STORMWATER MANAGEMENT REPORT

CHICK-FIL-A
LAWRENCEVILLE

BLOCK 3601, LOT 1.01
TOWNSHIP OF LAWRENCE
MERCER COUNTY, NEW JERSEY

Prepared for:
Chick-Fil-A
5200 Buffington Road
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Prepared by:

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NJ Certificate of Authorization 24GA28222600
BCG Project No. 010014-01-189

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July 24, 2023

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I. INTRODUCTION

This report has been prepared to accompany the set of plans entitled "Site Development Plans for Lawrenceville Chick-Fil-A, Tax Map No. 3, 2950 US Highway 1, Lawrenceville, Mercer County, NJ 08648," prepared by Bowman Consulting Group, Ltd.

Per the Stormwater Management and Environmental Impact Statement Memorandum, prepared by Stonefield Engineering & Design, dated August 27, 2019 and the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013, the subject site portrayed on the Site Plans was a previously approved pad site for a 15,000 SF retail building and a 2,943 SF bank with a drive thru along with associated parking. The site was subsequently redeveloped to construct a 5,180 SF Chick-Fil-A restaurant along with a drive-thru lane, associated parking, drive aisles, concrete walks, landscaping, and infrastructure improvements. The original Chick-Fil-A design was prepared by Stonefield Engineering & Design, LLC. This Report has been prepared for proposed improvements to the existing Chick-Fil-A site.

Subsection I-A below provides further information as to the project's location, as well as a description of the existing site conditions. Subsection I-B provides a more detailed description of the proposed project. Subsection I-C provides an explanation of the previous development and reports for prior Projects located at the site.

This report explains the design of the existing on-site stormwater management system and impacts of proposed improvements, applicability to current stormwater regulations, and design strategies, which are summarized in Subsection II-A of this report. The appendices of this report contain engineering calculations and related technical documentation supporting the design information presented herein.

A. Location and Description of Project Site

The site is located at Block 3601, Lot 1.01 in the Township of Lawrence, Mercer County, New Jersey. The property address is 2950 US Highway 1 and is located in the CT – Commercial Tourist Zone as indicated within the Site Plans. The subject site is located at the intersection of Brunswick Turnpike (U.S. Route 1) Northbound and Bakers Basin Road. The total lot area is 496,910 SF (11.4 AC) and is comprised of the existing Chick-Fil-A building, a large, landscaped area and retail buildings to the northeast, a convenience store, fueling station, and McDonalds to the south and associated parking, drive aisles, concrete walks, landscaping and infrastructure. The lawn area on the northeastern end of the site was originally approved for a 2,943 SF bank with a drive thru along with associated parking. The proposed improvements are limited to the Chick-Fil-A Lease Area, which now incorporates the 2,943 SF bank site, totaling 87,291 SF (2.0 AC), and located at the northwest portion of Block 3601, Lot 1.01. The Chick-Fil-A Lease Area currently consists of the one-story Chick-Fil-

A restaurant brick building, a two-lane drive thru located at the east side of the building that merges into a single lane drive-thru at the west side of the building, a large landscaped area located at the northeastern end of the Lease Area, surface parking located at the eastern and western ends of the Lease Area, additional surface parking located at the southern end of the Lease Area, a refuse enclosure located at the eastern end of the Lease Area, along with drive aisles, concrete walkways, and landscaping. Vehicular circulation around the existing building is in the counterclockwise direction. Access to the site is provided via the two (2) driveways located on Brunswick Pike (U.S. Route 1) to the west and southwest, the driveway located on Bakers Basin Road to the northeast, and the driveway on Litho Road to the south. Additionally, there are two full movement drive aisles located at the southern end of the Lease Area.

The site is relatively flat. Surface stormwater runoff generally flows away from the Chick-Fil-A building in the easterly and westerly directions. The existing paved areas located west of the building direct runoff in a westerly direction and the existing paved areas located east of the building direct runoff in an easterly direction. The runoff generated by the large landscaped area northeast of the subject site is collected at a low point via a Type 'E' inlet and is directed to the originally approved stormwater management system (B-1 & 2 as shown and described in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013). Stormwater runoff is collected by existing curb and area inlets.

The site is located in an area determined to be outside the 0.2% annual chance flood plan as shown on the effective FEMA Flood Insurance Rate Map.

The existing site soils are type GadB – Galestown loamy sand. GadB soils are categorized as Hydrologic Soil Group A. Refer to **Appendix B** of this report for a site soils report and map taken from the US Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey.

B. Project Description

As indicated above, the proposed improvements are limited to the existing Chick-Fil-A Lease Area only. The proposed improvements include the removal of portions of existing concrete curb, portions of existing lawn/open space, and portions of the existing concrete walkways; and the subsequent construction of an additional drive-thru lane east of the existing building, a conversion of the existing two full movement drive aisles to a two-lane one-way drive aisle, new concrete curb, new concrete walkway, and proposed parking improvements east of the building. Additional improvements include the conversion of the lawn area northeast of the subject site to additional parking, which was originally approved for a 2,943 SF bank with a drive thru along with associated parking.

The proposed project will increase the total Lot 1.01 impervious surface area by approximately 2,640 SF (0.53% of Lot 1.01 area) compared to the originally approved improvements. The approved improvements are depicted on the Proposed Drainage Area Map provided in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013.

Changes to the existing stormwater management system include proposed drainage structures (curb and area inlets, and manholes) and HDPE piping. The Site Plans illustrate that the proposed drainage structures will collect the runoff generated from the proposed improvements, and ultimately discharge into Basin's 1 and 2 (B-1 & 2), which are depicted on the Proposed Drainage Area Map in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013. Per the proposed Drainage Area Map provided in the Stonefield Stormwater Management Report (dated December 30, 2011, last revised March 11, 2023), the total area that directly discharges to Basin's 1 and 2 is 281,858 SF (P-1B). The proposed increase of impervious surfaces results in a less than 1% of the total area that directly discharges to Basin's 1 and 2, which results in a de minimis change to the stormwater design. Refer to the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 2011, last revised March 11, 2013, for additional details regarding Basin's 1 and 2 (B-1 & 2). See table below for a comparison of the 2-yr, 10-yr, and 100-yr peak flows generated by the approved drainage area (P-1B) from 2019 that directly discharges to Basin's 1 and 2 (B-1&2) and the currently proposed drainage area that directly discharges to B-1&2.

Storm Event	Approved 2019 Flow to B-1&2 (cfs)	Proposed to B-1&2 (cfs)
2-yr	15.71	15.92
10-yr	23.95	24.27
100-yr	42.18	42.64

C. Relationship to Previous Projects and Stormwater Reports

As noted above, the subject site was originally approved for a 15,000 SF retail building and a 2,943 SF bank with a drive thru along with associated parking. The current subject site conditions consist of a 5,180 Chick-Fil-A with drive-thru facilities where the 15,000 SF retail was proposed, and a large landscaped area where the 2,943 SF bank with a drive thru facilities was proposed. The proposed improvements consist of adding an additional drive thru lane to the Chick-Fil-A, converting the existing two-way drive aisles to a two-lane one-way drive aisle and associated parking improvements. Additional proposed improvements include converting the

lawn area northeast of the Chick-Fil-A to additional parking improvements. There is an increase in impervious coverage of approximately 2,640 SF when comparing the improvements depicted on the Site Plans for the originally approved layout indicated in the Proposed Drainage Map provided in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 2011, last revised March 11, 2013. The overall site design achieved compliance with the NJDEP Stormwater Management Rules (NJAC 7:8) by demonstrating that the post-development sub-watersheds maintained the pre-development runoff characteristics, or the post-development sub-watersheds reduced the 2-, 10-, and 100-yr design storm peak flows by 50%, 75% and 80%, respectively.

II. STORMWATER MANAGEMENT PLAN – PROPOSED IMPROVEMENTS

This section of the report describes the application of the proposed improvements to the existing stormwater management system previously designed for the subject site. Subsection A provides a brief overview of the regulatory requirements, while Subsection B provides information pertaining to specific engineering methodologies employed for demonstrating compliance of the project's stormwater management system to regulatory requirements. Subsection C describes the existing conditions studied and summarizes the results of the calculations completed to estimate existing stormwater runoff rates and volumes from the studied area. The proposed site conditions applied to the existing stormwater management systems are described in Subsections D and E, respectively. Finally, Subsection F summarizes the project's stormwater management design's compliance with each of the applicable requirements summarized in Subsection A.

A. Overview of Regulatory Requirements and Design Standards

The New Jersey Soil Erosion and Sediment Control (SESC) standards, established through the Soil Erosion and Sediment Control Act (N.J.S.A. 4:24-39), defines a Project as any disturbance of more than 5,000 square feet of land for the accommodation of construction. The proposed Lease Area with proposed improvements is approximately 87,291 SF (2.0 AC) of land and is therefore required to be developed in accordance with the New Jersey SESC standards. The proposed Project design complies with the NJ SESC temporary and permanent design standards. The Erosion Control Plan requires certification by the Mercer County Soil Conservation District (MCSCD).

The stormwater analyses for the existing conditions of the Chick-Fil-A as presented herein demonstrates reductions in stormwater peak flows so that the post-development peak flows for the 2-, 10-, and 100-yr design storm are reduced to 50%, 75%, and 80%, respectively, of the pre-development peak flow.

B. Strategy and Methodologies

This section of the report describes the engineering methodologies employed for the design of the project's stormwater management system. Specifically, the various methods used for the preparation of the Project's stormwater management design are as follows:

1. Estimates of Runoff Rates and Volumes

- Pre-Development versus Post-Development:

The hydrologic estimates and modeling conducted for the design of the Project's stormwater management system utilized the SCS TR-20 method and both the Delmarva Unit Hydrograph (as specified by the DRCC) and the SCS Unit Hydrograph, as indicated within the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013. This method can provide total stormwater runoff volume and peak flow rates; and is appropriate for the proposed improvements. Design storm frequencies of 2, 10 and 100-years were modeled, as required to demonstrate post-development peak flows for the 2-, 10-, and 100-yr design storm are reduced to 50%, 75%, and 80%. The models indicated in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013, were created using the storm rainfall depths as follows:

  - 2-year = 3.30 inches
  - 10-year = 5.00 inches
  - 100-year = 8.30 inches

- Runoff Coefficients and Times of Concentration:

As indicated in Subsection I-A of this report, the soil types within the Project limit of disturbance are classified as hydrologic soil group A. The hydrologic soil group combined with the land use cover type provides a runoff curve number (CN) used for estimating stormwater runoff potential as indicated in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013.

In addition to CN values, the above referenced NRCS Methodology for estimating stormwater runoff rates and volumes also necessitates the determination of a time of concentration for each sub-watershed/drainage area. The time of concentration is defined as the time required for runoff to travel from the hydraulically most distant point in the watershed to the outlet. Time of concentration values are indicated in the Stormwater Management Report,

prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013.

2. Water Quality Management

The NJAC 7:8 Stormwater Management Rules for stormwater quality do apply to the proposed Project, which consists of stormwater management measures to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff by 80%. Refer to the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013 for details.

3. Ground Water Recharge

The NJAC 7:8 Stormwater Management Rules for groundwater recharge do apply to the proposed Project, which consists of demonstrating through hydrologic and hydraulic analysis that there is no increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm. Refer to the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013 for details.

4. Collection and Conveyance System

The existing storm sewer system has been designed for a 25-year storm for capacity considering tailwater conditions from the existing basins, in accordance with the requirements of the applicable codes, as indicated in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013. Refer to section F.2 below.

5. Erosion and Sedimentation Control

Another requirement relevant to the development of the project's stormwater management plan is the minimization of erosion and sedimentation. The greatest potential for erosion and sedimentation will occur during construction, when areas of exposed soils temporarily exist. The "Erosion Control Plan," which is included in the set of Site Plans referenced above specifies numerous proven measures for controlling erosion and sedimentation during construction. This plan is subject to the review and approval of the Mercer County Soil Conservation District (MCSCD).

Following the completion of construction, erosion and sedimentation is minimized by designing the stormwater management system in accordance with *The Standards for Soil Erosion and Sediment Control in New Jersey*.

C. Pre-development Site Conditions and Stormwater Runoff Estimates

As noted above, the projects' activities will be limited to the existing Chick-Fil-A lease area only, which was originally approved for a 15,000 SF retail building and a 2,943 SF bank with a drive thru along with associated parking. The "Existing Drainage Area" is indicated in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013, and is provided in **Appendix F** of this report.

Appendix C of this report contains the TR-20 calculations for existing runoff for the above-described sub-watershed areas for each of the design storms (2-, 10- and 100-year frequencies).

D. Description of Post-development Site Conditions and Stormwater Runoff Estimates

The post-development site consists of the existing Chick-Fil-A restaurant and proposed improvements associated with this Report. The "Proposed Drainage Area Map" provided in **Appendix F** of this report illustrates the post-development sub-watershed areas. The project utilizes the existing stormwater collection and conveyance system and underground detention basin to attenuate peak rates of runoff.

Appendix D of this report contains the TR-20 calculations for proposed runoff for the above described sub-watershed areas for each of the design storms (2, 10 and 100-year frequencies).

The TR-20 calculations for the design storms under proposed conditions are provided in **Appendix D.**

E. Existing Stormwater Management Facility Hydraulics

Refer to Section A above and the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013.

F. Assessment of Compliance with Regulatory Requirements

The proposed improvements increase the site's impervious area by approximately 2,640 SF compared to the site conditions indicated within the Proposed Drainage Area Map provided in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013. The proposed Project is considered a "major development" by N.J.A.C. Stormwater Management Rules definition and is required to comply with those requisite design

standards. The existing stormwater management system was previously designed to comply with N.J.A.C. Stormwater Management Rules and with soil erosion and sediment control standards.

The analysis for the proposed Project compares the proposed peak stormwater flows to the pre-development peak flows for the subject watershed only. The analysis demonstrates that the proposed peak flows for the 2-, 10-, and 100-year design storms are reduced to 50%, 75%, and 80% of the pre-development peak flows. Additionally, comparative hydrographs for the watershed are included in **Appendix C and Appendix D.** See table below for a comparison of the 2-yr, 10-yr, and 100-yr peak flows generated by the approved drainage area (P-1B) from 2019 that directly discharges to Basin's 1 and 2 (B-1&2) and the currently proposed drainage area that directly discharges to B-1&2.

Storm Event	Approved 2019 Flow to B-1&2 (cfs)	Proposed to B-1&2 (cfs)
2-yr	15.71	15.92
10-yr	23.95	24.27
100-yr	42.18	42.64

1. Soil Erosion and Sediment Control Compliance

The project is designed to minimize erosion and sedimentation in accordance with *The Standards for Soil Erosion and Sediment Control in New Jersey*". A "Erosion Control Plan" is included in the set of project plans, specifying numerous practices to achieve this goal. The project's "Erosion Control Plan" is subject to review and approval by the Mercer County Soil Conservation District (MCSCD). The District's certification of the plan is required before any construction may commence.

2. Collection and Conveyance System Design

The project site existing stormwater management system also includes a network of storm sewer pipes to convey the stormwater runoff. Similarly, stormwater inlets are strategically located to collect runoff from the surface of the ground. The proposed conveyance system was previously sized to convey the 25-year design storm flows. **Appendix E** of this report contains a copy of the calculations provided in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 2013. Refer to **Appendix F** for a copy of the Inlet Drainage Area Map included in the Stormwater Management Report, prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013.

III. REFERENCES

The following documents were relied upon during the preparation of the project's stormwater management plan:

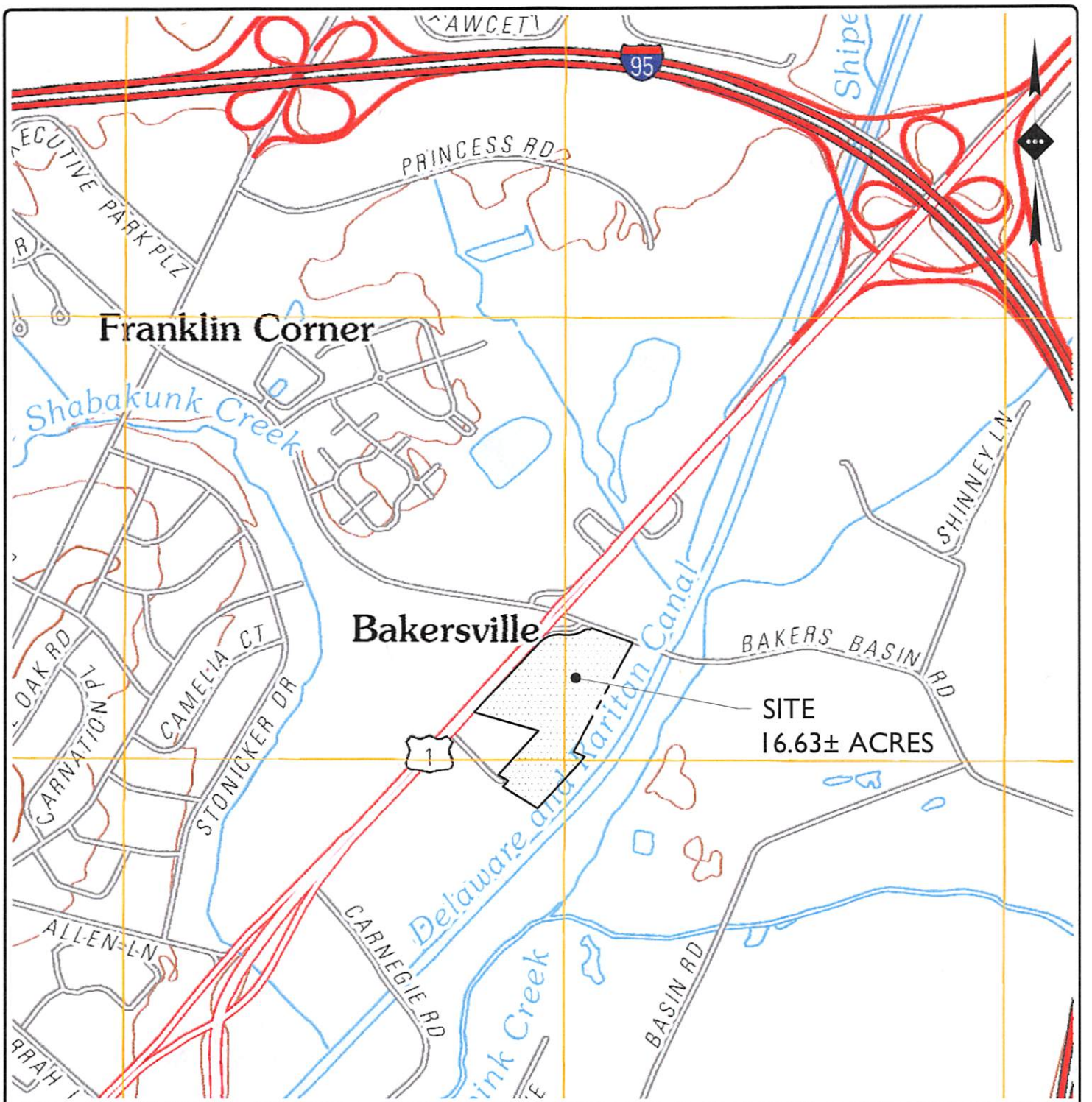
1. New Jersey Stormwater Best Management Practices Manual, New Jersey Department of Environmental Protection, last updated March 2021.

2. Standards for Soil Erosion and Sediment Control in New Jersey, New Jersey State Soil Conservation Committee; revised July 2017

3. Report entitled "Stormwater Management Report, Proposed Mixed Use Commercial Development, Block 3601, Lots 1-4, 28, & 30-37, U.S. Route 1 and Bakers Basin Road, Township of Lawrence, Mercer County, New Jersey," prepared by Stonefield Engineering & Design, LLC, dated December 30, 2011, last revised March 11, 2013.

APPENDIX A

STONEFIELD STORMWATER MANAGEMENT REPORT, DATED DECEMBER 30, 2011, LAST REVISED MARCH 11, 2023
LOCATION MAP



PROJECT LOCATION MAP

1000 0' 1000 2000

GRAPHIC SCALE IN FEET

1"=1000'

UNITED STATES GEOLOGICAL SURVEY MAP, PRINCETON QUADRANGLE, 7.5' SERIES, 2011

FERBER CONSTRUCTION MANAGEMENT, LLC.

