=143.63' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.2 cfs of 18.4 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.2 cfs @ 2.36 fps)
  - **3=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed



Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
139.60	0	0
139.62	55	1
139.64	110	2
139.66	165	5
139.68	220	9
139.70	275	14
139.72	330	20
139.74	385	27
139.76	440	35
139.78	495	45
139.80	550	55
139.82	605	67
139.84	660	79
139.86	715	93
139.88	770	108
139.90	825	124
139.92	880	141
139.94	935	159
139.96	990	178
139.98	1,045	199
140.00	1,100	220
140.02	1,145	242
140.04	1,190	266
140.06	1,235	290
140.08	1,280	315
140.10	1,325	341
140.12	1,370	368
140.14	1,415	396
140.16	1,460	425
140.18	1,505	454
140.20	1,550	485
140.22	1,595	516
140.24	1,640	549
140.26	1,685	582
140.28	1,730	616
140.30	1,775	651
140.32	1,820	687
140.34	1,865	724
140.36	1,910	762
140.38	1,955	800
140.40	2,000	840
140.42	2,045	880
140.44	2,090	922
140.46	2,135	964
140.48	2,180	1,007
140.50	2,225	1,051
140.52	2,270	1,096
140.54	2,315	1,142
140.56	2,360	1,189
140.58	2,405	1,236
140.60	2,450	1,285
140.62	2,495	1,334
140.64	2,540	1,385
140.66	2,585	1,436
140.68	2,630	1,488
140.70	2,675	1,541
140.72	2,720	1,595
140.74	2,765	1,650
140.76	2,810	1,706
140.78	2,855	1,762
140.80	2,900	1,820
140.82	2,945	1,878
140.84	2,990	1,938
140.86	3,035	1,998
140.88	3,080	2,059
140.90	3,125	2,121
140.92	3,170	2,184
140.94	3,215	2,248
140.96	3,260	2,313
140.98	3,305	2,378
141.00	3,350	2,445
141.02	3,395	2,512
141.04	3,440	2,581
141.06	3,485	2,650
141.08	3,530	2,720
141.10	3,575	2,791
141.12	3,620	2,863
141.14	3,665	2,936
141.16	3,710	3,010
141.18	3,755	3,084
141.20	3,800	3,160
141.22	3,845	3,236
141.24	3,890	3,314
141.26	3,935	3,392
141.28	3,980	3,471
141.30	4,025	3,551
141.32	4,070	3,632
141.34	4,115	3,714
141.36	4,160	3,797
141.38	4,205	3,880
141.40	4,250	3,965
141.42	4,295	4,050
141.44	4,340	4,137
141.46	4,385	4,224
141.48	4,430	4,312
141.50	4,475	4,401
141.52	4,520	4,491
141.54	4,565	4,582
141.56	4,610	4,674
141.58	4,655	4,766
141.60	4,700	4,860
141.62	4,745	4,954
141.64	4,790	5,050
141.66	4,835	5,146

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
141.68	4,880	5,243
141.70	4,925	5,341
141.72	4,970	5,440
141.74	5,015	5,540
141.76	5,060	5,641
141.78	5,105	5,742
141.80	5,150	5,845
141.82	5,195	5,948
141.84	5,240	6,053
141.86	5,285	6,158
141.88	5,330	6,264
141.90	5,375	6,371
141.92	5,420	6,479
141.94	5,465	6,588
141.96	5,510	6,698
141.98	5,555	6,808
142.00	5,600	6,920
142.02	5,644	7,032
142.04	5,688	7,146
142.06	5,732	7,260
142.08	5,776	7,375
142.10	5,820	7,491
142.12	5,864	7,608
142.14	5,908	7,726
142.16	5,952	7,844
142.18	5,996	7,964
142.20	6,040	8,084
142.22	6,084	8,205
142.24	6,128	8,327
142.26	6,172	8,450
142.28	6,216	8,574
142.30	6,260	8,699
142.32	6,304	8,825
142.34	6,348	8,951
142.36	6,392	9,079
142.38	6,436	9,207
142.40	6,480	9,336
142.42	6,524	9,466
142.44	6,568	9,597
142.46	6,612	9,729
142.48	6,656	9,861
142.50	6,700	9,995
142.52	6,744	10,129
142.54	6,788	10,265
142.56	6,832	10,401
142.58	6,876	10,538
142.60	6,920	10,676
142.62	6,964	10,815
142.64	7,008	10,955
142.66	7,052	11,095
142.68	7,096	11,237
142.70	7,140	11,379
142.72	7,184	11,522
142.74	7,228	11,666
142.76	7,272	11,811
142.78	7,316	11,957
142.80	7,360	12,104
142.82	7,404	12,252
142.84	7,448	12,400
142.86	7,492	12,550
142.88	7,536	12,700
142.90	7,580	12,851
142.92	7,624	13,003
142.94	7,668	13,156
142.96	7,712	13,310
142.98	7,756	13,464
143.00	7,800	13,620
143.02	7,844	13,776
143.04	7,888	13,934
143.06	7,932	14,092
143.08	7,976	14,251
143.10	8,020	14,411
143.12	8,064	14,572
143.14	8,108	14,734
143.16	8,152	14,896
143.18	8,196	15,060
143.20	8,240	15,224
143.22	8,284	15,389
143.24	8,328	15,555
143.26	8,372	15,722
143.28	8,416	15,890
143.30	8,460	16,059
143.32	8,504	16,229
143.34	8,548	16,399
143.36	8,592	16,571
143.38	8,636	16,743
143.40	8,680	16,916
143.42	8,724	17,090
143.44	8,768	17,265
143.46	8,812	17,441
143.48	8,856	17,617
143.50	8,900	17,795
143.52	8,944	17,973
143.54	8,988	18,153
143.56	9,032	18,333
143.58	9,076	18,514
143.60	9,120	18,696
143.62	9,164	18,879
143.64	9,208	19,063
143.66	9,252	19,247
143.68	9,296	19,433
143.70	9,340	19,619
143.72	9,384	19,806
143.74	9,428	19,994

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
143.76	9,472	20,183
143.78	9,516	20,373
143.80	9,560	20,564
143.82	9,604	20,756
143.84	9,648	20,948
143.86	9,692	21,142
143.88	9,736	21,336
143.90	9,780	21,531
143.92	9,824	21,727
143.94	9,868	21,924
143.96	9,912	22,122
143.98	9,956	22,320
144.00	10,000	22,520
144.02	10,047	22,720
144.04	10,094	22,922
144.06	10,141	23,124
144.08	10,188	23,328
144.10	10,235	23,532
144.12	10,282	23,737
144.14	10,329	23,943
144.16	10,376	24,150
144.18	10,423	24,358
144.20	10,470	24,567
144.22	10,517	24,777
144.24	10,564	24,988
144.26	10,611	25,199
144.28	10,658	25,412
144.30	10,705	25,626
144.32	10,752	25,840
144.34	10,799	26,056
144.36	10,846	26,272
144.38	10,893	26,490
144.40	10,940	26,708
144.42	10,987	26,927
144.44	11,034	27,147
144.46	11,081	27,369
144.48	11,128	27,591
144.50	11,175	27,814
144.52	11,222	28,038
144.54	11,269	28,263
144.56	11,316	28,488
144.58	11,363	28,715
144.60	11,410	28,943
144.62	11,457	29,172
144.64	11,504	29,401
144.66	11,551	29,632
144.68	11,598	29,863
144.70	11,645	30,096
144.72	11,692	30,329
144.74	11,739	30,563
144.76	11,786	30,799
144.78	11,833	31,035
144.80	11,880	31,272
144.82	11,927	31,510
144.84	11,974	31,749
144.86	12,021	31,989
144.88	12,068	32,230
144.90	12,115	32,472
144.92	12,162	32,715
144.94	12,209	32,958
144.96	12,256	33,203
144.98	12,303	33,448
145.00	12,350	33,695
145.02	12,397	33,942
145.04	12,444	34,191
145.06	12,491	34,440
145.08	12,538	34,691
145.10	12,585	34,942
145.12	12,632	35,194
145.14	12,679	35,447
145.16	12,726	35,701
145.18	12,773	35,956
145.20	12,820	36,212
145.22	12,867	36,469
145.24	12,914	36,727
145.26	12,961	36,985
145.28	13,008	37,245
145.30	13,055	37,506
145.32	13,102	37,767
145.34	13,149	38,030
145.36	13,196	38,293
145.38	13,243	38,558
145.40	13,290	38,823
145.42	13,337	39,089
145.44	13,384	39,356
145.46	13,431	39,625
145.48	13,478	39,894
145.50	13,525	40,164
145.52	13,572	40,435
145.54	13,619	40,707
145.56	13,666	40,979
145.58	13,713	41,253
145.60	13,760	41,528
145.62	13,807	41,804
145.64	13,854	42,080
145.66	13,901	42,358
145.68	13,948	42,636
145.70	13,995	42,916
145.72	14,042	43,196
145.74	14,089	43,477
145.76	14,136	43,760
145.78	14,183	44,043
145.80	14,230	44,327
145.82	14,277	44,612

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
145.84	14,324	44,898
145.86	14,371	45,185
145.88	14,418	45,473
145.90	14,465	45,762
145.92	14,512	46,052
145.94	14,559	46,342
145.96	14,606	46,634
145.98	14,653	46,926
146.00	14,700	47,220
146.02	14,844	47,515
146.04	14,989	47,814
146.06	15,133	48,115
146.08	15,278	48,419
146.10	15,422	48,726
146.12	15,567	49,036
146.14	15,711	49,349
146.16	15,856	49,664
146.18	16,000	49,983
146.20	16,144	50,304
146.22	16,289	50,629
146.24	16,433	50,956
146.26	16,578	51,286
146.28	16,722	51,619
146.30	16,867	51,955
146.32	17,011	52,294
146.34	17,156	52,635
146.36	17,300	52,980
146.38	17,444	53,327
146.40	17,589	53,678
146.42	17,733	54,031
146.44	17,878	54,387
146.46	18,022	54,746
146.48	18,167	55,108
146.50	18,311	55,473
146.52	18,456	55,840
146.54	18,600	56,211
146.56	18,744	56,584
146.58	18,889	56,961
146.60	19,033	57,340
146.62	19,178	57,722
146.64	19,322	58,107
146.66	19,467	58,495
146.68	19,611	58,886
146.70	19,756	59,279
146.72	19,900	59,676
146.74	20,044	60,075
146.76	20,189	60,478
146.78	20,333	60,883
146.80	20,478	61,291
146.82	20,622	61,702
146.84	20,767	62,116
146.86	20,911	62,533
146.88	21,056	62,952
146.90	**21,200**	**63,375**

Summary for Pond GIP 1.: Bioretention Basin (F-5)

Inflow Area = 0.800 ac, 62.50% Impervious, Inflow Depth = 1.26" for 1-yr event
Inflow = 1.1 cfs @ 12.11 hrs, Volume= 0.084 af
Outflow = 0.2 cfs @ 12.83 hrs, Volume= 0.049 af, Atten= 86%, Lag= 43.5 min
Primary = 0.2 cfs @ 12.83 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.54' @ 12.83 hrs Surf.Area= 3,099 sf Storage= 1,656 cf

Plug-Flow detention time= 270.1 min calculated for 0.049 af (58% of inflow)
Center-of-Mass det. time= 132.1 min (1,000.3 - 868.2)

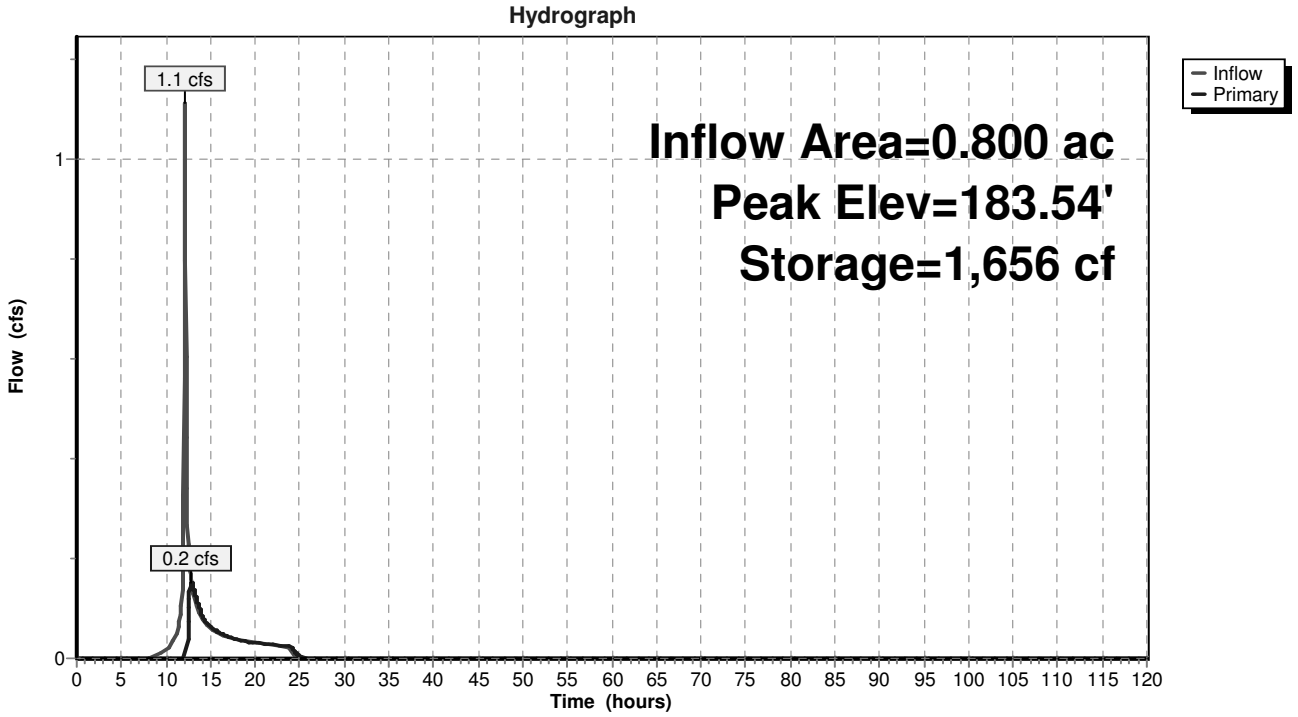
Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	3,049 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.00	2,462	0	0
184.00	3,635	3,049	3,049

Device	Routing	Invert	Outlet Devices
#1	Primary	178.50'	**15.0" Round Culvert** L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 178.50' / 178.00' S= 0.0227 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	183.50'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.2 cfs @ 12.83 hrs HW=183.54' TW=143.56' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.2 cfs of 12.4 cfs potential flow)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.2 cfs @ 0.58 fps)

Pond GIP 1.: Bioretention Basin (F-5)



Stage-Area-Storage for Pond GIP 1.: Bioretention Basin (F-5)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	2,462	0
183.01	2,474	30
183.02	2,485	61
183.03	2,497	91
183.04	2,509	122
183.05	2,521	152
183.06	2,532	183
183.07	2,544	213
183.08	2,556	244
183.09	2,568	274
183.10	2,579	305
183.11	2,591	335
183.12	2,603	366
183.13	2,614	396
183.14	2,626	427
183.15	2,638	457
183.16	2,650	488
183.17	2,661	518
183.18	2,673	549
183.19	2,685	579
183.20	2,697	610
183.21	2,708	640
183.22	2,720	671
183.23	2,732	701
183.24	2,744	732
183.25	2,755	762
183.26	2,767	793
183.27	2,779	823
183.28	2,790	854
183.29	2,802	884
183.30	2,814	915
183.31	2,826	945
183.32	2,837	976
183.33	2,849	1,006
183.34	2,861	1,036
183.35	2,873	1,067
183.36	2,884	1,097
183.37	2,896	1,128
183.38	2,908	1,158
183.39	2,919	1,189
183.40	2,931	1,219
183.41	2,943	1,250
183.42	2,955	1,280
183.43	2,966	1,311
183.44	2,978	1,341
183.45	2,990	1,372
183.46	3,002	1,402
183.47	3,013	1,433
183.48	3,025	1,463
183.49	3,037	1,494
183.50	3,049	1,524
183.51	3,060	1,555
183.52	3,072	1,585
183.53	3,084	1,616
183.54	3,095	1,646
183.55	3,107	1,677
183.56	3,119	1,707
183.57	3,131	1,738
183.58	3,142	1,768
183.59	3,154	1,799
183.60	3,166	1,829
183.61	3,178	1,860
183.62	3,189	1,890
183.63	3,201	1,921
183.64	3,213	1,951
183.65	3,224	1,982
183.66	3,236	2,012
183.67	3,248	2,042
183.68	3,260	2,073
183.69	3,271	2,103
183.70	3,283	2,134
183.71	3,295	2,164
183.72	3,307	2,195
183.73	3,318	2,225
183.74	3,330	2,256
183.75	3,342	2,286
183.76	3,353	2,317
183.77	3,365	2,347
183.78	3,377	2,378
183.79	3,389	2,408
183.80	3,400	2,439
183.81	3,412	2,469
183.82	3,424	2,500
183.83	3,436	2,530
183.84	3,447	2,561
183.85	3,459	2,591
183.86	3,471	2,622
183.87	3,483	2,652
183.88	3,494	2,683
183.89	3,506	2,713
183.90	3,518	2,744
183.91	3,529	2,774
183.92	3,541	2,805
183.93	3,553	2,835
183.94	3,565	2,866
183.95	3,576	2,896
183.96	3,588	2,927
183.97	3,600	2,957
183.98	3,612	2,988
183.99	3,623	3,018
184.00	**3,635**	**3,049**

Summary for Pond GIP 2.1.: Porous Pavement

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth = 2.56" for 1-yr event
Inflow = 0.7 cfs @ 11.96 hrs, Volume= 0.043 af
Outflow = 0.2 cfs @ 11.90 hrs, Volume= 0.043 af, Atten= 75%, Lag= 0.0 min
Discarded = 0.2 cfs @ 11.90 hrs, Volume= 0.043 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 188.61' @ 12.15 hrs Surf.Area= 2,300 sf Storage= 287 cf

Plug-Flow detention time= 6.3 min calculated for 0.043 af (100% of inflow)
Center-of-Mass det. time= 6.3 min (762.9 - 756.5)

Volume	Invert	Avail.Storage	Storage Description
#1	188.30'	2,944 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 7,360 cf Overall x 40.0% Voids

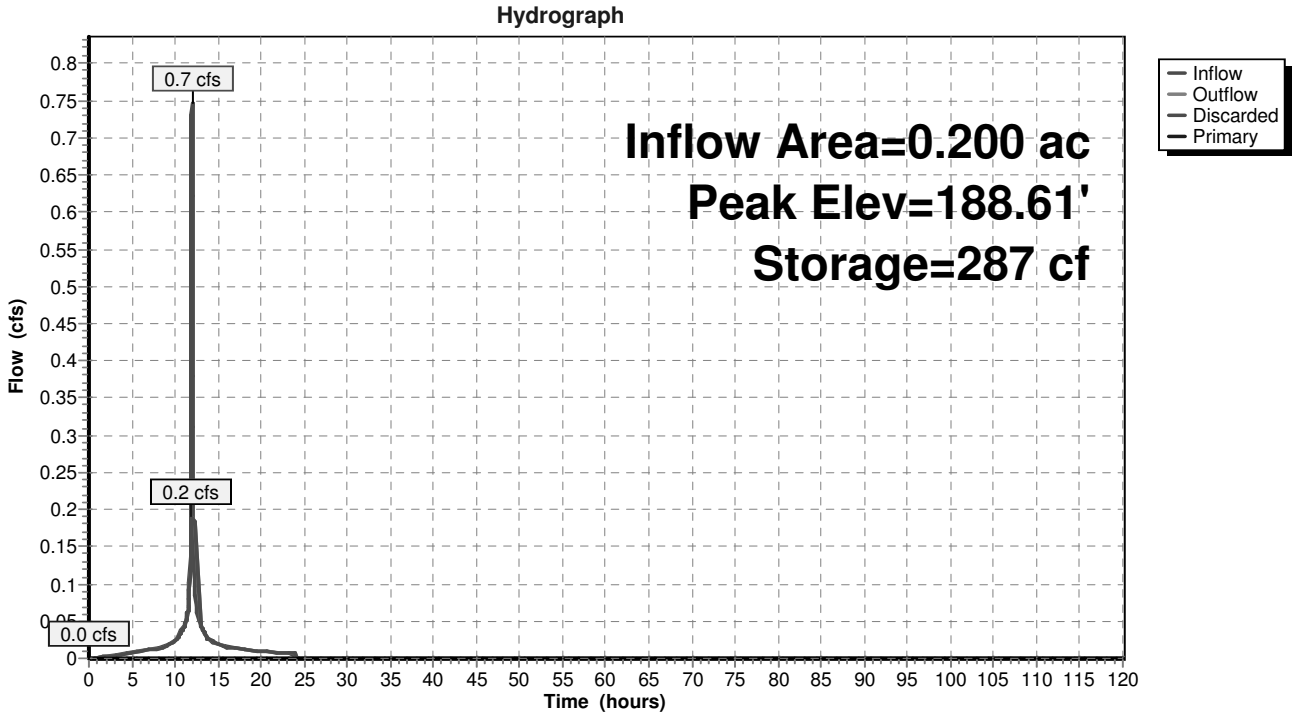
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.30	2,300	0	0
191.50	2,300	7,360	7,360

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.30'	**0.2 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	190.00'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.2 cfs @ 11.90 hrs HW=188.34' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=188.30' TW=143.22' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP 2.1.: Porous Pavement



Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.30	**2,300**	0	188.82	2,300	478
188.31	2,300	9	188.83	2,300	488
188.32	2,300	18	188.84	2,300	497
188.33	2,300	28	188.85	2,300	506
188.34	2,300	37	188.86	2,300	515
188.35	2,300	46	188.87	2,300	524
188.36	2,300	55	188.88	2,300	534
188.37	2,300	64	188.89	2,300	543
188.38	2,300	74	188.90	2,300	552
188.39	2,300	83	188.91	2,300	561
188.40	2,300	92	188.92	2,300	570
188.41	2,300	101	188.93	2,300	580
188.42	2,300	110	188.94	2,300	589
188.43	2,300	120	188.95	2,300	598
188.44	2,300	129	188.96	2,300	607
188.45	2,300	138	188.97	2,300	616
188.46	2,300	147	188.98	2,300	626
188.47	2,300	156	188.99	2,300	635
188.48	2,300	166	189.00	2,300	644
188.49	2,300	175	189.01	2,300	653
188.50	2,300	184	189.02	2,300	662
188.51	2,300	193	189.03	2,300	672
188.52	2,300	202	189.04	2,300	681
188.53	2,300	212	189.05	2,300	690
188.54	2,300	221	189.06	2,300	699
188.55	2,300	230	189.07	2,300	708
188.56	2,300	239	189.08	2,300	718
188.57	2,300	248	189.09	2,300	727
188.58	2,300	258	189.10	2,300	736
188.59	2,300	267	189.11	2,300	745
188.60	2,300	276	189.12	2,300	754
188.61	2,300	285	189.13	2,300	764
188.62	2,300	294	189.14	2,300	773
188.63	2,300	304	189.15	2,300	782
188.64	2,300	313	189.16	2,300	791
188.65	2,300	322	189.17	2,300	800
188.66	2,300	331	189.18	2,300	810
188.67	2,300	340	189.19	2,300	819
188.68	2,300	350	189.20	2,300	828
188.69	2,300	359	189.21	2,300	837
188.70	2,300	368	189.22	2,300	846
188.71	2,300	377	189.23	2,300	856
188.72	2,300	386	189.24	2,300	865
188.73	2,300	396	189.25	2,300	874
188.74	2,300	405	189.26	2,300	883
188.75	2,300	414	189.27	2,300	892
188.76	2,300	423	189.28	2,300	902
188.77	2,300	432	189.29	2,300	911
188.78	2,300	442	189.30	2,300	920
188.79	2,300	451	189.31	2,300	929
188.80	2,300	460	189.32	2,300	938
188.81	2,300	469	189.33	2,300	948

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.34	2,300	957	189.86	2,300	1,435
189.35	2,300	966	189.87	2,300	1,444
189.36	2,300	975	189.88	2,300	1,454
189.37	2,300	984	189.89	2,300	1,463
189.38	2,300	994	189.90	2,300	1,472
189.39	2,300	1,003	189.91	2,300	1,481
189.40	2,300	1,012	189.92	2,300	1,490
189.41	2,300	1,021	189.93	2,300	1,500
189.42	2,300	1,030	189.94	2,300	1,509
189.43	2,300	1,040	189.95	2,300	1,518
189.44	2,300	1,049	189.96	2,300	1,527
189.45	2,300	1,058	189.97	2,300	1,536
189.46	2,300	1,067	189.98	2,300	1,546
189.47	2,300	1,076	189.99	2,300	1,555
189.48	2,300	1,086	190.00	2,300	1,564
189.49	2,300	1,095	190.01	2,300	1,573
189.50	2,300	1,104	190.02	2,300	1,582
189.51	2,300	1,113	190.03	2,300	1,592
189.52	2,300	1,122	190.04	2,300	1,601
189.53	2,300	1,132	190.05	2,300	1,610
189.54	2,300	1,141	190.06	2,300	1,619
189.55	2,300	1,150	190.07	2,300	1,628
189.56	2,300	1,159	190.08	2,300	1,638
189.57	2,300	1,168	190.09	2,300	1,647
189.58	2,300	1,178	190.10	2,300	1,656
189.59	2,300	1,187	190.11	2,300	1,665
189.60	2,300	1,196	190.12	2,300	1,674
189.61	2,300	1,205	190.13	2,300	1,684
189.62	2,300	1,214	190.14	2,300	1,693
189.63	2,300	1,224	190.15	2,300	1,702
189.64	2,300	1,233	190.16	2,300	1,711
189.65	2,300	1,242	190.17	2,300	1,720
189.66	2,300	1,251	190.18	2,300	1,730
189.67	2,300	1,260	190.19	2,300	1,739
189.68	2,300	1,270	190.20	2,300	1,748
189.69	2,300	1,279	190.21	2,300	1,757
189.70	2,300	1,288	190.22	2,300	1,766
189.71	2,300	1,297	190.23	2,300	1,776
189.72	2,300	1,306	190.24	2,300	1,785
189.73	2,300	1,316	190.25	2,300	1,794
189.74	2,300	1,325	190.26	2,300	1,803
189.75	2,300	1,334	190.27	2,300	1,812
189.76	2,300	1,343	190.28	2,300	1,822
189.77	2,300	1,352	190.29	2,300	1,831
189.78	2,300	1,362	190.30	2,300	1,840
189.79	2,300	1,371	190.31	2,300	1,849
189.80	2,300	1,380	190.32	2,300	1,858
189.81	2,300	1,389	190.33	2,300	1,868
189.82	2,300	1,398	190.34	2,300	1,877
189.83	2,300	1,408	190.35	2,300	1,886
189.84	2,300	1,417	190.36	2,300	1,895
189.85	2,300	1,426	190.37	2,300	1,904

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.38	2,300	1,914	190.90	2,300	2,392
190.39	2,300	1,923	190.91	2,300	2,401
190.40	2,300	1,932	190.92	2,300	2,410
190.41	2,300	1,941	190.93	2,300	2,420
190.42	2,300	1,950	190.94	2,300	2,429
190.43	2,300	1,960	190.95	2,300	2,438
190.44	2,300	1,969	190.96	2,300	2,447
190.45	2,300	1,978	190.97	2,300	2,456
190.46	2,300	1,987	190.98	2,300	2,466
190.47	2,300	1,996	190.99	2,300	2,475
190.48	2,300	2,006	191.00	2,300	2,484
190.49	2,300	2,015	191.01	2,300	2,493
190.50	2,300	2,024	191.02	2,300	2,502
190.51	2,300	2,033	191.03	2,300	2,512
190.52	2,300	2,042	191.04	2,300	2,521
190.53	2,300	2,052	191.05	2,300	2,530
190.54	2,300	2,061	191.06	2,300	2,539
190.55	2,300	2,070	191.07	2,300	2,548
190.56	2,300	2,079	191.08	2,300	2,558
190.57	2,300	2,088	191.09	2,300	2,567
190.58	2,300	2,098	191.10	2,300	2,576
190.59	2,300	2,107	191.11	2,300	2,585
190.60	2,300	2,116	191.12	2,300	2,594
190.61	2,300	2,125	191.13	2,300	2,604
190.62	2,300	2,134	191.14	2,300	2,613
190.63	2,300	2,144	191.15	2,300	2,622
190.64	2,300	2,153	191.16	2,300	2,631
190.65	2,300	2,162	191.17	2,300	2,640
190.66	2,300	2,171	191.18	2,300	2,650
190.67	2,300	2,180	191.19	2,300	2,659
190.68	2,300	2,190	191.20	2,300	2,668
190.69	2,300	2,199	191.21	2,300	2,677
190.70	2,300	2,208	191.22	2,300	2,686
190.71	2,300	2,217	191.23	2,300	2,696
190.72	2,300	2,226	191.24	2,300	2,705
190.73	2,300	2,236	191.25	2,300	2,714
190.74	2,300	2,245	191.26	2,300	2,723
190.75	2,300	2,254	191.27	2,300	2,732
190.76	2,300	2,263	191.28	2,300	2,742
190.77	2,300	2,272	191.29	2,300	2,751
190.78	2,300	2,282	191.30	2,300	2,760
190.79	2,300	2,291	191.31	2,300	2,769
190.80	2,300	2,300	191.32	2,300	2,778
190.81	2,300	2,309	191.33	2,300	2,788
190.82	2,300	2,318	191.34	2,300	2,797
190.83	2,300	2,328	191.35	2,300	2,806
190.84	2,300	2,337	191.36	2,300	2,815
190.85	2,300	2,346	191.37	2,300	2,824
190.86	2,300	2,355	191.38	2,300	2,834
190.87	2,300	2,364	191.39	2,300	2,843
190.88	2,300	2,374	191.40	2,300	2,852
190.89	2,300	2,383	191.41	2,300	2,861

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.42	2,300	2,870
191.43	2,300	2,880
191.44	2,300	2,889
191.45	2,300	2,898
191.46	2,300	2,907
191.47	2,300	2,916
191.48	2,300	2,926
191.49	2,300	2,935
191.50	2,300	**2,944**

Summary for Pond GIP 2.2.: Porous Pavement

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth = 2.56" for 1-yr event
Inflow = 0.4 cfs @ 11.97 hrs, Volume= 0.021 af
Outflow = 0.1 cfs @ 11.90 hrs, Volume= 0.021 af, Atten= 73%, Lag= 0.0 min
Discarded = 0.1 cfs @ 11.90 hrs, Volume= 0.021 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 184.79' @ 12.15 hrs Surf.Area= 1,200 sf Storage= 138 cf

Plug-Flow detention time= 5.8 min calculated for 0.021 af (100% of inflow)
Center-of-Mass det. time= 5.8 min (762.5 - 756.7)

Volume	Invert	Avail.Storage	Storage Description
#1	184.50'	1,536 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,840 cf Overall x 40.0% Voids