PROPOSED MIXED USE COMMERCIAL DEVELOPMENT

BLOCK 3601, LOTS 1-4, 28, & 30-37
BAKERS BASIN ROAD & US ROUTE 1
LAWRENCE TOWNSHIP
MERCER COUNTY, NEW JERSEY

DRAWN BY:	JRI
CHECKED BY:	CDO
DATE:	12/30/11
SCALE:	1" = 1000'±
PROJECT ID:	T-11361

STONEFIELD
engineering & design, llc.

36 Ames Avenue, Suite 2B
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New York, NY 10013

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APPENDIX B

STONEFIELD STORMWATER MANAGEMENT REPORT, DATED DECEMBER 30, 2011, LAST REVISED MARCH 11, 2023
PUBLISHED SOIL INFORMATION

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

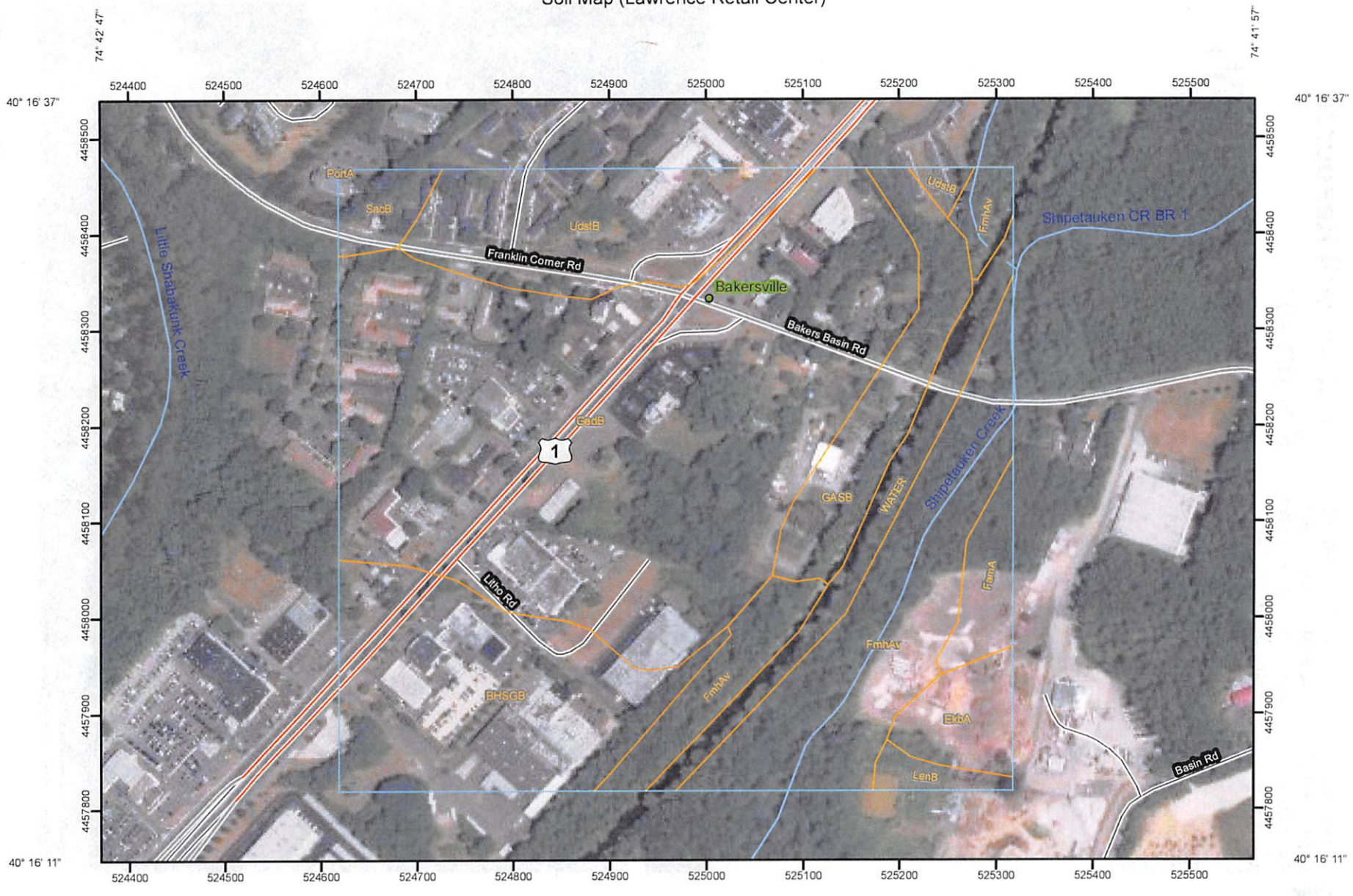
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Mercer County, New Jersey

Lawrence Retail Center

November 9, 2011

Custom Soil Resource Report
Soil Map (Lawrence Retail Center)



Map Unit Legend (Lawrence Retail Center)

Mercer County, New Jersey (NJ021)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BHSGB	Birdsboro gravelly solum variant soils, 0 to 6 percent slopes	15.9	14.2%
EkbA	Elkton silt loam, 0 to 2 percent slopes	2.9	2.6%
FamA	Fallsington sandy loam, 0 to 2 percent slopes	2.3	2.1%
FmhAv	Fluvaquents, 0 to 3 percent slopes, very frequently flooded	17.6	15.7%
GadB	Galestown loamy sand, 0 to 5 percent slopes	48.4	43.2%
GASB	Galloway variant soils, 0 to 5 percent slopes	6.6	5.9%
LenB	Lenoir-Keyport silt loams, 0 to 5 percent slopes	1.0	0.9%
PortA	Portsmouth variant silt loam, 0 to 2 percent slopes	0.0	0.0%
SacB	Sassafras sandy loam, 2 to 5 percent slopes	1.8	1.6%
UdstB	Udorthents, stratified substratum, 0 to 8 percent slopes	10.9	9.7%
WATER	Water	4.7	4.2%
Totals for Area of Interest		**112.1**	**100.0%**

Map Unit Descriptions (Lawrence Retail Center)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally

are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Mercer County, New Jersey

BHSGB—Birdsboro gravelly solum variant soils, 0 to 6 percent slopes

Map Unit Setting

Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 180 to 200 days

Map Unit Composition

Birdsboro variant, gravelly solum, and similar soils: 45 percent
Birdsboro variant, gravelly solum, and similar soils: 40 percent

Description of Birdsboro Variant, Gravelly Solum

Setting

Landform: Paleoterraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Old alluvium derived from sandstone and siltstone and/or shale

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability (nonirrigated): 4s

Typical profile

0 to 7 inches: Sandy loam
7 to 11 inches: Gravelly sandy loam
11 to 17 inches: Gravelly sandy loam
17 to 28 inches: Gravelly sandy loam
28 to 35 inches: Sand
35 to 60 inches: Gravelly sand

Description of Birdsboro Variant, Gravelly Solum

Setting

Landform: Paleoterraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Old alluvium derived from sandstone and siltstone and/or shale

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.7 inches)

Interpretive groups
Land capability (nonirrigated): 4s

Typical profile
0 to 7 inches: Gravelly sandy loam
7 to 11 inches: Gravelly sandy loam
11 to 17 inches: Gravelly sandy loam
17 to 28 inches: Gravelly sandy loam
28 to 35 inches: Sand
35 to 60 inches: Gravelly sand

EkbA—Elkton silt loam, 0 to 2 percent slopes

Map Unit Setting
Elevation: 0 to 200 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 190 to 210 days

Map Unit Composition
Elkton and similar soils: 85 percent

Description of Elkton

Setting
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty eolian deposits over loamy alluvium and/or loamy marine deposits

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.9 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 6 inches: Silt loam
6 to 10 inches: Silty clay
10 to 25 inches: Clay
25 to 60 inches: Silty clay

FamA—Fallsington sandy loam, 0 to 2 percent slopes

Map Unit Setting
Elevation: 0 to 140 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 210 days

Map Unit Composition
Fallsington and similar soils: 85 percent
Minor components: 15 percent

Description of Fallsington

Setting
Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.7 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 2 inches: Mucky peat
2 to 5 inches: Sandy loam
5 to 8 inches: Sandy loam
8 to 14 inches: Sandy loam
14 to 31 inches: Sandy clay loam
31 to 62 inches: Sand
62 to 80 inches: Gravelly sand

Minor Components

Mullica

Percent of map unit: 5 percent
Landform: Flood plains, depressions, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave

Manahawkin, frequently flooded

Percent of map unit: 5 percent
Landform: Swamps, flood plains
Down-slope shape: Linear, concave
Across-slope shape: Linear

Woodstown

Percent of map unit: 5 percent
Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear

FmhAv—Fluvaquents, 0 to 3 percent slopes, very frequently flooded

Map Unit Setting

Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F

Map Unit Composition

Fluvaquents, very wet, frequently flooded, and similar soils: 85 percent

Description of Fluvaquents, Very Wet, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Very frequent
Frequency of ponding: None
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups
Land capability (nonirrigated): 6w

Typical profile
0 to 10 inches: Loam
10 to 60 inches: Sandy loam

GadB—Galestown loamy sand, 0 to 5 percent slopes

Map Unit Setting
Elevation: 10 to 120 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 190 to 210 days

Map Unit Composition
Galestown and similar soils: 85 percent

Description of Galestown

Setting
Landform: Terraces, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Sandy eolian deposits and/or fluviomarine deposits

Properties and qualities
Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.7 inches)

Interpretive groups
Land capability (nonirrigated): 3s

Typical profile
0 to 2 inches: Loamy sand
2 to 7 inches: Loamy sand
7 to 32 inches: Loamy sand
32 to 60 inches: Fine sand

GASB—Galloway variant soils, 0 to 5 percent slopes

Map Unit Setting

Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 180 to 200 days

Map Unit Composition

Galloway variant, sandy loam substratum, and similar soils: 85 percent

Description of Galloway Variant, Sandy Loam Substratum

Setting

Landform: Dunes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Unconsolidated sandy marine deposits over fine-loamy fluviomarine deposits

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.0 inches)

Interpretive groups

Land capability (nonirrigated): 3w

Typical profile

0 to 10 inches: Sandy loam
10 to 16 inches: Sandy loam
16 to 40 inches: Sandy loam
40 to 60 inches: Loamy sand

LenB—Lenoir-Keyport silt loams, 0 to 5 percent slopes

Map Unit Setting

Elevation: 0 to 200 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 215 days

Map Unit Composition

Lenoir and similar soils: 45 percent
Keyport and similar soils: 40 percent
Minor components: 5 percent

Description of Lenoir

Setting

Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.5 inches)

Interpretive groups

Land capability (nonirrigated): 3w

Typical profile

0 to 7 inches: Silt loam
7 to 16 inches: Silty clay
16 to 34 inches: Silty clay
34 to 60 inches: Silty clay

Description of Keyport

Setting

Landform: Knolls
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey eolian deposits and/or silty and clayey fluviomarine deposits

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.4 inches)

Interpretive groups

Land capability (nonirrigated): 2e

Typical profile

0 to 7 inches: Silt loam
7 to 10 inches: Silt loam
10 to 16 inches: Silty clay
16 to 26 inches: Silty clay
26 to 34 inches: Silty clay loam
34 to 60 inches: Silty clay loam

Minor Components

Elkton

Percent of map unit: 5 percent
Landform: Marine terraces, low hills, flats
Down-slope shape: Linear, convex
Across-slope shape: Linear

PortA—Portsmouth variant silt loam, 0 to 2 percent slopes

Map Unit Setting

Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 180 to 200 days

Map Unit Composition

Portsmouth variant, thin surface, and similar soils: 85 percent

Description of Portsmouth Variant, Thin Surface

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy marine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability (nonirrigated): 6w

Typical profile
0 to 9 inches: Silt loam
9 to 13 inches: Silt loam
13 to 18 inches: Silt loam
18 to 26 inches: Silt loam
26 to 31 inches: Fine sand
31 to 60 inches: Coarse sand

SacB—Sassafras sandy loam, 2 to 5 percent slopes

Map Unit Setting
Elevation: 0 to 170 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 180 to 210 days

Map Unit Composition
Sassafras and similar soils: 80 percent
Minor components: 20 percent

Description of Sassafras

Setting
Landform: Knolls, low hills
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and/or gravelly fluviomarine deposits

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.1 inches)

Interpretive groups
Land capability (nonirrigated): 2e

Typical profile
0 to 12 inches: Sandy loam
12 to 18 inches: Sandy loam
18 to 28 inches: Sandy clay loam
28 to 40 inches: Loamy sand
40 to 58 inches: Sand
58 to 80 inches: Sand

Minor Components

Downer

Percent of map unit: 5 percent
Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex

Aura

Percent of map unit: 5 percent
Landform: Low hills, knolls
Landform position (three-dimensional): Nose slope, crest, side slope, head slope
Down-slope shape: Linear, convex
Across-slope shape: Linear

Woodstown

Percent of map unit: 5 percent
Landform: Flats, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear, concave

Fallsington

Percent of map unit: 5 percent
Landform: Flats, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave

UdstB—Udorthents, stratified substratum, 0 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 180 to 200 days

Map Unit Composition

Udorthents, stratified substratum, and similar soils: 85 percent

Description of Udorthents, Stratified Substratum

Setting

Landform: Low hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy lateral spread deposits over gravelly lateral spread deposits

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Land capability (nonirrigated): 8s

Typical profile

0 to 10 inches: Sand
10 to 72 inches: Gravelly coarse sand

WATER—Water

Map Unit Composition

Water: 100 percent

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group (Lawrence Retail Center)

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

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

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

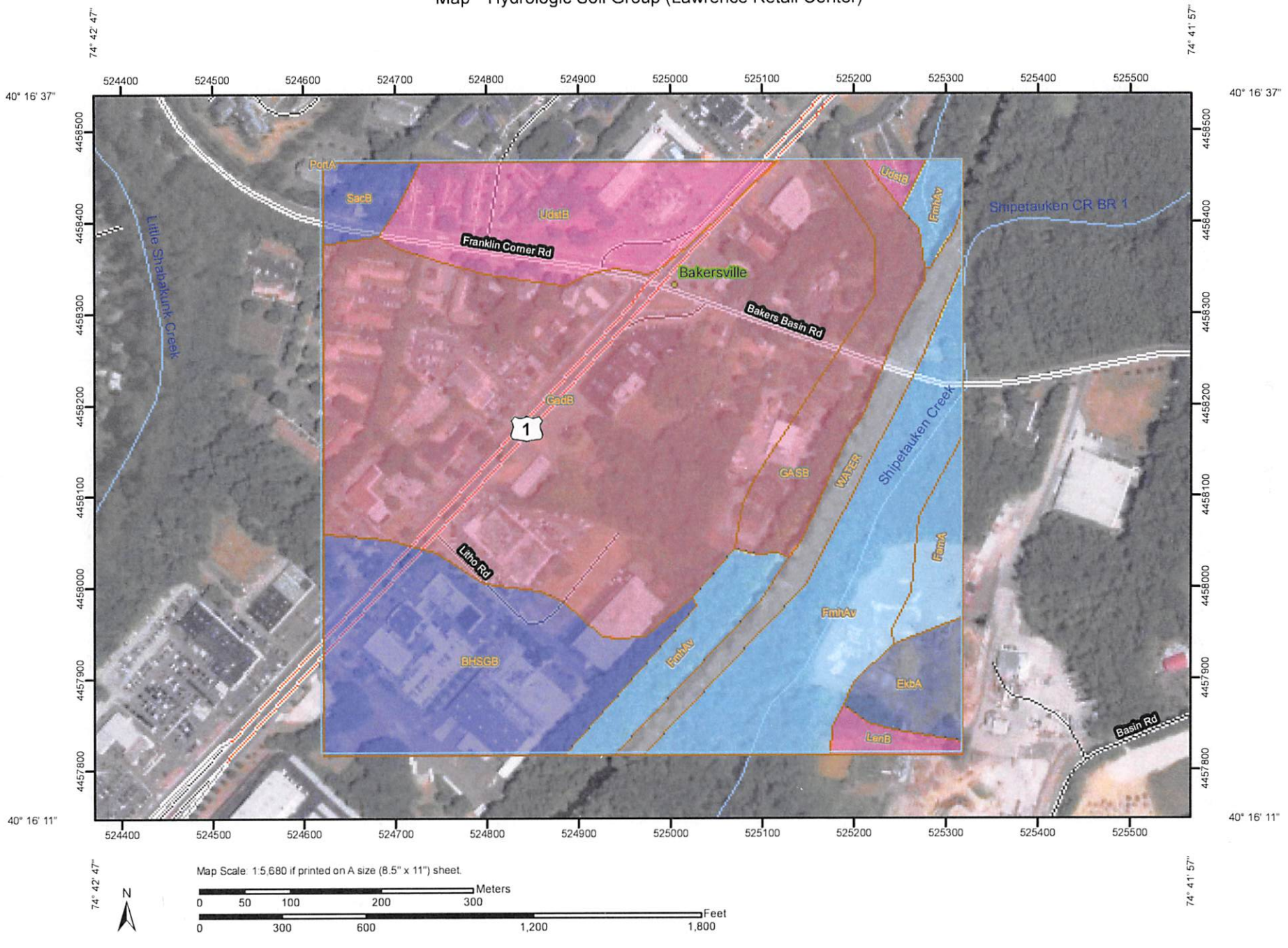
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

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

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

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

Custom Soil Resource Report
Map—Hydrologic Soil Group (Lawrence Retail Center)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

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

Political Features

- Cities

Water Features

- Streams and Canals

Transportation

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

MAP INFORMATION

Map Scale: 1:5,680 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

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

Soil Survey Area: Mercer County, New Jersey
Survey Area Data: Version 8, Aug 18, 2008

Date(s) aerial images were photographed: Data not available.

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

Table—Hydrologic Soil Group (Lawrence Retail Center)

Hydrologic Soil Group— Summary by Map Unit — Mercer County, New Jersey (NJ021)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
BHSGB	Birdsboro gravelly solum variant soils, 0 to 6 percent slopes	B	15.9	14.2%
EkbA	Elkton silt loam, 0 to 2 percent slopes	C/D	2.9	2.6%
FamA	Fallsington sandy loam, 0 to 2 percent slopes	B/D	2.3	2.1%
FmhAv	Fluvaquents, 0 to 3 percent slopes, very frequently flooded	B/D	17.6	15.7%
GadB	Galestown loamy sand, 0 to 5 percent slopes	A	48.4	43.2%
GASB	Galloway variant soils, 0 to 5 percent slopes	A	6.6	5.9%
LenB	Lenoir-Keyport silt loams, 0 to 5 percent slopes	D	1.0	0.9%
PortA	Portsmouth variant silt loam, 0 to 2 percent slopes	B/D	0.0	0.0%
SacB	Sassafras sandy loam, 2 to 5 percent slopes	B	1.8	1.6%
UdstB	Udorthents, stratified substratum, 0 to 8 percent slopes	D	10.9	9.7%
WATER	Water		4.7	4.2%
Totals for Area of Interest			**112.1**	**100.0%**

Rating Options—Hydrologic Soil Group (Lawrence Retail Center)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Water Features

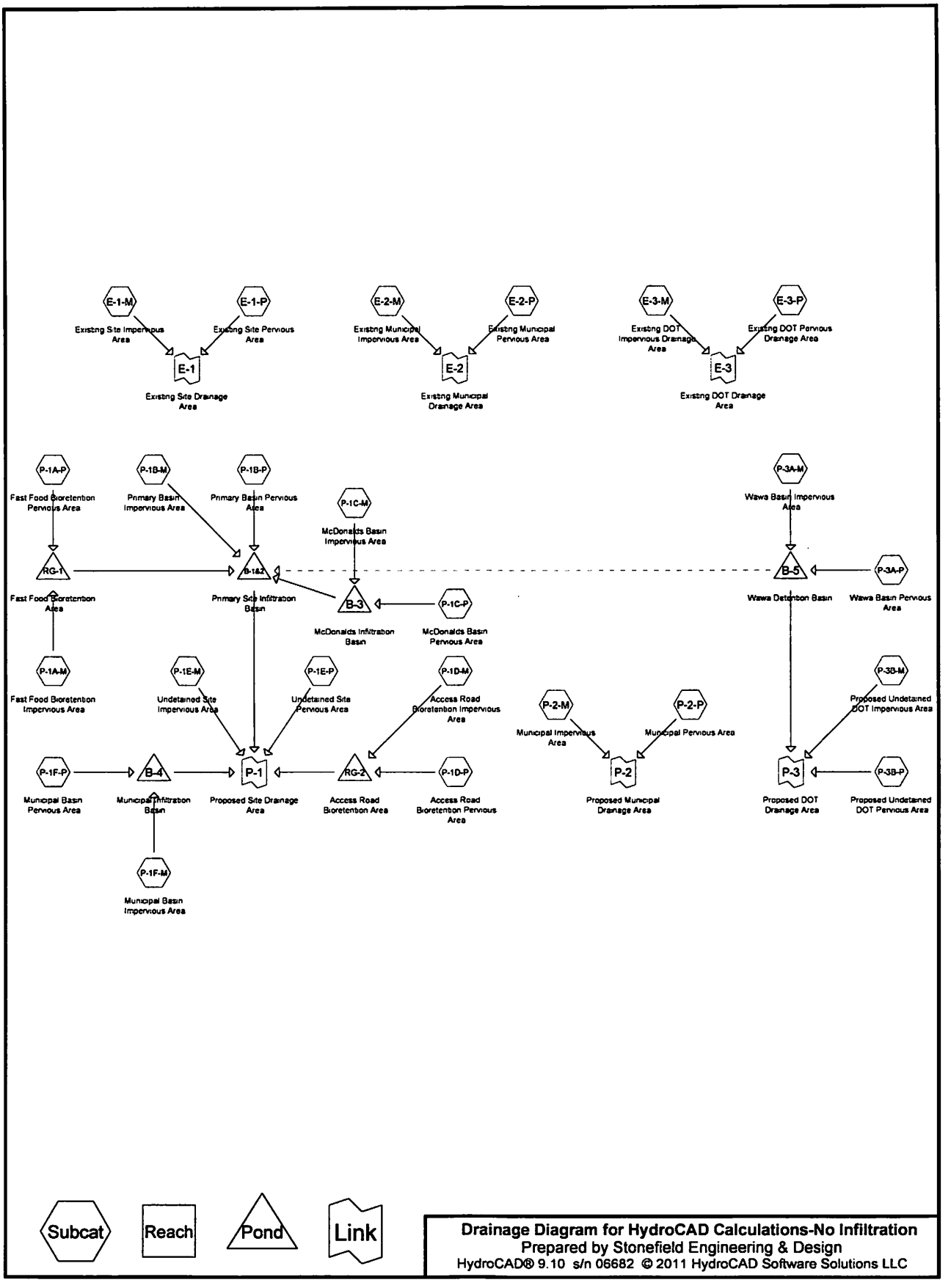
Water Features include ponding frequency, flooding frequency, and depth to water table.

Depth to Water Table (Lawrence Retail Center)

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

APPENDIX C

STONEFIELD STORMWATER MANAGEMENT REPORT, DATED DECEMBER 30, 2011, LAST REVISED MARCH 11, 2023
TR-20 CALCULATIONS
PRE-DEVELOPMENT CONDITIONS



Drainage Diagram for HydroCAD Calculations-No Infiltration
Prepared by Stonefield Engineering & Design

Summary for Subcatchment E-1-M: Existing Site Impervious Area

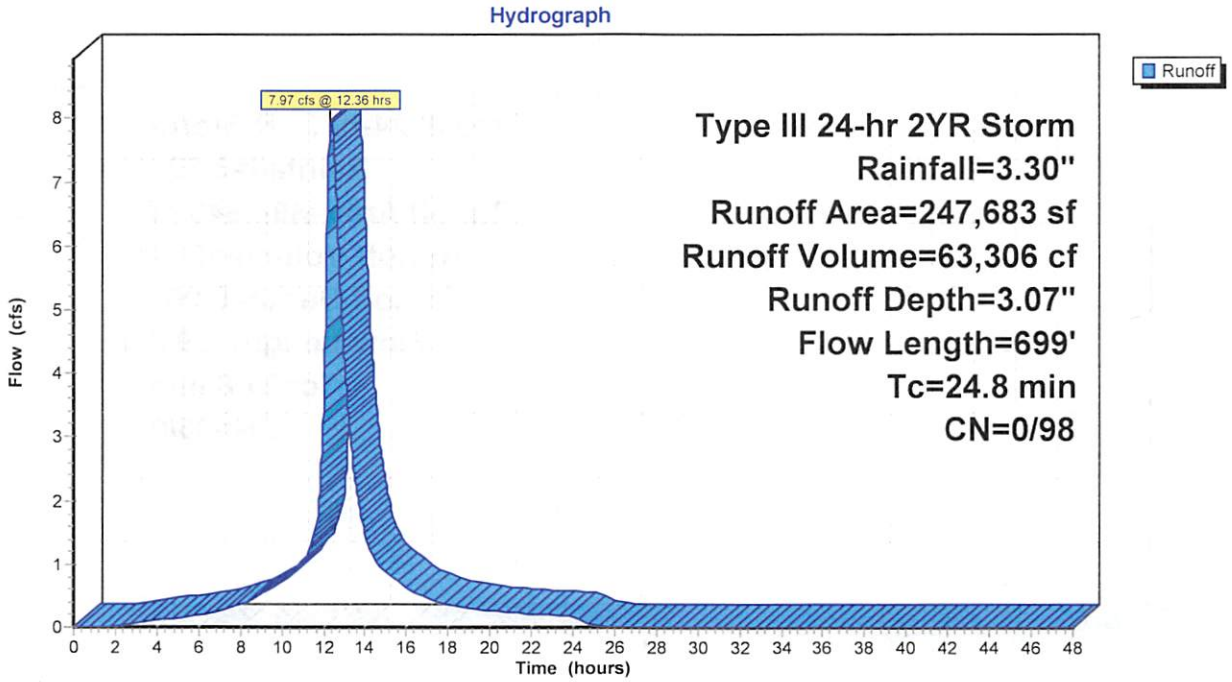
Runoff = 7.97 cfs @ 12.36 hrs, Volume= 63,306 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	123,597	98	Impervious Surfaces
*	94,933	98	Impervious Surfaces (To Remain)
*	29,153	98	Impervious Surfaces (Offsite)
	247,683	98	Weighted Average
	247,683	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0500	1.75		**Sheet Flow, Segment 1-2** Smooth surfaces n= 0.011 P2= 2.50"
0.7	109	0.0300	2.79		**Shallow Concentrated Flow, Segment 2-3** Unpaved Kv= 16.1 fps
23.1	490	0.0050	0.35		**Shallow Concentrated Flow, Segment 3-4** Woodland Kv= 5.0 fps
24.8	699	Total			

Subcatchment E-1-M: Existing Site Impervious Area



Summary for Subcatchment E-1-P: Existing Site Pervious Area

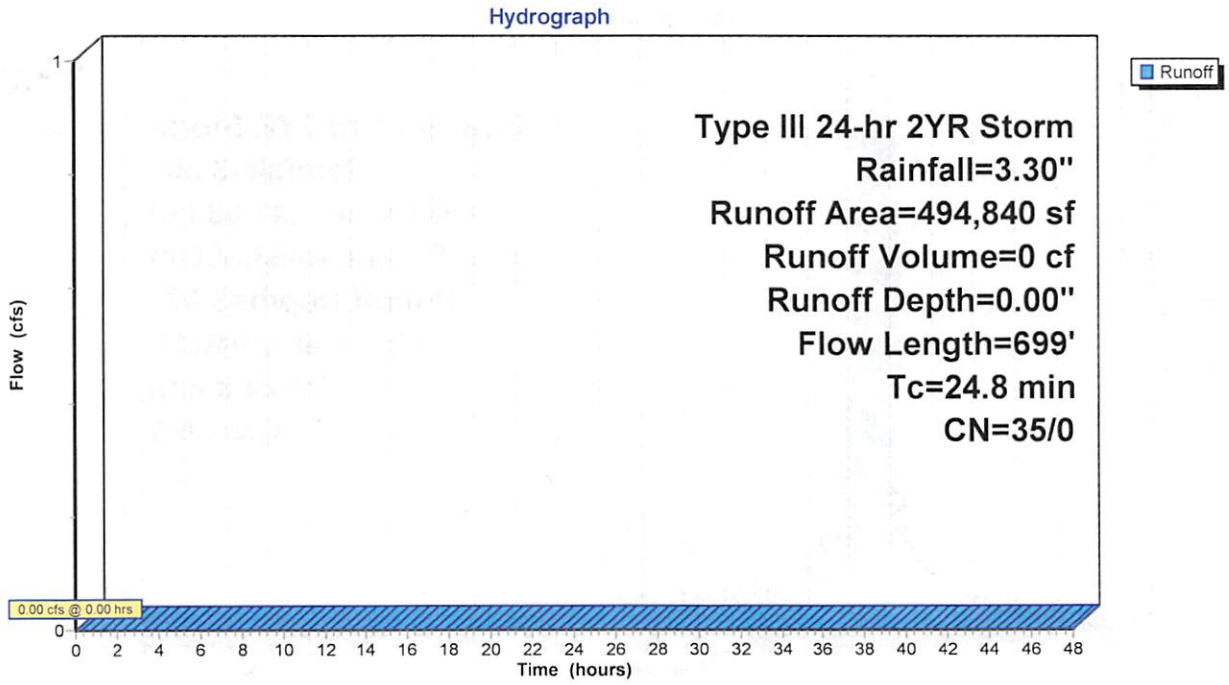
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
	232,463	30	Woods, Good, HSG A
	250,990	39	>75% Grass cover, Good, HSG A
*	11,387	39	>75% Grass cover, Good, HSG A (Offsite)
	494,840	35	Weighted Average
	494,840	35	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0500	1.75		**Sheet Flow, Segment 1-2** Smooth surfaces n= 0.011 P2= 2.50"
0.7	109	0.0300	2.79		**Shallow Concentrated Flow, Segment 2-3** Unpaved Kv= 16.1 fps
23.1	490	0.0050	0.35		**Shallow Concentrated Flow, Segment 3-4** Woodland Kv= 5.0 fps
24.8	699	Total			

Subcatchment E-1-P: Existing Site Pervious Area



Summary for Subcatchment E-2-M: Existing Municipal Impervious Area

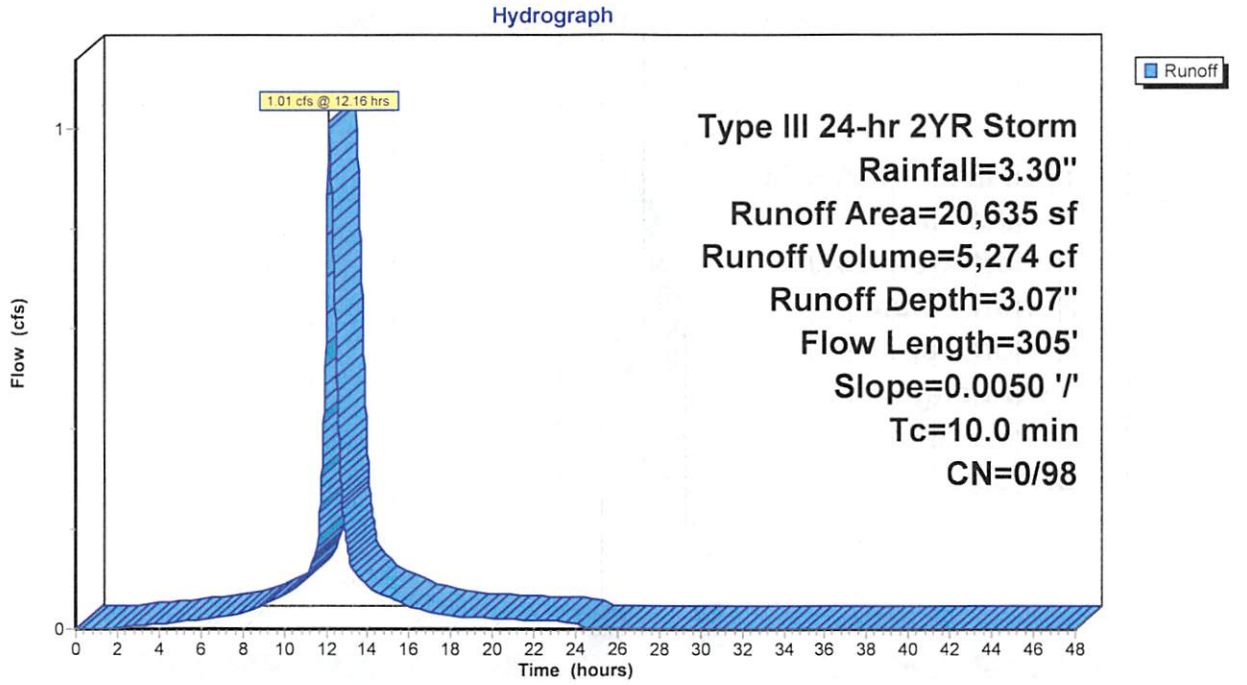
Runoff = 1.01 cfs @ 12.16 hrs, Volume= 5,274 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	1,631	98	Impervious Surfaces
*	19,004	98	Impervious Surfaces (Offsite)
	20,635	98	Weighted Average
	20,635	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	305	0.0050	1.44		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
3.5	305	Total, Increased to minimum Tc = 10.0 min			

Subcatchment E-2-M: Existing Municipal Impervious Area



Summary for Subcatchment E-2-P: Existing Municipal Pervious Area

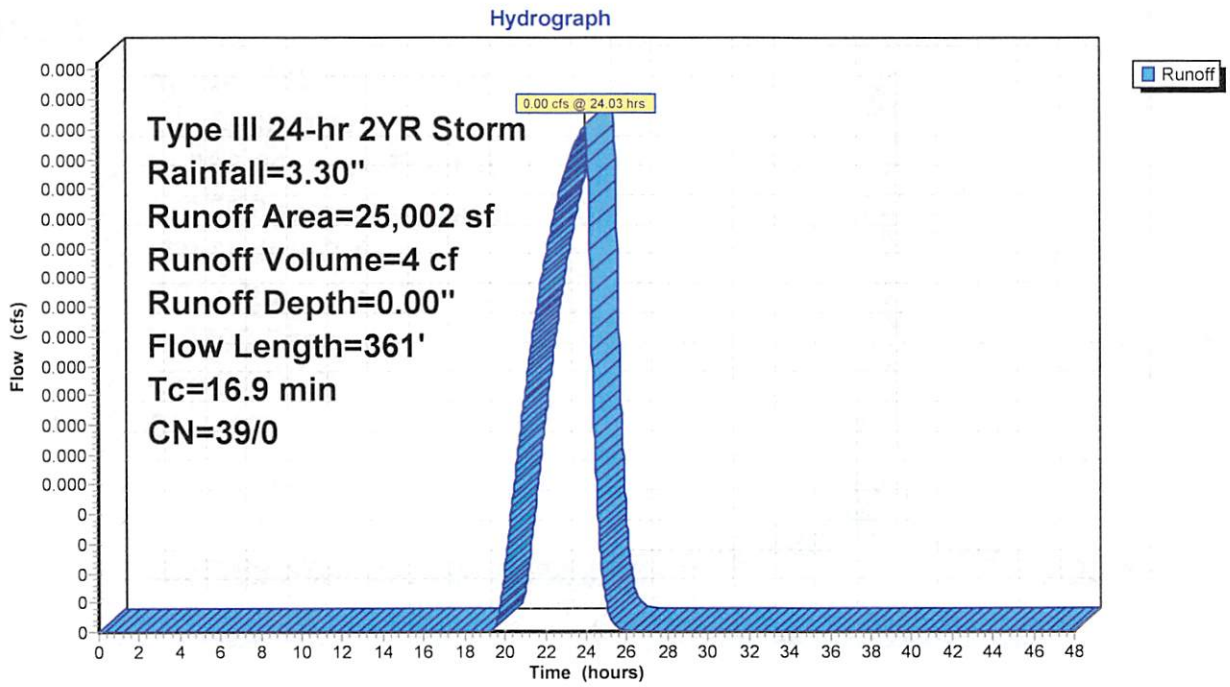
Runoff = 0.00 cfs @ 24.03 hrs, Volume= 4 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
	11,756	39	>75% Grass cover, Good, HSG A
*	13,246	39	>75% Grass cover, Good, HSG A (Offsite)
	25,002	39	Weighted Average
	25,002	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	56	0.0100	0.07		**Sheet Flow, Segment 5-6** Grass: Dense n= 0.240 P2= 2.50"
3.5	305	0.0050	1.44		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
16.9	361	Total			

Subcatchment E-2-P: Existing Municipal Pervious Area



Summary for Subcatchment E-3-M: Existing DOT Impervious Drainage Area

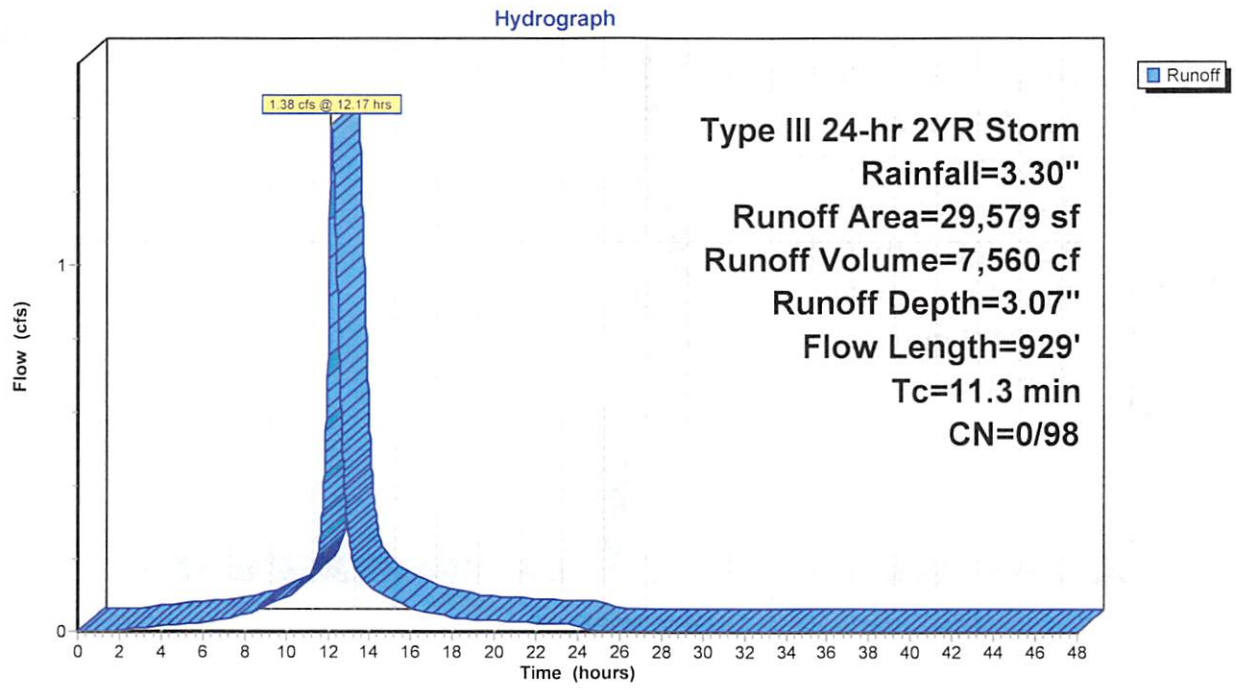
Runoff = 1.38 cfs @ 12.17 hrs, Volume= 7,560 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	11,173	98	Impervious Surfaces
*	18,406	98	Impervious Surfaces (Offsite)
	29,579	98	Weighted Average
	29,579	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	63	0.0250	1.21		**Sheet Flow, Segment 8-9** Smooth surfaces n= 0.011 P2= 2.50"
0.7	33	0.0100	0.74		**Sheet Flow, Segment 9-10** Smooth surfaces n= 0.011 P2= 2.50"
9.7	833	0.0050	1.44		**Shallow Concentrated Flow, Segment 10-13** Paved Kv= 20.3 fps
11.3	929	Total			