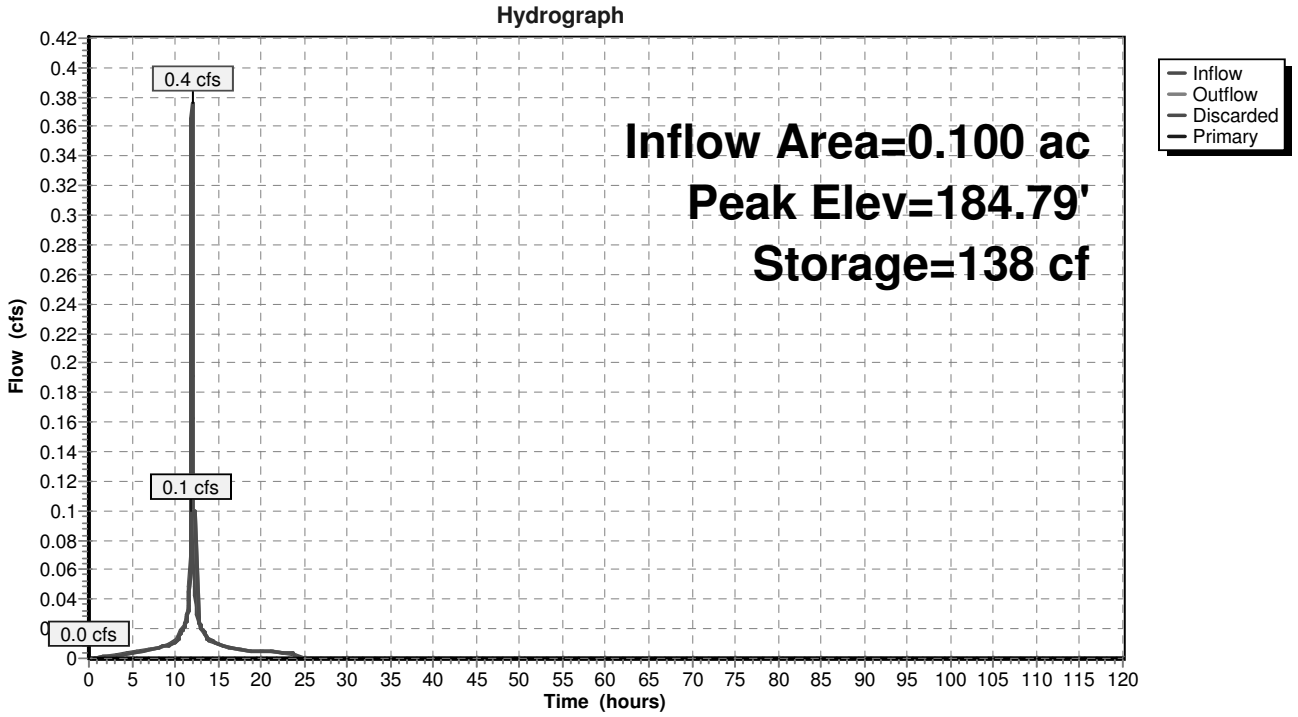
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
184.50	1,200	0	0
187.70	1,200	3,840	3,840

Device	Routing	Invert	Outlet Devices
#1	Discarded	184.50'	**0.1 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	186.20'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.1 cfs @ 11.90 hrs HW=184.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=184.50' TW=143.22' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP 2.2.: Porous Pavement



Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.50	**1,200**	0	185.02	1,200	250
184.51	1,200	5	185.03	1,200	254
184.52	1,200	10	185.04	1,200	259
184.53	1,200	14	185.05	1,200	264
184.54	1,200	19	185.06	1,200	269
184.55	1,200	24	185.07	1,200	274
184.56	1,200	29	185.08	1,200	278
184.57	1,200	34	185.09	1,200	283
184.58	1,200	38	185.10	1,200	288
184.59	1,200	43	185.11	1,200	293
184.60	1,200	48	185.12	1,200	298
184.61	1,200	53	185.13	1,200	302
184.62	1,200	58	185.14	1,200	307
184.63	1,200	62	185.15	1,200	312
184.64	1,200	67	185.16	1,200	317
184.65	1,200	72	185.17	1,200	322
184.66	1,200	77	185.18	1,200	326
184.67	1,200	82	185.19	1,200	331
184.68	1,200	86	185.20	1,200	336
184.69	1,200	91	185.21	1,200	341
184.70	1,200	96	185.22	1,200	346
184.71	1,200	101	185.23	1,200	350
184.72	1,200	106	185.24	1,200	355
184.73	1,200	110	185.25	1,200	360
184.74	1,200	115	185.26	1,200	365
184.75	1,200	120	185.27	1,200	370
184.76	1,200	125	185.28	1,200	374
184.77	1,200	130	185.29	1,200	379
184.78	1,200	134	185.30	1,200	384
184.79	1,200	139	185.31	1,200	389
184.80	1,200	144	185.32	1,200	394
184.81	1,200	149	185.33	1,200	398
184.82	1,200	154	185.34	1,200	403
184.83	1,200	158	185.35	1,200	408
184.84	1,200	163	185.36	1,200	413
184.85	1,200	168	185.37	1,200	418
184.86	1,200	173	185.38	1,200	422
184.87	1,200	178	185.39	1,200	427
184.88	1,200	182	185.40	1,200	432
184.89	1,200	187	185.41	1,200	437
184.90	1,200	192	185.42	1,200	442
184.91	1,200	197	185.43	1,200	446
184.92	1,200	202	185.44	1,200	451
184.93	1,200	206	185.45	1,200	456
184.94	1,200	211	185.46	1,200	461
184.95	1,200	216	185.47	1,200	466
184.96	1,200	221	185.48	1,200	470
184.97	1,200	226	185.49	1,200	475
184.98	1,200	230	185.50	1,200	480
184.99	1,200	235	185.51	1,200	485
185.00	1,200	240	185.52	1,200	490
185.01	1,200	245	185.53	1,200	494

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.54	1,200	499
185.55	1,200	504
185.56	1,200	509
185.57	1,200	514
185.58	1,200	518
185.59	1,200	523
185.60	1,200	528
185.61	1,200	533
185.62	1,200	538
185.63	1,200	542
185.64	1,200	547
185.65	1,200	552
185.66	1,200	557
185.67	1,200	562
185.68	1,200	566
185.69	1,200	571
185.70	1,200	576
185.71	1,200	581
185.72	1,200	586
185.73	1,200	590
185.74	1,200	595
185.75	1,200	600
185.76	1,200	605
185.77	1,200	610
185.78	1,200	614
185.79	1,200	619
185.80	1,200	624
185.81	1,200	629
185.82	1,200	634
185.83	1,200	638
185.84	1,200	643
185.85	1,200	648
185.86	1,200	653
185.87	1,200	658
185.88	1,200	662
185.89	1,200	667
185.90	1,200	672
185.91	1,200	677
185.92	1,200	682
185.93	1,200	686
185.94	1,200	691
185.95	1,200	696
185.96	1,200	701
185.97	1,200	706
185.98	1,200	710
185.99	1,200	715
186.00	1,200	720
186.01	1,200	725
186.02	1,200	730
186.03	1,200	734
186.04	1,200	739
186.05	1,200	744
186.06	1,200	749
186.07	1,200	754
186.08	1,200	758
186.09	1,200	763
186.10	1,200	768
186.11	1,200	773
186.12	1,200	778
186.13	1,200	782
186.14	1,200	787
186.15	1,200	792
186.16	1,200	797
186.17	1,200	802
186.18	1,200	806
186.19	1,200	811
186.20	1,200	816
186.21	1,200	821
186.22	1,200	826
186.23	1,200	830
186.24	1,200	835
186.25	1,200	840
186.26	1,200	845
186.27	1,200	850
186.28	1,200	854
186.29	1,200	859
186.30	1,200	864
186.31	1,200	869
186.32	1,200	874
186.33	1,200	878
186.34	1,200	883
186.35	1,200	888
186.36	1,200	893
186.37	1,200	898
186.38	1,200	902
186.39	1,200	907
186.40	1,200	912
186.41	1,200	917
186.42	1,200	922
186.43	1,200	926
186.44	1,200	931
186.45	1,200	936
186.46	1,200	941
186.47	1,200	946
186.48	1,200	950
186.49	1,200	955
186.50	1,200	960
186.51	1,200	965
186.52	1,200	970
186.53	1,200	974
186.54	1,200	979
186.55	1,200	984
186.56	1,200	989
186.57	1,200	994

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
186.58	1,200	998	187.10	1,200	1,248
186.59	1,200	1,003	187.11	1,200	1,253
186.60	1,200	1,008	187.12	1,200	1,258
186.61	1,200	1,013	187.13	1,200	1,262
186.62	1,200	1,018	187.14	1,200	1,267
186.63	1,200	1,022	187.15	1,200	1,272
186.64	1,200	1,027	187.16	1,200	1,277
186.65	1,200	1,032	187.17	1,200	1,282
186.66	1,200	1,037	187.18	1,200	1,286
186.67	1,200	1,042	187.19	1,200	1,291
186.68	1,200	1,046	187.20	1,200	1,296
186.69	1,200	1,051	187.21	1,200	1,301
186.70	1,200	1,056	187.22	1,200	1,306
186.71	1,200	1,061	187.23	1,200	1,310
186.72	1,200	1,066	187.24	1,200	1,315
186.73	1,200	1,070	187.25	1,200	1,320
186.74	1,200	1,075	187.26	1,200	1,325
186.75	1,200	1,080	187.27	1,200	1,330
186.76	1,200	1,085	187.28	1,200	1,334
186.77	1,200	1,090	187.29	1,200	1,339
186.78	1,200	1,094	187.30	1,200	1,344
186.79	1,200	1,099	187.31	1,200	1,349
186.80	1,200	1,104	187.32	1,200	1,354
186.81	1,200	1,109	187.33	1,200	1,358
186.82	1,200	1,114	187.34	1,200	1,363
186.83	1,200	1,118	187.35	1,200	1,368
186.84	1,200	1,123	187.36	1,200	1,373
186.85	1,200	1,128	187.37	1,200	1,378
186.86	1,200	1,133	187.38	1,200	1,382
186.87	1,200	1,138	187.39	1,200	1,387
186.88	1,200	1,142	187.40	1,200	1,392
186.89	1,200	1,147	187.41	1,200	1,397
186.90	1,200	1,152	187.42	1,200	1,402
186.91	1,200	1,157	187.43	1,200	1,406
186.92	1,200	1,162	187.44	1,200	1,411
186.93	1,200	1,166	187.45	1,200	1,416
186.94	1,200	1,171	187.46	1,200	1,421
186.95	1,200	1,176	187.47	1,200	1,426
186.96	1,200	1,181	187.48	1,200	1,430
186.97	1,200	1,186	187.49	1,200	1,435
186.98	1,200	1,190	187.50	1,200	1,440
186.99	1,200	1,195	187.51	1,200	1,445
187.00	1,200	1,200	187.52	1,200	1,450
187.01	1,200	1,205	187.53	1,200	1,454
187.02	1,200	1,210	187.54	1,200	1,459
187.03	1,200	1,214	187.55	1,200	1,464
187.04	1,200	1,219	187.56	1,200	1,469
187.05	1,200	1,224	187.57	1,200	1,474
187.06	1,200	1,229	187.58	1,200	1,478
187.07	1,200	1,234	187.59	1,200	1,483
187.08	1,200	1,238	187.60	1,200	1,488
187.09	1,200	1,243	187.61	1,200	1,493

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.62	1,200	1,498
187.63	1,200	1,502
187.64	1,200	1,507
187.65	1,200	1,512
187.66	1,200	1,517
187.67	1,200	1,522
187.68	1,200	1,526
187.69	1,200	1,531
187.70	1,200	**1,536**

Summary for Pond GIP 3.: Porous Pavement, Previously Constructed

Inflow Area = 1.600 ac, 43.75% Impervious, Inflow Depth = 0.88" for 1-yr event
Inflow = 1.6 cfs @ 12.08 hrs, Volume= 0.117 af
Outflow = 1.4 cfs @ 12.15 hrs, Volume= 0.117 af, Atten= 12%, Lag= 4.1 min
Discarded = 1.4 cfs @ 12.15 hrs, Volume= 0.117 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 182.73' @ 12.14 hrs Surf.Area= 9,130 sf Storage= 117 cf

Plug-Flow detention time= 0.9 min calculated for 0.117 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (888.0 - 887.1)

Volume	Invert	Avail.Storage	Storage Description
#1	182.70'	14,243 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 35,607 cf Overall x 40.0% Voids

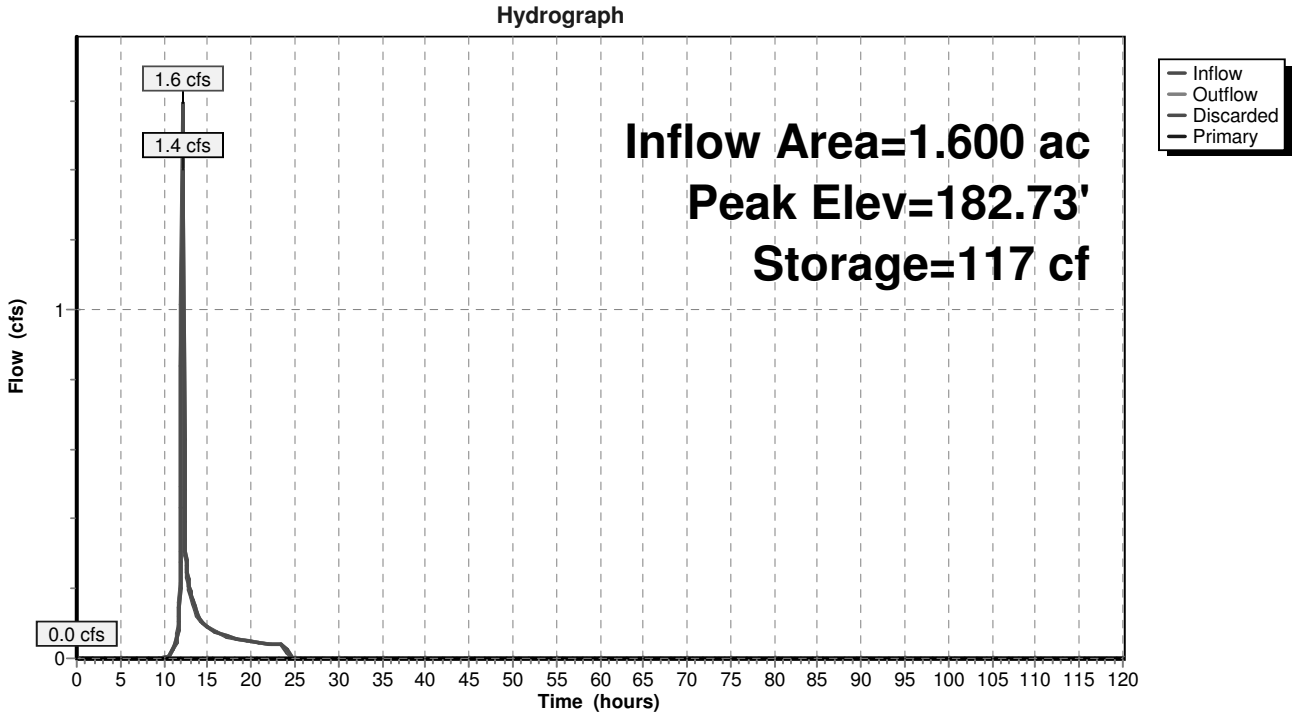
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
182.70	9,130	0	0
186.60	9,130	35,607	35,607

Device	Routing	Invert	Outlet Devices
#1	Discarded	182.70'	**1.4 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	183.90'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=1.4 cfs @ 12.15 hrs HW=182.73' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.4 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=182.70' TW=143.22' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP 3.: Porous Pavement, Previously Constructed



Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
182.70	**9,130**	0	183.22	9,130	1,899
182.71	9,130	37	183.23	9,130	1,936
182.72	9,130	73	183.24	9,130	1,972
182.73	9,130	110	183.25	9,130	2,009
182.74	9,130	146	183.26	9,130	2,045
182.75	9,130	183	183.27	9,130	2,082
182.76	9,130	219	183.28	9,130	2,118
182.77	9,130	256	183.29	9,130	2,155
182.78	9,130	292	183.30	9,130	2,191
182.79	9,130	329	183.31	9,130	2,228
182.80	9,130	365	183.32	9,130	2,264
182.81	9,130	402	183.33	9,130	2,301
182.82	9,130	438	183.34	9,130	2,337
182.83	9,130	475	183.35	9,130	2,374
182.84	9,130	511	183.36	9,130	2,410
182.85	9,130	548	183.37	9,130	2,447
182.86	9,130	584	183.38	9,130	2,483
182.87	9,130	621	183.39	9,130	2,520
182.88	9,130	657	183.40	9,130	2,556
182.89	9,130	694	183.41	9,130	2,593
182.90	9,130	730	183.42	9,130	2,629
182.91	9,130	767	183.43	9,130	2,666
182.92	9,130	803	183.44	9,130	2,702
182.93	9,130	840	183.45	9,130	2,739
182.94	9,130	876	183.46	9,130	2,776
182.95	9,130	913	183.47	9,130	2,812
182.96	9,130	950	183.48	9,130	2,849
182.97	9,130	986	183.49	9,130	2,885
182.98	9,130	1,023	183.50	9,130	2,922
182.99	9,130	1,059	183.51	9,130	2,958
183.00	9,130	1,096	183.52	9,130	2,995
183.01	9,130	1,132	183.53	9,130	3,031
183.02	9,130	1,169	183.54	9,130	3,068
183.03	9,130	1,205	183.55	9,130	3,104
183.04	9,130	1,242	183.56	9,130	3,141
183.05	9,130	1,278	183.57	9,130	3,177
183.06	9,130	1,315	183.58	9,130	3,214
183.07	9,130	1,351	183.59	9,130	3,250
183.08	9,130	1,388	183.60	9,130	3,287
183.09	9,130	1,424	183.61	9,130	3,323
183.10	9,130	1,461	183.62	9,130	3,360
183.11	9,130	1,497	183.63	9,130	3,396
183.12	9,130	1,534	183.64	9,130	3,433
183.13	9,130	1,570	183.65	9,130	3,469
183.14	9,130	1,607	183.66	9,130	3,506
183.15	9,130	1,643	183.67	9,130	3,542
183.16	9,130	1,680	183.68	9,130	3,579
183.17	9,130	1,716	183.69	9,130	3,615
183.18	9,130	1,753	183.70	9,130	3,652
183.19	9,130	1,789	183.71	9,130	3,689
183.20	9,130	1,826	183.72	9,130	3,725
183.21	9,130	1,863	183.73	9,130	3,762

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.74	9,130	3,798	184.26	9,130	5,697
183.75	9,130	3,835	184.27	9,130	5,734
183.76	9,130	3,871	184.28	9,130	5,770
183.77	9,130	3,908	184.29	9,130	5,807
183.78	9,130	3,944	184.30	9,130	5,843
183.79	9,130	3,981	184.31	9,130	5,880
183.80	9,130	4,017	184.32	9,130	5,916
183.81	9,130	4,054	184.33	9,130	5,953
183.82	9,130	4,090	184.34	9,130	5,989
183.83	9,130	4,127	184.35	9,130	6,026
183.84	9,130	4,163	184.36	9,130	6,062
183.85	9,130	4,200	184.37	9,130	6,099
183.86	9,130	4,236	184.38	9,130	6,135
183.87	9,130	4,273	184.39	9,130	6,172
183.88	9,130	4,309	184.40	9,130	6,208
183.89	9,130	4,346	184.41	9,130	6,245
183.90	9,130	4,382	184.42	9,130	6,281
183.91	9,130	4,419	184.43	9,130	6,318
183.92	9,130	4,455	184.44	9,130	6,354
183.93	9,130	4,492	184.45	9,130	6,391
183.94	9,130	4,528	184.46	9,130	6,428
183.95	9,130	4,565	184.47	9,130	6,464
183.96	9,130	4,602	184.48	9,130	6,501
183.97	9,130	4,638	184.49	9,130	6,537
183.98	9,130	4,675	184.50	9,130	6,574
183.99	9,130	4,711	184.51	9,130	6,610
184.00	9,130	4,748	184.52	9,130	6,647
184.01	9,130	4,784	184.53	9,130	6,683
184.02	9,130	4,821	184.54	9,130	6,720
184.03	9,130	4,857	184.55	9,130	6,756
184.04	9,130	4,894	184.56	9,130	6,793
184.05	9,130	4,930	184.57	9,130	6,829
184.06	9,130	4,967	184.58	9,130	6,866
184.07	9,130	5,003	184.59	9,130	6,902
184.08	9,130	5,040	184.60	9,130	6,939
184.09	9,130	5,076	184.61	9,130	6,975
184.10	9,130	5,113	184.62	9,130	7,012
184.11	9,130	5,149	184.63	9,130	7,048
184.12	9,130	5,186	184.64	9,130	7,085
184.13	9,130	5,222	184.65	9,130	7,121
184.14	9,130	5,259	184.66	9,130	7,158
184.15	9,130	5,295	184.67	9,130	7,194
184.16	9,130	5,332	184.68	9,130	7,231
184.17	9,130	5,368	184.69	9,130	7,267
184.18	9,130	5,405	184.70	9,130	7,304
184.19	9,130	5,441	184.71	9,130	7,341
184.20	9,130	5,478	184.72	9,130	7,377
184.21	9,130	5,515	184.73	9,130	7,414
184.22	9,130	5,551	184.74	9,130	7,450
184.23	9,130	5,588	184.75	9,130	7,487
184.24	9,130	5,624	184.76	9,130	7,523
184.25	9,130	5,661	184.77	9,130	7,560

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.78	9,130	7,596	185.30	9,130	9,495
184.79	9,130	7,633	185.31	9,130	9,532
184.80	9,130	7,669	185.32	9,130	9,568
184.81	9,130	7,706	185.33	9,130	9,605
184.82	9,130	7,742	185.34	9,130	9,641
184.83	9,130	7,779	185.35	9,130	9,678
184.84	9,130	7,815	185.36	9,130	9,714
184.85	9,130	7,852	185.37	9,130	9,751
184.86	9,130	7,888	185.38	9,130	9,787
184.87	9,130	7,925	185.39	9,130	9,824
184.88	9,130	7,961	185.40	9,130	9,860
184.89	9,130	7,998	185.41	9,130	9,897
184.90	9,130	8,034	185.42	9,130	9,933
184.91	9,130	8,071	185.43	9,130	9,970
184.92	9,130	8,107	185.44	9,130	10,006
184.93	9,130	8,144	185.45	9,130	10,043
184.94	9,130	8,180	185.46	9,130	10,080
184.95	9,130	8,217	185.47	9,130	10,116
184.96	9,130	8,254	185.48	9,130	10,153
184.97	9,130	8,290	185.49	9,130	10,189
184.98	9,130	8,327	185.50	9,130	10,226
184.99	9,130	8,363	185.51	9,130	10,262
185.00	9,130	8,400	185.52	9,130	10,299
185.01	9,130	8,436	185.53	9,130	10,335
185.02	9,130	8,473	185.54	9,130	10,372
185.03	9,130	8,509	185.55	9,130	10,408
185.04	9,130	8,546	185.56	9,130	10,445
185.05	9,130	8,582	185.57	9,130	10,481
185.06	9,130	8,619	185.58	9,130	10,518
185.07	9,130	8,655	185.59	9,130	10,554
185.08	9,130	8,692	185.60	9,130	10,591
185.09	9,130	8,728	185.61	9,130	10,627
185.10	9,130	8,765	185.62	9,130	10,664
185.11	9,130	8,801	185.63	9,130	10,700
185.12	9,130	8,838	185.64	9,130	10,737
185.13	9,130	8,874	185.65	9,130	10,773
185.14	9,130	8,911	185.66	9,130	10,810
185.15	9,130	8,947	185.67	9,130	10,846
185.16	9,130	8,984	185.68	9,130	10,883
185.17	9,130	9,020	185.69	9,130	10,919
185.18	9,130	9,057	185.70	9,130	10,956
185.19	9,130	9,093	185.71	9,130	10,993
185.20	9,130	9,130	185.72	9,130	11,029
185.21	9,130	9,167	185.73	9,130	11,066
185.22	9,130	9,203	185.74	9,130	11,102
185.23	9,130	9,240	185.75	9,130	11,139
185.24	9,130	9,276	185.76	9,130	11,175
185.25	9,130	9,313	185.77	9,130	11,212
185.26	9,130	9,349	185.78	9,130	11,248
185.27	9,130	9,386	185.79	9,130	11,285
185.28	9,130	9,422	185.80	9,130	11,321
185.29	9,130	9,459	185.81	9,130	11,358

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.82	9,130	11,394
185.83	9,130	11,431
185.84	9,130	11,467
185.85	9,130	11,504
185.86	9,130	11,540
185.87	9,130	11,577
185.88	9,130	11,613
185.89	9,130	11,650
185.90	9,130	11,686
185.91	9,130	11,723
185.92	9,130	11,759
185.93	9,130	11,796
185.94	9,130	11,832
185.95	9,130	11,869
185.96	9,130	11,906
185.97	9,130	11,942
185.98	9,130	11,979
185.99	9,130	12,015
186.00	9,130	12,052
186.01	9,130	12,088
186.02	9,130	12,125
186.03	9,130	12,161
186.04	9,130	12,198
186.05	9,130	12,234
186.06	9,130	12,271
186.07	9,130	12,307
186.08	9,130	12,344
186.09	9,130	12,380
186.10	9,130	12,417
186.11	9,130	12,453
186.12	9,130	12,490
186.13	9,130	12,526
186.14	9,130	12,563
186.15	9,130	12,599
186.16	9,130	12,636
186.17	9,130	12,672
186.18	9,130	12,709
186.19	9,130	12,745
186.20	9,130	12,782
186.21	9,130	12,819
186.22	9,130	12,855
186.23	9,130	12,892
186.24	9,130	12,928
186.25	9,130	12,965
186.26	9,130	13,001
186.27	9,130	13,038
186.28	9,130	13,074
186.29	9,130	13,111
186.30	9,130	13,147
186.31	9,130	13,184
186.32	9,130	13,220
186.33	9,130	13,257
186.34	9,130	13,293
186.35	9,130	13,330
186.36	9,130	13,366
186.37	9,130	13,403
186.38	9,130	13,439
186.39	9,130	13,476
186.40	9,130	13,512
186.41	9,130	13,549
186.42	9,130	13,585
186.43	9,130	13,622
186.44	9,130	13,658
186.45	9,130	13,695
186.46	9,130	13,732
186.47	9,130	13,768
186.48	9,130	13,805
186.49	9,130	13,841
186.50	9,130	13,878
186.51	9,130	13,914
186.52	9,130	13,951
186.53	9,130	13,987
186.54	9,130	14,024
186.55	9,130	14,060
186.56	9,130	14,097
186.57	9,130	14,133
186.58	9,130	14,170
186.59	9,130	14,206
186.60	9,130	**14,243**

Summary for Pond GIP1 PT1: Pretreatment Basin 1

Inflow Area = 0.800 ac, 62.50% Impervious, Inflow Depth = 1.35" for 1-yr event
Inflow = 1.2 cfs @ 12.11 hrs, Volume= 0.090 af
Outflow = 1.1 cfs @ 12.11 hrs, Volume= 0.084 af, Atten= 9%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.11 hrs, Volume= 0.084 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.54' @ 12.88 hrs Surf.Area= 590 sf Storage= 269 cf

Plug-Flow detention time= 45.3 min calculated for 0.084 af (94% of inflow)
Center-of-Mass det. time= 11.5 min (868.2 - 856.6)

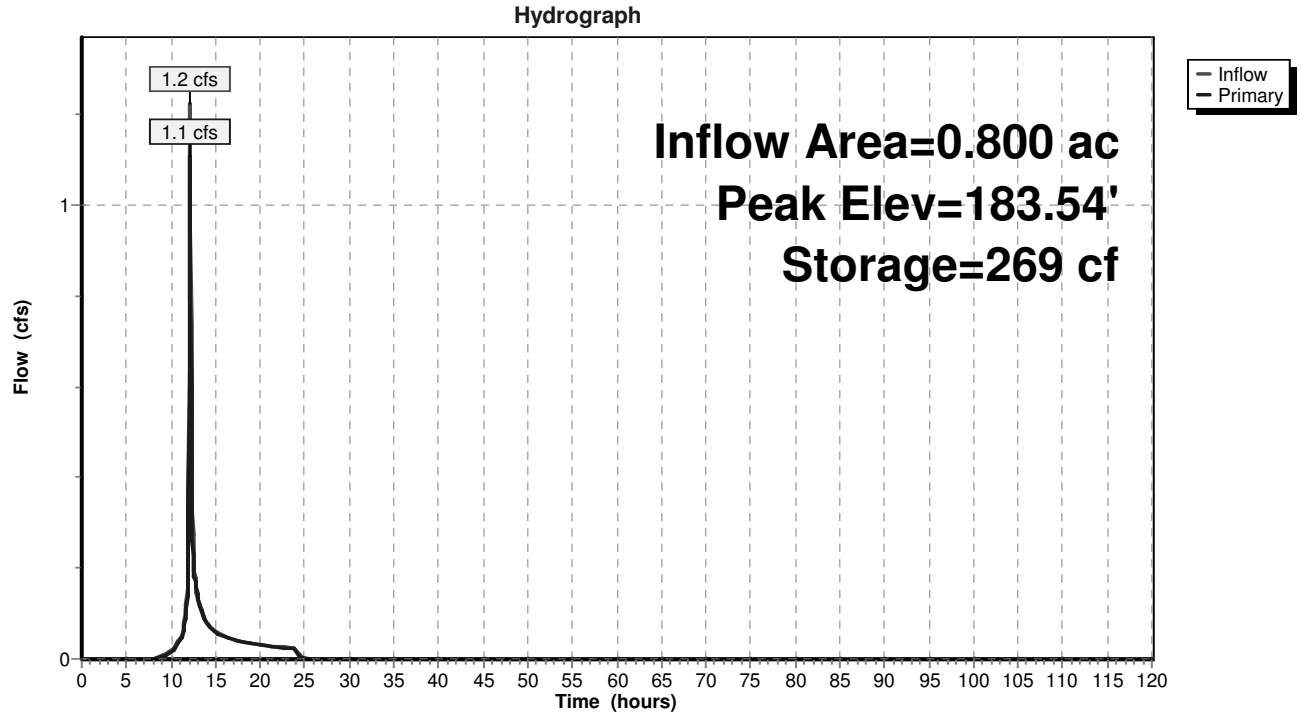
Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	575 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.00	398	0	0
184.00	752	575	575

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**36.0" W x 6.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=0.0 cfs @ 12.11 hrs HW=183.25' TW=183.28' (Dynamic Tailwater)
↳**1=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP1 PT1: Pretreatment Basin 1



Stage-Area-Storage for Pond GIP1 PT1: Pretreatment Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	398	0
183.01	402	4
183.02	405	8
183.03	409	12
183.04	412	16
183.05	416	20
183.06	419	25
183.07	423	29
183.08	426	33
183.09	430	37
183.10	433	42
183.11	437	46
183.12	440	50
183.13	444	55
183.14	448	59
183.15	451	64
183.16	455	68
183.17	458	73
183.18	462	77
183.19	465	82
183.20	469	87
183.21	472	91
183.22	476	96
183.23	479	101
183.24	483	106
183.25	487	111
183.26	490	115
183.27	494	120
183.28	497	125
183.29	501	130
183.30	504	135
183.31	508	140
183.32	511	145
183.33	515	151
183.34	518	156
183.35	522	161
183.36	525	166
183.37	529	171
183.38	533	177
183.39	536	182
183.40	540	188
183.41	543	193
183.42	547	198
183.43	550	204
183.44	554	209
183.45	557	215
183.46	561	221
183.47	564	226
183.48	568	232
183.49	571	238
183.50	575	243
183.51	579	249
183.52	582	255
183.53	586	261
183.54	589	267
183.55	593	272
183.56	596	278
183.57	600	284
183.58	603	290
183.59	607	296
183.60	610	303
183.61	614	309
183.62	617	315
183.63	621	321
183.64	625	327
183.65	628	333
183.66	632	340
183.67	635	346
183.68	639	352
183.69	642	359
183.70	646	365
183.71	649	372
183.72	653	378
183.73	656	385
183.74	660	391
183.75	664	398
183.76	667	405
183.77	671	411
183.78	674	418
183.79	678	425
183.80	681	432
183.81	685	439
183.82	688	445
183.83	692	452
183.84	695	459
183.85	699	466
183.86	702	473
183.87	706	480
183.88	710	487
183.89	713	494
183.90	717	502
183.91	720	509
183.92	724	516
183.93	727	523
183.94	731	531
183.95	734	538
183.96	738	545
183.97	741	553
183.98	745	560
183.99	748	567
184.00	**752**	**575**