Subcatchment E-3-M: Existing DOT Impervious Drainage Area



Summary for Subcatchment E-3-P: Existing DOT Pervious Drainage Area

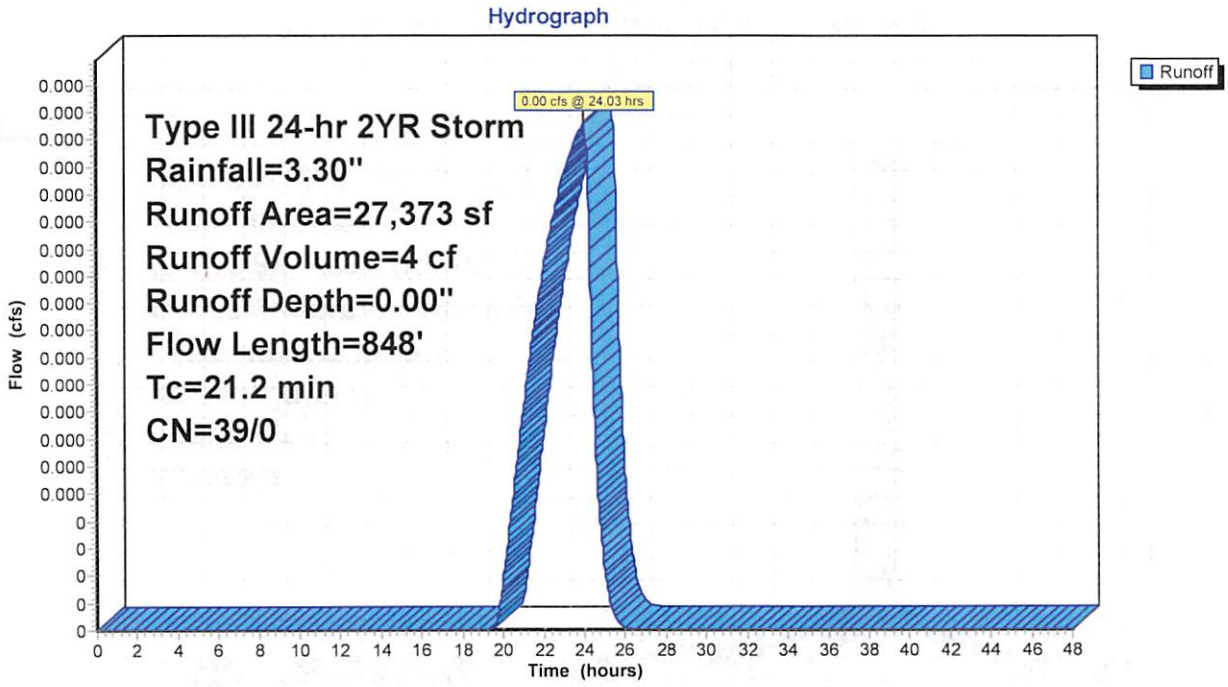
Runoff = 0.00 cfs @ 24.03 hrs, Volume= 4 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
	10,457	39	>75% Grass cover, Good, HSG A
*	16,916	39	>75% Grass cover, Good, HSG A (Offsite)
	27,373	39	Weighted Average
	27,373	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	88	0.0300	0.12		**Sheet Flow, Segment 11-12** Grass: Dense n= 0.240 P2= 2.50"
8.8	760	0.0050	1.44		**Shallow Concentrated Flow, Segment 12-13** Paved Kv= 20.3 fps
21.2	848	Total			

Subcatchment E-3-P: Existing DOT Pervious Drainage Area

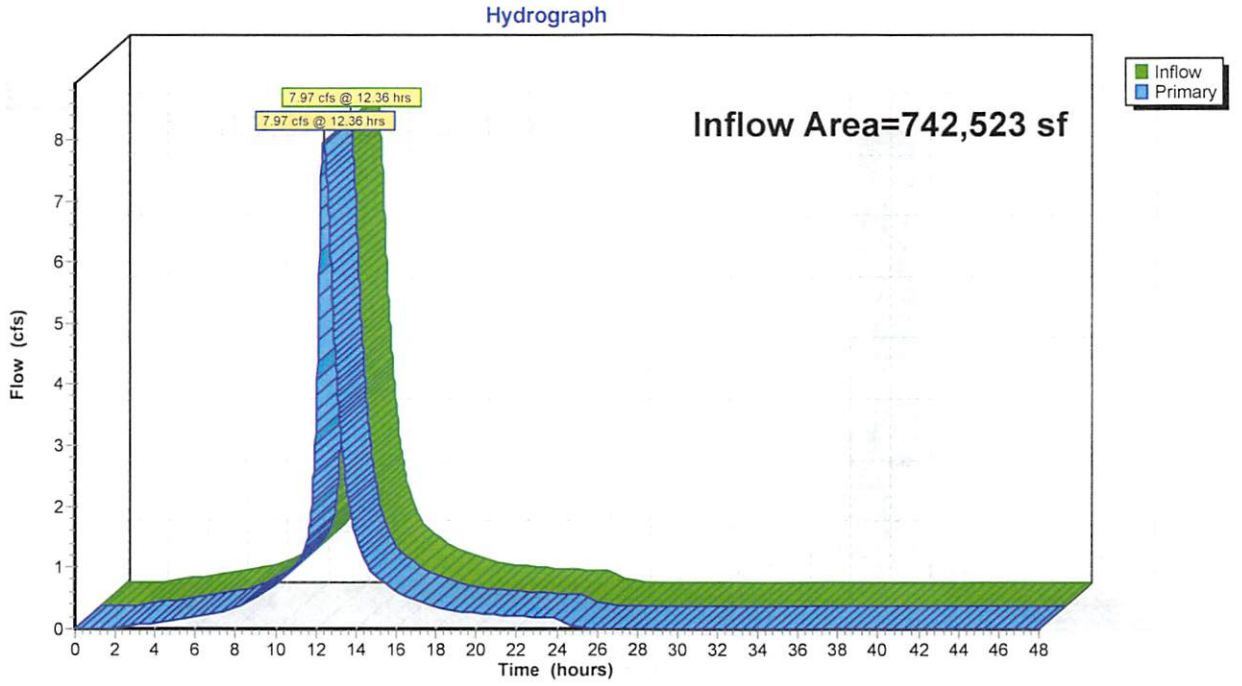


Summary for Link E-1: Existing Site Drainage Area

Inflow Area = 742,523 sf, 33.36% Impervious, Inflow Depth = 1.02" for 2YR Storm event
Inflow = 7.97 cfs @ 12.36 hrs, Volume= 63,306 cf
Primary = 7.97 cfs @ 12.36 hrs, Volume= 63,306 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-1: Existing Site Drainage Area

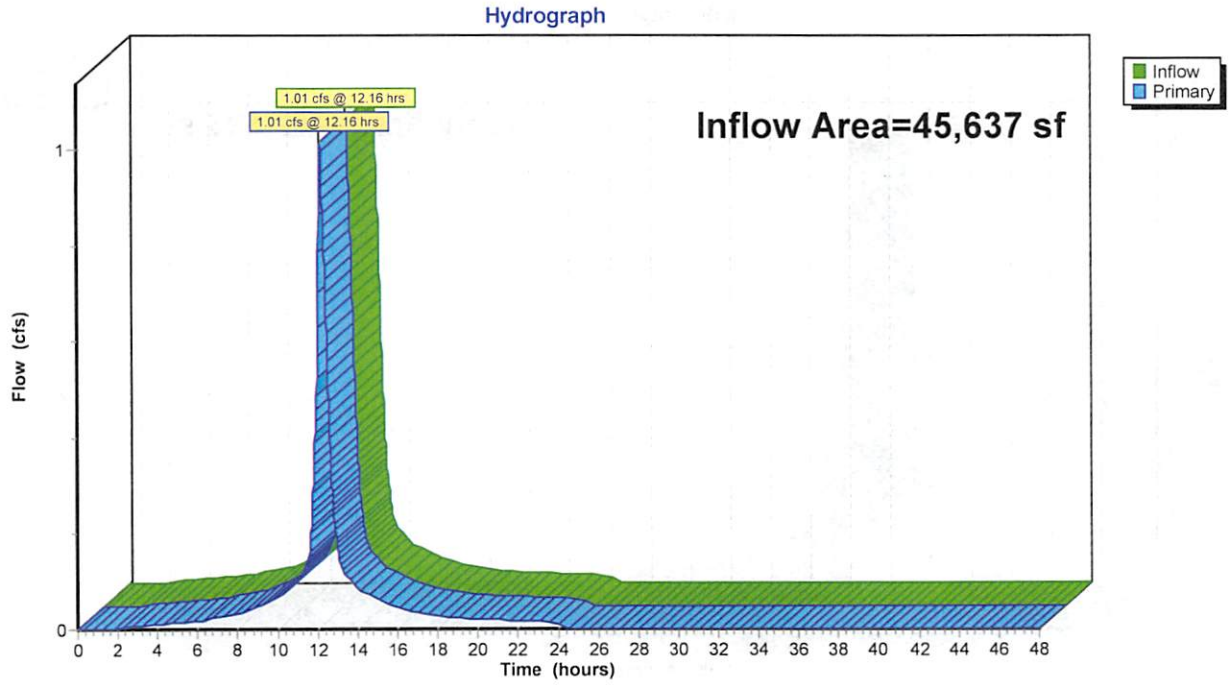


Summary for Link E-2: Existing Municipal Drainage Area

Inflow Area = 45,637 sf, 45.22% Impervious, Inflow Depth = 1.39" for 2YR Storm event
Inflow = 1.01 cfs @ 12.16 hrs, Volume= 5,278 cf
Primary = 1.01 cfs @ 12.16 hrs, Volume= 5,278 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-2: Existing Municipal Drainage Area

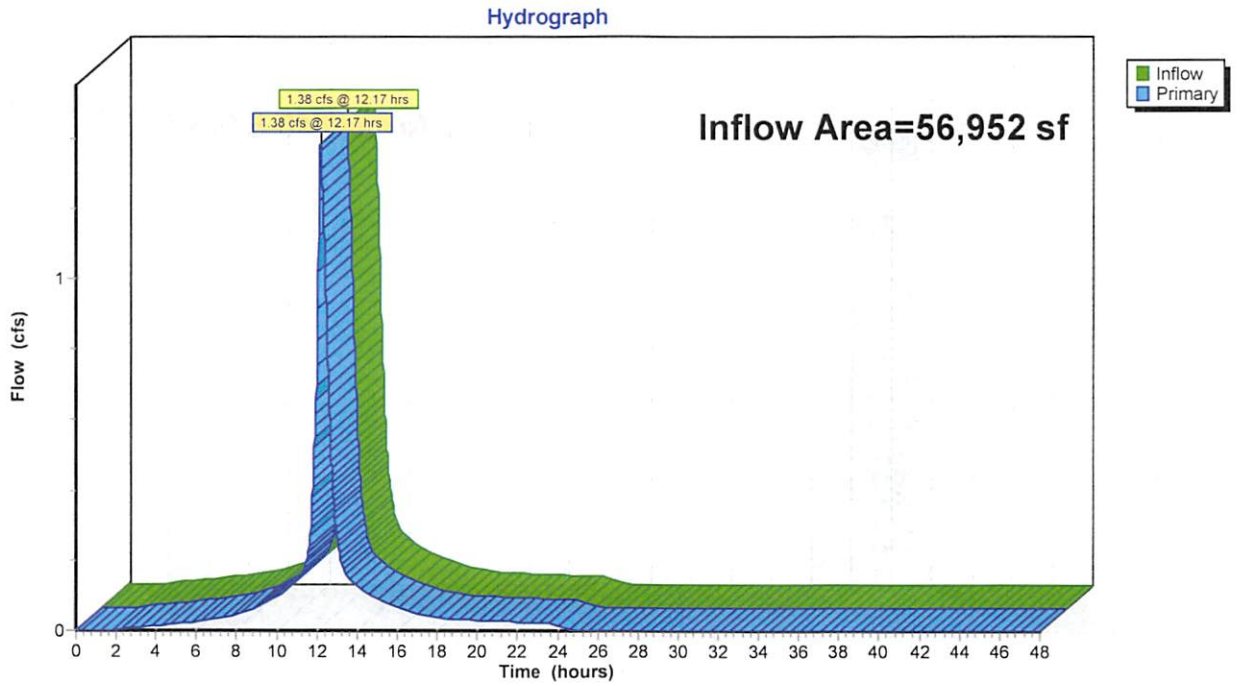


Summary for Link E-3: Existing DOT Drainage Area

Inflow Area = 56,952 sf, 51.94% Impervious, Inflow Depth = 1.59" for 2YR Storm event
Inflow = 1.38 cfs @ 12.17 hrs, Volume= 7,564 cf
Primary = 1.38 cfs @ 12.17 hrs, Volume= 7,564 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-3: Existing DOT Drainage Area



Summary for Subcatchment E-1-M: Existing Site Impervious Area

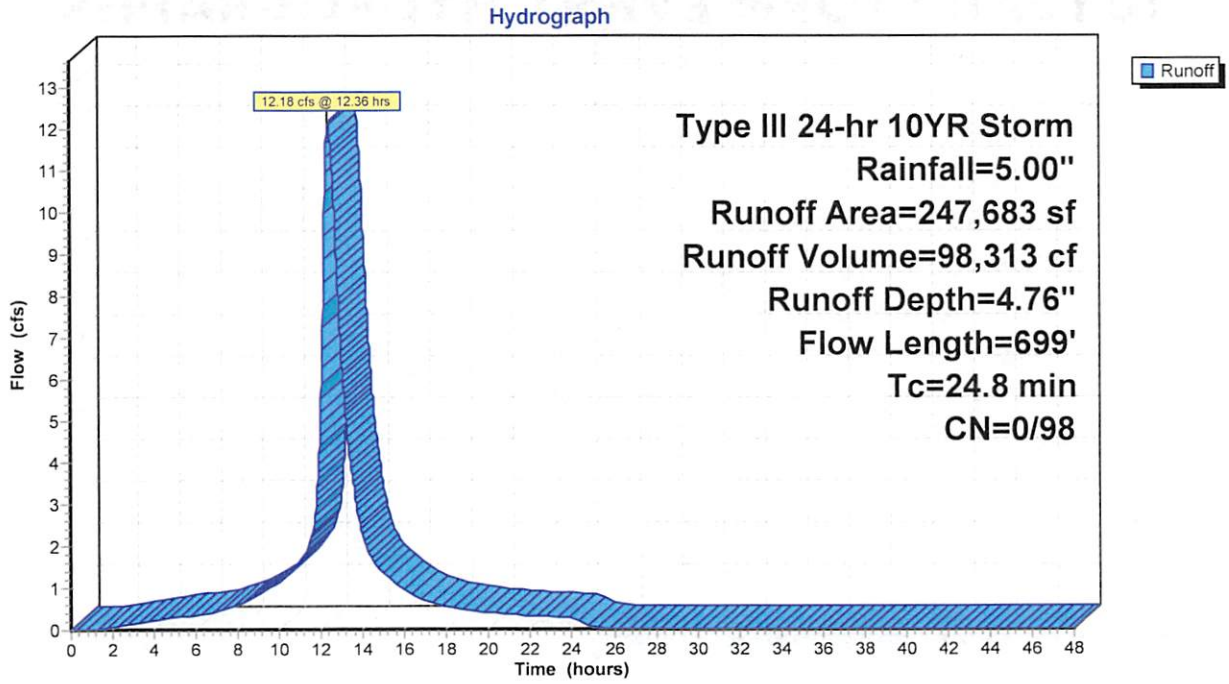
Runoff = 12.18 cfs @ 12.36 hrs, Volume= 98,313 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	123,597	98	Impervious Surfaces
*	94,933	98	Impervious Surfaces (To Remain)
*	29,153	98	Impervious Surfaces (Offsite)
	247,683	98	Weighted Average
	247,683	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0500	1.75		**Sheet Flow, Segment 1-2** Smooth surfaces n= 0.011 P2= 2.50"
0.7	109	0.0300	2.79		**Shallow Concentrated Flow, Segment 2-3** Unpaved Kv= 16.1 fps
23.1	490	0.0050	0.35		**Shallow Concentrated Flow, Segment 3-4** Woodland Kv= 5.0 fps
24.8	699	Total			

Subcatchment E-1-M: Existing Site Impervious Area



Summary for Subcatchment E-1-P: Existing Site Pervious Area

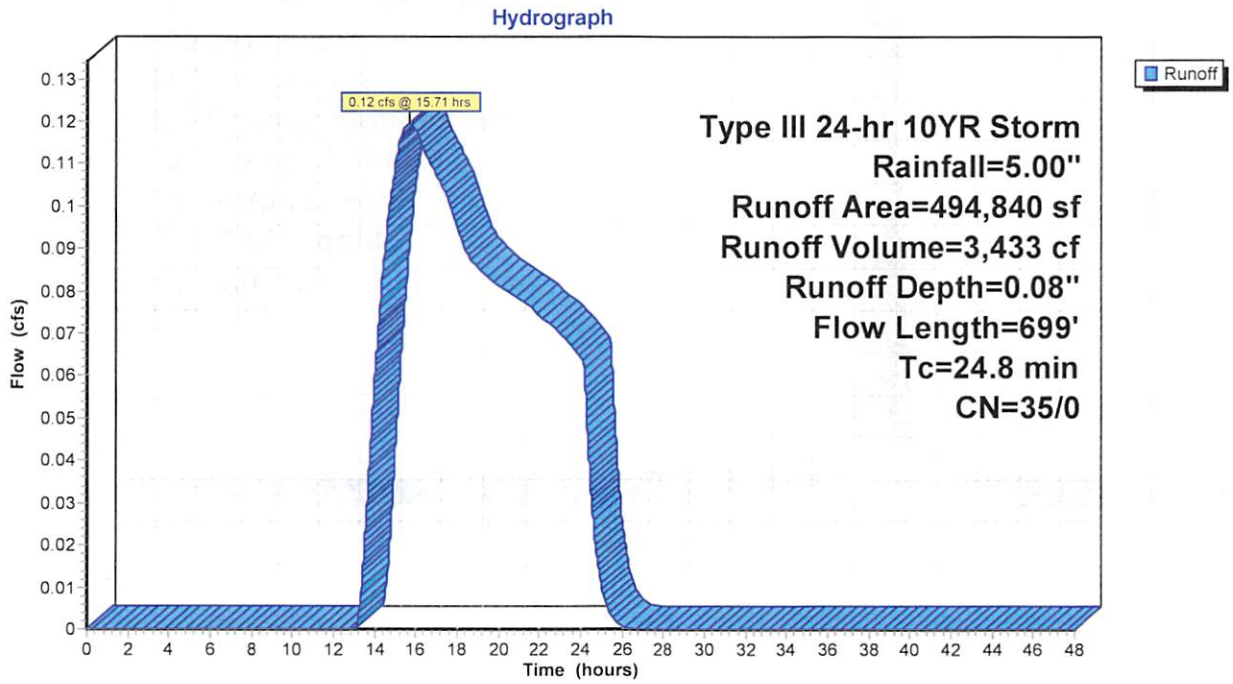
Runoff = 0.12 cfs @ 15.71 hrs, Volume= 3,433 cf, Depth= 0.08"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
	232,463	30	Woods, Good, HSG A
	250,990	39	>75% Grass cover, Good, HSG A
*	11,387	39	>75% Grass cover, Good, HSG A (Offsite)
	494,840	35	Weighted Average
	494,840	35	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0500	1.75		**Sheet Flow, Segment 1-2** Smooth surfaces n= 0.011 P2= 2.50"
0.7	109	0.0300	2.79		**Shallow Concentrated Flow, Segment 2-3** Unpaved Kv= 16.1 fps
23.1	490	0.0050	0.35		**Shallow Concentrated Flow, Segment 3-4** Woodland Kv= 5.0 fps
24.8	699	Total			

Subcatchment E-1-P: Existing Site Pervious Area



Summary for Subcatchment E-2-M: Existing Municipal Impervious Area

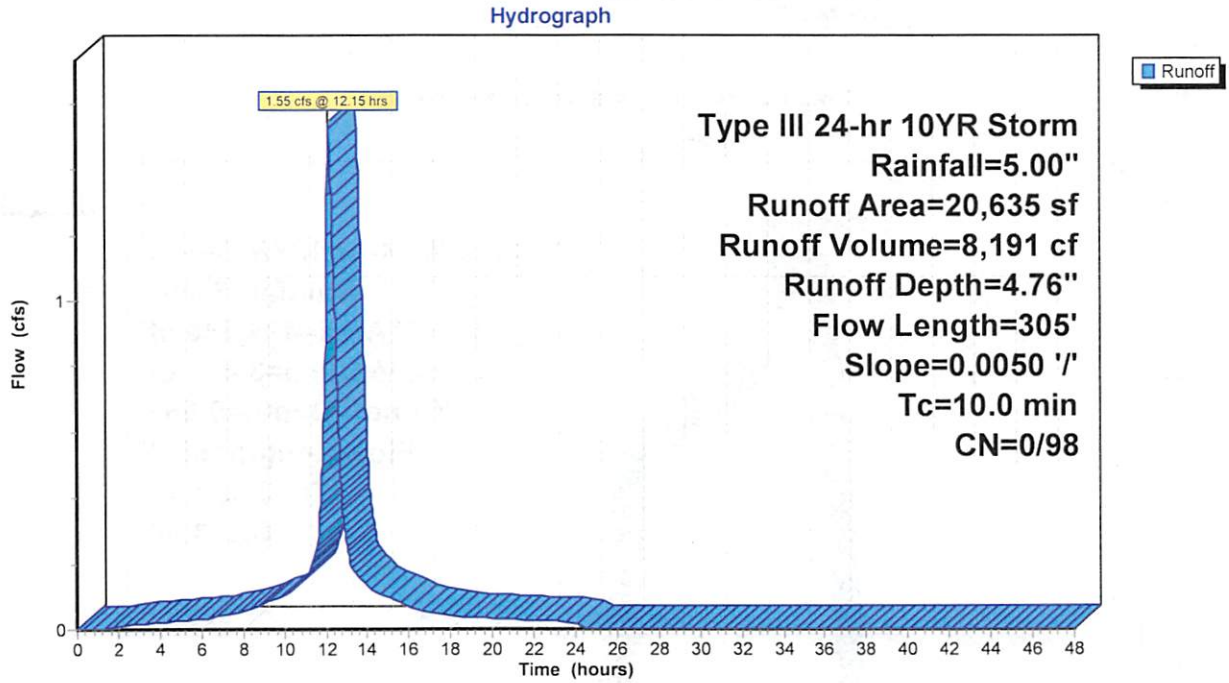
Runoff = 1.55 cfs @ 12.15 hrs, Volume= 8,191 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	1,631	98	Impervious Surfaces
*	19,004	98	Impervious Surfaces (Offsite)
	20,635	98	Weighted Average
	20,635	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	305	0.0050	1.44		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
3.5	305	Total, Increased to minimum Tc = 10.0 min			

Subcatchment E-2-M: Existing Municipal Impervious Area



Summary for Subcatchment E-2-P: Existing Municipal Pervious Area

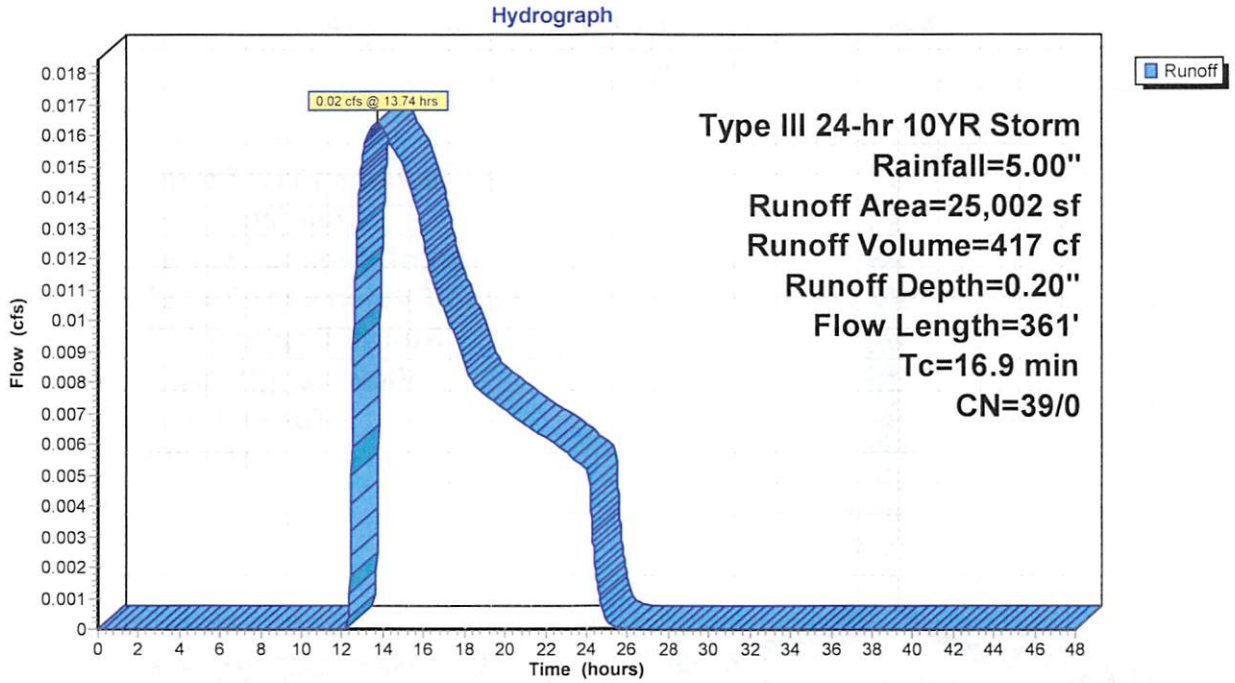
Runoff = 0.02 cfs @ 13.74 hrs, Volume= 417 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
	11,756	39	>75% Grass cover, Good, HSG A
*	13,246	39	>75% Grass cover, Good, HSG A (Offsite)
	25,002	39	Weighted Average
	25,002	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	56	0.0100	0.07		**Sheet Flow, Segment 5-6** Grass: Dense n= 0.240 P2= 2.50"
3.5	305	0.0050	1.44		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
16.9	361	Total			

Subcatchment E-2-P: Existing Municipal Pervious Area



Summary for Subcatchment E-3-M: Existing DOT Impervious Drainage Area

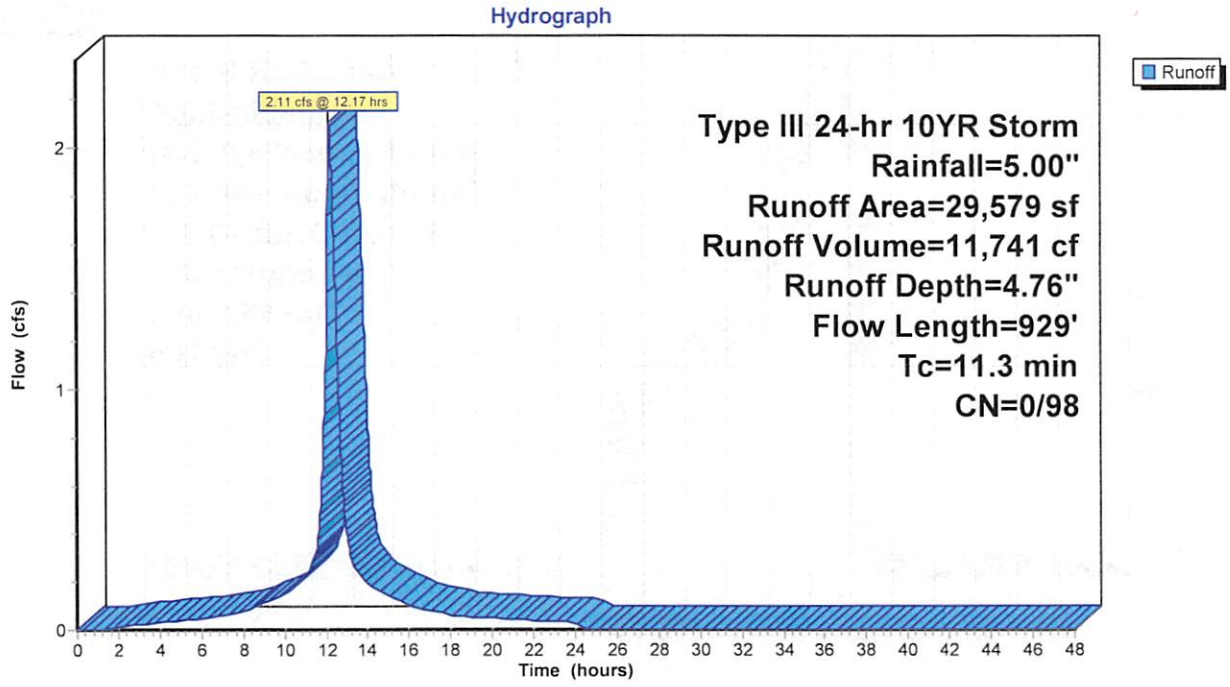
Runoff = 2.11 cfs @ 12.17 hrs, Volume= 11,741 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	11,173	98	Impervious Surfaces
*	18,406	98	Impervious Surfaces (Offsite)
	29,579	98	Weighted Average
	29,579	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	63	0.0250	1.21		**Sheet Flow, Segment 8-9** Smooth surfaces n= 0.011 P2= 2.50"
0.7	33	0.0100	0.74		**Sheet Flow, Segment 9-10** Smooth surfaces n= 0.011 P2= 2.50"
9.7	833	0.0050	1.44		**Shallow Concentrated Flow, Segment 10-13** Paved Kv= 20.3 fps
11.3	929	Total			

Subcatchment E-3-M: Existing DOT Impervious Drainage Area



Summary for Subcatchment E-3-P: Existing DOT Pervious Drainage Area

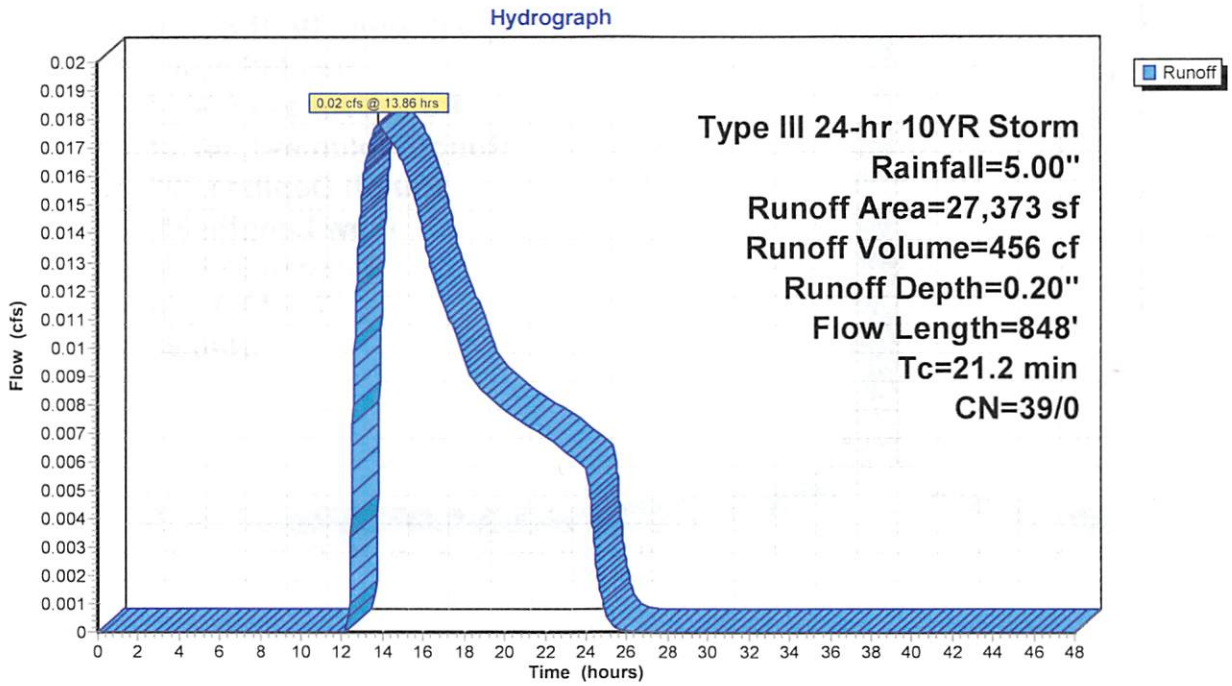
Runoff = 0.02 cfs @ 13.86 hrs, Volume= 456 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
	10,457	39	>75% Grass cover, Good, HSG A
*	16,916	39	>75% Grass cover, Good, HSG A (Offsite)
	27,373	39	Weighted Average
	27,373	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	88	0.0300	0.12		**Sheet Flow, Segment 11-12** Grass: Dense n= 0.240 P2= 2.50"
8.8	760	0.0050	1.44		**Shallow Concentrated Flow, Segment 12-13** Paved Kv= 20.3 fps
21.2	848	Total			

Subcatchment E-3-P: Existing DOT Pervious Drainage Area

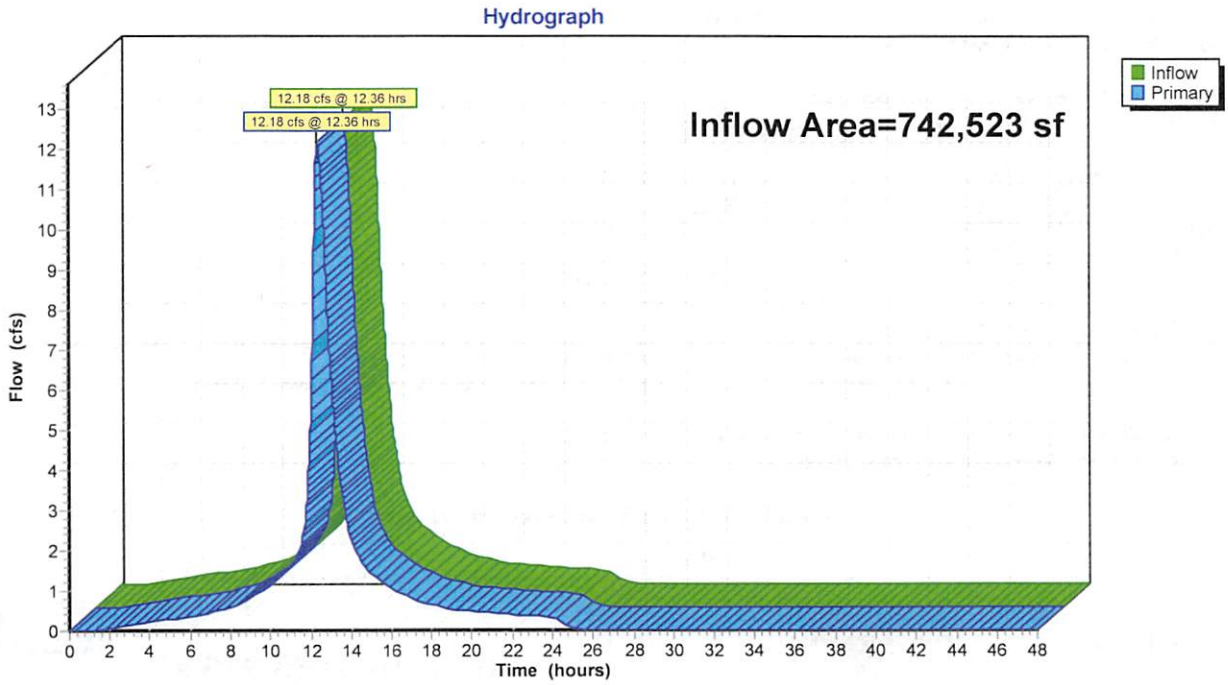


Summary for Link E-1: Existing Site Drainage Area

Inflow Area = 742,523 sf, 33.36% Impervious, Inflow Depth = 1.64" for 10YR Storm event
Inflow = 12.18 cfs @ 12.36 hrs, Volume= 101,746 cf
Primary = 12.18 cfs @ 12.36 hrs, Volume= 101,746 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-1: Existing Site Drainage Area

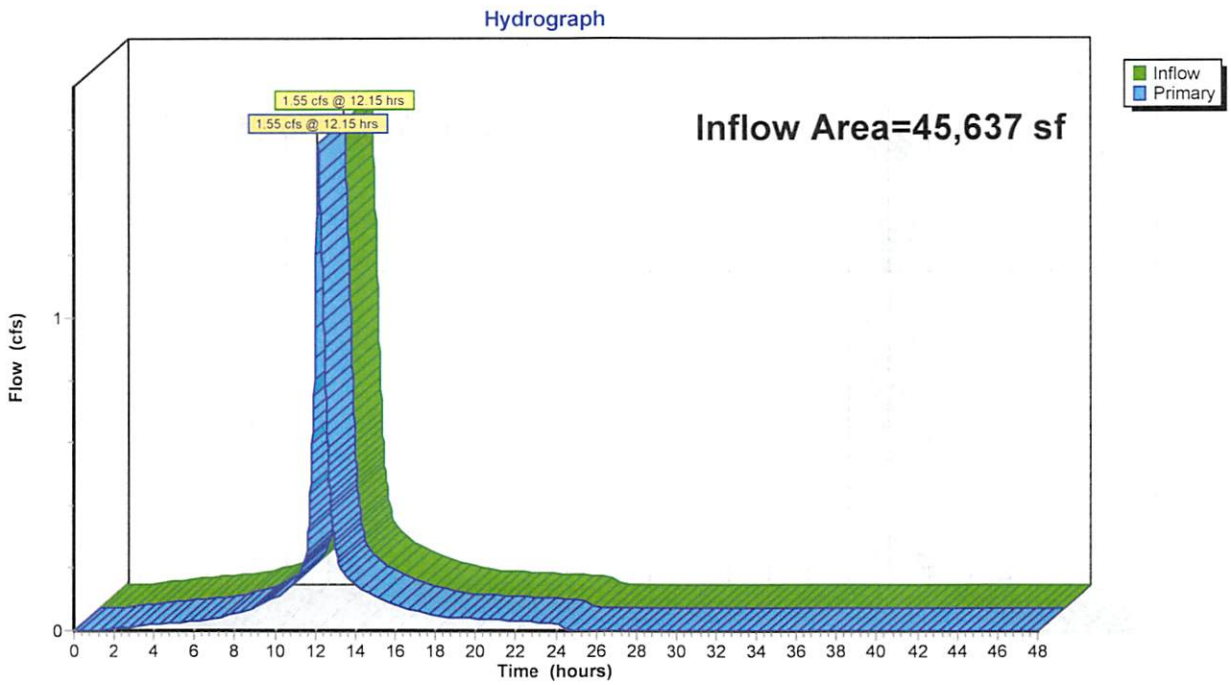


Summary for Link E-2: Existing Municipal Drainage Area

Inflow Area = 45,637 sf, 45.22% Impervious, Inflow Depth = 2.26" for 10YR Storm event
Inflow = 1.55 cfs @ 12.15 hrs, Volume= 8,607 cf
Primary = 1.55 cfs @ 12.15 hrs, Volume= 8,607 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-2: Existing Municipal Drainage Area