Summary for Subcatchment 1.1S:

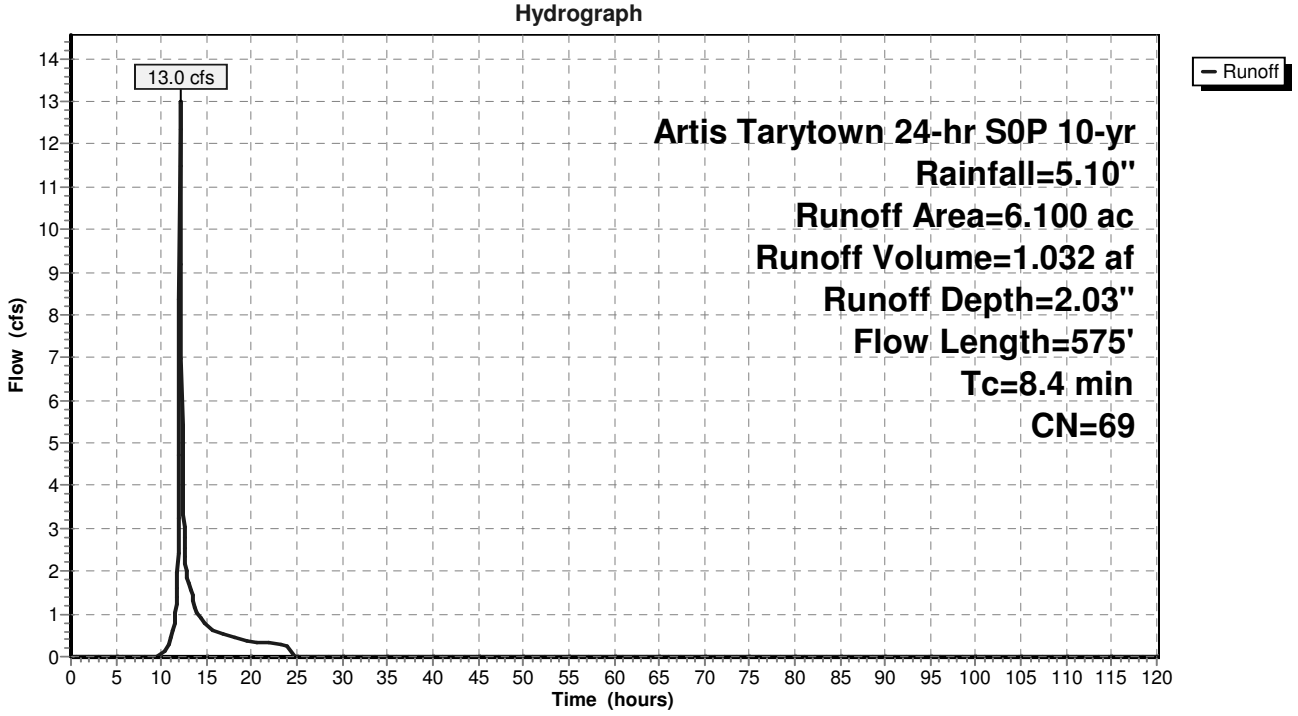
Runoff = 13.0 cfs @ 12.09 hrs, Volume= 1.032 af, Depth= 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
1.500	98	Paved parking, HSG B
0.800	55	Woods, Good, HSG B
3.800	61	>75% Grass cover, Good, HSG B
6.100	69	Weighted Average
4.600		75.41% Pervious Area
1.500		24.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	70	0.0710	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"
0.9	215	0.0610	4.19	2.62	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.25' Z= 2.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
2.4	290	0.1690	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.4	575	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

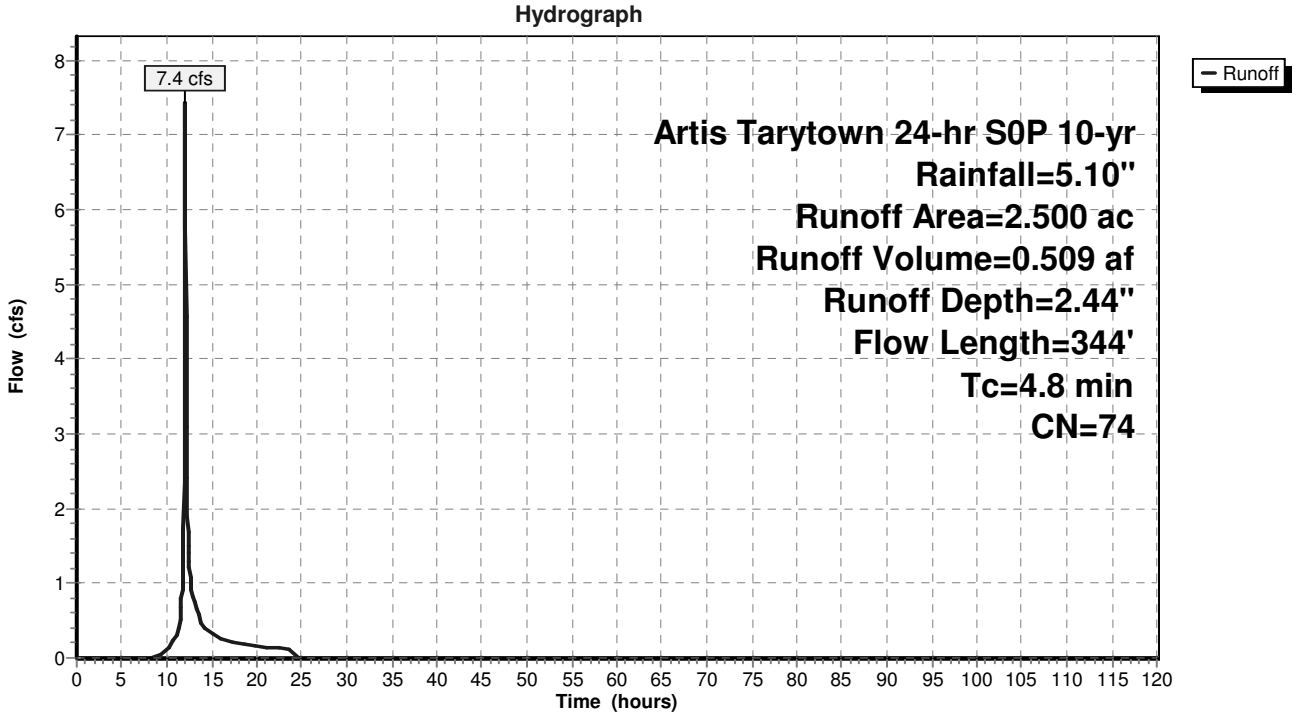
Runoff = 7.4 cfs @ 12.03 hrs, Volume= 0.509 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
1.600	61	>75% Grass cover, Good, HSG B
0.900	98	Paved parking, HSG B
2.500	74	Weighted Average
1.600		64.00% Pervious Area
0.900		36.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	70	0.1700	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"
0.4	144	0.1100	5.63	3.52	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.25' Z= 2.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
0.8	130	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	344	Total			

Subcatchment 1.2S:



Summary for Subcatchment GIP 1:

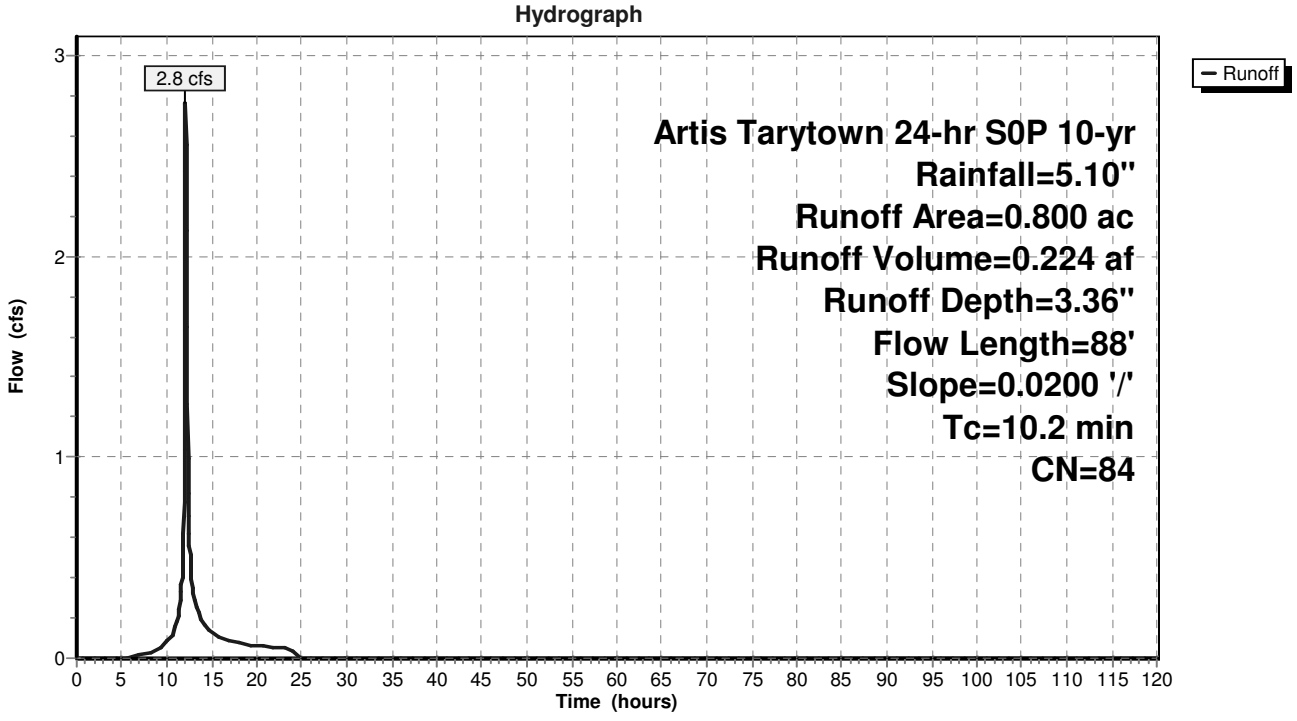
Runoff = 2.8 cfs @ 12.11 hrs, Volume= 0.224 af, Depth= 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
0.300	61	>75% Grass cover, Good, HSG B
0.500	98	Paved parking, HSG B
0.800	84	Weighted Average
0.300		37.50% Pervious Area
0.500		62.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	88	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"

Subcatchment GIP 1:



Summary for Subcatchment GIP 2.1:

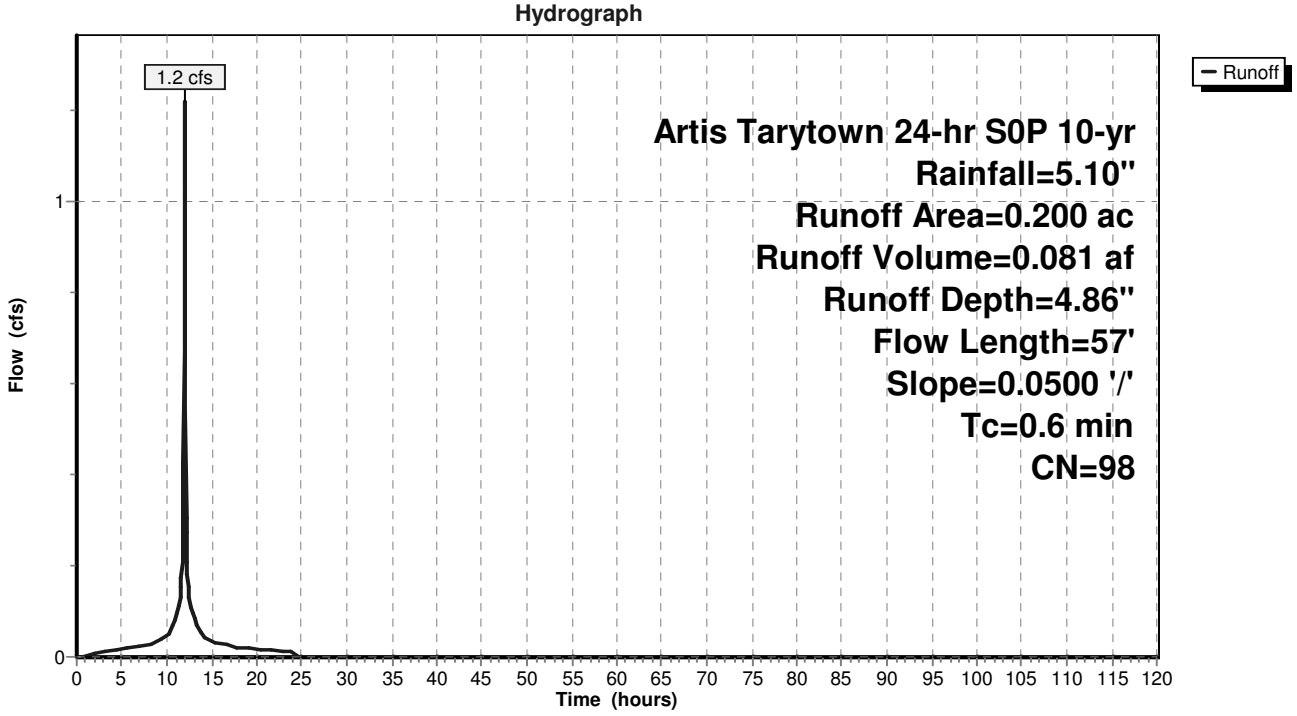
Runoff = 1.2 cfs @ 11.96 hrs, Volume= 0.081 af, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	57	0.0500	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.42"

Subcatchment GIP 2.1:



Summary for Subcatchment GIP 2.2:

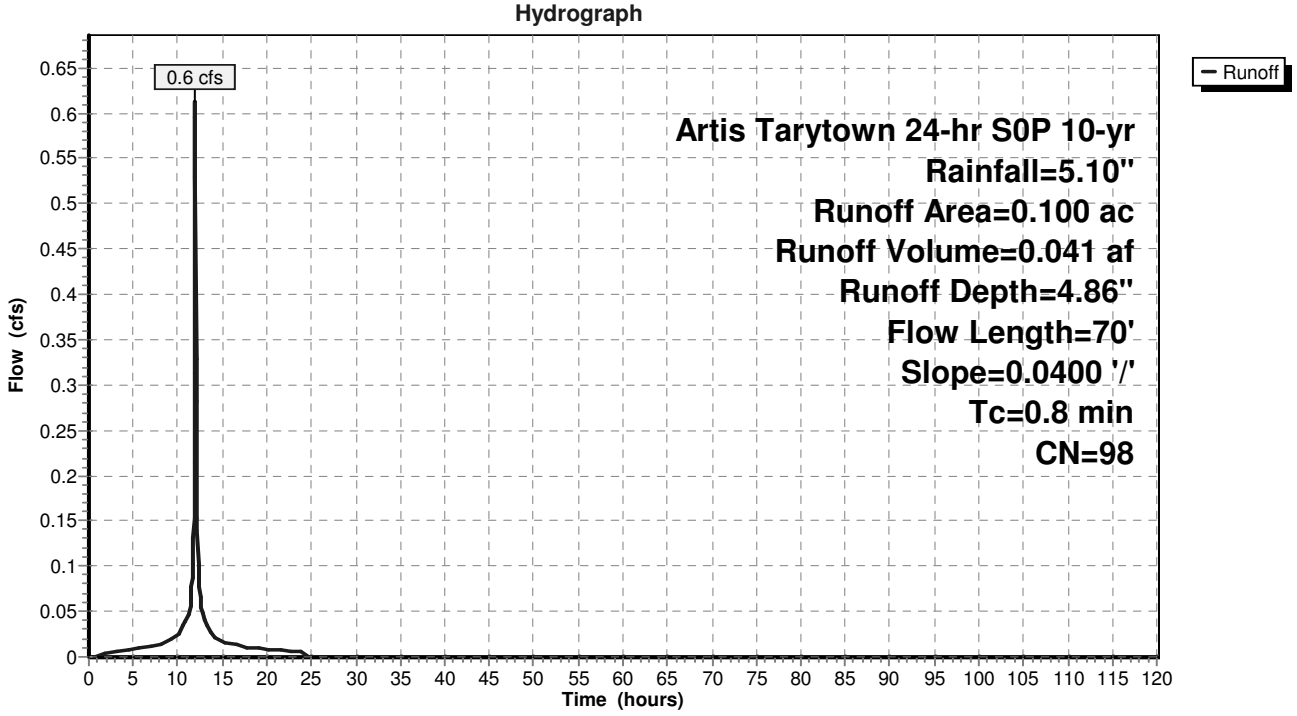
Runoff = 0.6 cfs @ 11.97 hrs, Volume= 0.041 af, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
0.100	98	Paved parking, HSG B
0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	70	0.0400	1.47		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.42"

Subcatchment GIP 2.2:



Summary for Subcatchment GIP 3:

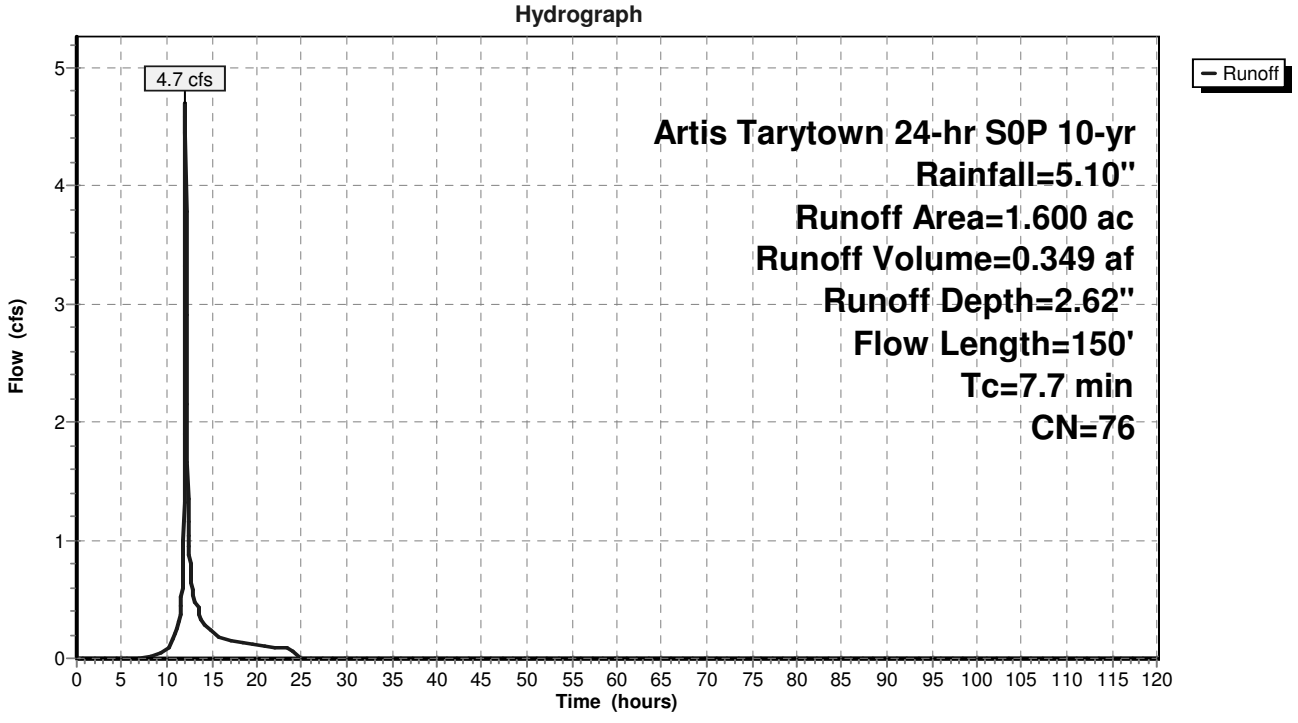
Runoff = 4.7 cfs @ 12.07 hrs, Volume= 0.349 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 10-yr Rainfall=5.10"

Area (ac)	CN	Description
0.700	98	Paved parking, HSG B
0.500	61	>75% Grass cover, Good, HSG B
0.400	55	Woods, Good, HSG B
1.600	76	Weighted Average
0.900		56.25% Pervious Area
0.700		43.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3900	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.42"
0.2	50	0.4400	4.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.7	150	Total			

Subcatchment GIP 3:

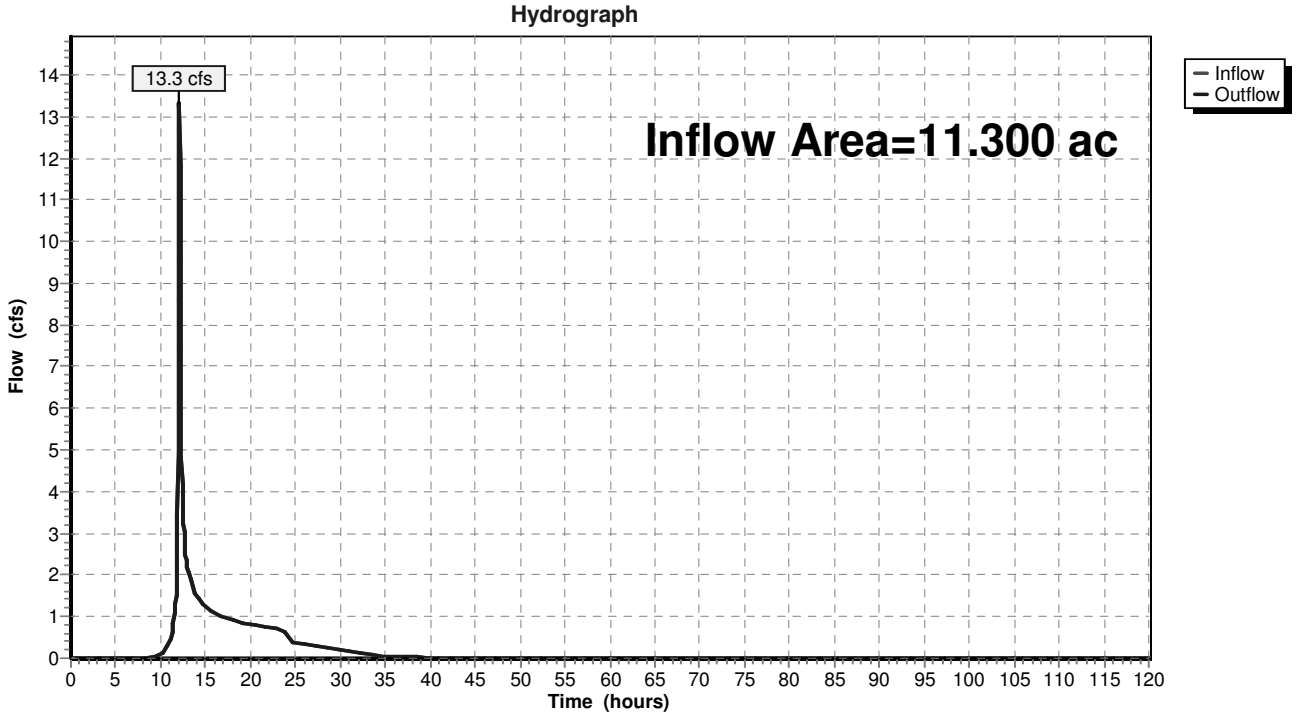


Summary for Reach DP1: Design Point 1

Inflow Area = 11.300 ac, 34.51% Impervious, Inflow Depth = 1.83" for 10-yr event
Inflow = 13.3 cfs @ 12.09 hrs, Volume= 1.723 af
Outflow = 13.3 cfs @ 12.09 hrs, Volume= 1.723 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP1: Design Point 1



Summary for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed

Inflow Area = 5.200 ac, 46.15% Impervious, Inflow Depth = 1.60" for 10-yr event
Inflow = 8.5 cfs @ 12.05 hrs, Volume= 0.693 af
Outflow = 0.5 cfs @ 14.76 hrs, Volume= 0.691 af, Atten= 94%, Lag= 162.8 min
Primary = 0.5 cfs @ 14.76 hrs, Volume= 0.691 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 143.22' Surf.Area= 8,284 sf Storage= 15,389 cf
Peak Elev= 144.82' @ 14.76 hrs Surf.Area= 11,930 sf Storage= 31,526 cf (16,136 cf above start)

Plug-Flow detention time= 942.5 min calculated for 0.338 af (49% of inflow)
Center-of-Mass det. time= 452.4 min (1,310.2 - 857.8)

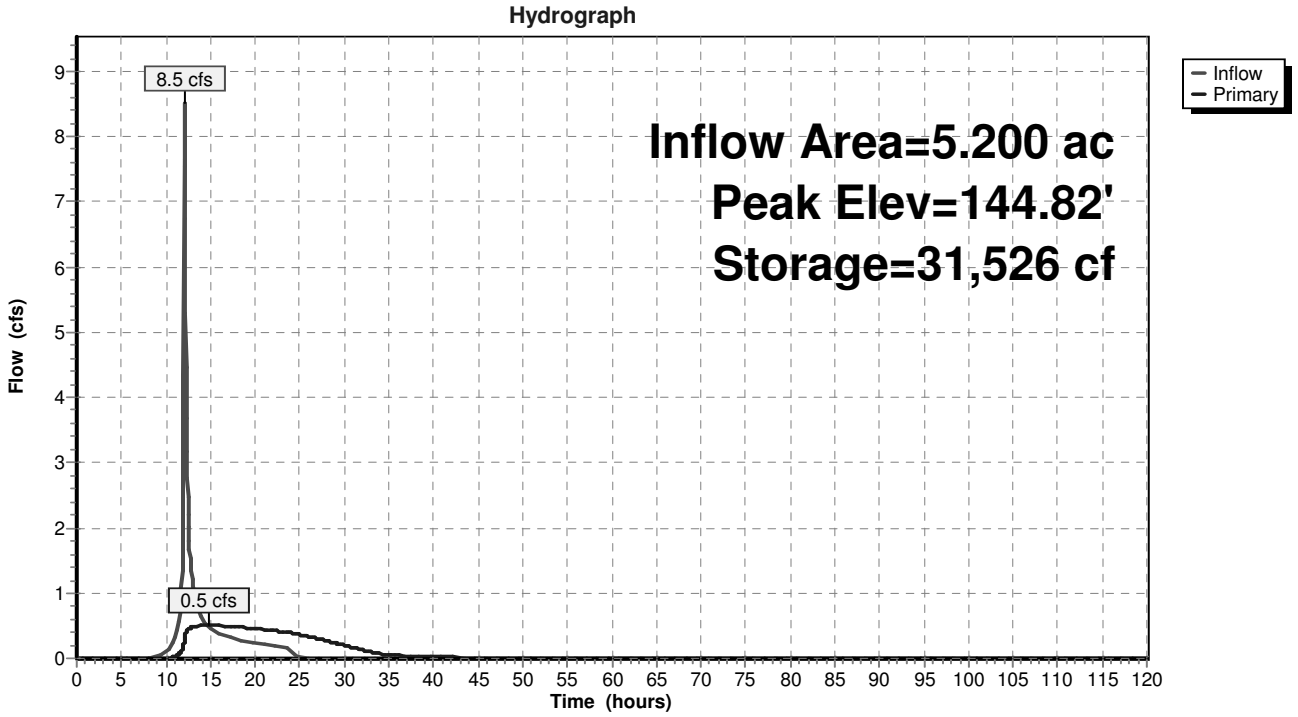
Volume	Invert	Avail.Storage	Storage Description
#1	139.60'	63,375 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
139.60	0	0	0
140.00	1,100	220	220
142.00	5,600	6,700	6,920
144.00	10,000	15,600	22,520
146.00	14,700	24,700	47,220
146.90	21,200	16,155	63,375

Device	Routing	Invert	Outlet Devices
#1	Primary	138.20'	**18.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 138.20' / 131.74' S= 0.0994 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	143.22'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	144.90'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.5 cfs @ 14.76 hrs HW=144.82' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.5 cfs of 20.6 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.5 cfs @ 5.77 fps)
  └─**3=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed



Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
139.60	0	0
139.62	55	1
139.64	110	2
139.66	165	5
139.68	220	9
139.70	275	14
139.72	330	20
139.74	385	27
139.76	440	35
139.78	495	45
139.80	550	55
139.82	605	67
139.84	660	79
139.86	715	93
139.88	770	108
139.90	825	124
139.92	880	141
139.94	935	159
139.96	990	178
139.98	1,045	199
140.00	1,100	220
140.02	1,145	242
140.04	1,190	266
140.06	1,235	290
140.08	1,280	315
140.10	1,325	341
140.12	1,370	368
140.14	1,415	396
140.16	1,460	425
140.18	1,505	454
140.20	1,550	485
140.22	1,595	516
140.24	1,640	549
140.26	1,685	582
140.28	1,730	616
140.30	1,775	651
140.32	1,820	687
140.34	1,865	724
140.36	1,910	762
140.38	1,955	800
140.40	2,000	840
140.42	2,045	880
140.44	2,090	922
140.46	2,135	964
140.48	2,180	1,007
140.50	2,225	1,051
140.52	2,270	1,096
140.54	2,315	1,142
140.56	2,360	1,189
140.58	2,405	1,236
140.60	2,450	1,285
140.62	2,495	1,334
140.64	2,540	1,385
140.66	2,585	1,436
140.68	2,630	1,488
140.70	2,675	1,541
140.72	2,720	1,595
140.74	2,765	1,650
140.76	2,810	1,706
140.78	2,855	1,762
140.80	2,900	1,820
140.82	2,945	1,878
140.84	2,990	1,938
140.86	3,035	1,998
140.88	3,080	2,059
140.90	3,125	2,121
140.92	3,170	2,184
140.94	3,215	2,248
140.96	3,260	2,313
140.98	3,305	2,378
141.00	3,350	2,445
141.02	3,395	2,512
141.04	3,440	2,581
141.06	3,485	2,650
141.08	3,530	2,720
141.10	3,575	2,791
141.12	3,620	2,863
141.14	3,665	2,936
141.16	3,710	3,010
141.18	3,755	3,084
141.20	3,800	3,160
141.22	3,845	3,236
141.24	3,890	3,314
141.26	3,935	3,392
141.28	3,980	3,471
141.30	4,025	3,551
141.32	4,070	3,632
141.34	4,115	3,714
141.36	4,160	3,797
141.38	4,205	3,880
141.40	4,250	3,965
141.42	4,295	4,050
141.44	4,340	4,137
141.46	4,385	4,224
141.48	4,430	4,312
141.50	4,475	4,401
141.52	4,520	4,491
141.54	4,565	4,582
141.56	4,610	4,674
141.58	4,655	4,766
141.60	4,700	4,860
141.62	4,745	4,954
141.64	4,790	5,050
141.66	4,835	5,146