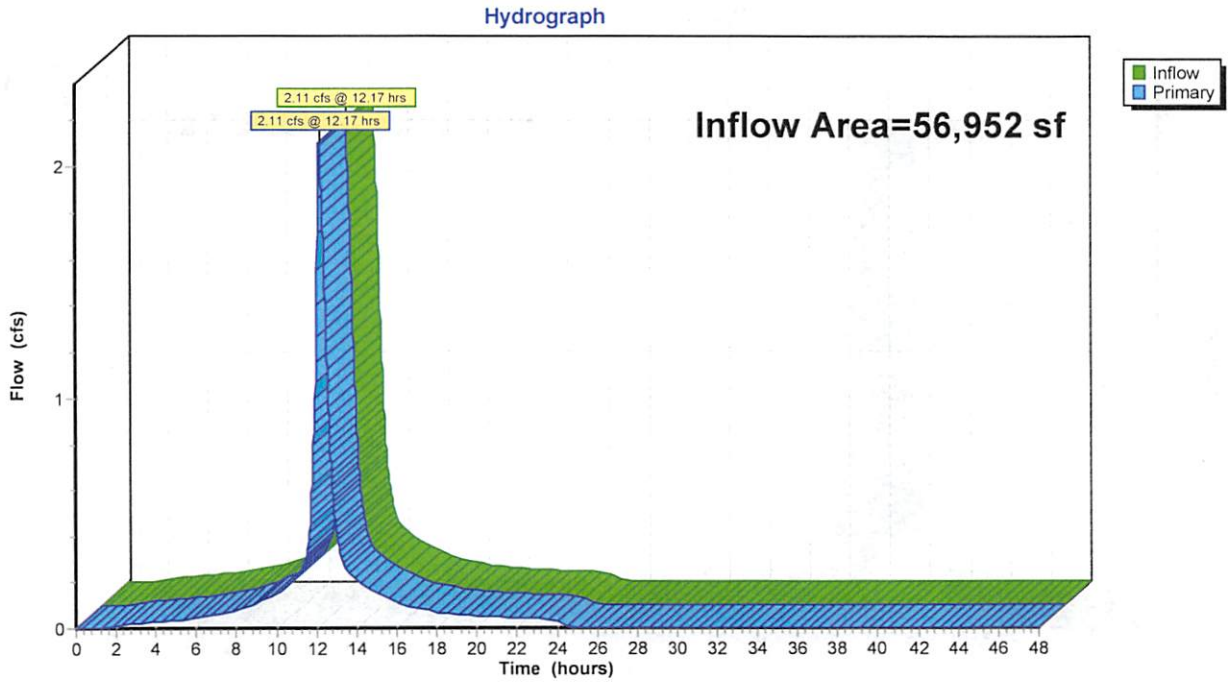


Summary for Link E-3: Existing DOT Drainage Area

Inflow Area = 56,952 sf, 51.94% Impervious, Inflow Depth = 2.57" for 10YR Storm event
Inflow = 2.11 cfs @ 12.17 hrs, Volume= 12,197 cf
Primary = 2.11 cfs @ 12.17 hrs, Volume= 12,197 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-3: Existing DOT Drainage Area



Summary for Subcatchment E-1-M: Existing Site Impervious Area

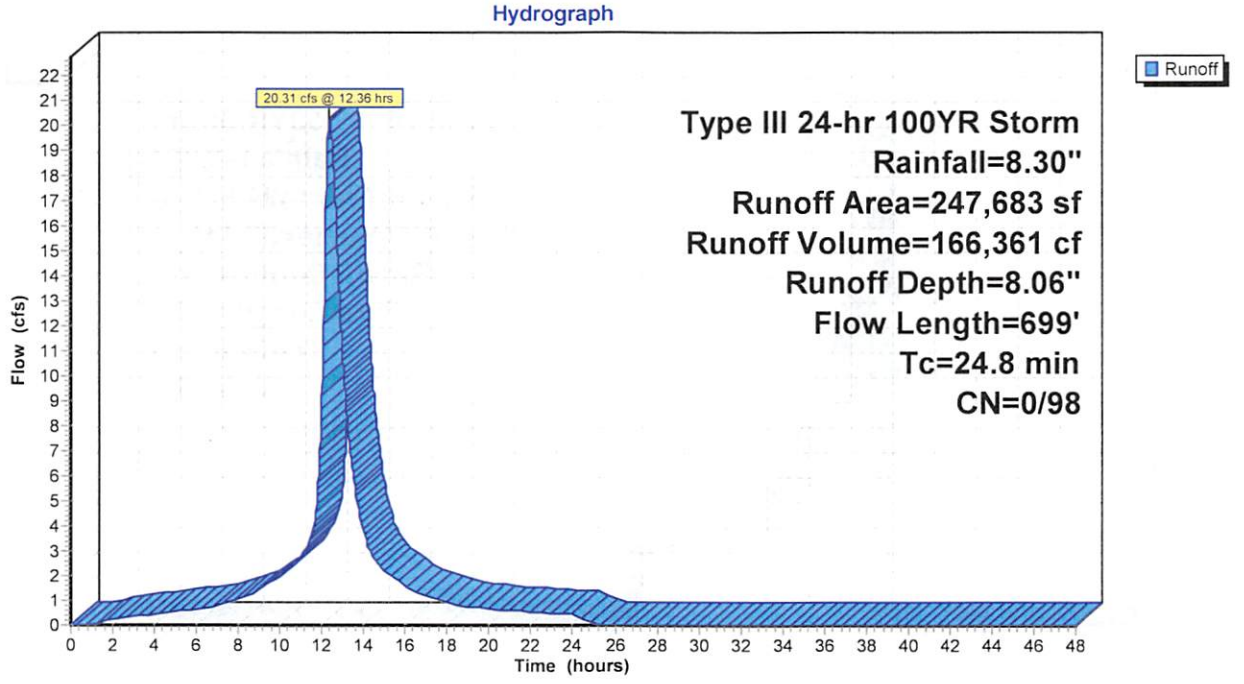
Runoff = 20.31 cfs @ 12.36 hrs, Volume= 166,361 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	123,597	98	Impervious Surfaces
*	94,933	98	Impervious Surfaces (To Remain)
*	29,153	98	Impervious Surfaces (Offsite)
	247,683	98	Weighted Average
	247,683	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0500	1.75		**Sheet Flow, Segment 1-2** Smooth surfaces n= 0.011 P2= 2.50"
0.7	109	0.0300	2.79		**Shallow Concentrated Flow, Segment 2-3** Unpaved Kv= 16.1 fps
23.1	490	0.0050	0.35		**Shallow Concentrated Flow, Segment 3-4** Woodland Kv= 5.0 fps
24.8	699	Total			

Subcatchment E-1-M: Existing Site Impervious Area



Summary for Subcatchment E-1-P: Existing Site Pervious Area

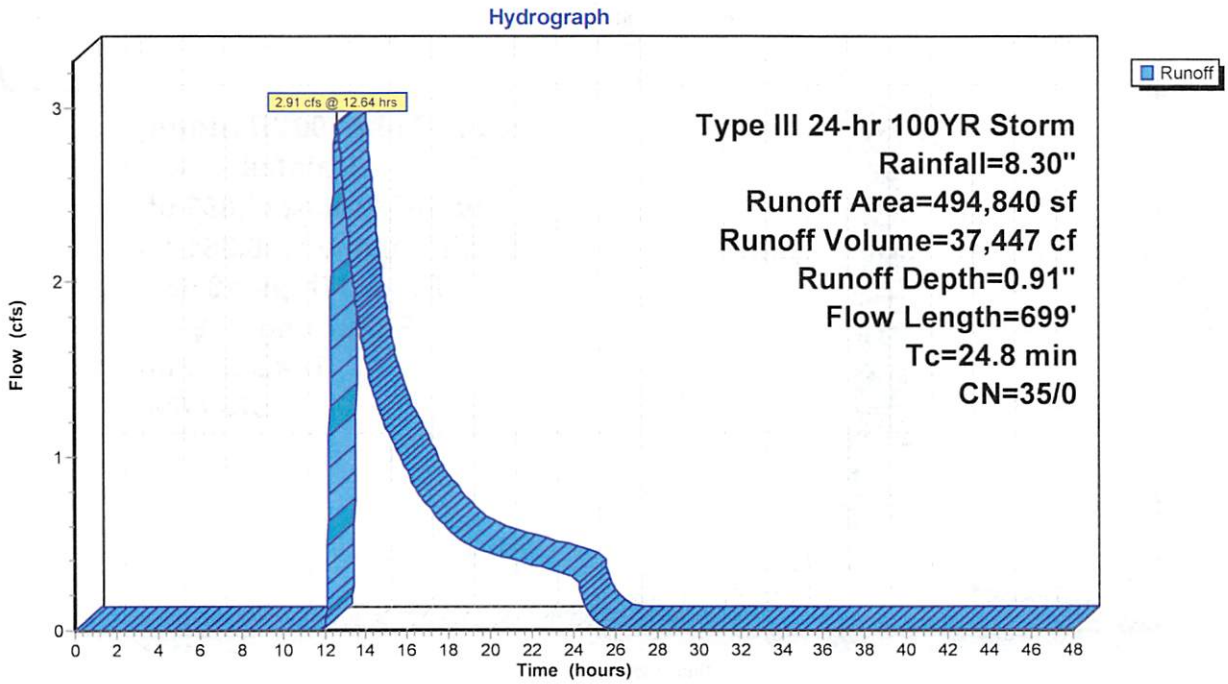
Runoff = 2.91 cfs @ 12.64 hrs, Volume= 37,447 cf, Depth= 0.91"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
	232,463	30	Woods, Good, HSG A
	250,990	39	>75% Grass cover, Good, HSG A
*	11,387	39	>75% Grass cover, Good, HSG A (Offsite)
	494,840	35	Weighted Average
	494,840	35	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0500	1.75		**Sheet Flow, Segment 1-2** Smooth surfaces n= 0.011 P2= 2.50"
0.7	109	0.0300	2.79		**Shallow Concentrated Flow, Segment 2-3** Unpaved Kv= 16.1 fps
23.1	490	0.0050	0.35		**Shallow Concentrated Flow, Segment 3-4** Woodland Kv= 5.0 fps
24.8	699	Total			

Subcatchment E-1-P: Existing Site Pervious Area



Summary for Subcatchment E-2-M: Existing Municipal Impervious Area

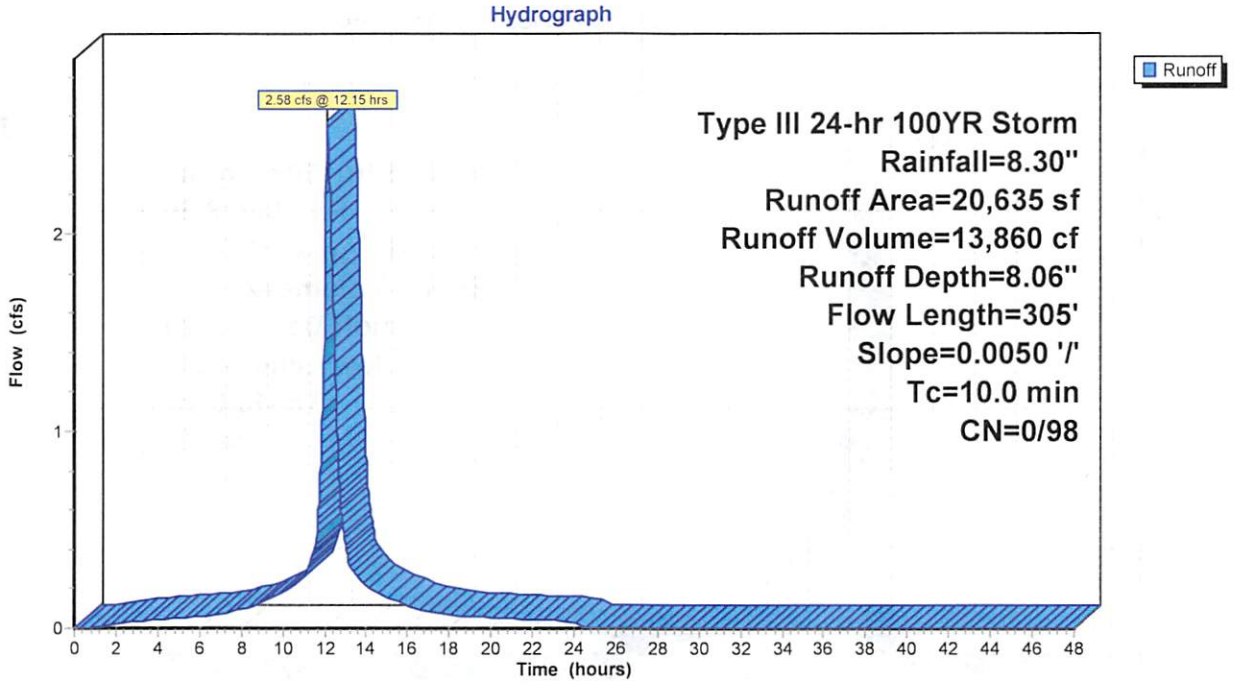
Runoff = 2.58 cfs @ 12.15 hrs, Volume= 13,860 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	1,631	98	Impervious Surfaces
*	19,004	98	Impervious Surfaces (Offsite)
	20,635	98	Weighted Average
	20,635	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	305	0.0050	1.44		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
3.5	305	Total, Increased to minimum Tc = 10.0 min			

Subcatchment E-2-M: Existing Municipal Impervious Area



Summary for Subcatchment E-2-P: Existing Municipal Pervious Area

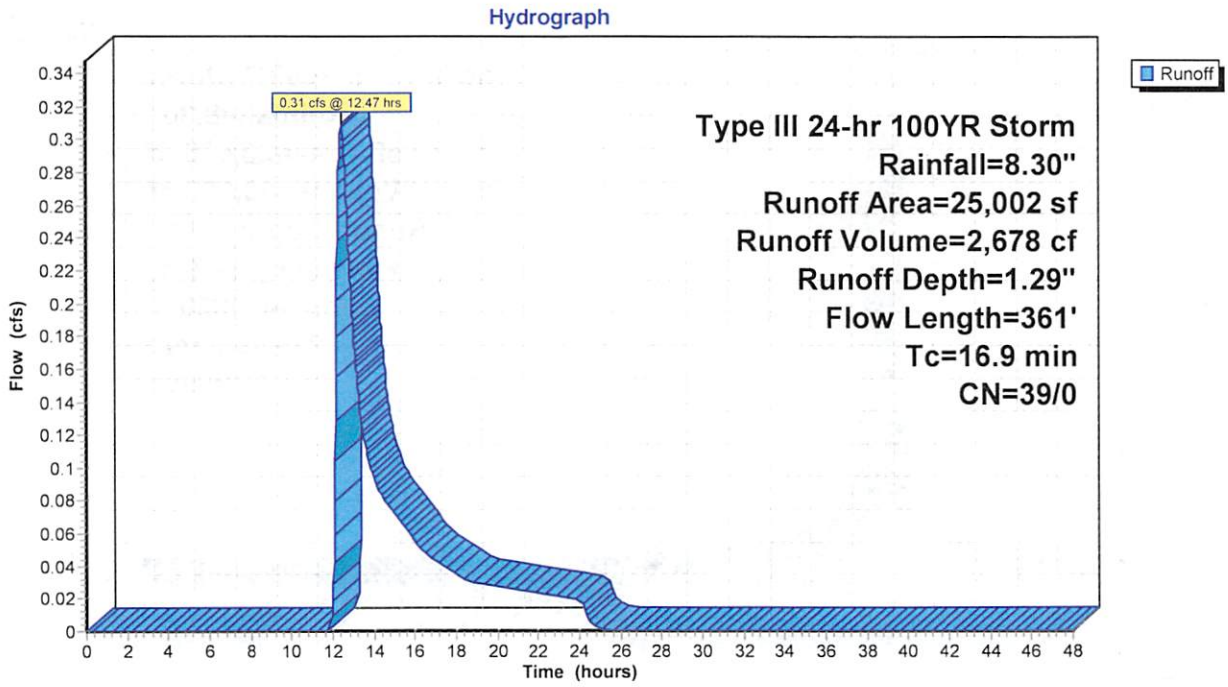
Runoff = 0.31 cfs @ 12.47 hrs, Volume= 2,678 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
	11,756	39	>75% Grass cover, Good, HSG A
*	13,246	39	>75% Grass cover, Good, HSG A (Offsite)
	25,002	39	Weighted Average
	25,002	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	56	0.0100	0.07		**Sheet Flow, Segment 5-6** Grass: Dense n= 0.240 P2= 2.50"
3.5	305	0.0050	1.44		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
16.9	361	Total			

Subcatchment E-2-P: Existing Municipal Pervious Area



Summary for Subcatchment E-3-M: Existing DOT Impervious Drainage Area

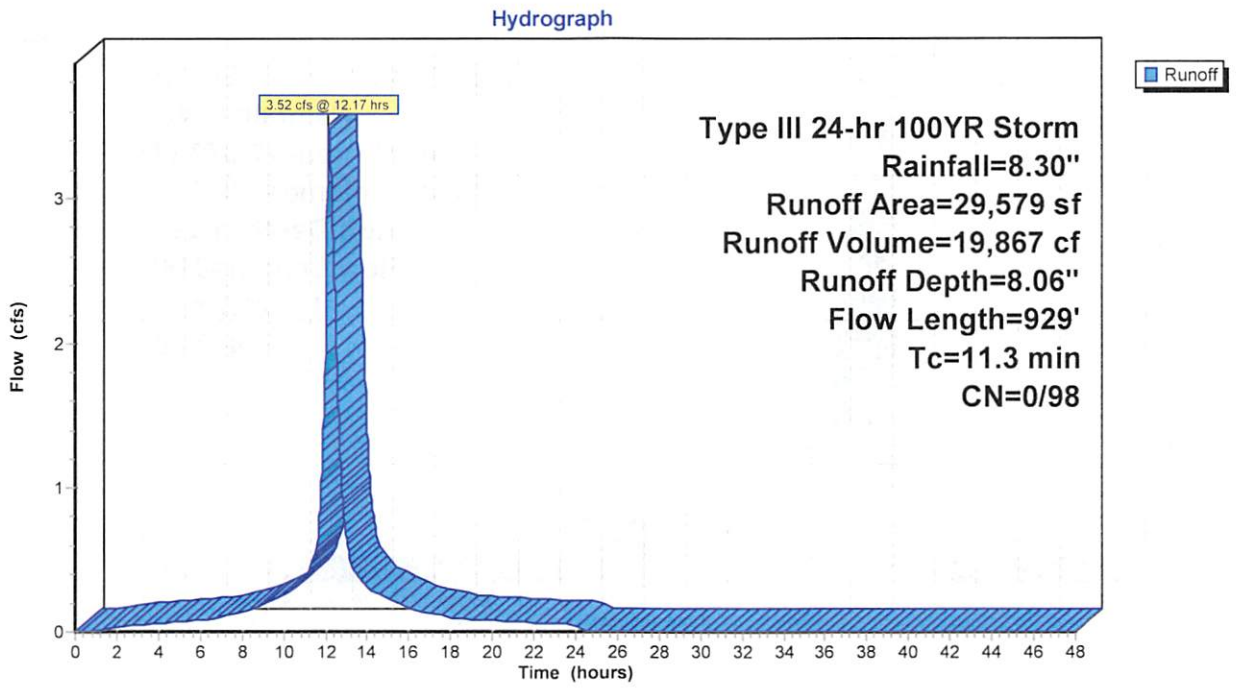
Runoff = 3.52 cfs @ 12.17 hrs, Volume= 19,867 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	11,173	98	Impervious Surfaces
*	18,406	98	Impervious Surfaces (Offsite)
	29,579	98	Weighted Average
	29,579	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	63	0.0250	1.21		**Sheet Flow, Segment 8-9** Smooth surfaces n= 0.011 P2= 2.50"
0.7	33	0.0100	0.74		**Sheet Flow, Segment 9-10** Smooth surfaces n= 0.011 P2= 2.50"
9.7	833	0.0050	1.44		**Shallow Concentrated Flow, Segment 10-13** Paved Kv= 20.3 fps
11.3	929	Total			

Subcatchment E-3-M: Existing DOT Impervious Drainage Area



Summary for Subcatchment E-3-P: Existing DOT Pervious Drainage Area

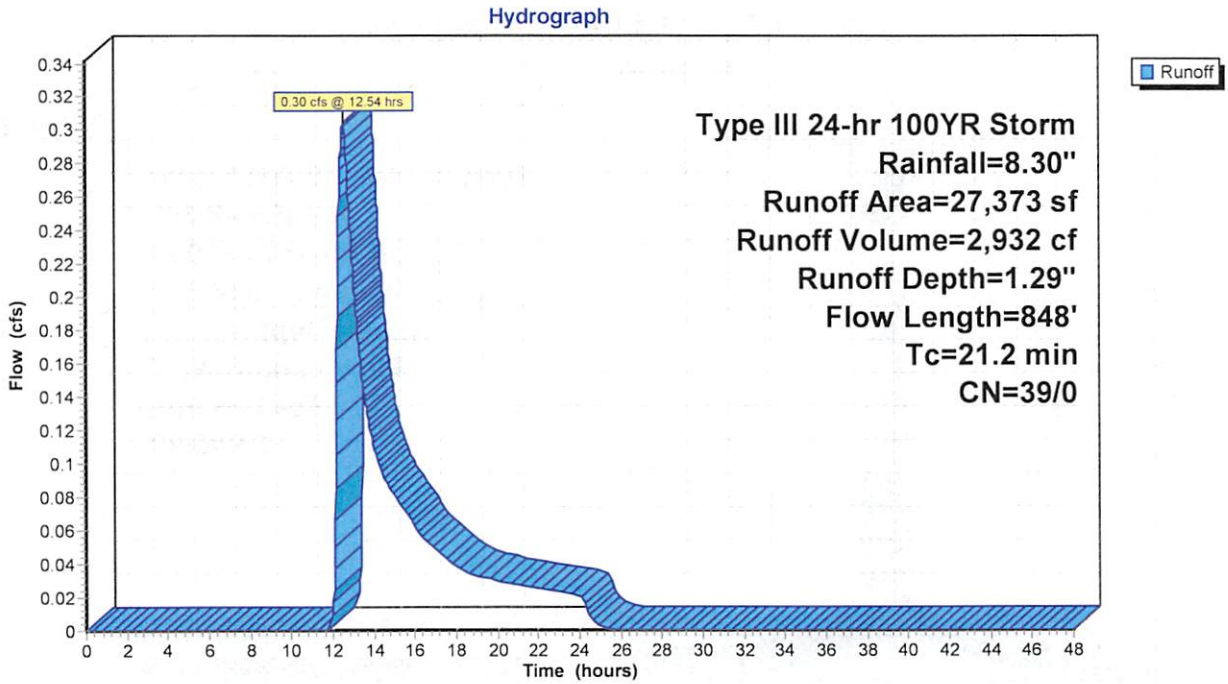
Runoff = 0.30 cfs @ 12.54 hrs, Volume= 2,932 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
	10,457	39	>75% Grass cover, Good, HSG A
*	16,916	39	>75% Grass cover, Good, HSG A (Offsite)
	27,373	39	Weighted Average
	27,373	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	88	0.0300	0.12		**Sheet Flow, Segment 11-12** Grass: Dense n= 0.240 P2= 2.50"
8.8	760	0.0050	1.44		**Shallow Concentrated Flow, Segment 12-13** Paved Kv= 20.3 fps
21.2	848	Total			

Subcatchment E-3-P: Existing DOT Pervious Drainage Area

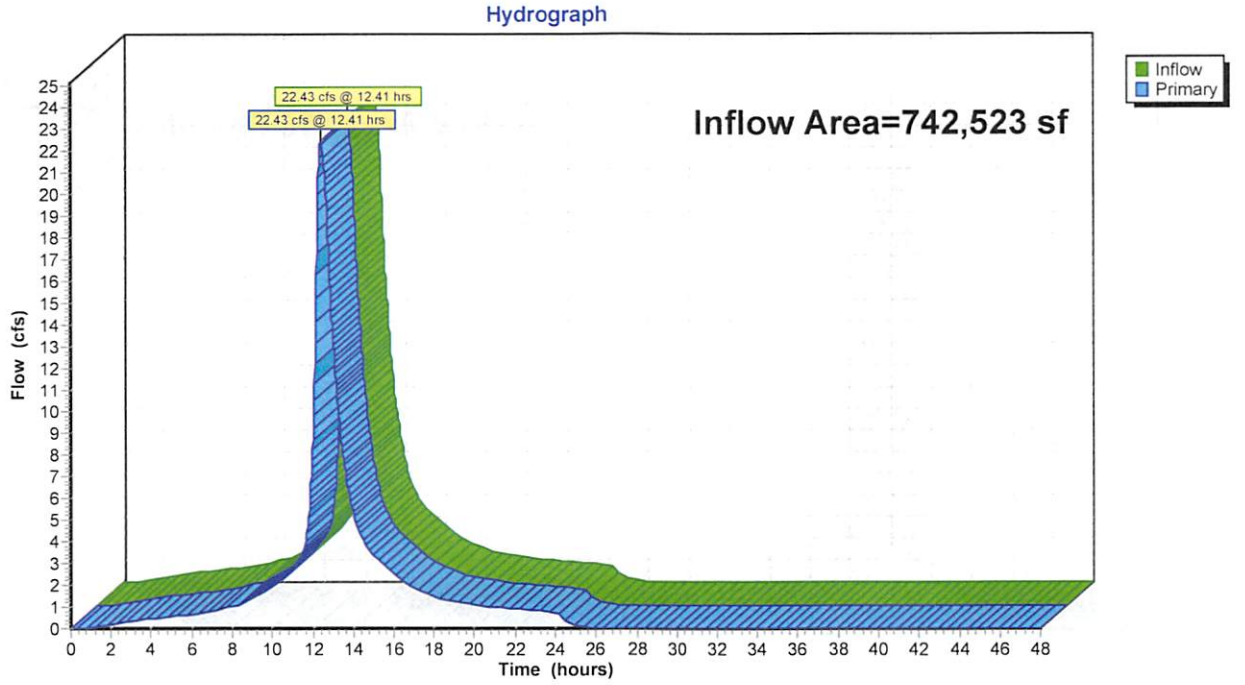


Summary for Link E-1: Existing Site Drainage Area

Inflow Area = 742,523 sf, 33.36% Impervious, Inflow Depth = 3.29" for 100YR Storm event
Inflow = 22.43 cfs @ 12.41 hrs, Volume= 203,808 cf
Primary = 22.43 cfs @ 12.41 hrs, Volume= 203,808 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-1: Existing Site Drainage Area

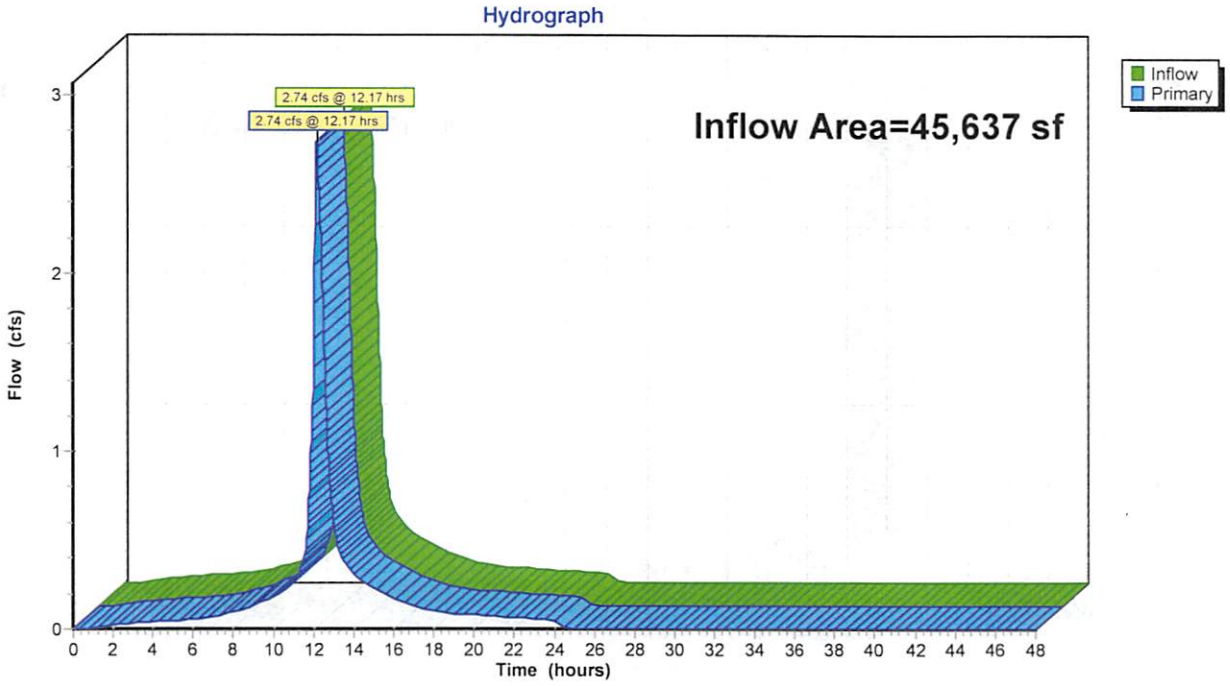


Summary for Link E-2: Existing Municipal Drainage Area

Inflow Area = 45,637 sf, 45.22% Impervious, Inflow Depth = 4.35" for 100YR Storm event
Inflow = 2.74 cfs @ 12.17 hrs, Volume= 16,537 cf
Primary = 2.74 cfs @ 12.17 hrs, Volume= 16,537 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link E-2: Existing Municipal Drainage Area

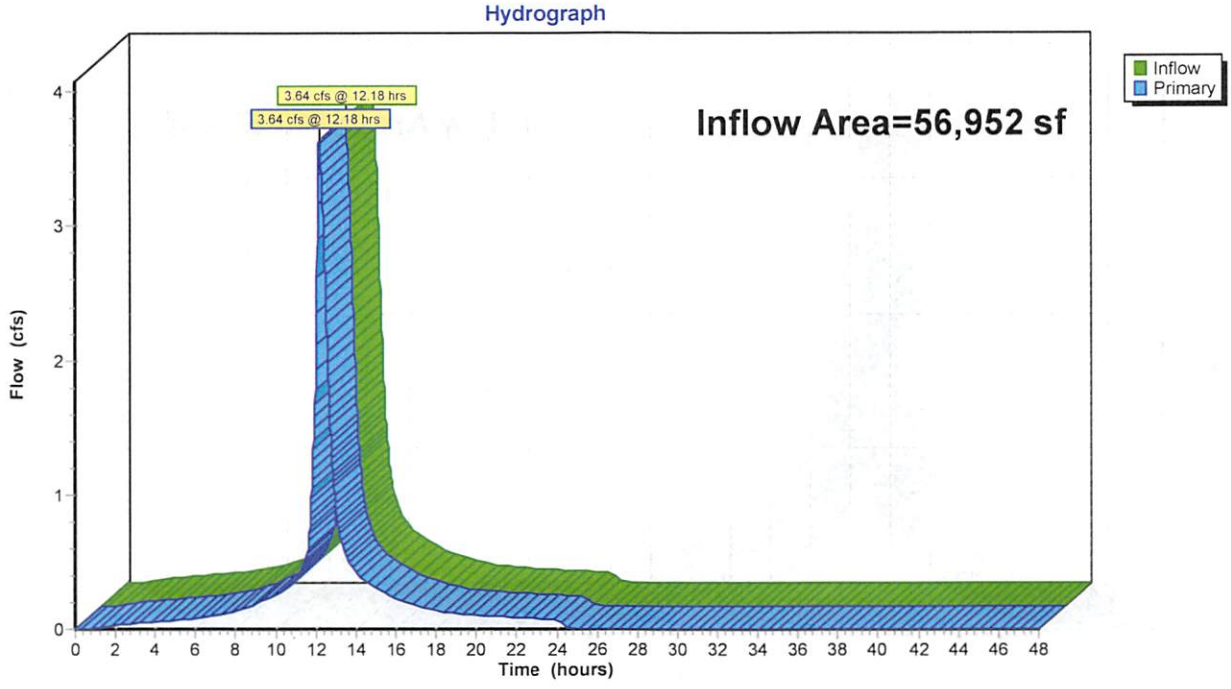


Summary for Link E-3: Existing DOT Drainage Area

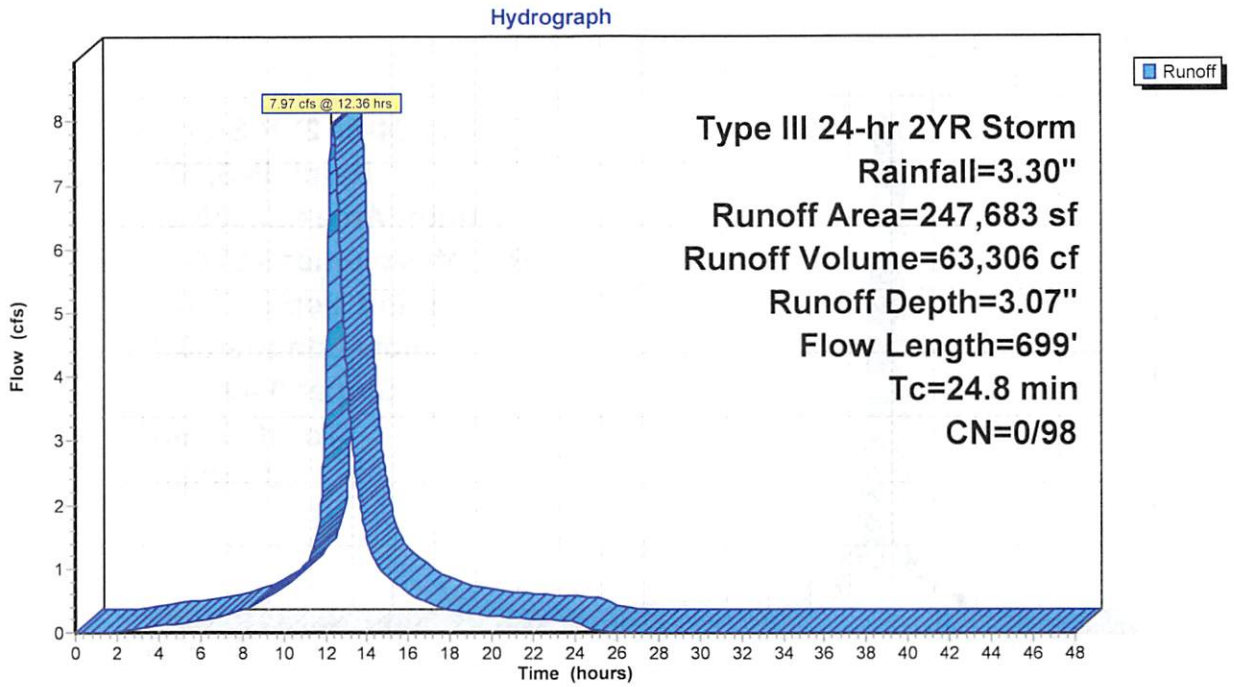
Inflow Area = 56,952 sf, 51.94% Impervious, Inflow Depth = 4.80" for 100YR Storm event
Inflow = 3.64 cfs @ 12.18 hrs, Volume= 22,799 cf
Primary = 3.64 cfs @ 12.18 hrs, Volume= 22,799 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

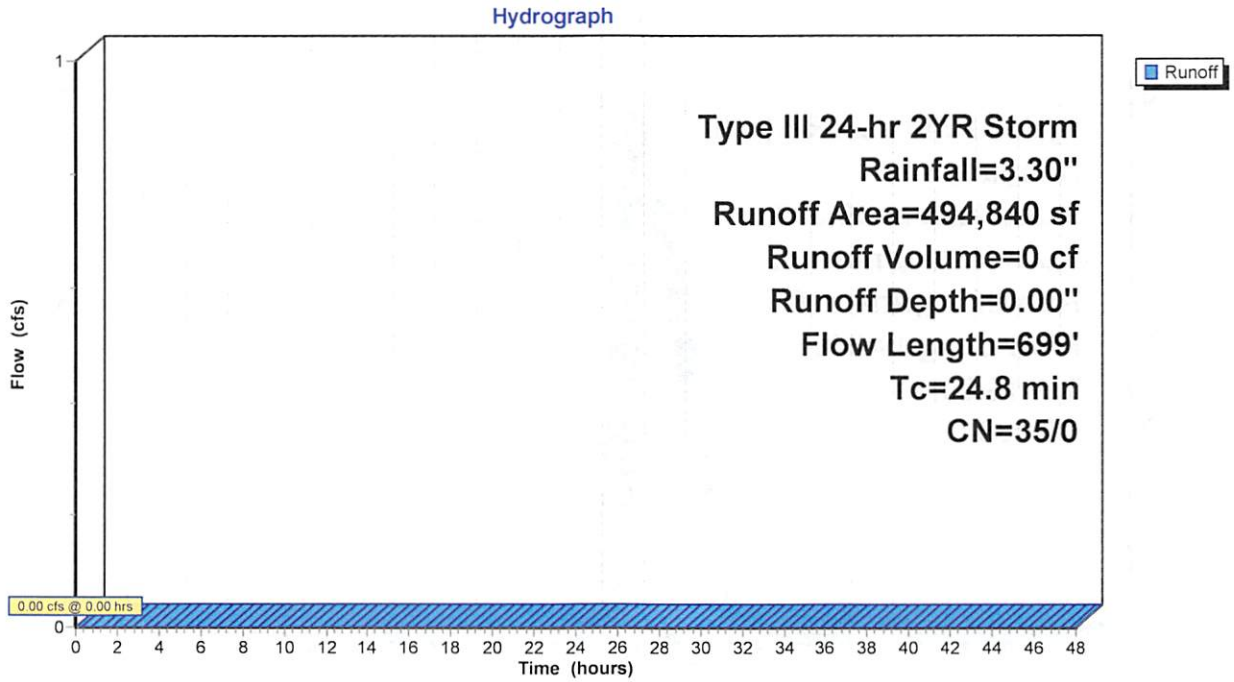
Link E-3: Existing DOT Drainage Area



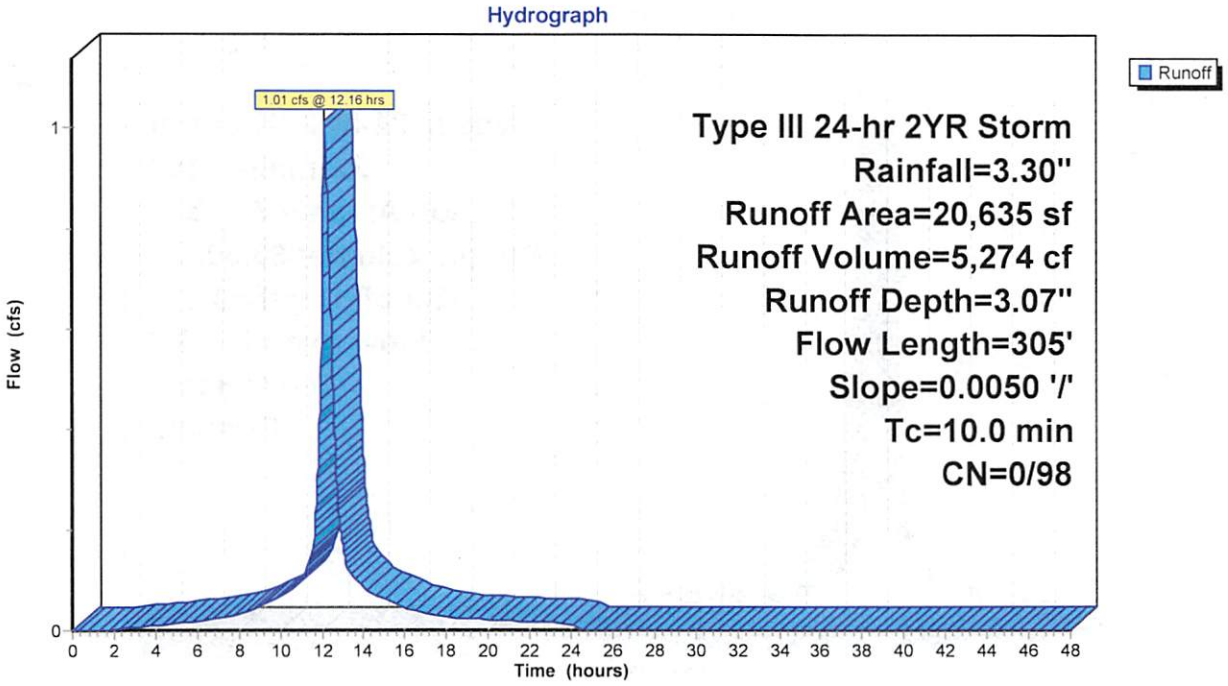
Subcatchment E-1-M: Existing Site Impervious Area