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
141.68	4,880	5,243	142.72	7,184	11,522
141.70	4,925	5,341	142.74	7,228	11,666
141.72	4,970	5,440	142.76	7,272	11,811
141.74	5,015	5,540	142.78	7,316	11,957
141.76	5,060	5,641	142.80	7,360	12,104
141.78	5,105	5,742	142.82	7,404	12,252
141.80	5,150	5,845	142.84	7,448	12,400
141.82	5,195	5,948	142.86	7,492	12,550
141.84	5,240	6,053	142.88	7,536	12,700
141.86	5,285	6,158	142.90	7,580	12,851
141.88	5,330	6,264	142.92	7,624	13,003
141.90	5,375	6,371	142.94	7,668	13,156
141.92	5,420	6,479	142.96	7,712	13,310
141.94	5,465	6,588	142.98	7,756	13,464
141.96	5,510	6,698	143.00	7,800	13,620
141.98	5,555	6,808	143.02	7,844	13,776
142.00	5,600	6,920	143.04	7,888	13,934
142.02	5,644	7,032	143.06	7,932	14,092
142.04	5,688	7,146	143.08	7,976	14,251
142.06	5,732	7,260	143.10	8,020	14,411
142.08	5,776	7,375	143.12	8,064	14,572
142.10	5,820	7,491	143.14	8,108	14,734
142.12	5,864	7,608	143.16	8,152	14,896
142.14	5,908	7,726	143.18	8,196	15,060
142.16	5,952	7,844	143.20	8,240	15,224
142.18	5,996	7,964	143.22	8,284	15,389
142.20	6,040	8,084	143.24	8,328	15,555
142.22	6,084	8,205	143.26	8,372	15,722
142.24	6,128	8,327	143.28	8,416	15,890
142.26	6,172	8,450	143.30	8,460	16,059
142.28	6,216	8,574	143.32	8,504	16,229
142.30	6,260	8,699	143.34	8,548	16,399
142.32	6,304	8,825	143.36	8,592	16,571
142.34	6,348	8,951	143.38	8,636	16,743
142.36	6,392	9,079	143.40	8,680	16,916
142.38	6,436	9,207	143.42	8,724	17,090
142.40	6,480	9,336	143.44	8,768	17,265
142.42	6,524	9,466	143.46	8,812	17,441
142.44	6,568	9,597	143.48	8,856	17,617
142.46	6,612	9,729	143.50	8,900	17,795
142.48	6,656	9,861	143.52	8,944	17,973
142.50	6,700	9,995	143.54	8,988	18,153
142.52	6,744	10,129	143.56	9,032	18,333
142.54	6,788	10,265	143.58	9,076	18,514
142.56	6,832	10,401	143.60	9,120	18,696
142.58	6,876	10,538	143.62	9,164	18,879
142.60	6,920	10,676	143.64	9,208	19,063
142.62	6,964	10,815	143.66	9,252	19,247
142.64	7,008	10,955	143.68	9,296	19,433
142.66	7,052	11,095	143.70	9,340	19,619
142.68	7,096	11,237	143.72	9,384	19,806
142.70	7,140	11,379	143.74	9,428	19,994

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
143.76	9,472	20,183
143.78	9,516	20,373
143.80	9,560	20,564
143.82	9,604	20,756
143.84	9,648	20,948
143.86	9,692	21,142
143.88	9,736	21,336
143.90	9,780	21,531
143.92	9,824	21,727
143.94	9,868	21,924
143.96	9,912	22,122
143.98	9,956	22,320
144.00	10,000	22,520
144.02	10,047	22,720
144.04	10,094	22,922
144.06	10,141	23,124
144.08	10,188	23,328
144.10	10,235	23,532
144.12	10,282	23,737
144.14	10,329	23,943
144.16	10,376	24,150
144.18	10,423	24,358
144.20	10,470	24,567
144.22	10,517	24,777
144.24	10,564	24,988
144.26	10,611	25,199
144.28	10,658	25,412
144.30	10,705	25,626
144.32	10,752	25,840
144.34	10,799	26,056
144.36	10,846	26,272
144.38	10,893	26,490
144.40	10,940	26,708
144.42	10,987	26,927
144.44	11,034	27,147
144.46	11,081	27,369
144.48	11,128	27,591
144.50	11,175	27,814
144.52	11,222	28,038
144.54	11,269	28,263
144.56	11,316	28,488
144.58	11,363	28,715
144.60	11,410	28,943
144.62	11,457	29,172
144.64	11,504	29,401
144.66	11,551	29,632
144.68	11,598	29,863
144.70	11,645	30,096
144.72	11,692	30,329
144.74	11,739	30,563
144.76	11,786	30,799
144.78	11,833	31,035
144.80	11,880	31,272
144.82	11,927	31,510
144.84	11,974	31,749
144.86	12,021	31,989
144.88	12,068	32,230
144.90	12,115	32,472
144.92	12,162	32,715
144.94	12,209	32,958
144.96	12,256	33,203
144.98	12,303	33,448
145.00	12,350	33,695
145.02	12,397	33,942
145.04	12,444	34,191
145.06	12,491	34,440
145.08	12,538	34,691
145.10	12,585	34,942
145.12	12,632	35,194
145.14	12,679	35,447
145.16	12,726	35,701
145.18	12,773	35,956
145.20	12,820	36,212
145.22	12,867	36,469
145.24	12,914	36,727
145.26	12,961	36,985
145.28	13,008	37,245
145.30	13,055	37,506
145.32	13,102	37,767
145.34	13,149	38,030
145.36	13,196	38,293
145.38	13,243	38,558
145.40	13,290	38,823
145.42	13,337	39,089
145.44	13,384	39,356
145.46	13,431	39,625
145.48	13,478	39,894
145.50	13,525	40,164
145.52	13,572	40,435
145.54	13,619	40,707
145.56	13,666	40,979
145.58	13,713	41,253
145.60	13,760	41,528
145.62	13,807	41,804
145.64	13,854	42,080
145.66	13,901	42,358
145.68	13,948	42,636
145.70	13,995	42,916
145.72	14,042	43,196
145.74	14,089	43,477
145.76	14,136	43,760
145.78	14,183	44,043
145.80	14,230	44,327
145.82	14,277	44,612

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
145.84	14,324	44,898
145.86	14,371	45,185
145.88	14,418	45,473
145.90	14,465	45,762
145.92	14,512	46,052
145.94	14,559	46,342
145.96	14,606	46,634
145.98	14,653	46,926
146.00	14,700	47,220
146.02	14,844	47,515
146.04	14,989	47,814
146.06	15,133	48,115
146.08	15,278	48,419
146.10	15,422	48,726
146.12	15,567	49,036
146.14	15,711	49,349
146.16	15,856	49,664
146.18	16,000	49,983
146.20	16,144	50,304
146.22	16,289	50,629
146.24	16,433	50,956
146.26	16,578	51,286
146.28	16,722	51,619
146.30	16,867	51,955
146.32	17,011	52,294
146.34	17,156	52,635
146.36	17,300	52,980
146.38	17,444	53,327
146.40	17,589	53,678
146.42	17,733	54,031
146.44	17,878	54,387
146.46	18,022	54,746
146.48	18,167	55,108
146.50	18,311	55,473
146.52	18,456	55,840
146.54	18,600	56,211
146.56	18,744	56,584
146.58	18,889	56,961
146.60	19,033	57,340
146.62	19,178	57,722
146.64	19,322	58,107
146.66	19,467	58,495
146.68	19,611	58,886
146.70	19,756	59,279
146.72	19,900	59,676
146.74	20,044	60,075
146.76	20,189	60,478
146.78	20,333	60,883
146.80	20,478	61,291
146.82	20,622	61,702
146.84	20,767	62,116
146.86	20,911	62,533
146.88	21,056	62,952
146.90	**21,200**	**63,375**

Summary for Pond GIP 1.: Bioretention Basin (F-5)

Inflow Area = 0.800 ac, 62.50% Impervious, Inflow Depth = 3.28" for 10-yr event
Inflow = 2.6 cfs @ 12.11 hrs, Volume= 0.219 af
Outflow = 2.2 cfs @ 12.19 hrs, Volume= 0.184 af, Atten= 13%, Lag= 4.5 min
Primary = 2.2 cfs @ 12.19 hrs, Volume= 0.184 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.76' @ 12.19 hrs Surf.Area= 3,351 sf Storage= 2,310 cf

Plug-Flow detention time= 125.1 min calculated for 0.184 af (84% of inflow)
Center-of-Mass det. time= 50.2 min (880.4 - 830.2)

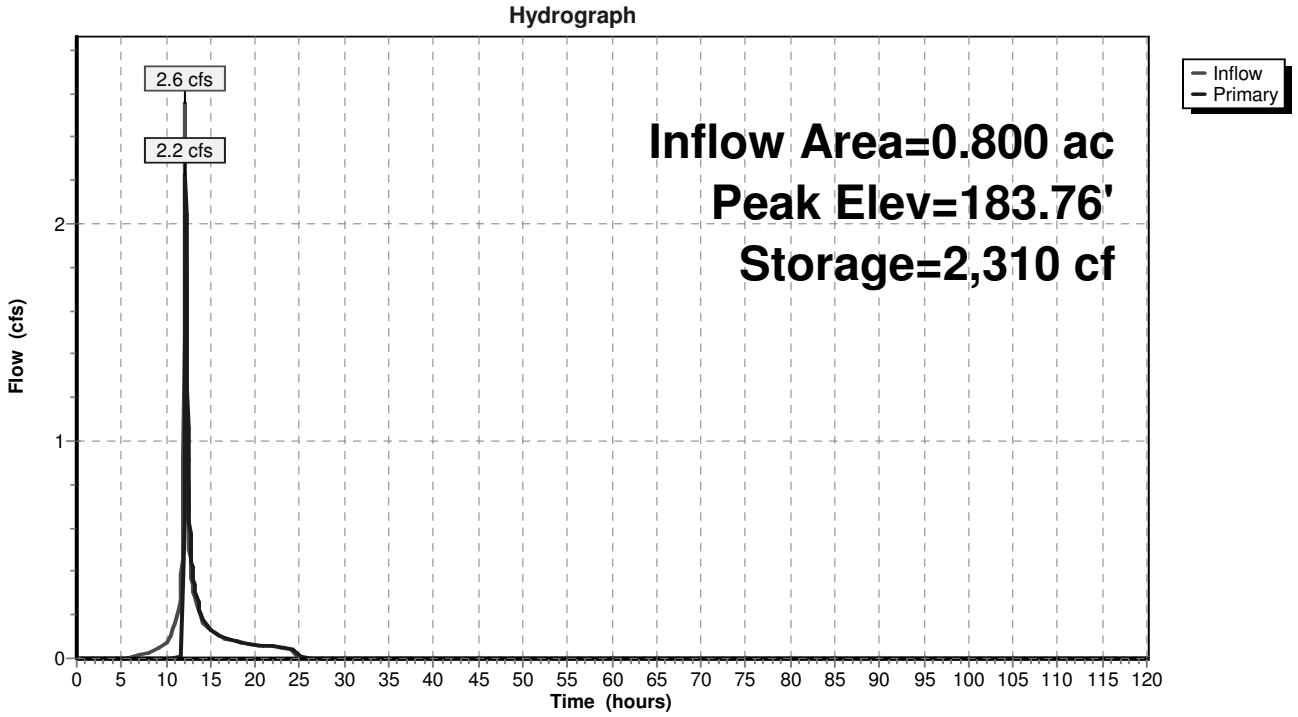
Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	3,049 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.00	2,462	0	0
184.00	3,635	3,049	3,049

Device	Routing	Invert	Outlet Devices
#1	Primary	178.50'	**15.0" Round Culvert** L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 178.50' / 178.00' S= 0.0227 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	183.50'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.2 cfs @ 12.19 hrs HW=183.76' TW=144.21' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.2 cfs of 12.7 cfs potential flow)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 2.2 cfs @ 1.43 fps)

Pond GIP 1.: Bioretention Basin (F-5)



Stage-Area-Storage for Pond GIP 1.: Bioretention Basin (F-5)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	2,462	0
183.01	2,474	30
183.02	2,485	61
183.03	2,497	91
183.04	2,509	122
183.05	2,521	152
183.06	2,532	183
183.07	2,544	213
183.08	2,556	244
183.09	2,568	274
183.10	2,579	305
183.11	2,591	335
183.12	2,603	366
183.13	2,614	396
183.14	2,626	427
183.15	2,638	457
183.16	2,650	488
183.17	2,661	518
183.18	2,673	549
183.19	2,685	579
183.20	2,697	610
183.21	2,708	640
183.22	2,720	671
183.23	2,732	701
183.24	2,744	732
183.25	2,755	762
183.26	2,767	793
183.27	2,779	823
183.28	2,790	854
183.29	2,802	884
183.30	2,814	915
183.31	2,826	945
183.32	2,837	976
183.33	2,849	1,006
183.34	2,861	1,036
183.35	2,873	1,067
183.36	2,884	1,097
183.37	2,896	1,128
183.38	2,908	1,158
183.39	2,919	1,189
183.40	2,931	1,219
183.41	2,943	1,250
183.42	2,955	1,280
183.43	2,966	1,311
183.44	2,978	1,341
183.45	2,990	1,372
183.46	3,002	1,402
183.47	3,013	1,433
183.48	3,025	1,463
183.49	3,037	1,494
183.50	3,049	1,524
183.51	3,060	1,555
183.52	3,072	1,585
183.53	3,084	1,616
183.54	3,095	1,646
183.55	3,107	1,677
183.56	3,119	1,707
183.57	3,131	1,738
183.58	3,142	1,768
183.59	3,154	1,799
183.60	3,166	1,829
183.61	3,178	1,860
183.62	3,189	1,890
183.63	3,201	1,921
183.64	3,213	1,951
183.65	3,224	1,982
183.66	3,236	2,012
183.67	3,248	2,042
183.68	3,260	2,073
183.69	3,271	2,103
183.70	3,283	2,134
183.71	3,295	2,164
183.72	3,307	2,195
183.73	3,318	2,225
183.74	3,330	2,256
183.75	3,342	2,286
183.76	3,353	2,317
183.77	3,365	2,347
183.78	3,377	2,378
183.79	3,389	2,408
183.80	3,400	2,439
183.81	3,412	2,469
183.82	3,424	2,500
183.83	3,436	2,530
183.84	3,447	2,561
183.85	3,459	2,591
183.86	3,471	2,622
183.87	3,483	2,652
183.88	3,494	2,683
183.89	3,506	2,713
183.90	3,518	2,744
183.91	3,529	2,774
183.92	3,541	2,805
183.93	3,553	2,835
183.94	3,565	2,866
183.95	3,576	2,896
183.96	3,588	2,927
183.97	3,600	2,957
183.98	3,612	2,988
183.99	3,623	3,018
184.00	**3,635**	**3,049**

Summary for Pond GIP 2.1.: Porous Pavement

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth = 4.86" for 10-yr event
Inflow = 1.2 cfs @ 11.96 hrs, Volume= 0.081 af
Outflow = 0.2 cfs @ 11.80 hrs, Volume= 0.081 af, Atten= 84%, Lag= 0.0 min
Discarded = 0.2 cfs @ 11.80 hrs, Volume= 0.081 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 189.06' @ 12.30 hrs Surf.Area= 2,300 sf Storage= 704 cf

Plug-Flow detention time= 17.6 min calculated for 0.081 af (100% of inflow)
Center-of-Mass det. time= 17.6 min (760.7 - 743.1)

Volume	Invert	Avail.Storage	Storage Description
#1	188.30'	2,944 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 7,360 cf Overall x 40.0% Voids

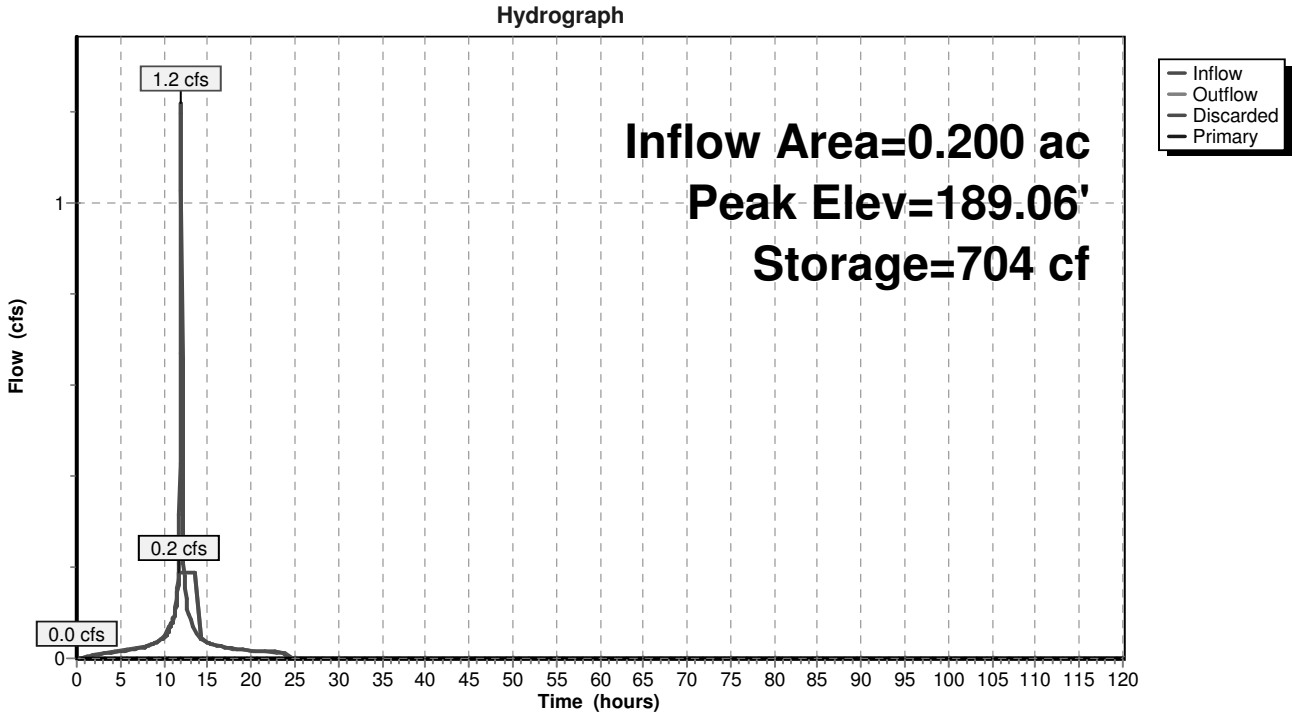
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.30	2,300	0	0
191.50	2,300	7,360	7,360

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.30'	**0.2 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	190.00'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.2 cfs @ 11.80 hrs HW=188.35' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=188.30' TW=143.22' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP 2.1.: Porous Pavement



Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.30	**2,300**	0	188.82	2,300	478
188.31	2,300	9	188.83	2,300	488
188.32	2,300	18	188.84	2,300	497
188.33	2,300	28	188.85	2,300	506
188.34	2,300	37	188.86	2,300	515
188.35	2,300	46	188.87	2,300	524
188.36	2,300	55	188.88	2,300	534
188.37	2,300	64	188.89	2,300	543
188.38	2,300	74	188.90	2,300	552
188.39	2,300	83	188.91	2,300	561
188.40	2,300	92	188.92	2,300	570
188.41	2,300	101	188.93	2,300	580
188.42	2,300	110	188.94	2,300	589
188.43	2,300	120	188.95	2,300	598
188.44	2,300	129	188.96	2,300	607
188.45	2,300	138	188.97	2,300	616
188.46	2,300	147	188.98	2,300	626
188.47	2,300	156	188.99	2,300	635
188.48	2,300	166	189.00	2,300	644
188.49	2,300	175	189.01	2,300	653
188.50	2,300	184	189.02	2,300	662
188.51	2,300	193	189.03	2,300	672
188.52	2,300	202	189.04	2,300	681
188.53	2,300	212	189.05	2,300	690
188.54	2,300	221	189.06	2,300	699
188.55	2,300	230	189.07	2,300	708
188.56	2,300	239	189.08	2,300	718
188.57	2,300	248	189.09	2,300	727
188.58	2,300	258	189.10	2,300	736
188.59	2,300	267	189.11	2,300	745
188.60	2,300	276	189.12	2,300	754
188.61	2,300	285	189.13	2,300	764
188.62	2,300	294	189.14	2,300	773
188.63	2,300	304	189.15	2,300	782
188.64	2,300	313	189.16	2,300	791
188.65	2,300	322	189.17	2,300	800
188.66	2,300	331	189.18	2,300	810
188.67	2,300	340	189.19	2,300	819
188.68	2,300	350	189.20	2,300	828
188.69	2,300	359	189.21	2,300	837
188.70	2,300	368	189.22	2,300	846
188.71	2,300	377	189.23	2,300	856
188.72	2,300	386	189.24	2,300	865
188.73	2,300	396	189.25	2,300	874
188.74	2,300	405	189.26	2,300	883
188.75	2,300	414	189.27	2,300	892
188.76	2,300	423	189.28	2,300	902
188.77	2,300	432	189.29	2,300	911
188.78	2,300	442	189.30	2,300	920
188.79	2,300	451	189.31	2,300	929
188.80	2,300	460	189.32	2,300	938
188.81	2,300	469	189.33	2,300	948

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.34	2,300	957	189.86	2,300	1,435
189.35	2,300	966	189.87	2,300	1,444
189.36	2,300	975	189.88	2,300	1,454
189.37	2,300	984	189.89	2,300	1,463
189.38	2,300	994	189.90	2,300	1,472
189.39	2,300	1,003	189.91	2,300	1,481
189.40	2,300	1,012	189.92	2,300	1,490
189.41	2,300	1,021	189.93	2,300	1,500
189.42	2,300	1,030	189.94	2,300	1,509
189.43	2,300	1,040	189.95	2,300	1,518
189.44	2,300	1,049	189.96	2,300	1,527
189.45	2,300	1,058	189.97	2,300	1,536
189.46	2,300	1,067	189.98	2,300	1,546
189.47	2,300	1,076	189.99	2,300	1,555
189.48	2,300	1,086	190.00	2,300	1,564
189.49	2,300	1,095	190.01	2,300	1,573
189.50	2,300	1,104	190.02	2,300	1,582
189.51	2,300	1,113	190.03	2,300	1,592
189.52	2,300	1,122	190.04	2,300	1,601
189.53	2,300	1,132	190.05	2,300	1,610
189.54	2,300	1,141	190.06	2,300	1,619
189.55	2,300	1,150	190.07	2,300	1,628
189.56	2,300	1,159	190.08	2,300	1,638
189.57	2,300	1,168	190.09	2,300	1,647
189.58	2,300	1,178	190.10	2,300	1,656
189.59	2,300	1,187	190.11	2,300	1,665
189.60	2,300	1,196	190.12	2,300	1,674
189.61	2,300	1,205	190.13	2,300	1,684
189.62	2,300	1,214	190.14	2,300	1,693
189.63	2,300	1,224	190.15	2,300	1,702
189.64	2,300	1,233	190.16	2,300	1,711
189.65	2,300	1,242	190.17	2,300	1,720
189.66	2,300	1,251	190.18	2,300	1,730
189.67	2,300	1,260	190.19	2,300	1,739
189.68	2,300	1,270	190.20	2,300	1,748
189.69	2,300	1,279	190.21	2,300	1,757
189.70	2,300	1,288	190.22	2,300	1,766
189.71	2,300	1,297	190.23	2,300	1,776
189.72	2,300	1,306	190.24	2,300	1,785
189.73	2,300	1,316	190.25	2,300	1,794
189.74	2,300	1,325	190.26	2,300	1,803
189.75	2,300	1,334	190.27	2,300	1,812
189.76	2,300	1,343	190.28	2,300	1,822
189.77	2,300	1,352	190.29	2,300	1,831
189.78	2,300	1,362	190.30	2,300	1,840
189.79	2,300	1,371	190.31	2,300	1,849
189.80	2,300	1,380	190.32	2,300	1,858
189.81	2,300	1,389	190.33	2,300	1,868
189.82	2,300	1,398	190.34	2,300	1,877
189.83	2,300	1,408	190.35	2,300	1,886
189.84	2,300	1,417	190.36	2,300	1,895
189.85	2,300	1,426	190.37	2,300	1,904

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.38	2,300	1,914	190.90	2,300	2,392
190.39	2,300	1,923	190.91	2,300	2,401
190.40	2,300	1,932	190.92	2,300	2,410
190.41	2,300	1,941	190.93	2,300	2,420
190.42	2,300	1,950	190.94	2,300	2,429
190.43	2,300	1,960	190.95	2,300	2,438
190.44	2,300	1,969	190.96	2,300	2,447
190.45	2,300	1,978	190.97	2,300	2,456
190.46	2,300	1,987	190.98	2,300	2,466
190.47	2,300	1,996	190.99	2,300	2,475
190.48	2,300	2,006	191.00	2,300	2,484
190.49	2,300	2,015	191.01	2,300	2,493
190.50	2,300	2,024	191.02	2,300	2,502
190.51	2,300	2,033	191.03	2,300	2,512
190.52	2,300	2,042	191.04	2,300	2,521
190.53	2,300	2,052	191.05	2,300	2,530
190.54	2,300	2,061	191.06	2,300	2,539
190.55	2,300	2,070	191.07	2,300	2,548
190.56	2,300	2,079	191.08	2,300	2,558
190.57	2,300	2,088	191.09	2,300	2,567
190.58	2,300	2,098	191.10	2,300	2,576
190.59	2,300	2,107	191.11	2,300	2,585
190.60	2,300	2,116	191.12	2,300	2,594
190.61	2,300	2,125	191.13	2,300	2,604
190.62	2,300	2,134	191.14	2,300	2,613
190.63	2,300	2,144	191.15	2,300	2,622
190.64	2,300	2,153	191.16	2,300	2,631
190.65	2,300	2,162	191.17	2,300	2,640
190.66	2,300	2,171	191.18	2,300	2,650
190.67	2,300	2,180	191.19	2,300	2,659
190.68	2,300	2,190	191.20	2,300	2,668
190.69	2,300	2,199	191.21	2,300	2,677
190.70	2,300	2,208	191.22	2,300	2,686
190.71	2,300	2,217	191.23	2,300	2,696
190.72	2,300	2,226	191.24	2,300	2,705
190.73	2,300	2,236	191.25	2,300	2,714
190.74	2,300	2,245	191.26	2,300	2,723
190.75	2,300	2,254	191.27	2,300	2,732
190.76	2,300	2,263	191.28	2,300	2,742
190.77	2,300	2,272	191.29	2,300	2,751
190.78	2,300	2,282	191.30	2,300	2,760
190.79	2,300	2,291	191.31	2,300	2,769
190.80	2,300	2,300	191.32	2,300	2,778
190.81	2,300	2,309	191.33	2,300	2,788
190.82	2,300	2,318	191.34	2,300	2,797
190.83	2,300	2,328	191.35	2,300	2,806
190.84	2,300	2,337	191.36	2,300	2,815
190.85	2,300	2,346	191.37	2,300	2,824
190.86	2,300	2,355	191.38	2,300	2,834
190.87	2,300	2,364	191.39	2,300	2,843
190.88	2,300	2,374	191.40	2,300	2,852
190.89	2,300	2,383	191.41	2,300	2,861

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.42	2,300	2,870
191.43	2,300	2,880
191.44	2,300	2,889
191.45	2,300	2,898
191.46	2,300	2,907
191.47	2,300	2,916
191.48	2,300	2,926
191.49	2,300	2,935
191.50	2,300	**2,944**

Summary for Pond GIP 2.2.: Porous Pavement

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth = 4.86" for 10-yr event
Inflow = 0.6 cfs @ 11.97 hrs, Volume= 0.041 af
Outflow = 0.1 cfs @ 11.80 hrs, Volume= 0.041 af, Atten= 84%, Lag= 0.0 min
Discarded = 0.1 cfs @ 11.80 hrs, Volume= 0.041 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 185.21' @ 12.28 hrs Surf.Area= 1,200 sf Storage= 341 cf

Plug-Flow detention time= 16.0 min calculated for 0.041 af (100% of inflow)
Center-of-Mass det. time= 16.0 min (759.2 - 743.3)

Volume	Invert	Avail.Storage	Storage Description
#1	184.50'	1,536 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,840 cf Overall x 40.0% Voids

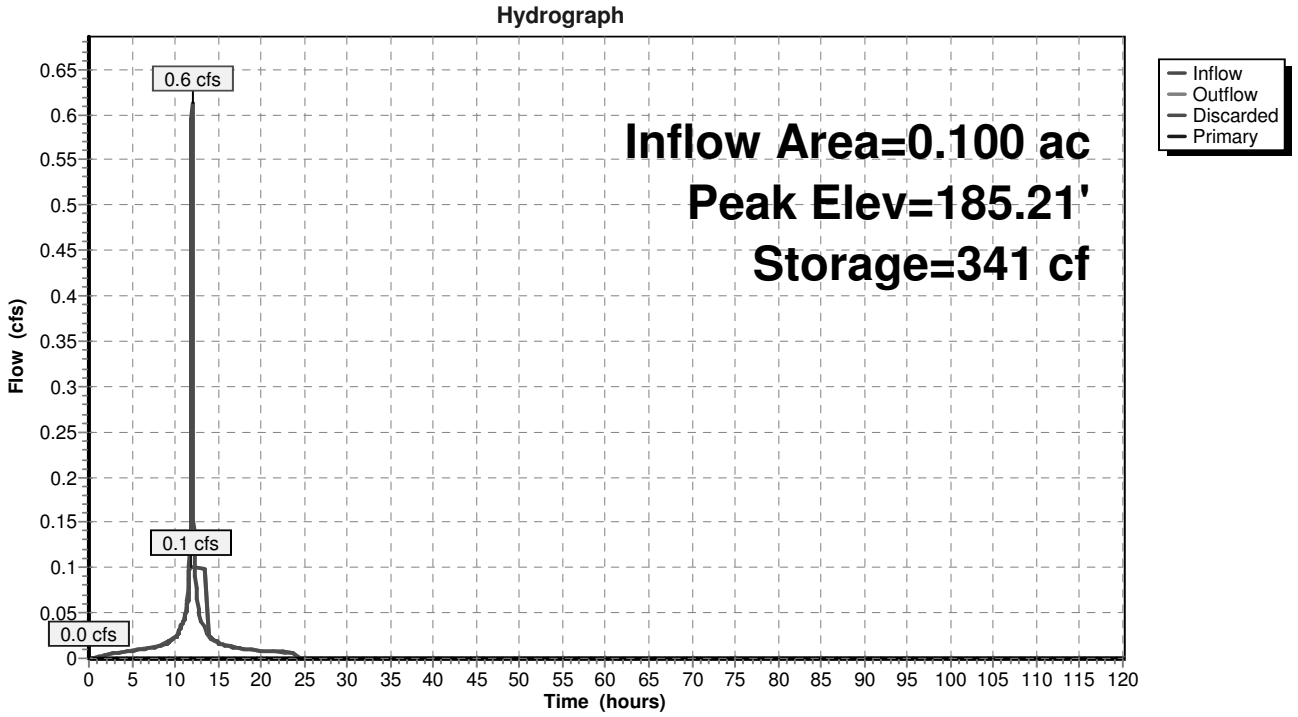
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
184.50	1,200	0	0
187.70	1,200	3,840	3,840

Device	Routing	Invert	Outlet Devices
#1	Discarded	184.50'	**0.1 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	186.20'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.1 cfs @ 11.80 hrs HW=184.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=184.50' TW=143.22' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP 2.2.: Porous Pavement



Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.50	**1,200**	0	185.02	1,200	250
184.51	1,200	5	185.03	1,200	254
184.52	1,200	10	185.04	1,200	259
184.53	1,200	14	185.05	1,200	264
184.54	1,200	19	185.06	1,200	269
184.55	1,200	24	185.07	1,200	274
184.56	1,200	29	185.08	1,200	278
184.57	1,200	34	185.09	1,200	283
184.58	1,200	38	185.10	1,200	288
184.59	1,200	43	185.11	1,200	293
184.60	1,200	48	185.12	1,200	298
184.61	1,200	53	185.13	1,200	302
184.62	1,200	58	185.14	1,200	307
184.63	1,200	62	185.15	1,200	312
184.64	1,200	67	185.16	1,200	317
184.65	1,200	72	185.17	1,200	322
184.66	1,200	77	185.18	1,200	326
184.67	1,200	82	185.19	1,200	331
184.68	1,200	86	185.20	1,200	336
184.69	1,200	91	185.21	1,200	341
184.70	1,200	96	185.22	1,200	346
184.71	1,200	101	185.23	1,200	350
184.72	1,200	106	185.24	1,200	355
184.73	1,200	110	185.25	1,200	360
184.74	1,200	115	185.26	1,200	365
184.75	1,200	120	185.27	1,200	370
184.76	1,200	125	185.28	1,200	374
184.77	1,200	130	185.29	1,200	379
184.78	1,200	134	185.30	1,200	384
184.79	1,200	139	185.31	1,200	389
184.80	1,200	144	185.32	1,200	394
184.81	1,200	149	185.33	1,200	398
184.82	1,200	154	185.34	1,200	403
184.83	1,200	158	185.35	1,200	408
184.84	1,200	163	185.36	1,200	413
184.85	1,200	168	185.37	1,200	418
184.86	1,200	173	185.38	1,200	422
184.87	1,200	178	185.39	1,200	427
184.88	1,200	182	185.40	1,200	432
184.89	1,200	187	185.41	1,200	437
184.90	1,200	192	185.42	1,200	442
184.91	1,200	197	185.43	1,200	446
184.92	1,200	202	185.44	1,200	451
184.93	1,200	206	185.45	1,200	456
184.94	1,200	211	185.46	1,200	461
184.95	1,200	216	185.47	1,200	466
184.96	1,200	221	185.48	1,200	470
184.97	1,200	226	185.49	1,200	475
184.98	1,200	230	185.50	1,200	480
184.99	1,200	235	185.51	1,200	485
185.00	1,200	240	185.52	1,200	490
185.01	1,200	245	185.53	1,200	494

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.54	1,200	499	186.06	1,200	749
185.55	1,200	504	186.07	1,200	754
185.56	1,200	509	186.08	1,200	758
185.57	1,200	514	186.09	1,200	763
185.58	1,200	518	186.10	1,200	768
185.59	1,200	523	186.11	1,200	773
185.60	1,200	528	186.12	1,200	778
185.61	1,200	533	186.13	1,200	782
185.62	1,200	538	186.14	1,200	787
185.63	1,200	542	186.15	1,200	792
185.64	1,200	547	186.16	1,200	797
185.65	1,200	552	186.17	1,200	802
185.66	1,200	557	186.18	1,200	806
185.67	1,200	562	186.19	1,200	811
185.68	1,200	566	186.20	1,200	816
185.69	1,200	571	186.21	1,200	821
185.70	1,200	576	186.22	1,200	826
185.71	1,200	581	186.23	1,200	830
185.72	1,200	586	186.24	1,200	835
185.73	1,200	590	186.25	1,200	840
185.74	1,200	595	186.26	1,200	845
185.75	1,200	600	186.27	1,200	850
185.76	1,200	605	186.28	1,200	854
185.77	1,200	610	186.29	1,200	859
185.78	1,200	614	186.30	1,200	864
185.79	1,200	619	186.31	1,200	869
185.80	1,200	624	186.32	1,200	874
185.81	1,200	629	186.33	1,200	878
185.82	1,200	634	186.34	1,200	883
185.83	1,200	638	186.35	1,200	888
185.84	1,200	643	186.36	1,200	893
185.85	1,200	648	186.37	1,200	898
185.86	1,200	653	186.38	1,200	902
185.87	1,200	658	186.39	1,200	907
185.88	1,200	662	186.40	1,200	912
185.89	1,200	667	186.41	1,200	917
185.90	1,200	672	186.42	1,200	922
185.91	1,200	677	186.43	1,200	926
185.92	1,200	682	186.44	1,200	931
185.93	1,200	686	186.45	1,200	936
185.94	1,200	691	186.46	1,200	941
185.95	1,200	696	186.47	1,200	946
185.96	1,200	701	186.48	1,200	950
185.97	1,200	706	186.49	1,200	955
185.98	1,200	710	186.50	1,200	960
185.99	1,200	715	186.51	1,200	965
186.00	1,200	720	186.52	1,200	970
186.01	1,200	725	186.53	1,200	974
186.02	1,200	730	186.54	1,200	979
186.03	1,200	734	186.55	1,200	984
186.04	1,200	739	186.56	1,200	989
186.05	1,200	744	186.57	1,200	994

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
186.58	1,200	998	187.10	1,200	1,248
186.59	1,200	1,003	187.11	1,200	1,253
186.60	1,200	1,008	187.12	1,200	1,258
186.61	1,200	1,013	187.13	1,200	1,262
186.62	1,200	1,018	187.14	1,200	1,267
186.63	1,200	1,022	187.15	1,200	1,272
186.64	1,200	1,027	187.16	1,200	1,277
186.65	1,200	1,032	187.17	1,200	1,282
186.66	1,200	1,037	187.18	1,200	1,286
186.67	1,200	1,042	187.19	1,200	1,291
186.68	1,200	1,046	187.20	1,200	1,296
186.69	1,200	1,051	187.21	1,200	1,301
186.70	1,200	1,056	187.22	1,200	1,306
186.71	1,200	1,061	187.23	1,200	1,310
186.72	1,200	1,066	187.24	1,200	1,315
186.73	1,200	1,070	187.25	1,200	1,320
186.74	1,200	1,075	187.26	1,200	1,325
186.75	1,200	1,080	187.27	1,200	1,330
186.76	1,200	1,085	187.28	1,200	1,334
186.77	1,200	1,090	187.29	1,200	1,339
186.78	1,200	1,094	187.30	1,200	1,344
186.79	1,200	1,099	187.31	1,200	1,349
186.80	1,200	1,104	187.32	1,200	1,354
186.81	1,200	1,109	187.33	1,200	1,358
186.82	1,200	1,114	187.34	1,200	1,363
186.83	1,200	1,118	187.35	1,200	1,368
186.84	1,200	1,123	187.36	1,200	1,373
186.85	1,200	1,128	187.37	1,200	1,378
186.86	1,200	1,133	187.38	1,200	1,382
186.87	1,200	1,138	187.39	1,200	1,387
186.88	1,200	1,142	187.40	1,200	1,392
186.89	1,200	1,147	187.41	1,200	1,397
186.90	1,200	1,152	187.42	1,200	1,402
186.91	1,200	1,157	187.43	1,200	1,406
186.92	1,200	1,162	187.44	1,200	1,411
186.93	1,200	1,166	187.45	1,200	1,416
186.94	1,200	1,171	187.46	1,200	1,421
186.95	1,200	1,176	187.47	1,200	1,426
186.96	1,200	1,181	187.48	1,200	1,430
186.97	1,200	1,186	187.49	1,200	1,435
186.98	1,200	1,190	187.50	1,200	1,440
186.99	1,200	1,195	187.51	1,200	1,445
187.00	1,200	1,200	187.52	1,200	1,450
187.01	1,200	1,205	187.53	1,200	1,454
187.02	1,200	1,210	187.54	1,200	1,459
187.03	1,200	1,214	187.55	1,200	1,464
187.04	1,200	1,219	187.56	1,200	1,469
187.05	1,200	1,224	187.57	1,200	1,474
187.06	1,200	1,229	187.58	1,200	1,478
187.07	1,200	1,234	187.59	1,200	1,483
187.08	1,200	1,238	187.60	1,200	1,488
187.09	1,200	1,243	187.61	1,200	1,493

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.62	1,200	1,498
187.63	1,200	1,502
187.64	1,200	1,507
187.65	1,200	1,512
187.66	1,200	1,517
187.67	1,200	1,522
187.68	1,200	1,526
187.69	1,200	1,531
187.70	1,200	**1,536**

Summary for Pond GIP 3.: Porous Pavement, Previously Constructed

Inflow Area = 1.600 ac, 43.75% Impervious, Inflow Depth = 2.62" for 10-yr event
Inflow = 4.7 cfs @ 12.07 hrs, Volume= 0.349 af
Outflow = 1.4 cfs @ 12.00 hrs, Volume= 0.349 af, Atten= 70%, Lag= 0.0 min
Discarded = 1.4 cfs @ 12.00 hrs, Volume= 0.349 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.39' @ 12.35 hrs Surf.Area= 9,130 sf Storage= 2,509 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 8.6 min (855.1 - 846.5)

Volume	Invert	Avail.Storage	Storage Description
#1	182.70'	14,243 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 35,607 cf Overall x 40.0% Voids

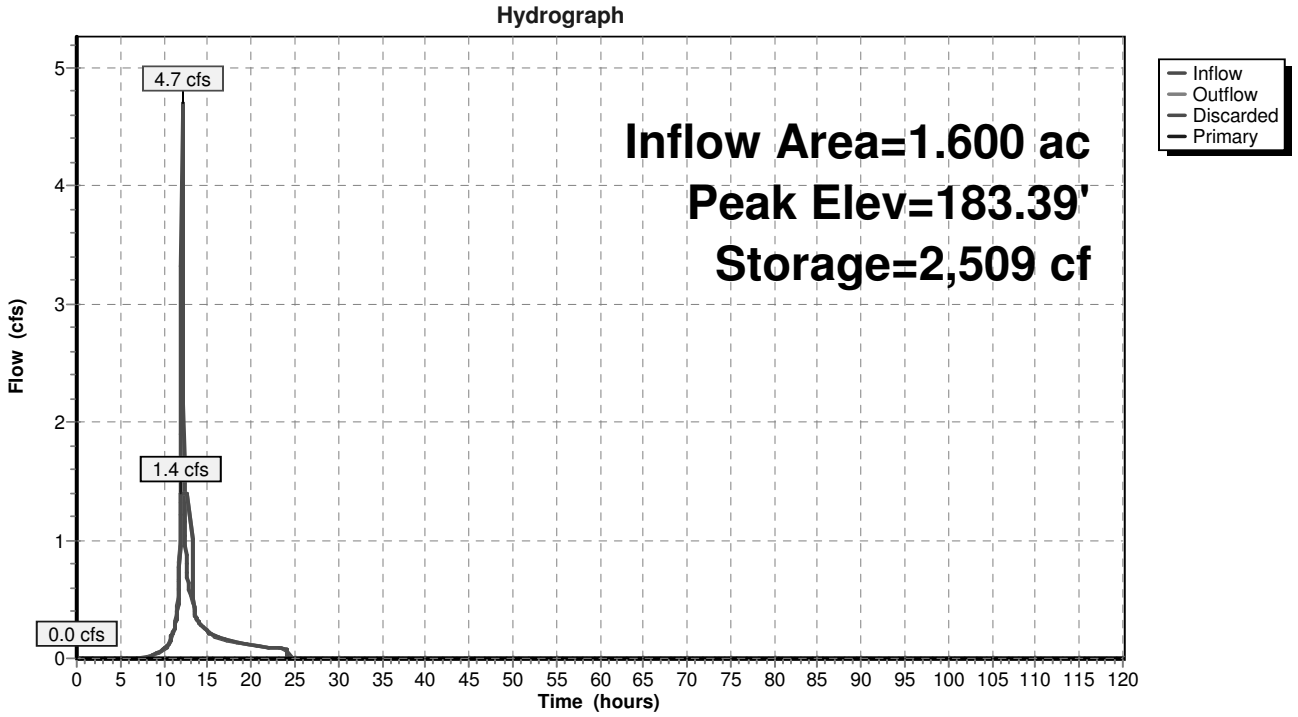
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
182.70	9,130	0	0
186.60	9,130	35,607	35,607

Device	Routing	Invert	Outlet Devices
#1	Discarded	182.70'	**1.4 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	183.90'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=1.4 cfs @ 12.00 hrs HW=182.79' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.4 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=182.70' TW=143.22' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.0 cfs)

Pond GIP 3.: Porous Pavement, Previously Constructed



Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
182.70	**9,130**	0	183.22	9,130	1,899
182.71	9,130	37	183.23	9,130	1,936
182.72	9,130	73	183.24	9,130	1,972
182.73	9,130	110	183.25	9,130	2,009
182.74	9,130	146	183.26	9,130	2,045
182.75	9,130	183	183.27	9,130	2,082
182.76	9,130	219	183.28	9,130	2,118
182.77	9,130	256	183.29	9,130	2,155
182.78	9,130	292	183.30	9,130	2,191
182.79	9,130	329	183.31	9,130	2,228
182.80	9,130	365	183.32	9,130	2,264
182.81	9,130	402	183.33	9,130	2,301
182.82	9,130	438	183.34	9,130	2,337
182.83	9,130	475	183.35	9,130	2,374
182.84	9,130	511	183.36	9,130	2,410
182.85	9,130	548	183.37	9,130	2,447
182.86	9,130	584	183.38	9,130	2,483
182.87	9,130	621	183.39	9,130	2,520
182.88	9,130	657	183.40	9,130	2,556
182.89	9,130	694	183.41	9,130	2,593
182.90	9,130	730	183.42	9,130	2,629
182.91	9,130	767	183.43	9,130	2,666
182.92	9,130	803	183.44	9,130	2,702
182.93	9,130	840	183.45	9,130	2,739
182.94	9,130	876	183.46	9,130	2,776
182.95	9,130	913	183.47	9,130	2,812
182.96	9,130	950	183.48	9,130	2,849
182.97	9,130	986	183.49	9,130	2,885
182.98	9,130	1,023	183.50	9,130	2,922
182.99	9,130	1,059	183.51	9,130	2,958
183.00	9,130	1,096	183.52	9,130	2,995
183.01	9,130	1,132	183.53	9,130	3,031
183.02	9,130	1,169	183.54	9,130	3,068
183.03	9,130	1,205	183.55	9,130	3,104
183.04	9,130	1,242	183.56	9,130	3,141
183.05	9,130	1,278	183.57	9,130	3,177
183.06	9,130	1,315	183.58	9,130	3,214
183.07	9,130	1,351	183.59	9,130	3,250
183.08	9,130	1,388	183.60	9,130	3,287
183.09	9,130	1,424	183.61	9,130	3,323
183.10	9,130	1,461	183.62	9,130	3,360
183.11	9,130	1,497	183.63	9,130	3,396
183.12	9,130	1,534	183.64	9,130	3,433
183.13	9,130	1,570	183.65	9,130	3,469
183.14	9,130	1,607	183.66	9,130	3,506
183.15	9,130	1,643	183.67	9,130	3,542
183.16	9,130	1,680	183.68	9,130	3,579
183.17	9,130	1,716	183.69	9,130	3,615
183.18	9,130	1,753	183.70	9,130	3,652
183.19	9,130	1,789	183.71	9,130	3,689
183.20	9,130	1,826	183.72	9,130	3,725
183.21	9,130	1,863	183.73	9,130	3,762

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.74	9,130	3,798	184.26	9,130	5,697
183.75	9,130	3,835	184.27	9,130	5,734
183.76	9,130	3,871	184.28	9,130	5,770
183.77	9,130	3,908	184.29	9,130	5,807
183.78	9,130	3,944	184.30	9,130	5,843
183.79	9,130	3,981	184.31	9,130	5,880
183.80	9,130	4,017	184.32	9,130	5,916
183.81	9,130	4,054	184.33	9,130	5,953
183.82	9,130	4,090	184.34	9,130	5,989
183.83	9,130	4,127	184.35	9,130	6,026
183.84	9,130	4,163	184.36	9,130	6,062
183.85	9,130	4,200	184.37	9,130	6,099
183.86	9,130	4,236	184.38	9,130	6,135
183.87	9,130	4,273	184.39	9,130	6,172
183.88	9,130	4,309	184.40	9,130	6,208
183.89	9,130	4,346	184.41	9,130	6,245
183.90	9,130	4,382	184.42	9,130	6,281
183.91	9,130	4,419	184.43	9,130	6,318
183.92	9,130	4,455	184.44	9,130	6,354
183.93	9,130	4,492	184.45	9,130	6,391
183.94	9,130	4,528	184.46	9,130	6,428
183.95	9,130	4,565	184.47	9,130	6,464
183.96	9,130	4,602	184.48	9,130	6,501
183.97	9,130	4,638	184.49	9,130	6,537
183.98	9,130	4,675	184.50	9,130	6,574
183.99	9,130	4,711	184.51	9,130	6,610
184.00	9,130	4,748	184.52	9,130	6,647
184.01	9,130	4,784	184.53	9,130	6,683
184.02	9,130	4,821	184.54	9,130	6,720
184.03	9,130	4,857	184.55	9,130	6,756
184.04	9,130	4,894	184.56	9,130	6,793
184.05	9,130	4,930	184.57	9,130	6,829
184.06	9,130	4,967	184.58	9,130	6,866
184.07	9,130	5,003	184.59	9,130	6,902
184.08	9,130	5,040	184.60	9,130	6,939
184.09	9,130	5,076	184.61	9,130	6,975
184.10	9,130	5,113	184.62	9,130	7,012
184.11	9,130	5,149	184.63	9,130	7,048
184.12	9,130	5,186	184.64	9,130	7,085
184.13	9,130	5,222	184.65	9,130	7,121
184.14	9,130	5,259	184.66	9,130	7,158
184.15	9,130	5,295	184.67	9,130	7,194
184.16	9,130	5,332	184.68	9,130	7,231
184.17	9,130	5,368	184.69	9,130	7,267
184.18	9,130	5,405	184.70	9,130	7,304
184.19	9,130	5,441	184.71	9,130	7,341
184.20	9,130	5,478	184.72	9,130	7,377
184.21	9,130	5,515	184.73	9,130	7,414
184.22	9,130	5,551	184.74	9,130	7,450
184.23	9,130	5,588	184.75	9,130	7,487
184.24	9,130	5,624	184.76	9,130	7,523
184.25	9,130	5,661	184.77	9,130	7,560

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.78	9,130	7,596	185.30	9,130	9,495
184.79	9,130	7,633	185.31	9,130	9,532
184.80	9,130	7,669	185.32	9,130	9,568
184.81	9,130	7,706	185.33	9,130	9,605
184.82	9,130	7,742	185.34	9,130	9,641
184.83	9,130	7,779	185.35	9,130	9,678
184.84	9,130	7,815	185.36	9,130	9,714
184.85	9,130	7,852	185.37	9,130	9,751
184.86	9,130	7,888	185.38	9,130	9,787
184.87	9,130	7,925	185.39	9,130	9,824
184.88	9,130	7,961	185.40	9,130	9,860
184.89	9,130	7,998	185.41	9,130	9,897
184.90	9,130	8,034	185.42	9,130	9,933
184.91	9,130	8,071	185.43	9,130	9,970
184.92	9,130	8,107	185.44	9,130	10,006
184.93	9,130	8,144	185.45	9,130	10,043
184.94	9,130	8,180	185.46	9,130	10,080
184.95	9,130	8,217	185.47	9,130	10,116
184.96	9,130	8,254	185.48	9,130	10,153
184.97	9,130	8,290	185.49	9,130	10,189
184.98	9,130	8,327	185.50	9,130	10,226
184.99	9,130	8,363	185.51	9,130	10,262
185.00	9,130	8,400	185.52	9,130	10,299
185.01	9,130	8,436	185.53	9,130	10,335
185.02	9,130	8,473	185.54	9,130	10,372
185.03	9,130	8,509	185.55	9,130	10,408
185.04	9,130	8,546	185.56	9,130	10,445
185.05	9,130	8,582	185.57	9,130	10,481
185.06	9,130	8,619	185.58	9,130	10,518
185.07	9,130	8,655	185.59	9,130	10,554
185.08	9,130	8,692	185.60	9,130	10,591
185.09	9,130	8,728	185.61	9,130	10,627
185.10	9,130	8,765	185.62	9,130	10,664
185.11	9,130	8,801	185.63	9,130	10,700
185.12	9,130	8,838	185.64	9,130	10,737
185.13	9,130	8,874	185.65	9,130	10,773
185.14	9,130	8,911	185.66	9,130	10,810
185.15	9,130	8,947	185.67	9,130	10,846
185.16	9,130	8,984	185.68	9,130	10,883
185.17	9,130	9,020	185.69	9,130	10,919
185.18	9,130	9,057	185.70	9,130	10,956
185.19	9,130	9,093	185.71	9,130	10,993
185.20	9,130	9,130	185.72	9,130	11,029
185.21	9,130	9,167	185.73	9,130	11,066
185.22	9,130	9,203	185.74	9,130	11,102
185.23	9,130	9,240	185.75	9,130	11,139
185.24	9,130	9,276	185.76	9,130	11,175
185.25	9,130	9,313	185.77	9,130	11,212
185.26	9,130	9,349	185.78	9,130	11,248
185.27	9,130	9,386	185.79	9,130	11,285
185.28	9,130	9,422	185.80	9,130	11,321
185.29	9,130	9,459	185.81	9,130	11,358

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.82	9,130	11,394
185.83	9,130	11,431
185.84	9,130	11,467
185.85	9,130	11,504
185.86	9,130	11,540
185.87	9,130	11,577
185.88	9,130	11,613
185.89	9,130	11,650
185.90	9,130	11,686
185.91	9,130	11,723
185.92	9,130	11,759
185.93	9,130	11,796
185.94	9,130	11,832
185.95	9,130	11,869
185.96	9,130	11,906
185.97	9,130	11,942
185.98	9,130	11,979
185.99	9,130	12,015
186.00	9,130	12,052
186.01	9,130	12,088
186.02	9,130	12,125
186.03	9,130	12,161
186.04	9,130	12,198
186.05	9,130	12,234
186.06	9,130	12,271
186.07	9,130	12,307
186.08	9,130	12,344
186.09	9,130	12,380
186.10	9,130	12,417
186.11	9,130	12,453
186.12	9,130	12,490
186.13	9,130	12,526
186.14	9,130	12,563
186.15	9,130	12,599
186.16	9,130	12,636
186.17	9,130	12,672
186.18	9,130	12,709
186.19	9,130	12,745
186.20	9,130	12,782
186.21	9,130	12,819
186.22	9,130	12,855
186.23	9,130	12,892
186.24	9,130	12,928
186.25	9,130	12,965
186.26	9,130	13,001
186.27	9,130	13,038
186.28	9,130	13,074
186.29	9,130	13,111
186.30	9,130	13,147
186.31	9,130	13,184
186.32	9,130	13,220
186.33	9,130	13,257
186.34	9,130	13,293
186.35	9,130	13,330
186.36	9,130	13,366
186.37	9,130	13,403
186.38	9,130	13,439
186.39	9,130	13,476
186.40	9,130	13,512
186.41	9,130	13,549
186.42	9,130	13,585
186.43	9,130	13,622
186.44	9,130	13,658
186.45	9,130	13,695
186.46	9,130	13,732
186.47	9,130	13,768
186.48	9,130	13,805
186.49	9,130	13,841
186.50	9,130	13,878
186.51	9,130	13,914
186.52	9,130	13,951
186.53	9,130	13,987
186.54	9,130	14,024
186.55	9,130	14,060
186.56	9,130	14,097
186.57	9,130	14,133
186.58	9,130	14,170
186.59	9,130	14,206
186.60	9,130	**14,243**

Summary for Pond GIP1 PT1: Pretreatment Basin 1

Inflow Area = 0.800 ac, 62.50% Impervious, Inflow Depth = 3.36" for 10-yr event
Inflow = 2.8 cfs @ 12.11 hrs, Volume= 0.224 af
Outflow = 2.6 cfs @ 12.11 hrs, Volume= 0.219 af, Atten= 8%, Lag= 0.3 min
Primary = 2.6 cfs @ 12.11 hrs, Volume= 0.219 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.78' @ 12.22 hrs Surf.Area= 673 sf Storage= 416 cf

Plug-Flow detention time= 21.6 min calculated for 0.219 af (98% of inflow)
Center-of-Mass det. time= 6.7 min (830.2 - 823.5)

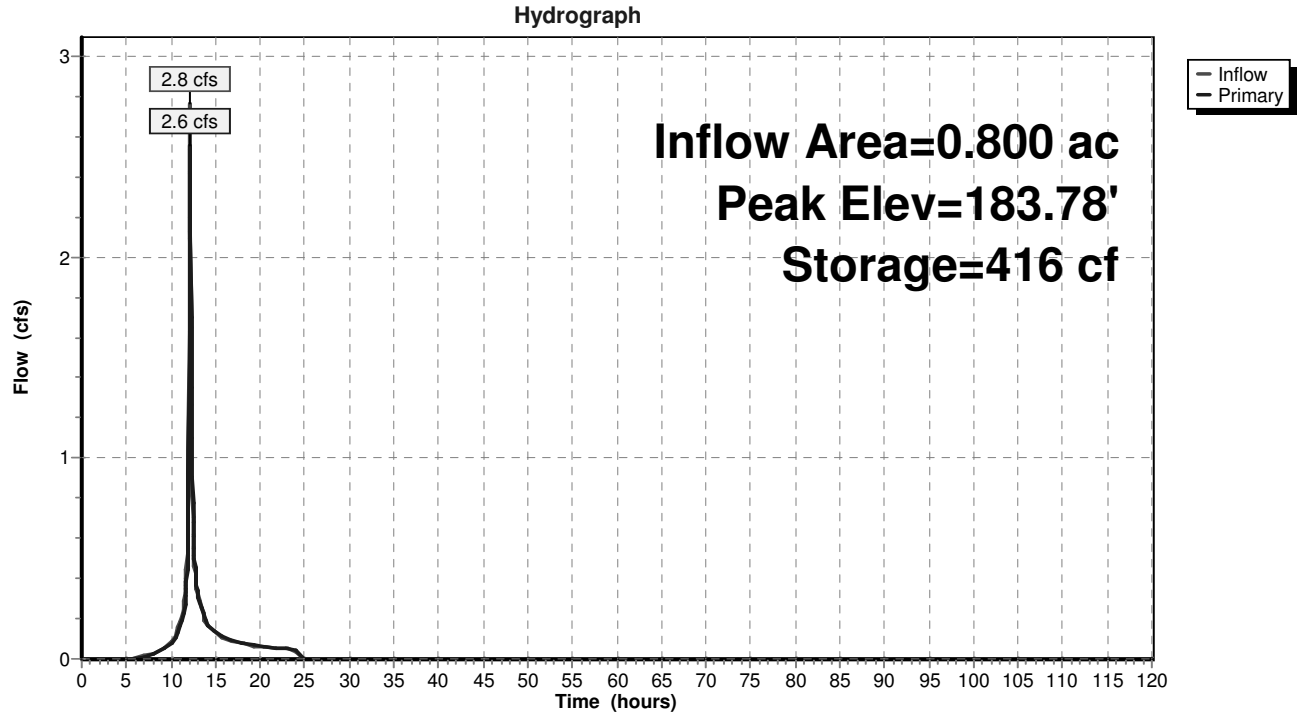
Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	575 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.00	398	0	0
184.00	752	575	575

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**36.0" W x 6.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=0.0 cfs @ 12.11 hrs HW=183.71' TW=183.73' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Pond GIP1 PT1: Pretreatment Basin 1



Stage-Area-Storage for Pond GIP1 PT1: Pretreatment Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	398	0
183.01	402	4
183.02	405	8
183.03	409	12
183.04	412	16
183.05	416	20
183.06	419	25
183.07	423	29
183.08	426	33
183.09	430	37
183.10	433	42
183.11	437	46
183.12	440	50
183.13	444	55
183.14	448	59
183.15	451	64
183.16	455	68
183.17	458	73
183.18	462	77
183.19	465	82
183.20	469	87
183.21	472	91
183.22	476	96
183.23	479	101
183.24	483	106
183.25	487	111
183.26	490	115
183.27	494	120
183.28	497	125
183.29	501	130
183.30	504	135
183.31	508	140
183.32	511	145
183.33	515	151
183.34	518	156
183.35	522	161
183.36	525	166
183.37	529	171
183.38	533	177
183.39	536	182
183.40	540	188
183.41	543	193
183.42	547	198
183.43	550	204
183.44	554	209
183.45	557	215
183.46	561	221
183.47	564	226
183.48	568	232
183.49	571	238
183.50	575	243
183.51	579	249
183.52	582	255
183.53	586	261
183.54	589	267
183.55	593	272
183.56	596	278
183.57	600	284
183.58	603	290
183.59	607	296
183.60	610	303
183.61	614	309
183.62	617	315
183.63	621	321
183.64	625	327
183.65	628	333
183.66	632	340
183.67	635	346
183.68	639	352
183.69	642	359
183.70	646	365
183.71	649	372
183.72	653	378
183.73	656	385
183.74	660	391
183.75	664	398
183.76	667	405
183.77	671	411
183.78	674	418
183.79	678	425
183.80	681	432
183.81	685	439
183.82	688	445
183.83	692	452
183.84	695	459
183.85	699	466
183.86	702	473
183.87	706	480
183.88	710	487
183.89	713	494
183.90	717	502
183.91	720	509
183.92	724	516
183.93	727	523
183.94	731	531
183.95	734	538
183.96	738	545
183.97	741	553
183.98	745	560
183.99	748	567
184.00	**752**	**575**

Summary for Subcatchment 1.1S:

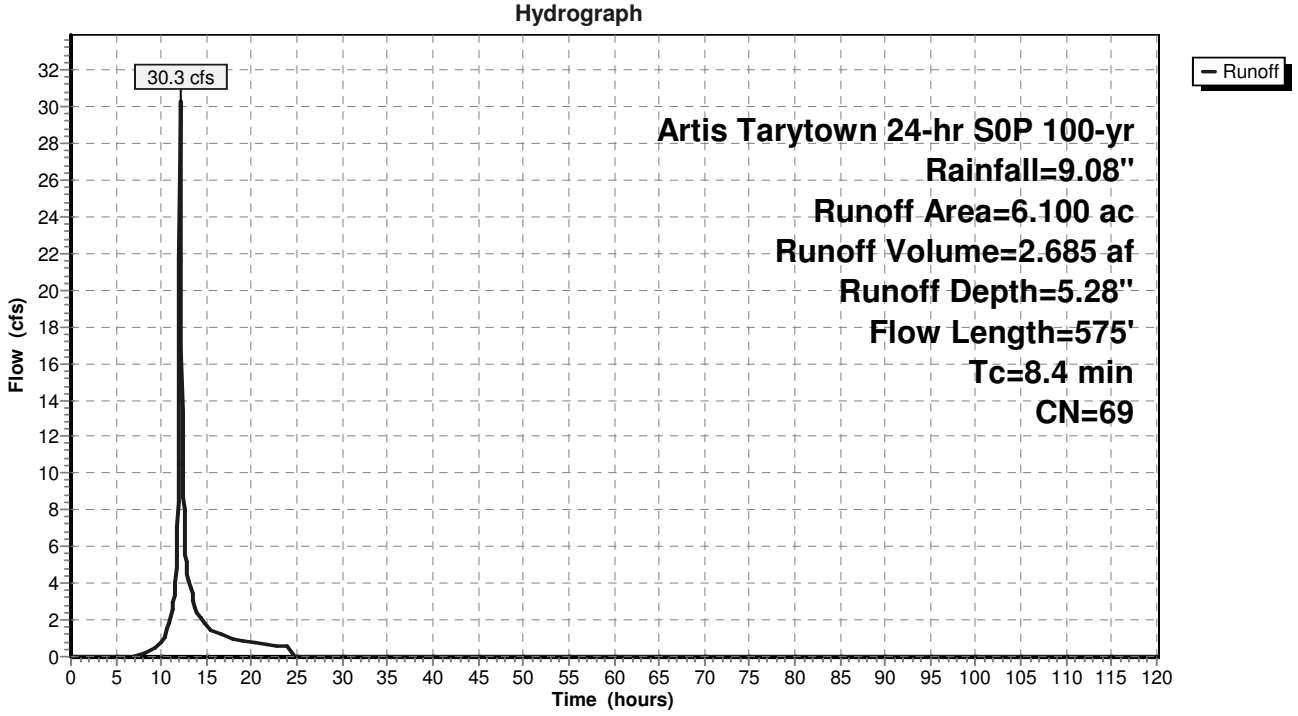
Runoff = 30.3 cfs @ 12.08 hrs, Volume= 2.685 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
1.500	98	Paved parking, HSG B
0.800	55	Woods, Good, HSG B
3.800	61	>75% Grass cover, Good, HSG B
6.100	69	Weighted Average
4.600		75.41% Pervious Area
1.500		24.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	70	0.0710	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"
0.9	215	0.0610	4.19	2.62	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.25' Z= 2.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
2.4	290	0.1690	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.4	575	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

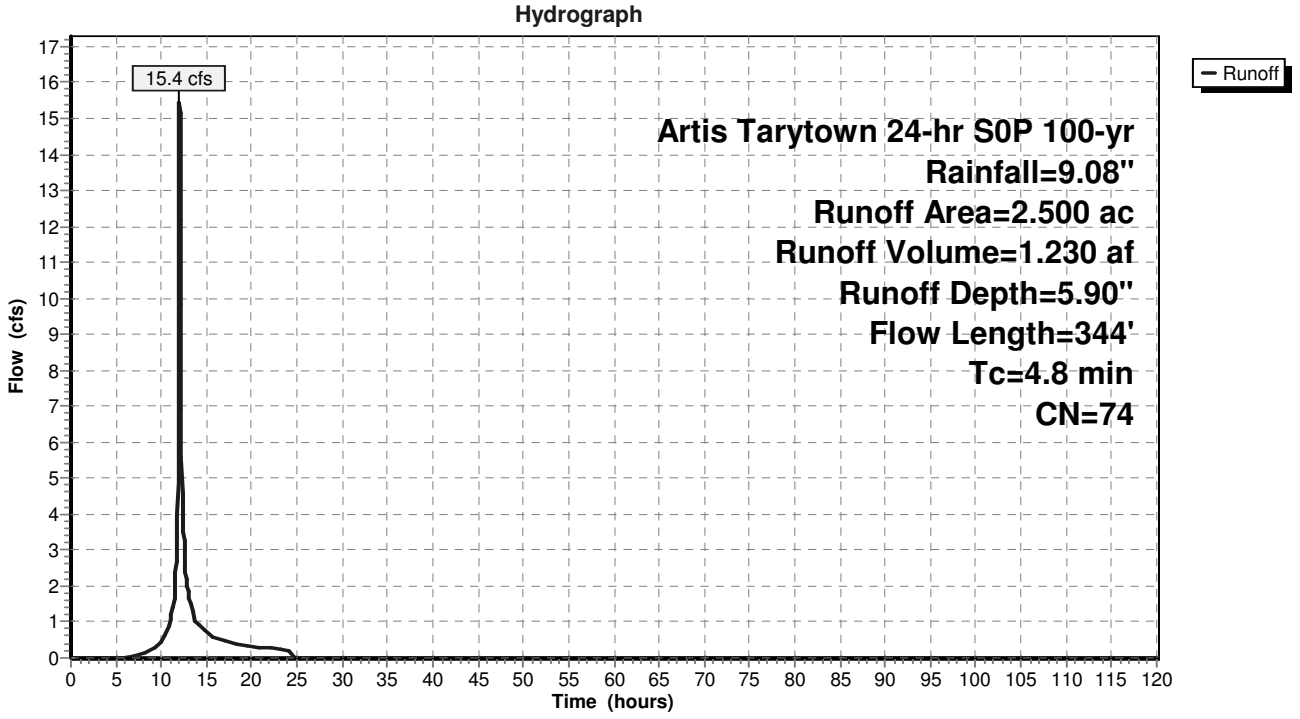
Runoff = 15.4 cfs @ 12.03 hrs, Volume= 1.230 af, Depth= 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
1.600	61	>75% Grass cover, Good, HSG B
0.900	98	Paved parking, HSG B
2.500	74	Weighted Average
1.600		64.00% Pervious Area
0.900		36.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	70	0.1700	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"
0.4	144	0.1100	5.63	3.52	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.25' Z= 2.0 '/' Top.W=3.00' n= 0.030 Earth, grassed & winding
0.8	130	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	344	Total			

Subcatchment 1.2S:



Summary for Subcatchment GIP 1:

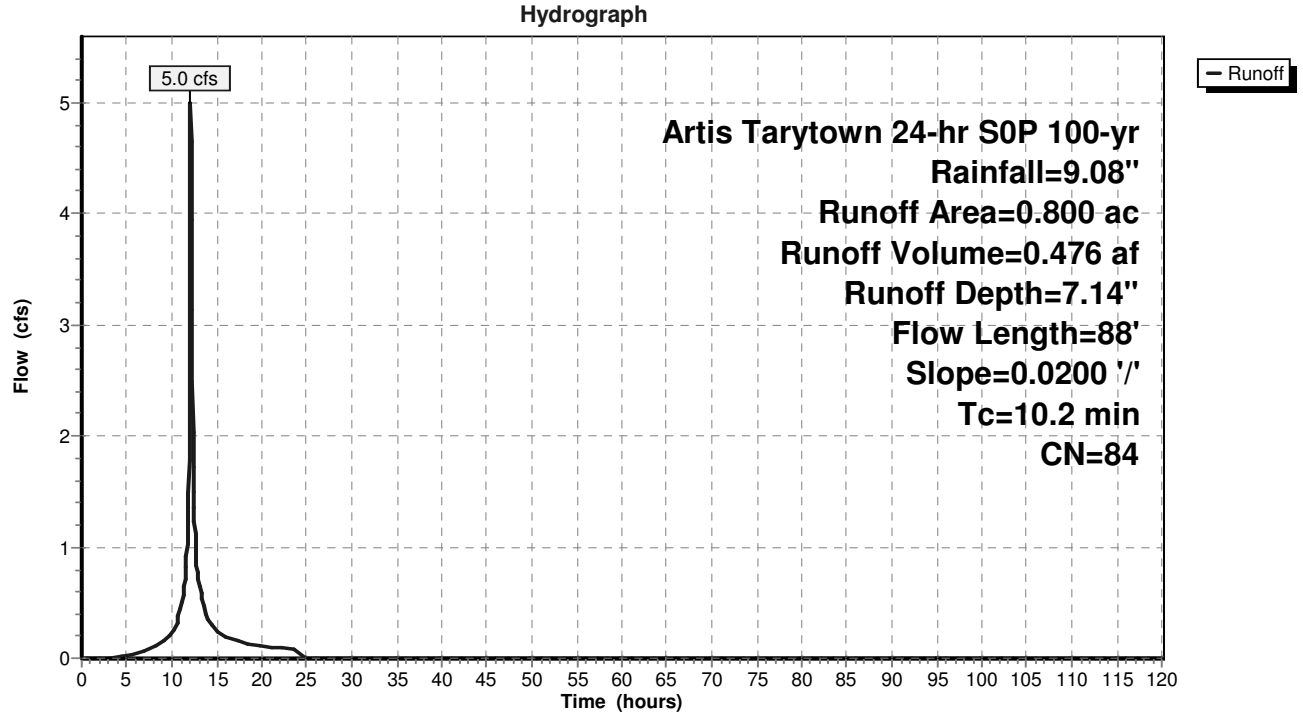
Runoff = 5.0 cfs @ 12.11 hrs, Volume= 0.476 af, Depth= 7.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
0.300	61	>75% Grass cover, Good, HSG B
0.500	98	Paved parking, HSG B
0.800	84	Weighted Average
0.300		37.50% Pervious Area
0.500		62.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	88	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.42"

Subcatchment GIP 1:



Summary for Subcatchment GIP 2.1:

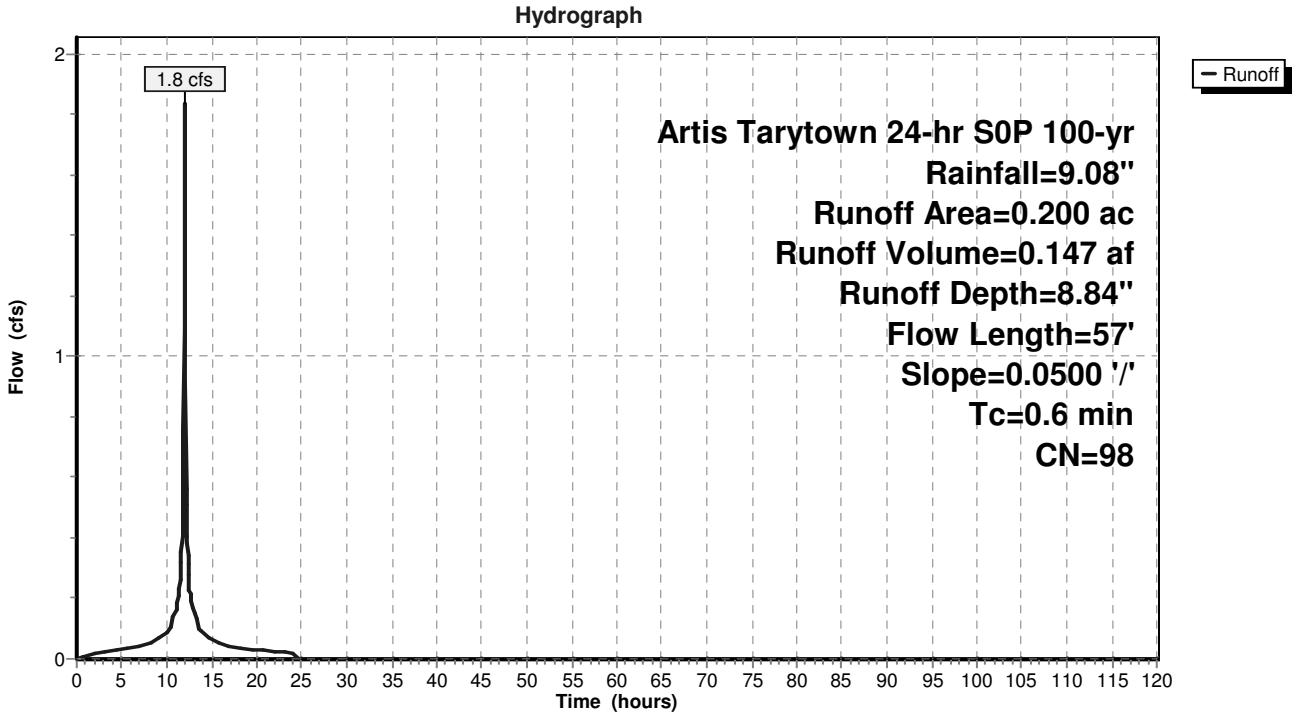
Runoff = 1.8 cfs @ 11.96 hrs, Volume= 0.147 af, Depth= 8.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
0.200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	57	0.0500	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.42"

Subcatchment GIP 2.1:



Summary for Subcatchment GIP 2.2:

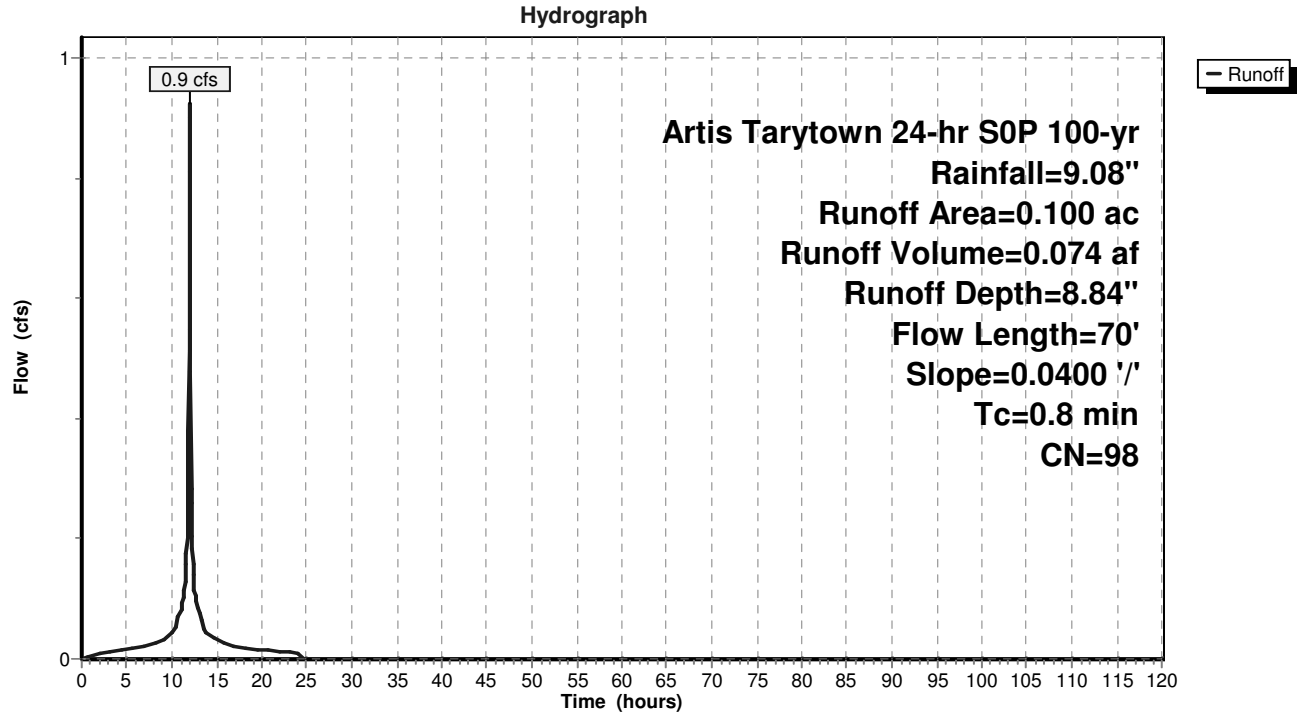
Runoff = 0.9 cfs @ 11.97 hrs, Volume= 0.074 af, Depth= 8.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
0.100	98	Paved parking, HSG B
0.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	70	0.0400	1.47		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.42"

Subcatchment GIP 2.2:



Summary for Subcatchment GIP 3:

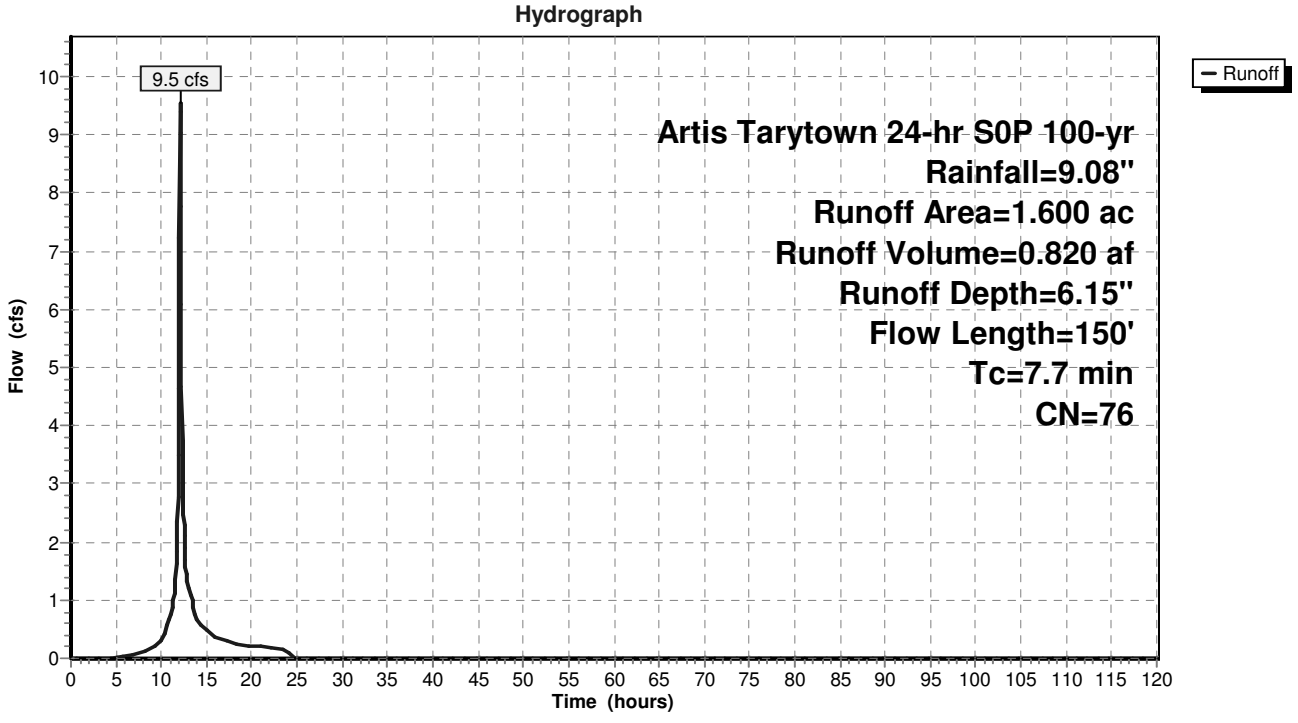
Runoff = 9.5 cfs @ 12.07 hrs, Volume= 0.820 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Artis Tarytown 24-hr S0P 100-yr Rainfall=9.08"

Area (ac)	CN	Description
0.700	98	Paved parking, HSG B
0.500	61	>75% Grass cover, Good, HSG B
0.400	55	Woods, Good, HSG B
1.600	76	Weighted Average
0.900		56.25% Pervious Area
0.700		43.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	100	0.3900	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.42"
0.2	50	0.4400	4.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.7	150	Total			

Subcatchment GIP 3:

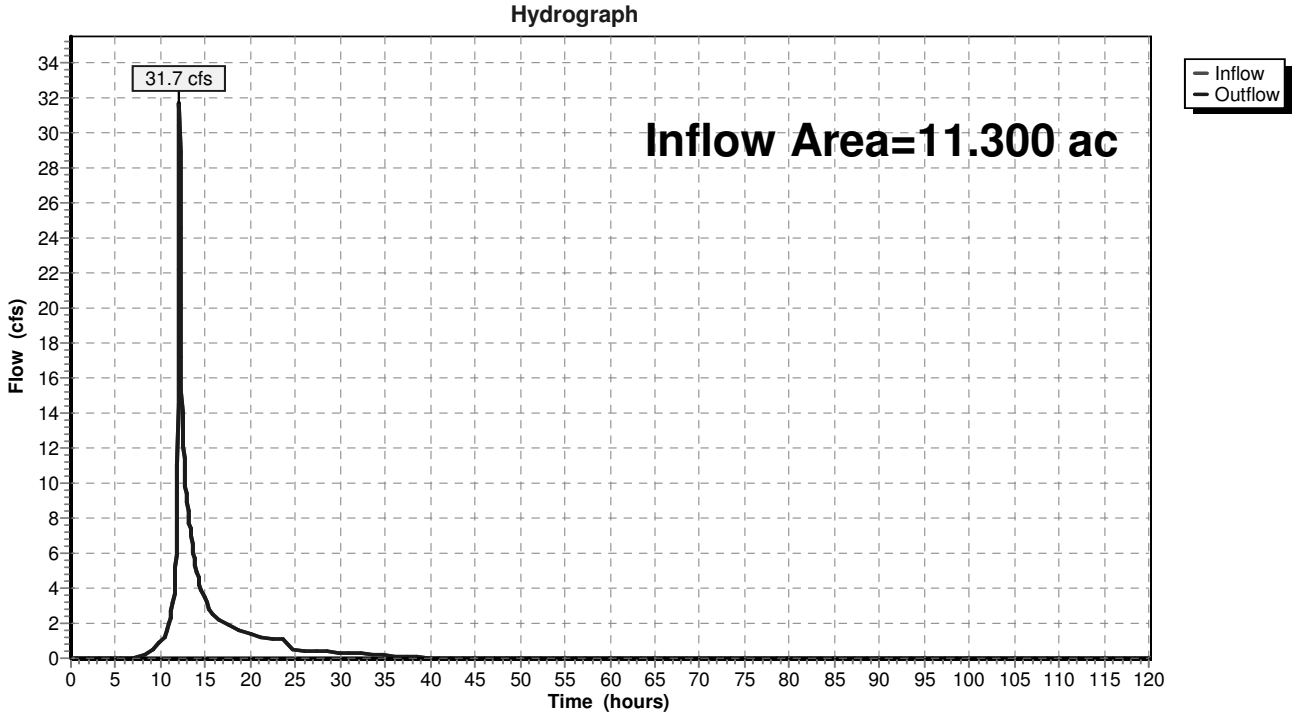


Summary for Reach DP1: Design Point 1

Inflow Area = 11.300 ac, 34.51% Impervious, Inflow Depth = 4.71" for 100-yr event
Inflow = 31.7 cfs @ 12.09 hrs, Volume= 4.431 af
Outflow = 31.7 cfs @ 12.09 hrs, Volume= 4.431 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP1: Design Point 1



Summary for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed

Inflow Area = 5.200 ac, 46.15% Impervious, Inflow Depth = 4.03" for 100-yr event
Inflow = 18.2 cfs @ 12.04 hrs, Volume= 1.748 af
Outflow = 4.6 cfs @ 12.63 hrs, Volume= 1.746 af, Atten= 74%, Lag= 35.4 min
Primary = 4.6 cfs @ 12.63 hrs, Volume= 1.746 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 143.22' Surf.Area= 8,284 sf Storage= 15,389 cf
Peak Elev= 146.03' @ 12.63 hrs Surf.Area= 14,882 sf Storage= 47,593 cf (32,204 cf above start)

Plug-Flow detention time= 476.3 min calculated for 1.393 af (80% of inflow)
Center-of-Mass det. time= 296.7 min (1,117.9 - 821.3)

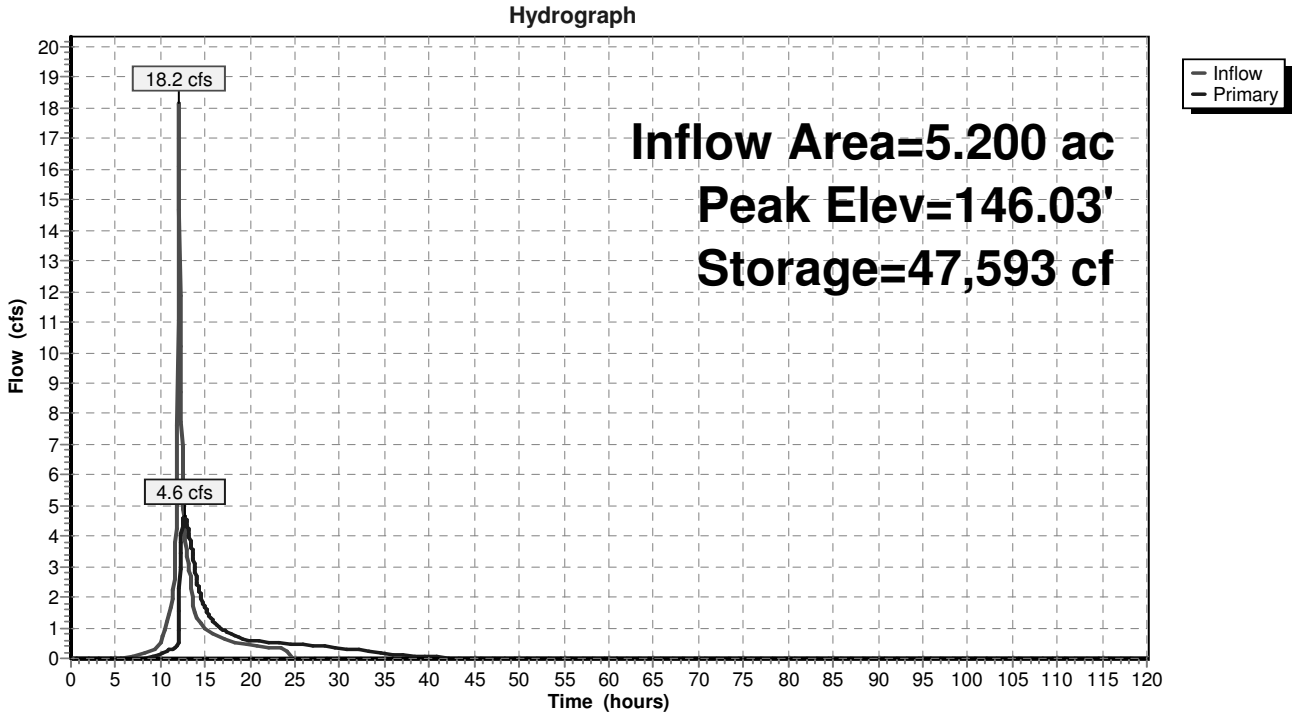
Volume	Invert	Avail.Storage	Storage Description
#1	139.60'	63,375 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
139.60	0	0	0
140.00	1,100	220	220
142.00	5,600	6,700	6,920
144.00	10,000	15,600	22,520
146.00	14,700	24,700	47,220
146.90	21,200	16,155	63,375

Device	Routing	Invert	Outlet Devices
#1	Primary	138.20'	**18.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 138.20' / 131.74' S= 0.0994 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	143.22'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	144.90'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=4.6 cfs @ 12.63 hrs HW=146.02' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.6 cfs of 22.6 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.7 cfs @ 7.82 fps)
  └─**3=Broad-Crested Rectangular Weir** (Weir Controls 4.0 cfs @ 3.52 fps)

Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed



Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
139.60	0	0
139.62	55	1
139.64	110	2
139.66	165	5
139.68	220	9
139.70	275	14
139.72	330	20
139.74	385	27
139.76	440	35
139.78	495	45
139.80	550	55
139.82	605	67
139.84	660	79
139.86	715	93
139.88	770	108
139.90	825	124
139.92	880	141
139.94	935	159
139.96	990	178
139.98	1,045	199
140.00	1,100	220
140.02	1,145	242
140.04	1,190	266
140.06	1,235	290
140.08	1,280	315
140.10	1,325	341
140.12	1,370	368
140.14	1,415	396
140.16	1,460	425
140.18	1,505	454
140.20	1,550	485
140.22	1,595	516
140.24	1,640	549
140.26	1,685	582
140.28	1,730	616
140.30	1,775	651
140.32	1,820	687
140.34	1,865	724
140.36	1,910	762
140.38	1,955	800
140.40	2,000	840
140.42	2,045	880
140.44	2,090	922
140.46	2,135	964
140.48	2,180	1,007
140.50	2,225	1,051
140.52	2,270	1,096
140.54	2,315	1,142
140.56	2,360	1,189
140.58	2,405	1,236
140.60	2,450	1,285
140.62	2,495	1,334
140.64	2,540	1,385
140.66	2,585	1,436
140.68	2,630	1,488
140.70	2,675	1,541
140.72	2,720	1,595
140.74	2,765	1,650
140.76	2,810	1,706
140.78	2,855	1,762
140.80	2,900	1,820
140.82	2,945	1,878
140.84	2,990	1,938
140.86	3,035	1,998
140.88	3,080	2,059
140.90	3,125	2,121
140.92	3,170	2,184
140.94	3,215	2,248
140.96	3,260	2,313
140.98	3,305	2,378
141.00	3,350	2,445
141.02	3,395	2,512
141.04	3,440	2,581
141.06	3,485	2,650
141.08	3,530	2,720
141.10	3,575	2,791
141.12	3,620	2,863
141.14	3,665	2,936
141.16	3,710	3,010
141.18	3,755	3,084
141.20	3,800	3,160
141.22	3,845	3,236
141.24	3,890	3,314
141.26	3,935	3,392
141.28	3,980	3,471
141.30	4,025	3,551
141.32	4,070	3,632
141.34	4,115	3,714
141.36	4,160	3,797
141.38	4,205	3,880
141.40	4,250	3,965
141.42	4,295	4,050
141.44	4,340	4,137
141.46	4,385	4,224
141.48	4,430	4,312
141.50	4,475	4,401
141.52	4,520	4,491
141.54	4,565	4,582
141.56	4,610	4,674
141.58	4,655	4,766
141.60	4,700	4,860
141.62	4,745	4,954
141.64	4,790	5,050
141.66	4,835	5,146

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
141.68	4,880	5,243	142.72	7,184	11,522
141.70	4,925	5,341	142.74	7,228	11,666
141.72	4,970	5,440	142.76	7,272	11,811
141.74	5,015	5,540	142.78	7,316	11,957
141.76	5,060	5,641	142.80	7,360	12,104
141.78	5,105	5,742	142.82	7,404	12,252
141.80	5,150	5,845	142.84	7,448	12,400
141.82	5,195	5,948	142.86	7,492	12,550
141.84	5,240	6,053	142.88	7,536	12,700
141.86	5,285	6,158	142.90	7,580	12,851
141.88	5,330	6,264	142.92	7,624	13,003
141.90	5,375	6,371	142.94	7,668	13,156
141.92	5,420	6,479	142.96	7,712	13,310
141.94	5,465	6,588	142.98	7,756	13,464
141.96	5,510	6,698	143.00	7,800	13,620
141.98	5,555	6,808	143.02	7,844	13,776
142.00	5,600	6,920	143.04	7,888	13,934
142.02	5,644	7,032	143.06	7,932	14,092
142.04	5,688	7,146	143.08	7,976	14,251
142.06	5,732	7,260	143.10	8,020	14,411
142.08	5,776	7,375	143.12	8,064	14,572
142.10	5,820	7,491	143.14	8,108	14,734
142.12	5,864	7,608	143.16	8,152	14,896
142.14	5,908	7,726	143.18	8,196	15,060
142.16	5,952	7,844	143.20	8,240	15,224
142.18	5,996	7,964	143.22	8,284	15,389
142.20	6,040	8,084	143.24	8,328	15,555
142.22	6,084	8,205	143.26	8,372	15,722
142.24	6,128	8,327	143.28	8,416	15,890
142.26	6,172	8,450	143.30	8,460	16,059
142.28	6,216	8,574	143.32	8,504	16,229
142.30	6,260	8,699	143.34	8,548	16,399
142.32	6,304	8,825	143.36	8,592	16,571
142.34	6,348	8,951	143.38	8,636	16,743
142.36	6,392	9,079	143.40	8,680	16,916
142.38	6,436	9,207	143.42	8,724	17,090
142.40	6,480	9,336	143.44	8,768	17,265
142.42	6,524	9,466	143.46	8,812	17,441
142.44	6,568	9,597	143.48	8,856	17,617
142.46	6,612	9,729	143.50	8,900	17,795
142.48	6,656	9,861	143.52	8,944	17,973
142.50	6,700	9,995	143.54	8,988	18,153
142.52	6,744	10,129	143.56	9,032	18,333
142.54	6,788	10,265	143.58	9,076	18,514
142.56	6,832	10,401	143.60	9,120	18,696
142.58	6,876	10,538	143.62	9,164	18,879
142.60	6,920	10,676	143.64	9,208	19,063
142.62	6,964	10,815	143.66	9,252	19,247
142.64	7,008	10,955	143.68	9,296	19,433
142.66	7,052	11,095	143.70	9,340	19,619
142.68	7,096	11,237	143.72	9,384	19,806
142.70	7,140	11,379	143.74	9,428	19,994

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
143.76	9,472	20,183
143.78	9,516	20,373
143.80	9,560	20,564
143.82	9,604	20,756
143.84	9,648	20,948
143.86	9,692	21,142
143.88	9,736	21,336
143.90	9,780	21,531
143.92	9,824	21,727
143.94	9,868	21,924
143.96	9,912	22,122
143.98	9,956	22,320
144.00	10,000	22,520
144.02	10,047	22,720
144.04	10,094	22,922
144.06	10,141	23,124
144.08	10,188	23,328
144.10	10,235	23,532
144.12	10,282	23,737
144.14	10,329	23,943
144.16	10,376	24,150
144.18	10,423	24,358
144.20	10,470	24,567
144.22	10,517	24,777
144.24	10,564	24,988
144.26	10,611	25,199
144.28	10,658	25,412
144.30	10,705	25,626
144.32	10,752	25,840
144.34	10,799	26,056
144.36	10,846	26,272
144.38	10,893	26,490
144.40	10,940	26,708
144.42	10,987	26,927
144.44	11,034	27,147
144.46	11,081	27,369
144.48	11,128	27,591
144.50	11,175	27,814
144.52	11,222	28,038
144.54	11,269	28,263
144.56	11,316	28,488
144.58	11,363	28,715
144.60	11,410	28,943
144.62	11,457	29,172
144.64	11,504	29,401
144.66	11,551	29,632
144.68	11,598	29,863
144.70	11,645	30,096
144.72	11,692	30,329
144.74	11,739	30,563
144.76	11,786	30,799
144.78	11,833	31,035
144.80	11,880	31,272
144.82	11,927	31,510
144.84	11,974	31,749
144.86	12,021	31,989
144.88	12,068	32,230
144.90	12,115	32,472
144.92	12,162	32,715
144.94	12,209	32,958
144.96	12,256	33,203
144.98	12,303	33,448
145.00	12,350	33,695
145.02	12,397	33,942
145.04	12,444	34,191
145.06	12,491	34,440
145.08	12,538	34,691
145.10	12,585	34,942
145.12	12,632	35,194
145.14	12,679	35,447
145.16	12,726	35,701
145.18	12,773	35,956
145.20	12,820	36,212
145.22	12,867	36,469
145.24	12,914	36,727
145.26	12,961	36,985
145.28	13,008	37,245
145.30	13,055	37,506
145.32	13,102	37,767
145.34	13,149	38,030
145.36	13,196	38,293
145.38	13,243	38,558
145.40	13,290	38,823
145.42	13,337	39,089
145.44	13,384	39,356
145.46	13,431	39,625
145.48	13,478	39,894
145.50	13,525	40,164
145.52	13,572	40,435
145.54	13,619	40,707
145.56	13,666	40,979
145.58	13,713	41,253
145.60	13,760	41,528
145.62	13,807	41,804
145.64	13,854	42,080
145.66	13,901	42,358
145.68	13,948	42,636
145.70	13,995	42,916
145.72	14,042	43,196
145.74	14,089	43,477
145.76	14,136	43,760
145.78	14,183	44,043
145.80	14,230	44,327
145.82	14,277	44,612

Stage-Area-Storage for Pond 1.2P: Micropool Extended Det Pond (P-1), Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
145.84	14,324	44,898
145.86	14,371	45,185
145.88	14,418	45,473
145.90	14,465	45,762
145.92	14,512	46,052
145.94	14,559	46,342
145.96	14,606	46,634
145.98	14,653	46,926
146.00	14,700	47,220
146.02	14,844	47,515
146.04	14,989	47,814
146.06	15,133	48,115
146.08	15,278	48,419
146.10	15,422	48,726
146.12	15,567	49,036
146.14	15,711	49,349
146.16	15,856	49,664
146.18	16,000	49,983
146.20	16,144	50,304
146.22	16,289	50,629
146.24	16,433	50,956
146.26	16,578	51,286
146.28	16,722	51,619
146.30	16,867	51,955
146.32	17,011	52,294
146.34	17,156	52,635
146.36	17,300	52,980
146.38	17,444	53,327
146.40	17,589	53,678
146.42	17,733	54,031
146.44	17,878	54,387
146.46	18,022	54,746
146.48	18,167	55,108
146.50	18,311	55,473
146.52	18,456	55,840
146.54	18,600	56,211
146.56	18,744	56,584
146.58	18,889	56,961
146.60	19,033	57,340
146.62	19,178	57,722
146.64	19,322	58,107
146.66	19,467	58,495
146.68	19,611	58,886
146.70	19,756	59,279
146.72	19,900	59,676
146.74	20,044	60,075
146.76	20,189	60,478
146.78	20,333	60,883
146.80	20,478	61,291
146.82	20,622	61,702
146.84	20,767	62,116
146.86	20,911	62,533
146.88	21,056	62,952
146.90	**21,200**	**63,375**

Summary for Pond GIP 1.: Bioretention Basin (F-5)

Inflow Area = 0.800 ac, 62.50% Impervious, Inflow Depth = 7.05" for 100-yr event
Inflow = 4.7 cfs @ 12.11 hrs, Volume= 0.470 af
Outflow = 4.4 cfs @ 12.17 hrs, Volume= 0.435 af, Atten= 7%, Lag= 3.3 min
Primary = 4.4 cfs @ 12.17 hrs, Volume= 0.435 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.90' @ 12.17 hrs Surf.Area= 3,517 sf Storage= 2,742 cf

Plug-Flow detention time= 75.8 min calculated for 0.435 af (93% of inflow)
Center-of-Mass det. time= 34.9 min (838.4 - 803.4)

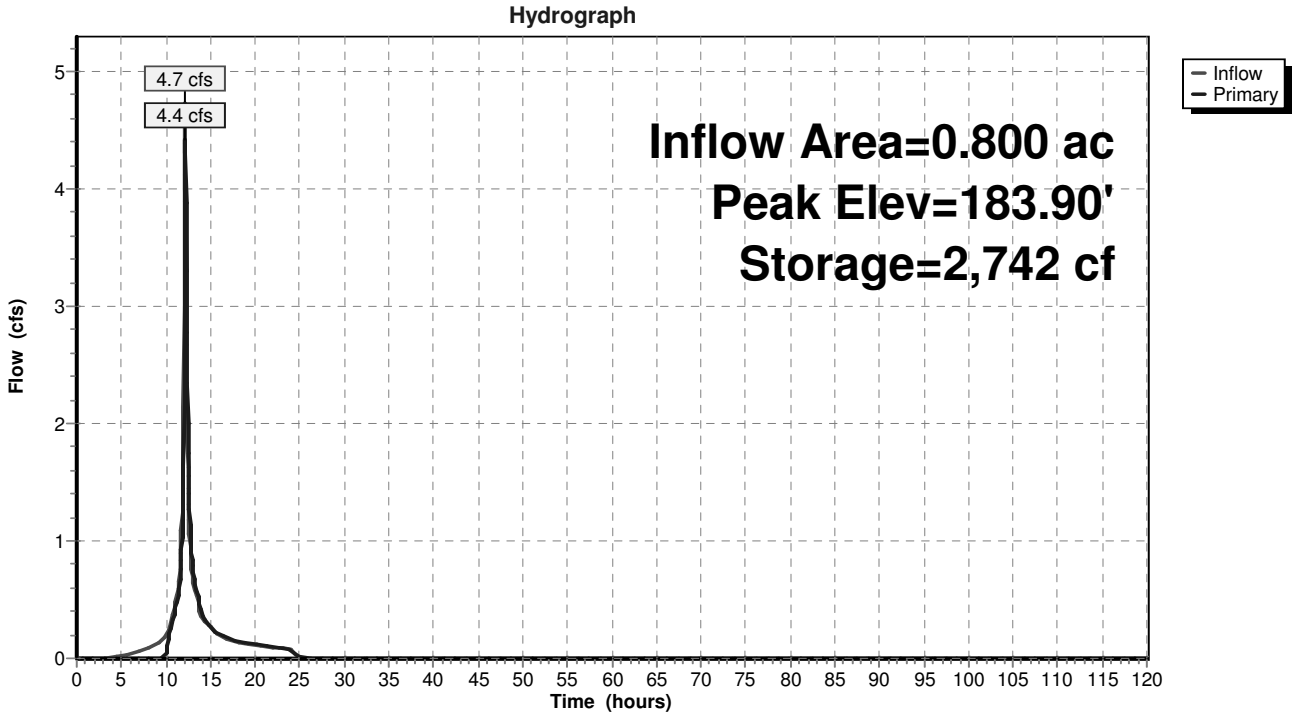
Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	3,049 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.00	2,462	0	0
184.00	3,635	3,049	3,049

Device	Routing	Invert	Outlet Devices
#1	Primary	178.50'	**15.0" Round Culvert** L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 178.50' / 178.00' S= 0.0227 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	183.50'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=4.4 cfs @ 12.17 hrs HW=183.90' TW=145.60' (Dynamic Tailwater)
↑**1=Culvert** (Passes 4.4 cfs of 12.9 cfs potential flow)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 4.4 cfs @ 1.83 fps)

Pond GIP 1.: Bioretention Basin (F-5)



Stage-Area-Storage for Pond GIP 1.: Bioretention Basin (F-5)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	2,462	0
183.01	2,474	30
183.02	2,485	61
183.03	2,497	91
183.04	2,509	122
183.05	2,521	152
183.06	2,532	183
183.07	2,544	213
183.08	2,556	244
183.09	2,568	274
183.10	2,579	305
183.11	2,591	335
183.12	2,603	366
183.13	2,614	396
183.14	2,626	427
183.15	2,638	457
183.16	2,650	488
183.17	2,661	518
183.18	2,673	549
183.19	2,685	579
183.20	2,697	610
183.21	2,708	640
183.22	2,720	671
183.23	2,732	701
183.24	2,744	732
183.25	2,755	762
183.26	2,767	793
183.27	2,779	823
183.28	2,790	854
183.29	2,802	884
183.30	2,814	915
183.31	2,826	945
183.32	2,837	976
183.33	2,849	1,006
183.34	2,861	1,036
183.35	2,873	1,067
183.36	2,884	1,097
183.37	2,896	1,128
183.38	2,908	1,158
183.39	2,919	1,189
183.40	2,931	1,219
183.41	2,943	1,250
183.42	2,955	1,280
183.43	2,966	1,311
183.44	2,978	1,341
183.45	2,990	1,372
183.46	3,002	1,402
183.47	3,013	1,433
183.48	3,025	1,463
183.49	3,037	1,494
183.50	3,049	1,524
183.51	3,060	1,555
183.52	3,072	1,585
183.53	3,084	1,616
183.54	3,095	1,646
183.55	3,107	1,677
183.56	3,119	1,707
183.57	3,131	1,738
183.58	3,142	1,768
183.59	3,154	1,799
183.60	3,166	1,829
183.61	3,178	1,860
183.62	3,189	1,890
183.63	3,201	1,921
183.64	3,213	1,951
183.65	3,224	1,982
183.66	3,236	2,012
183.67	3,248	2,042
183.68	3,260	2,073
183.69	3,271	2,103
183.70	3,283	2,134
183.71	3,295	2,164
183.72	3,307	2,195
183.73	3,318	2,225
183.74	3,330	2,256
183.75	3,342	2,286
183.76	3,353	2,317
183.77	3,365	2,347
183.78	3,377	2,378
183.79	3,389	2,408
183.80	3,400	2,439
183.81	3,412	2,469
183.82	3,424	2,500
183.83	3,436	2,530
183.84	3,447	2,561
183.85	3,459	2,591
183.86	3,471	2,622
183.87	3,483	2,652
183.88	3,494	2,683
183.89	3,506	2,713
183.90	3,518	2,744
183.91	3,529	2,774
183.92	3,541	2,805
183.93	3,553	2,835
183.94	3,565	2,866
183.95	3,576	2,896
183.96	3,588	2,927
183.97	3,600	2,957
183.98	3,612	2,988
183.99	3,623	3,018
184.00	**3,635**	**3,049**

Summary for Pond GIP 2.1.: Porous Pavement

Inflow Area = 0.200 ac,100.00% Impervious, Inflow Depth = 8.84" for 100-yr event
Inflow = 1.8 cfs @ 11.96 hrs, Volume= 0.147 af
Outflow = 0.2 cfs @ 12.57 hrs, Volume= 0.147 af, Atten= 88%, Lag= 36.3 min
Discarded = 0.2 cfs @ 11.45 hrs, Volume= 0.146 af
Primary = 0.0 cfs @ 12.57 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 190.11' @ 12.57 hrs Surf.Area= 2,300 sf Storage= 1,667 cf

Plug-Flow detention time= 50.0 min calculated for 0.147 af (100% of inflow)
Center-of-Mass det. time= 50.0 min (784.4 - 734.4)

Volume	Invert	Avail.Storage	Storage Description
#1	188.30'	2,944 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 7,360 cf Overall x 40.0% Voids

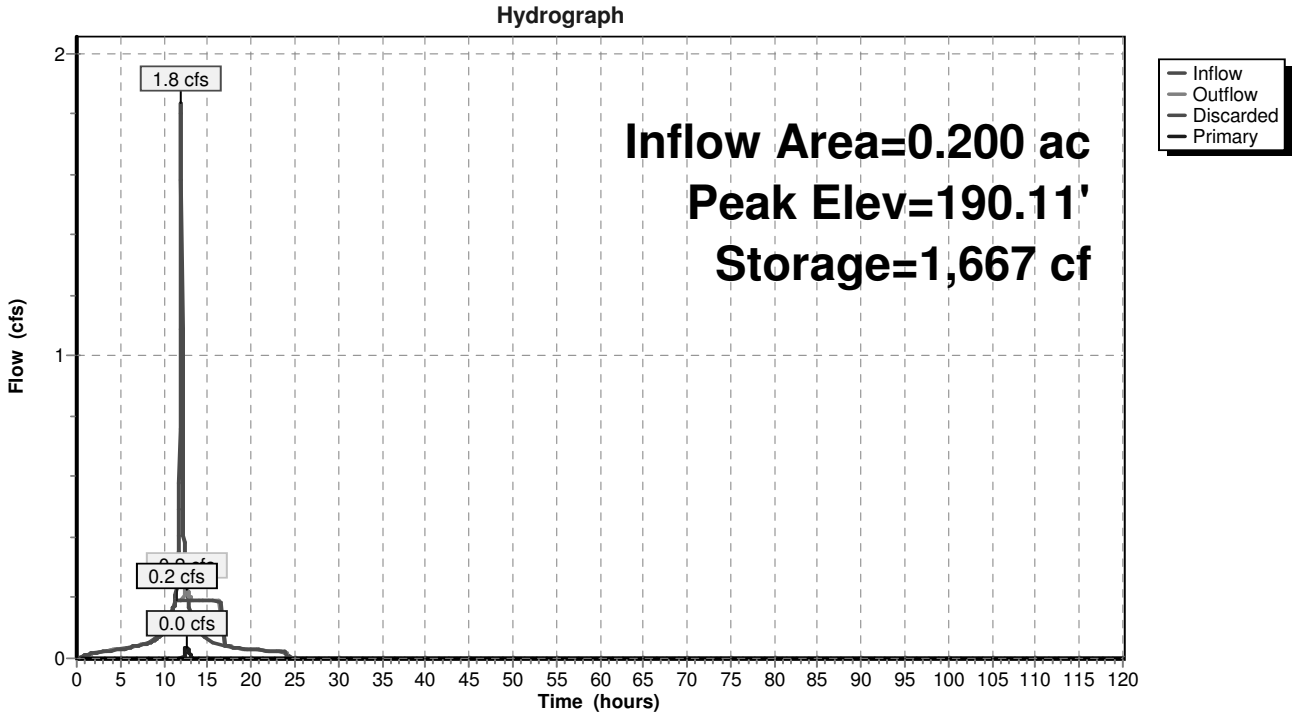
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
188.30	2,300	0	0
191.50	2,300	7,360	7,360

Device	Routing	Invert	Outlet Devices
#1	Discarded	188.30'	**0.2 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	190.00'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.2 cfs @ 11.45 hrs HW=188.34' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

Primary OutFlow Max=0.0 cfs @ 12.57 hrs HW=190.11' TW=146.02' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 1.13 fps)

Pond GIP 2.1.: Porous Pavement



Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.30	**2,300**	0	188.82	2,300	478
188.31	2,300	9	188.83	2,300	488
188.32	2,300	18	188.84	2,300	497
188.33	2,300	28	188.85	2,300	506
188.34	2,300	37	188.86	2,300	515
188.35	2,300	46	188.87	2,300	524
188.36	2,300	55	188.88	2,300	534
188.37	2,300	64	188.89	2,300	543
188.38	2,300	74	188.90	2,300	552
188.39	2,300	83	188.91	2,300	561
188.40	2,300	92	188.92	2,300	570
188.41	2,300	101	188.93	2,300	580
188.42	2,300	110	188.94	2,300	589
188.43	2,300	120	188.95	2,300	598
188.44	2,300	129	188.96	2,300	607
188.45	2,300	138	188.97	2,300	616
188.46	2,300	147	188.98	2,300	626
188.47	2,300	156	188.99	2,300	635
188.48	2,300	166	189.00	2,300	644
188.49	2,300	175	189.01	2,300	653
188.50	2,300	184	189.02	2,300	662
188.51	2,300	193	189.03	2,300	672
188.52	2,300	202	189.04	2,300	681
188.53	2,300	212	189.05	2,300	690
188.54	2,300	221	189.06	2,300	699
188.55	2,300	230	189.07	2,300	708
188.56	2,300	239	189.08	2,300	718
188.57	2,300	248	189.09	2,300	727
188.58	2,300	258	189.10	2,300	736
188.59	2,300	267	189.11	2,300	745
188.60	2,300	276	189.12	2,300	754
188.61	2,300	285	189.13	2,300	764
188.62	2,300	294	189.14	2,300	773
188.63	2,300	304	189.15	2,300	782
188.64	2,300	313	189.16	2,300	791
188.65	2,300	322	189.17	2,300	800
188.66	2,300	331	189.18	2,300	810
188.67	2,300	340	189.19	2,300	819
188.68	2,300	350	189.20	2,300	828
188.69	2,300	359	189.21	2,300	837
188.70	2,300	368	189.22	2,300	846
188.71	2,300	377	189.23	2,300	856
188.72	2,300	386	189.24	2,300	865
188.73	2,300	396	189.25	2,300	874
188.74	2,300	405	189.26	2,300	883
188.75	2,300	414	189.27	2,300	892
188.76	2,300	423	189.28	2,300	902
188.77	2,300	432	189.29	2,300	911
188.78	2,300	442	189.30	2,300	920
188.79	2,300	451	189.31	2,300	929
188.80	2,300	460	189.32	2,300	938
188.81	2,300	469	189.33	2,300	948

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.34	2,300	957	189.86	2,300	1,435
189.35	2,300	966	189.87	2,300	1,444
189.36	2,300	975	189.88	2,300	1,454
189.37	2,300	984	189.89	2,300	1,463
189.38	2,300	994	189.90	2,300	1,472
189.39	2,300	1,003	189.91	2,300	1,481
189.40	2,300	1,012	189.92	2,300	1,490
189.41	2,300	1,021	189.93	2,300	1,500
189.42	2,300	1,030	189.94	2,300	1,509
189.43	2,300	1,040	189.95	2,300	1,518
189.44	2,300	1,049	189.96	2,300	1,527
189.45	2,300	1,058	189.97	2,300	1,536
189.46	2,300	1,067	189.98	2,300	1,546
189.47	2,300	1,076	189.99	2,300	1,555
189.48	2,300	1,086	190.00	2,300	1,564
189.49	2,300	1,095	190.01	2,300	1,573
189.50	2,300	1,104	190.02	2,300	1,582
189.51	2,300	1,113	190.03	2,300	1,592
189.52	2,300	1,122	190.04	2,300	1,601
189.53	2,300	1,132	190.05	2,300	1,610
189.54	2,300	1,141	190.06	2,300	1,619
189.55	2,300	1,150	190.07	2,300	1,628
189.56	2,300	1,159	190.08	2,300	1,638
189.57	2,300	1,168	190.09	2,300	1,647
189.58	2,300	1,178	190.10	2,300	1,656
189.59	2,300	1,187	190.11	2,300	1,665
189.60	2,300	1,196	190.12	2,300	1,674
189.61	2,300	1,205	190.13	2,300	1,684
189.62	2,300	1,214	190.14	2,300	1,693
189.63	2,300	1,224	190.15	2,300	1,702
189.64	2,300	1,233	190.16	2,300	1,711
189.65	2,300	1,242	190.17	2,300	1,720
189.66	2,300	1,251	190.18	2,300	1,730
189.67	2,300	1,260	190.19	2,300	1,739
189.68	2,300	1,270	190.20	2,300	1,748
189.69	2,300	1,279	190.21	2,300	1,757
189.70	2,300	1,288	190.22	2,300	1,766
189.71	2,300	1,297	190.23	2,300	1,776
189.72	2,300	1,306	190.24	2,300	1,785
189.73	2,300	1,316	190.25	2,300	1,794
189.74	2,300	1,325	190.26	2,300	1,803
189.75	2,300	1,334	190.27	2,300	1,812
189.76	2,300	1,343	190.28	2,300	1,822
189.77	2,300	1,352	190.29	2,300	1,831
189.78	2,300	1,362	190.30	2,300	1,840
189.79	2,300	1,371	190.31	2,300	1,849
189.80	2,300	1,380	190.32	2,300	1,858
189.81	2,300	1,389	190.33	2,300	1,868
189.82	2,300	1,398	190.34	2,300	1,877
189.83	2,300	1,408	190.35	2,300	1,886
189.84	2,300	1,417	190.36	2,300	1,895
189.85	2,300	1,426	190.37	2,300	1,904

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.38	2,300	1,914	190.90	2,300	2,392
190.39	2,300	1,923	190.91	2,300	2,401
190.40	2,300	1,932	190.92	2,300	2,410
190.41	2,300	1,941	190.93	2,300	2,420
190.42	2,300	1,950	190.94	2,300	2,429
190.43	2,300	1,960	190.95	2,300	2,438
190.44	2,300	1,969	190.96	2,300	2,447
190.45	2,300	1,978	190.97	2,300	2,456
190.46	2,300	1,987	190.98	2,300	2,466
190.47	2,300	1,996	190.99	2,300	2,475
190.48	2,300	2,006	191.00	2,300	2,484
190.49	2,300	2,015	191.01	2,300	2,493
190.50	2,300	2,024	191.02	2,300	2,502
190.51	2,300	2,033	191.03	2,300	2,512
190.52	2,300	2,042	191.04	2,300	2,521
190.53	2,300	2,052	191.05	2,300	2,530
190.54	2,300	2,061	191.06	2,300	2,539
190.55	2,300	2,070	191.07	2,300	2,548
190.56	2,300	2,079	191.08	2,300	2,558
190.57	2,300	2,088	191.09	2,300	2,567
190.58	2,300	2,098	191.10	2,300	2,576
190.59	2,300	2,107	191.11	2,300	2,585
190.60	2,300	2,116	191.12	2,300	2,594
190.61	2,300	2,125	191.13	2,300	2,604
190.62	2,300	2,134	191.14	2,300	2,613
190.63	2,300	2,144	191.15	2,300	2,622
190.64	2,300	2,153	191.16	2,300	2,631
190.65	2,300	2,162	191.17	2,300	2,640
190.66	2,300	2,171	191.18	2,300	2,650
190.67	2,300	2,180	191.19	2,300	2,659
190.68	2,300	2,190	191.20	2,300	2,668
190.69	2,300	2,199	191.21	2,300	2,677
190.70	2,300	2,208	191.22	2,300	2,686
190.71	2,300	2,217	191.23	2,300	2,696
190.72	2,300	2,226	191.24	2,300	2,705
190.73	2,300	2,236	191.25	2,300	2,714
190.74	2,300	2,245	191.26	2,300	2,723
190.75	2,300	2,254	191.27	2,300	2,732
190.76	2,300	2,263	191.28	2,300	2,742
190.77	2,300	2,272	191.29	2,300	2,751
190.78	2,300	2,282	191.30	2,300	2,760
190.79	2,300	2,291	191.31	2,300	2,769
190.80	2,300	2,300	191.32	2,300	2,778
190.81	2,300	2,309	191.33	2,300	2,788
190.82	2,300	2,318	191.34	2,300	2,797
190.83	2,300	2,328	191.35	2,300	2,806
190.84	2,300	2,337	191.36	2,300	2,815
190.85	2,300	2,346	191.37	2,300	2,824
190.86	2,300	2,355	191.38	2,300	2,834
190.87	2,300	2,364	191.39	2,300	2,843
190.88	2,300	2,374	191.40	2,300	2,852
190.89	2,300	2,383	191.41	2,300	2,861

Stage-Area-Storage for Pond GIP 2.1.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.42	2,300	2,870
191.43	2,300	2,880
191.44	2,300	2,889
191.45	2,300	2,898
191.46	2,300	2,907
191.47	2,300	2,916
191.48	2,300	2,926
191.49	2,300	2,935
191.50	2,300	**2,944**

Summary for Pond GIP 2.2.: Porous Pavement

Inflow Area = 0.100 ac,100.00% Impervious, Inflow Depth = 8.84" for 100-yr event
Inflow = 0.9 cfs @ 11.97 hrs, Volume= 0.074 af
Outflow = 0.1 cfs @ 12.68 hrs, Volume= 0.074 af, Atten= 89%, Lag= 43.0 min
Discarded = 0.1 cfs @ 11.50 hrs, Volume= 0.074 af
Primary = 0.0 cfs @ 12.68 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 186.21' @ 12.68 hrs Surf.Area= 1,200 sf Storage= 823 cf

Plug-Flow detention time= 47.5 min calculated for 0.074 af (100% of inflow)
Center-of-Mass det. time= 47.5 min (782.0 - 734.5)

Volume	Invert	Avail.Storage	Storage Description
#1	184.50'	1,536 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,840 cf Overall x 40.0% Voids

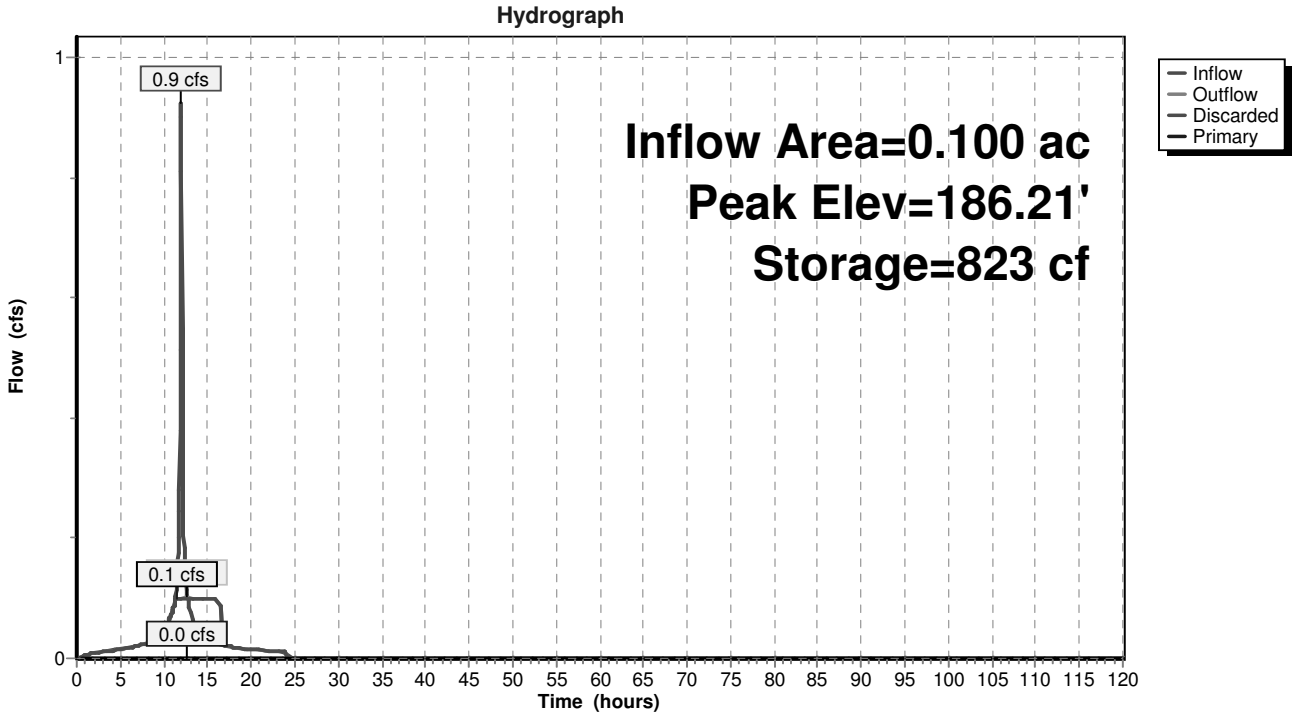
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
184.50	1,200	0	0
187.70	1,200	3,840	3,840

Device	Routing	Invert	Outlet Devices
#1	Discarded	184.50'	**0.1 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	186.20'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.1 cfs @ 11.50 hrs HW=184.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 12.68 hrs HW=186.21' TW=146.02' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 0.40 fps)

Pond GIP 2.2.: Porous Pavement



Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.50	**1,200**	0	185.02	1,200	250
184.51	1,200	5	185.03	1,200	254
184.52	1,200	10	185.04	1,200	259
184.53	1,200	14	185.05	1,200	264
184.54	1,200	19	185.06	1,200	269
184.55	1,200	24	185.07	1,200	274
184.56	1,200	29	185.08	1,200	278
184.57	1,200	34	185.09	1,200	283
184.58	1,200	38	185.10	1,200	288
184.59	1,200	43	185.11	1,200	293
184.60	1,200	48	185.12	1,200	298
184.61	1,200	53	185.13	1,200	302
184.62	1,200	58	185.14	1,200	307
184.63	1,200	62	185.15	1,200	312
184.64	1,200	67	185.16	1,200	317
184.65	1,200	72	185.17	1,200	322
184.66	1,200	77	185.18	1,200	326
184.67	1,200	82	185.19	1,200	331
184.68	1,200	86	185.20	1,200	336
184.69	1,200	91	185.21	1,200	341
184.70	1,200	96	185.22	1,200	346
184.71	1,200	101	185.23	1,200	350
184.72	1,200	106	185.24	1,200	355
184.73	1,200	110	185.25	1,200	360
184.74	1,200	115	185.26	1,200	365
184.75	1,200	120	185.27	1,200	370
184.76	1,200	125	185.28	1,200	374
184.77	1,200	130	185.29	1,200	379
184.78	1,200	134	185.30	1,200	384
184.79	1,200	139	185.31	1,200	389
184.80	1,200	144	185.32	1,200	394
184.81	1,200	149	185.33	1,200	398
184.82	1,200	154	185.34	1,200	403
184.83	1,200	158	185.35	1,200	408
184.84	1,200	163	185.36	1,200	413
184.85	1,200	168	185.37	1,200	418
184.86	1,200	173	185.38	1,200	422
184.87	1,200	178	185.39	1,200	427
184.88	1,200	182	185.40	1,200	432
184.89	1,200	187	185.41	1,200	437
184.90	1,200	192	185.42	1,200	442
184.91	1,200	197	185.43	1,200	446
184.92	1,200	202	185.44	1,200	451
184.93	1,200	206	185.45	1,200	456
184.94	1,200	211	185.46	1,200	461
184.95	1,200	216	185.47	1,200	466
184.96	1,200	221	185.48	1,200	470
184.97	1,200	226	185.49	1,200	475
184.98	1,200	230	185.50	1,200	480
184.99	1,200	235	185.51	1,200	485
185.00	1,200	240	185.52	1,200	490
185.01	1,200	245	185.53	1,200	494

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.54	1,200	499
185.55	1,200	504
185.56	1,200	509
185.57	1,200	514
185.58	1,200	518
185.59	1,200	523
185.60	1,200	528
185.61	1,200	533
185.62	1,200	538
185.63	1,200	542
185.64	1,200	547
185.65	1,200	552
185.66	1,200	557
185.67	1,200	562
185.68	1,200	566
185.69	1,200	571
185.70	1,200	576
185.71	1,200	581
185.72	1,200	586
185.73	1,200	590
185.74	1,200	595
185.75	1,200	600
185.76	1,200	605
185.77	1,200	610
185.78	1,200	614
185.79	1,200	619
185.80	1,200	624
185.81	1,200	629
185.82	1,200	634
185.83	1,200	638
185.84	1,200	643
185.85	1,200	648
185.86	1,200	653
185.87	1,200	658
185.88	1,200	662
185.89	1,200	667
185.90	1,200	672
185.91	1,200	677
185.92	1,200	682
185.93	1,200	686
185.94	1,200	691
185.95	1,200	696
185.96	1,200	701
185.97	1,200	706
185.98	1,200	710
185.99	1,200	715
186.00	1,200	720
186.01	1,200	725
186.02	1,200	730
186.03	1,200	734
186.04	1,200	739
186.05	1,200	744
186.06	1,200	749
186.07	1,200	754
186.08	1,200	758
186.09	1,200	763
186.10	1,200	768
186.11	1,200	773
186.12	1,200	778
186.13	1,200	782
186.14	1,200	787
186.15	1,200	792
186.16	1,200	797
186.17	1,200	802
186.18	1,200	806
186.19	1,200	811
186.20	1,200	816
186.21	1,200	821
186.22	1,200	826
186.23	1,200	830
186.24	1,200	835
186.25	1,200	840
186.26	1,200	845
186.27	1,200	850
186.28	1,200	854
186.29	1,200	859
186.30	1,200	864
186.31	1,200	869
186.32	1,200	874
186.33	1,200	878
186.34	1,200	883
186.35	1,200	888
186.36	1,200	893
186.37	1,200	898
186.38	1,200	902
186.39	1,200	907
186.40	1,200	912
186.41	1,200	917
186.42	1,200	922
186.43	1,200	926
186.44	1,200	931
186.45	1,200	936
186.46	1,200	941
186.47	1,200	946
186.48	1,200	950
186.49	1,200	955
186.50	1,200	960
186.51	1,200	965
186.52	1,200	970
186.53	1,200	974
186.54	1,200	979
186.55	1,200	984
186.56	1,200	989
186.57	1,200	994

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
186.58	1,200	998	187.10	1,200	1,248
186.59	1,200	1,003	187.11	1,200	1,253
186.60	1,200	1,008	187.12	1,200	1,258
186.61	1,200	1,013	187.13	1,200	1,262
186.62	1,200	1,018	187.14	1,200	1,267
186.63	1,200	1,022	187.15	1,200	1,272
186.64	1,200	1,027	187.16	1,200	1,277
186.65	1,200	1,032	187.17	1,200	1,282
186.66	1,200	1,037	187.18	1,200	1,286
186.67	1,200	1,042	187.19	1,200	1,291
186.68	1,200	1,046	187.20	1,200	1,296
186.69	1,200	1,051	187.21	1,200	1,301
186.70	1,200	1,056	187.22	1,200	1,306
186.71	1,200	1,061	187.23	1,200	1,310
186.72	1,200	1,066	187.24	1,200	1,315
186.73	1,200	1,070	187.25	1,200	1,320
186.74	1,200	1,075	187.26	1,200	1,325
186.75	1,200	1,080	187.27	1,200	1,330
186.76	1,200	1,085	187.28	1,200	1,334
186.77	1,200	1,090	187.29	1,200	1,339
186.78	1,200	1,094	187.30	1,200	1,344
186.79	1,200	1,099	187.31	1,200	1,349
186.80	1,200	1,104	187.32	1,200	1,354
186.81	1,200	1,109	187.33	1,200	1,358
186.82	1,200	1,114	187.34	1,200	1,363
186.83	1,200	1,118	187.35	1,200	1,368
186.84	1,200	1,123	187.36	1,200	1,373
186.85	1,200	1,128	187.37	1,200	1,378
186.86	1,200	1,133	187.38	1,200	1,382
186.87	1,200	1,138	187.39	1,200	1,387
186.88	1,200	1,142	187.40	1,200	1,392
186.89	1,200	1,147	187.41	1,200	1,397
186.90	1,200	1,152	187.42	1,200	1,402
186.91	1,200	1,157	187.43	1,200	1,406
186.92	1,200	1,162	187.44	1,200	1,411
186.93	1,200	1,166	187.45	1,200	1,416
186.94	1,200	1,171	187.46	1,200	1,421
186.95	1,200	1,176	187.47	1,200	1,426
186.96	1,200	1,181	187.48	1,200	1,430
186.97	1,200	1,186	187.49	1,200	1,435
186.98	1,200	1,190	187.50	1,200	1,440
186.99	1,200	1,195	187.51	1,200	1,445
187.00	1,200	1,200	187.52	1,200	1,450
187.01	1,200	1,205	187.53	1,200	1,454
187.02	1,200	1,210	187.54	1,200	1,459
187.03	1,200	1,214	187.55	1,200	1,464
187.04	1,200	1,219	187.56	1,200	1,469
187.05	1,200	1,224	187.57	1,200	1,474
187.06	1,200	1,229	187.58	1,200	1,478
187.07	1,200	1,234	187.59	1,200	1,483
187.08	1,200	1,238	187.60	1,200	1,488
187.09	1,200	1,243	187.61	1,200	1,493

Stage-Area-Storage for Pond GIP 2.2.: Porous Pavement (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.62	1,200	1,498
187.63	1,200	1,502
187.64	1,200	1,507
187.65	1,200	1,512
187.66	1,200	1,517
187.67	1,200	1,522
187.68	1,200	1,526
187.69	1,200	1,531
187.70	1,200	**1,536**

Summary for Pond GIP 3.: Porous Pavement, Previously Constructed

Inflow Area = 1.600 ac, 43.75% Impervious, Inflow Depth = 6.15" for 100-yr event
Inflow = 9.5 cfs @ 12.07 hrs, Volume= 0.820 af
Outflow = 2.3 cfs @ 12.51 hrs, Volume= 0.820 af, Atten= 76%, Lag= 26.4 min
Discarded = 1.4 cfs @ 11.70 hrs, Volume= 0.738 af
Primary = 0.9 cfs @ 12.51 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 184.99' @ 12.51 hrs Surf.Area= 9,130 sf Storage= 8,349 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 27.7 min (844.4 - 816.7)

Volume	Invert	Avail.Storage	Storage Description
#1	182.70'	14,243 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 35,607 cf Overall x 40.0% Voids

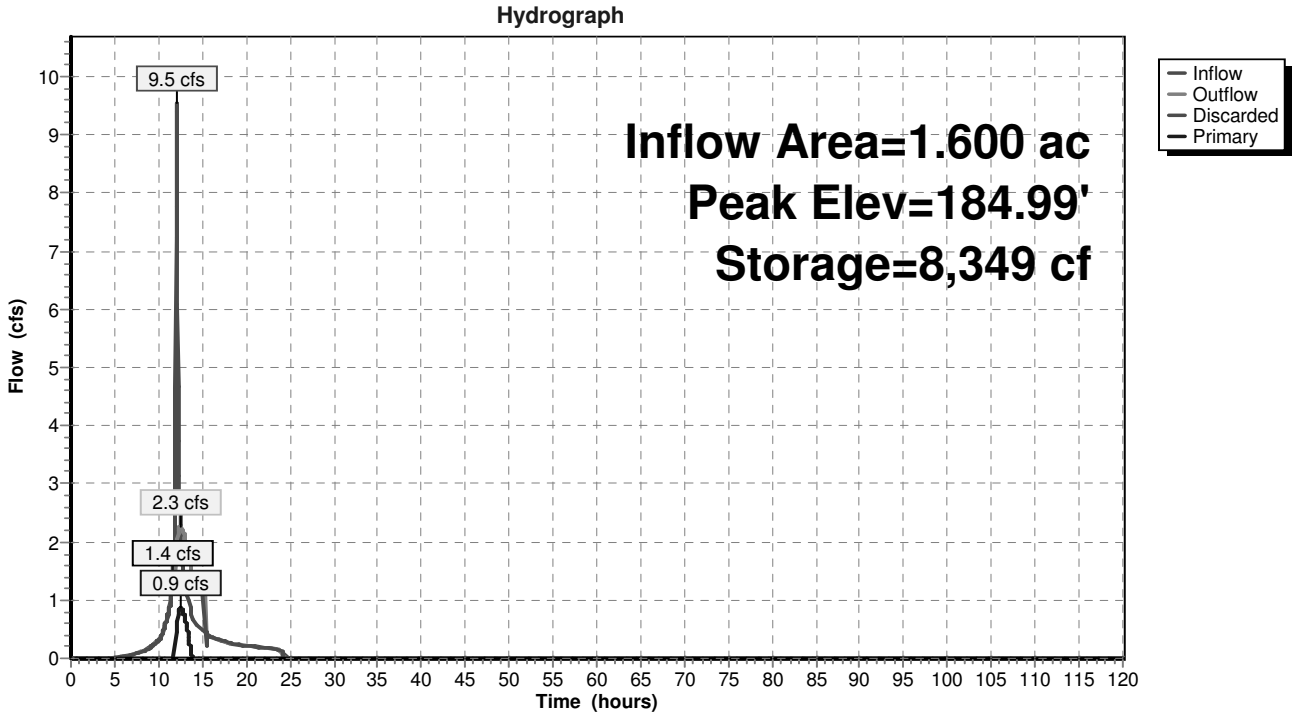
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
182.70	9,130	0	0
186.60	9,130	35,607	35,607

Device	Routing	Invert	Outlet Devices
#1	Discarded	182.70'	**1.4 cfs Exfiltration at all elevations** Phase-In= 0.02'
#2	Primary	183.90'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=1.4 cfs @ 11.70 hrs HW=182.74' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.4 cfs)

Primary OutFlow Max=0.9 cfs @ 12.51 hrs HW=184.99' TW=146.01' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 0.9 cfs @ 4.40 fps)

Pond GIP 3.: Porous Pavement, Previously Constructed



Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
182.70	**9,130**	0	183.22	9,130	1,899
182.71	9,130	37	183.23	9,130	1,936
182.72	9,130	73	183.24	9,130	1,972
182.73	9,130	110	183.25	9,130	2,009
182.74	9,130	146	183.26	9,130	2,045
182.75	9,130	183	183.27	9,130	2,082
182.76	9,130	219	183.28	9,130	2,118
182.77	9,130	256	183.29	9,130	2,155
182.78	9,130	292	183.30	9,130	2,191
182.79	9,130	329	183.31	9,130	2,228
182.80	9,130	365	183.32	9,130	2,264
182.81	9,130	402	183.33	9,130	2,301
182.82	9,130	438	183.34	9,130	2,337
182.83	9,130	475	183.35	9,130	2,374
182.84	9,130	511	183.36	9,130	2,410
182.85	9,130	548	183.37	9,130	2,447
182.86	9,130	584	183.38	9,130	2,483
182.87	9,130	621	183.39	9,130	2,520
182.88	9,130	657	183.40	9,130	2,556
182.89	9,130	694	183.41	9,130	2,593
182.90	9,130	730	183.42	9,130	2,629
182.91	9,130	767	183.43	9,130	2,666
182.92	9,130	803	183.44	9,130	2,702
182.93	9,130	840	183.45	9,130	2,739
182.94	9,130	876	183.46	9,130	2,776
182.95	9,130	913	183.47	9,130	2,812
182.96	9,130	950	183.48	9,130	2,849
182.97	9,130	986	183.49	9,130	2,885
182.98	9,130	1,023	183.50	9,130	2,922
182.99	9,130	1,059	183.51	9,130	2,958
183.00	9,130	1,096	183.52	9,130	2,995
183.01	9,130	1,132	183.53	9,130	3,031
183.02	9,130	1,169	183.54	9,130	3,068
183.03	9,130	1,205	183.55	9,130	3,104
183.04	9,130	1,242	183.56	9,130	3,141
183.05	9,130	1,278	183.57	9,130	3,177
183.06	9,130	1,315	183.58	9,130	3,214
183.07	9,130	1,351	183.59	9,130	3,250
183.08	9,130	1,388	183.60	9,130	3,287
183.09	9,130	1,424	183.61	9,130	3,323
183.10	9,130	1,461	183.62	9,130	3,360
183.11	9,130	1,497	183.63	9,130	3,396
183.12	9,130	1,534	183.64	9,130	3,433
183.13	9,130	1,570	183.65	9,130	3,469
183.14	9,130	1,607	183.66	9,130	3,506
183.15	9,130	1,643	183.67	9,130	3,542
183.16	9,130	1,680	183.68	9,130	3,579
183.17	9,130	1,716	183.69	9,130	3,615
183.18	9,130	1,753	183.70	9,130	3,652
183.19	9,130	1,789	183.71	9,130	3,689
183.20	9,130	1,826	183.72	9,130	3,725
183.21	9,130	1,863	183.73	9,130	3,762

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.74	9,130	3,798
183.75	9,130	3,835
183.76	9,130	3,871
183.77	9,130	3,908
183.78	9,130	3,944
183.79	9,130	3,981
183.80	9,130	4,017
183.81	9,130	4,054
183.82	9,130	4,090
183.83	9,130	4,127
183.84	9,130	4,163
183.85	9,130	4,200
183.86	9,130	4,236
183.87	9,130	4,273
183.88	9,130	4,309
183.89	9,130	4,346
183.90	9,130	4,382
183.91	9,130	4,419
183.92	9,130	4,455
183.93	9,130	4,492
183.94	9,130	4,528
183.95	9,130	4,565
183.96	9,130	4,602
183.97	9,130	4,638
183.98	9,130	4,675
183.99	9,130	4,711
184.00	9,130	4,748
184.01	9,130	4,784
184.02	9,130	4,821
184.03	9,130	4,857
184.04	9,130	4,894
184.05	9,130	4,930
184.06	9,130	4,967
184.07	9,130	5,003
184.08	9,130	5,040
184.09	9,130	5,076
184.10	9,130	5,113
184.11	9,130	5,149
184.12	9,130	5,186
184.13	9,130	5,222
184.14	9,130	5,259
184.15	9,130	5,295
184.16	9,130	5,332
184.17	9,130	5,368
184.18	9,130	5,405
184.19	9,130	5,441
184.20	9,130	5,478
184.21	9,130	5,515
184.22	9,130	5,551
184.23	9,130	5,588
184.24	9,130	5,624
184.25	9,130	5,661
184.26	9,130	5,697
184.27	9,130	5,734
184.28	9,130	5,770
184.29	9,130	5,807
184.30	9,130	5,843
184.31	9,130	5,880
184.32	9,130	5,916
184.33	9,130	5,953
184.34	9,130	5,989
184.35	9,130	6,026
184.36	9,130	6,062
184.37	9,130	6,099
184.38	9,130	6,135
184.39	9,130	6,172
184.40	9,130	6,208
184.41	9,130	6,245
184.42	9,130	6,281
184.43	9,130	6,318
184.44	9,130	6,354
184.45	9,130	6,391
184.46	9,130	6,428
184.47	9,130	6,464
184.48	9,130	6,501
184.49	9,130	6,537
184.50	9,130	6,574
184.51	9,130	6,610
184.52	9,130	6,647
184.53	9,130	6,683
184.54	9,130	6,720
184.55	9,130	6,756
184.56	9,130	6,793
184.57	9,130	6,829
184.58	9,130	6,866
184.59	9,130	6,902
184.60	9,130	6,939
184.61	9,130	6,975
184.62	9,130	7,012
184.63	9,130	7,048
184.64	9,130	7,085
184.65	9,130	7,121
184.66	9,130	7,158
184.67	9,130	7,194
184.68	9,130	7,231
184.69	9,130	7,267
184.70	9,130	7,304
184.71	9,130	7,341
184.72	9,130	7,377
184.73	9,130	7,414
184.74	9,130	7,450
184.75	9,130	7,487
184.76	9,130	7,523
184.77	9,130	7,560

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.78	9,130	7,596	185.30	9,130	9,495
184.79	9,130	7,633	185.31	9,130	9,532
184.80	9,130	7,669	185.32	9,130	9,568
184.81	9,130	7,706	185.33	9,130	9,605
184.82	9,130	7,742	185.34	9,130	9,641
184.83	9,130	7,779	185.35	9,130	9,678
184.84	9,130	7,815	185.36	9,130	9,714
184.85	9,130	7,852	185.37	9,130	9,751
184.86	9,130	7,888	185.38	9,130	9,787
184.87	9,130	7,925	185.39	9,130	9,824
184.88	9,130	7,961	185.40	9,130	9,860
184.89	9,130	7,998	185.41	9,130	9,897
184.90	9,130	8,034	185.42	9,130	9,933
184.91	9,130	8,071	185.43	9,130	9,970
184.92	9,130	8,107	185.44	9,130	10,006
184.93	9,130	8,144	185.45	9,130	10,043
184.94	9,130	8,180	185.46	9,130	10,080
184.95	9,130	8,217	185.47	9,130	10,116
184.96	9,130	8,254	185.48	9,130	10,153
184.97	9,130	8,290	185.49	9,130	10,189
184.98	9,130	8,327	185.50	9,130	10,226
184.99	9,130	8,363	185.51	9,130	10,262
185.00	9,130	8,400	185.52	9,130	10,299
185.01	9,130	8,436	185.53	9,130	10,335
185.02	9,130	8,473	185.54	9,130	10,372
185.03	9,130	8,509	185.55	9,130	10,408
185.04	9,130	8,546	185.56	9,130	10,445
185.05	9,130	8,582	185.57	9,130	10,481
185.06	9,130	8,619	185.58	9,130	10,518
185.07	9,130	8,655	185.59	9,130	10,554
185.08	9,130	8,692	185.60	9,130	10,591
185.09	9,130	8,728	185.61	9,130	10,627
185.10	9,130	8,765	185.62	9,130	10,664
185.11	9,130	8,801	185.63	9,130	10,700
185.12	9,130	8,838	185.64	9,130	10,737
185.13	9,130	8,874	185.65	9,130	10,773
185.14	9,130	8,911	185.66	9,130	10,810
185.15	9,130	8,947	185.67	9,130	10,846
185.16	9,130	8,984	185.68	9,130	10,883
185.17	9,130	9,020	185.69	9,130	10,919
185.18	9,130	9,057	185.70	9,130	10,956
185.19	9,130	9,093	185.71	9,130	10,993
185.20	9,130	9,130	185.72	9,130	11,029
185.21	9,130	9,167	185.73	9,130	11,066
185.22	9,130	9,203	185.74	9,130	11,102
185.23	9,130	9,240	185.75	9,130	11,139
185.24	9,130	9,276	185.76	9,130	11,175
185.25	9,130	9,313	185.77	9,130	11,212
185.26	9,130	9,349	185.78	9,130	11,248
185.27	9,130	9,386	185.79	9,130	11,285
185.28	9,130	9,422	185.80	9,130	11,321
185.29	9,130	9,459	185.81	9,130	11,358

Stage-Area-Storage for Pond GIP 3.: Porous Pavement, Previously Constructed (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.82	9,130	11,394
185.83	9,130	11,431
185.84	9,130	11,467
185.85	9,130	11,504
185.86	9,130	11,540
185.87	9,130	11,577
185.88	9,130	11,613
185.89	9,130	11,650
185.90	9,130	11,686
185.91	9,130	11,723
185.92	9,130	11,759
185.93	9,130	11,796
185.94	9,130	11,832
185.95	9,130	11,869
185.96	9,130	11,906
185.97	9,130	11,942
185.98	9,130	11,979
185.99	9,130	12,015
186.00	9,130	12,052
186.01	9,130	12,088
186.02	9,130	12,125
186.03	9,130	12,161
186.04	9,130	12,198
186.05	9,130	12,234
186.06	9,130	12,271
186.07	9,130	12,307
186.08	9,130	12,344
186.09	9,130	12,380
186.10	9,130	12,417
186.11	9,130	12,453
186.12	9,130	12,490
186.13	9,130	12,526
186.14	9,130	12,563
186.15	9,130	12,599
186.16	9,130	12,636
186.17	9,130	12,672
186.18	9,130	12,709
186.19	9,130	12,745
186.20	9,130	12,782
186.21	9,130	12,819
186.22	9,130	12,855
186.23	9,130	12,892
186.24	9,130	12,928
186.25	9,130	12,965
186.26	9,130	13,001
186.27	9,130	13,038
186.28	9,130	13,074
186.29	9,130	13,111
186.30	9,130	13,147
186.31	9,130	13,184
186.32	9,130	13,220
186.33	9,130	13,257
186.34	9,130	13,293
186.35	9,130	13,330
186.36	9,130	13,366
186.37	9,130	13,403
186.38	9,130	13,439
186.39	9,130	13,476
186.40	9,130	13,512
186.41	9,130	13,549
186.42	9,130	13,585
186.43	9,130	13,622
186.44	9,130	13,658
186.45	9,130	13,695
186.46	9,130	13,732
186.47	9,130	13,768
186.48	9,130	13,805
186.49	9,130	13,841
186.50	9,130	13,878
186.51	9,130	13,914
186.52	9,130	13,951
186.53	9,130	13,987
186.54	9,130	14,024
186.55	9,130	14,060
186.56	9,130	14,097
186.57	9,130	14,133
186.58	9,130	14,170
186.59	9,130	14,206
186.60	9,130	**14,243**

Summary for Pond GIP1 PT1: Pretreatment Basin 1

Inflow Area = 0.800 ac, 62.50% Impervious, Inflow Depth = 7.14" for 100-yr event
Inflow = 5.0 cfs @ 12.11 hrs, Volume= 0.476 af
Outflow = 4.7 cfs @ 12.11 hrs, Volume= 0.470 af, Atten= 5%, Lag= 0.5 min
Primary = 4.7 cfs @ 12.11 hrs, Volume= 0.470 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 183.98' @ 12.18 hrs Surf.Area= 743 sf Storage= 557 cf

Plug-Flow detention time= 12.8 min calculated for 0.470 af (99% of inflow)
Center-of-Mass det. time= 5.3 min (803.4 - 798.1)

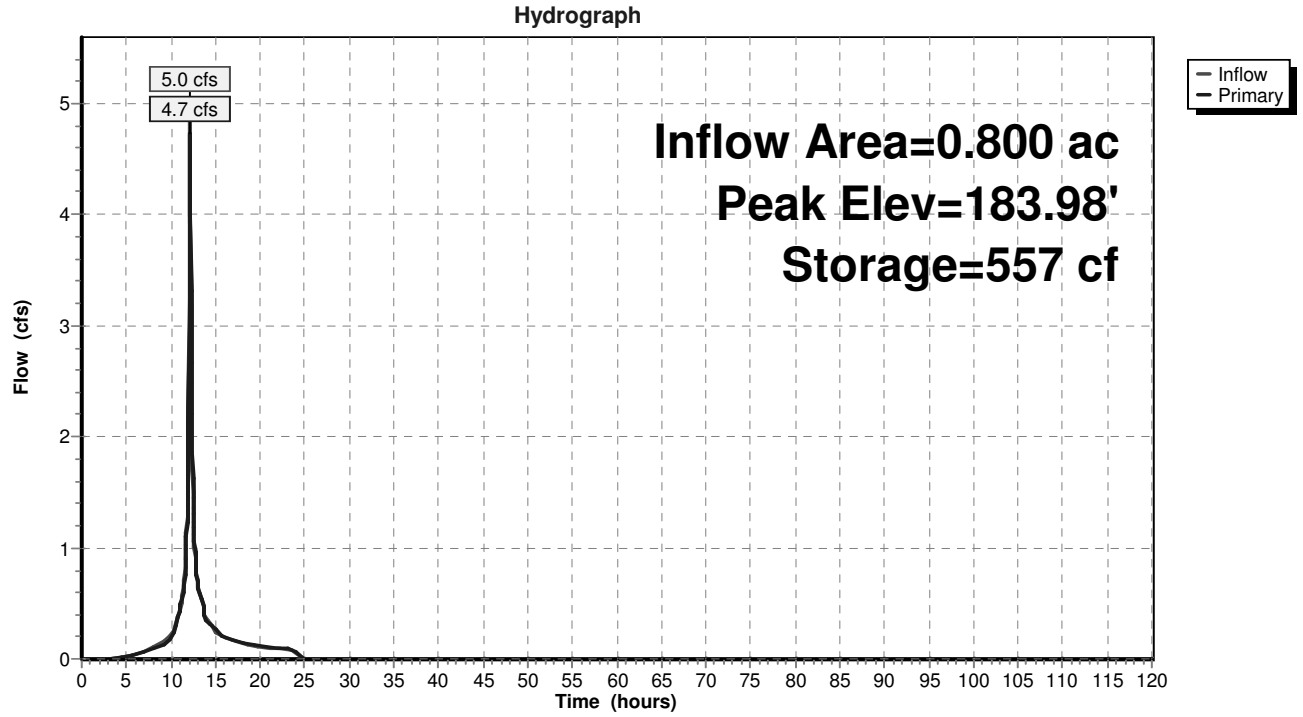
Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	575 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
183.00	398	0	0
184.00	752	575	575

Device	Routing	Invert	Outlet Devices
#1	Primary	183.00'	**36.0" W x 6.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=3.4 cfs @ 12.11 hrs HW=183.93' TW=183.88' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 3.4 cfs @ 1.13 fps)

Pond GIP1 PT1: Pretreatment Basin 1



Stage-Area-Storage for Pond GIP1 PT1: Pretreatment Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	398	0
183.01	402	4
183.02	405	8
183.03	409	12
183.04	412	16
183.05	416	20
183.06	419	25
183.07	423	29
183.08	426	33
183.09	430	37
183.10	433	42
183.11	437	46
183.12	440	50
183.13	444	55
183.14	448	59
183.15	451	64
183.16	455	68
183.17	458	73
183.18	462	77
183.19	465	82
183.20	469	87
183.21	472	91
183.22	476	96
183.23	479	101
183.24	483	106
183.25	487	111
183.26	490	115
183.27	494	120
183.28	497	125
183.29	501	130
183.30	504	135
183.31	508	140
183.32	511	145
183.33	515	151
183.34	518	156
183.35	522	161
183.36	525	166
183.37	529	171
183.38	533	177
183.39	536	182
183.40	540	188
183.41	543	193
183.42	547	198
183.43	550	204
183.44	554	209
183.45	557	215
183.46	561	221
183.47	564	226
183.48	568	232
183.49	571	238
183.50	575	243
183.51	579	249
183.52	582	255
183.53	586	261
183.54	589	267
183.55	593	272
183.56	596	278
183.57	600	284
183.58	603	290
183.59	607	296
183.60	610	303
183.61	614	309
183.62	617	315
183.63	621	321
183.64	625	327
183.65	628	333
183.66	632	340
183.67	635	346
183.68	639	352
183.69	642	359
183.70	646	365
183.71	649	372
183.72	653	378
183.73	656	385
183.74	660	391
183.75	664	398
183.76	667	405
183.77	671	411
183.78	674	418
183.79	678	425
183.80	681	432
183.81	685	439
183.82	688	445
183.83	692	452
183.84	695	459
183.85	699	466
183.86	702	473
183.87	706	480
183.88	710	487
183.89	713	494
183.90	717	502
183.91	720	509
183.92	724	516
183.93	727	523
183.94	731	531
183.95	734	538
183.96	738	545
183.97	741	553
183.98	745	560
183.99	748	567
184.00	**752**	**575**

APPENDIX F

NYSDEC Maintenance Inspection Checklist

The following pages in this Appendix are taken directly from Appendix G of the New York State Stormwater Management Design Manual. As such the top of the following pages reference Appendix G.

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project: _____
Location: _____
Site Status: _____

Date: _____
Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewaters between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
Trench does not need rehabilitation		

Comments:

_____
_____
_____
_____
_____

Actions to be Taken:

_____
_____
_____
_____
_____

APPENDIX G

NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX H

Project and Owner Information

Owner Information:
Crescent Associates, LLC
238 Mamaroneck Ave
White Plains, NY 10601

Applicant Information:
Artis Senior Living of Tarrytown
1651 Old Meadow Road, Suite 100
McLean, VA 22102

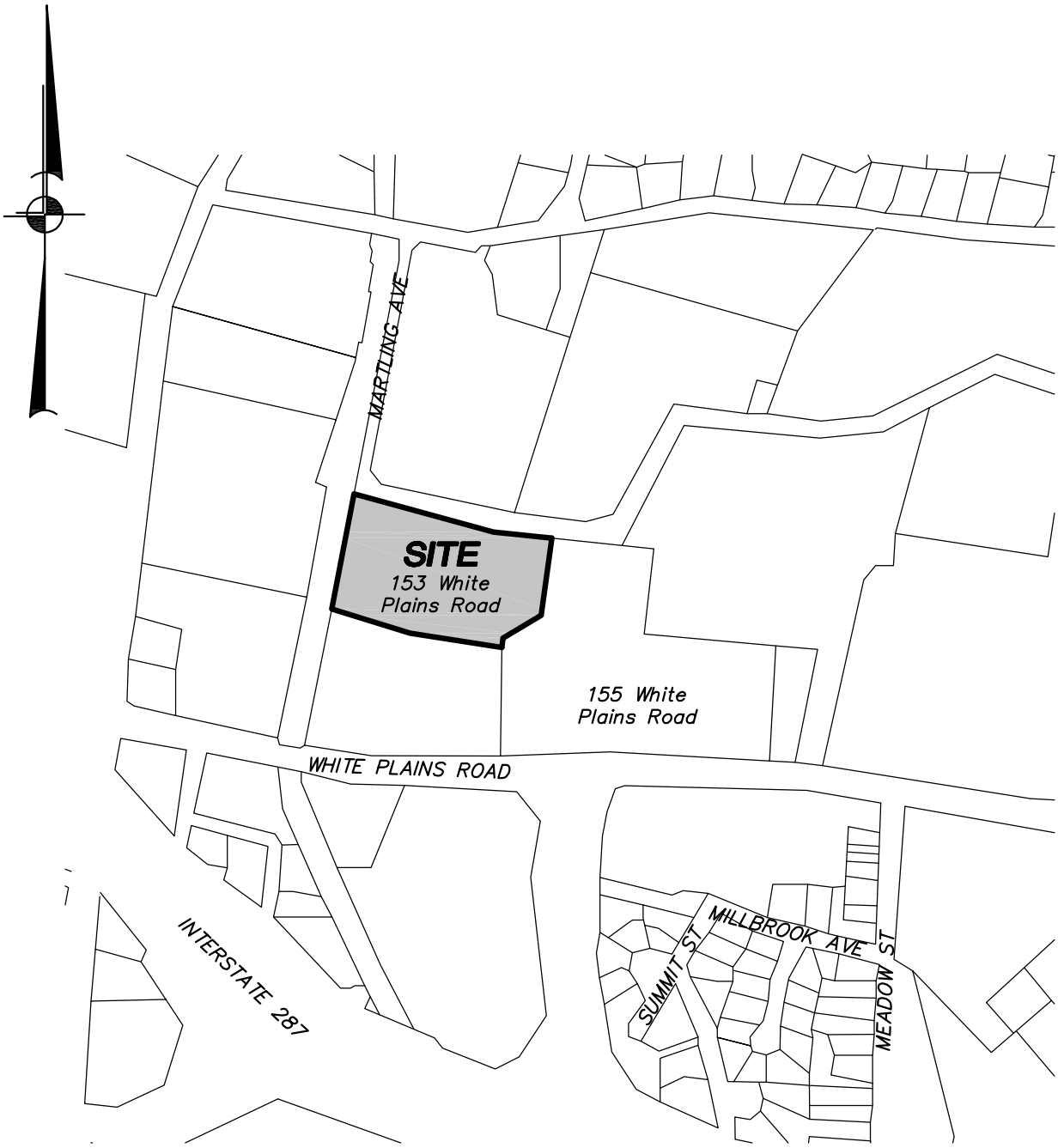
Party Responsible for implementation of the Short and Long-Term Maintenance Plan:

Artis Senior Living of Tarrytown
1651 Old Meadow Road, Suite 100
McLean, VA 22102

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Insite Engineering, Surveying, and Landscape Architecture, P.C.
3 Garrett Place
Carmel, NY 10512
Phone: 845-225-9690

FIGURES



0 250 500 1000

SCALE IN FEET

PROJECT:
ARTIS SENIOR LIVING OF TARRYTOWN
153 WHITE PLAINS ROAD, VILLAGE OF TARRYTOWN, WESTCHESTER COUNTY, NEW YORK

DRAWING:
LOCATION MAP

PREPARED BY:
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE: 12-27-18
SCALE: 1"=500'
PROJECT NO.: 17200.100
FIGURE: 1