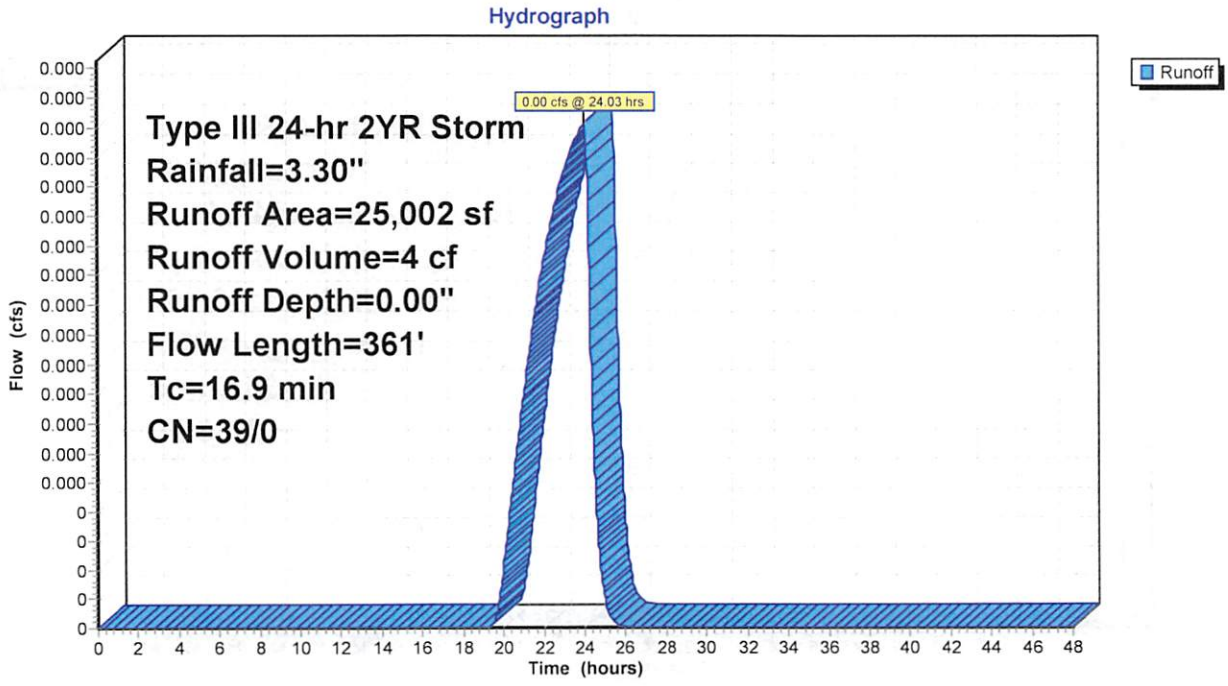
Subcatchment E-1-P: Existing Site Pervious Area



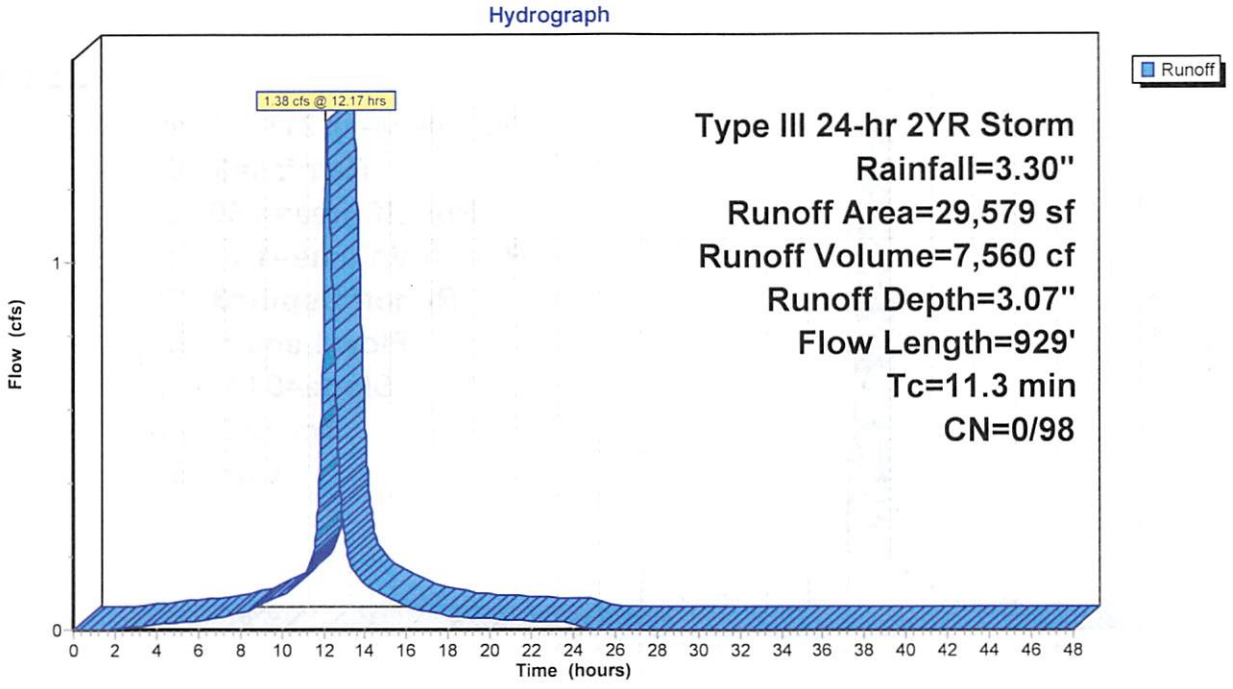
Subcatchment E-2-M: Existing Municipal Impervious Area



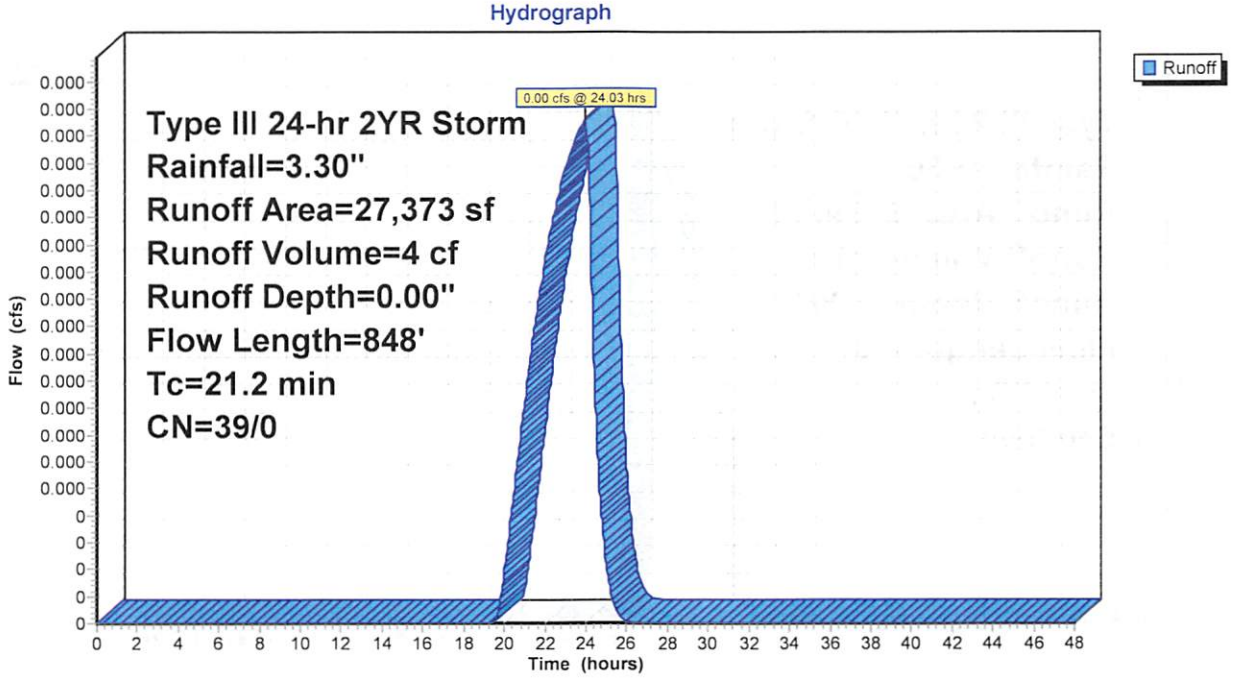
Subcatchment E-2-P: Existing Municipal Pervious Area



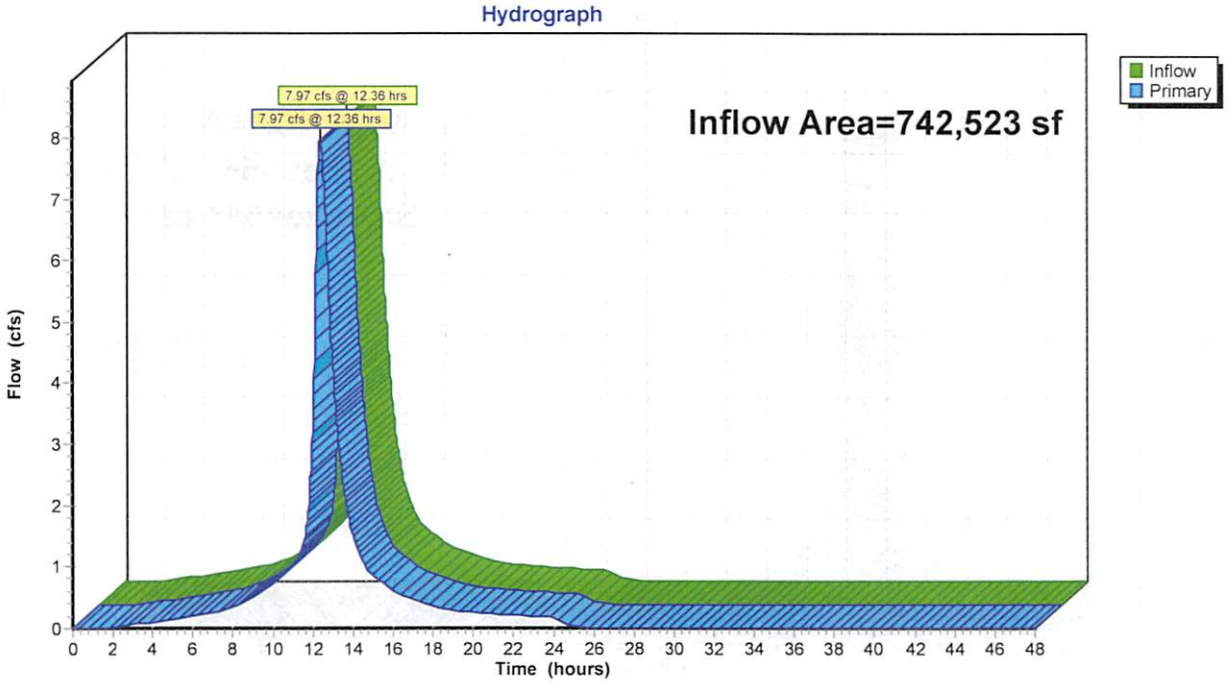
Subcatchment E-3-M: Existing DOT Impervious Drainage Area



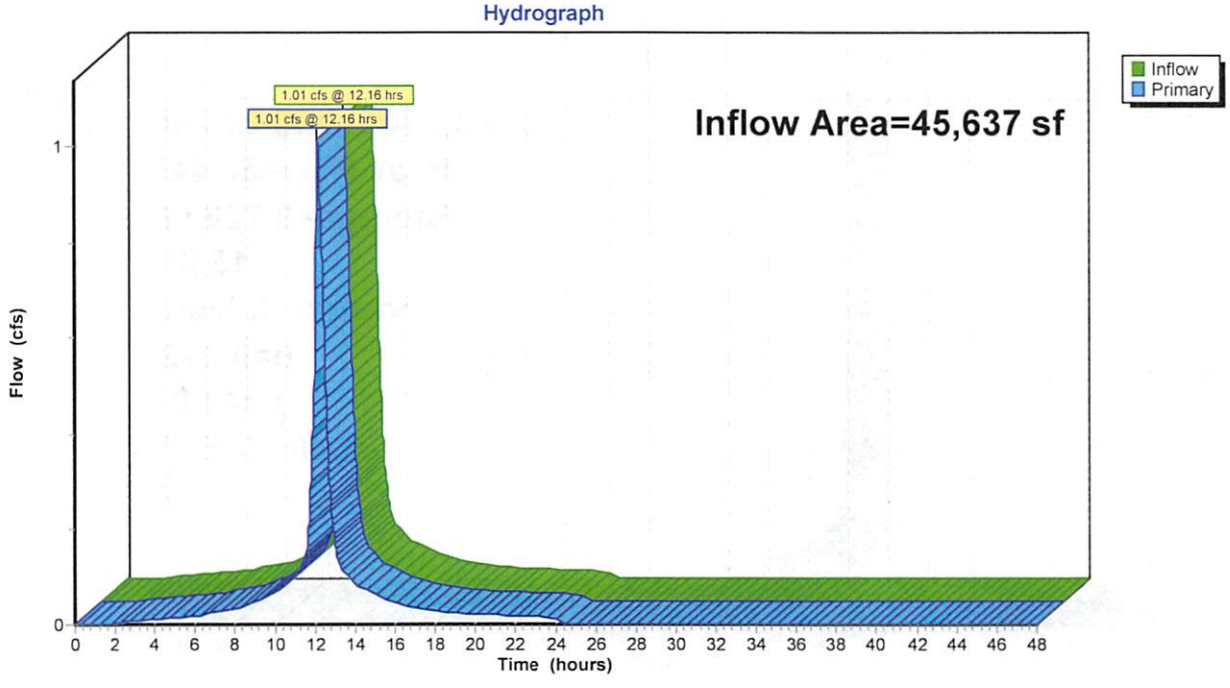
Subcatchment E-3-P: Existing DOT Pervious Drainage Area



Link E-1: Existing Site Drainage Area

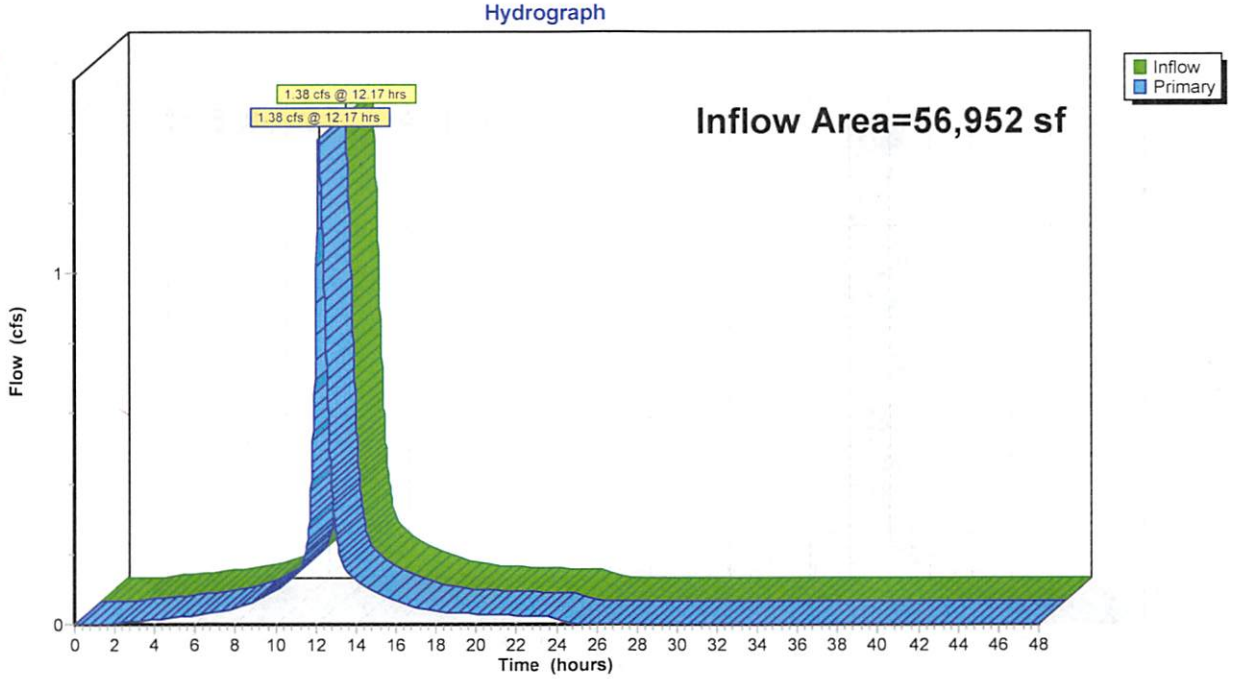


Link E-2: Existing Municipal Drainage Area



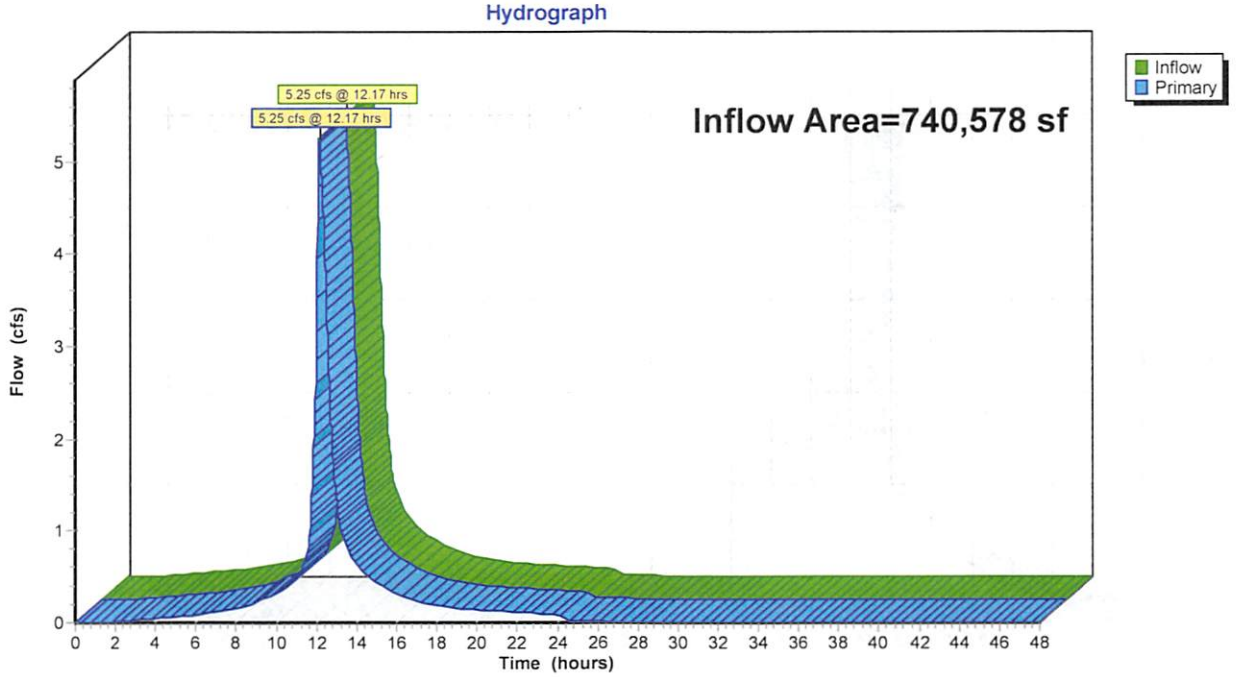
Link E-3: Existing DOT Drainage Area

Hydrograph

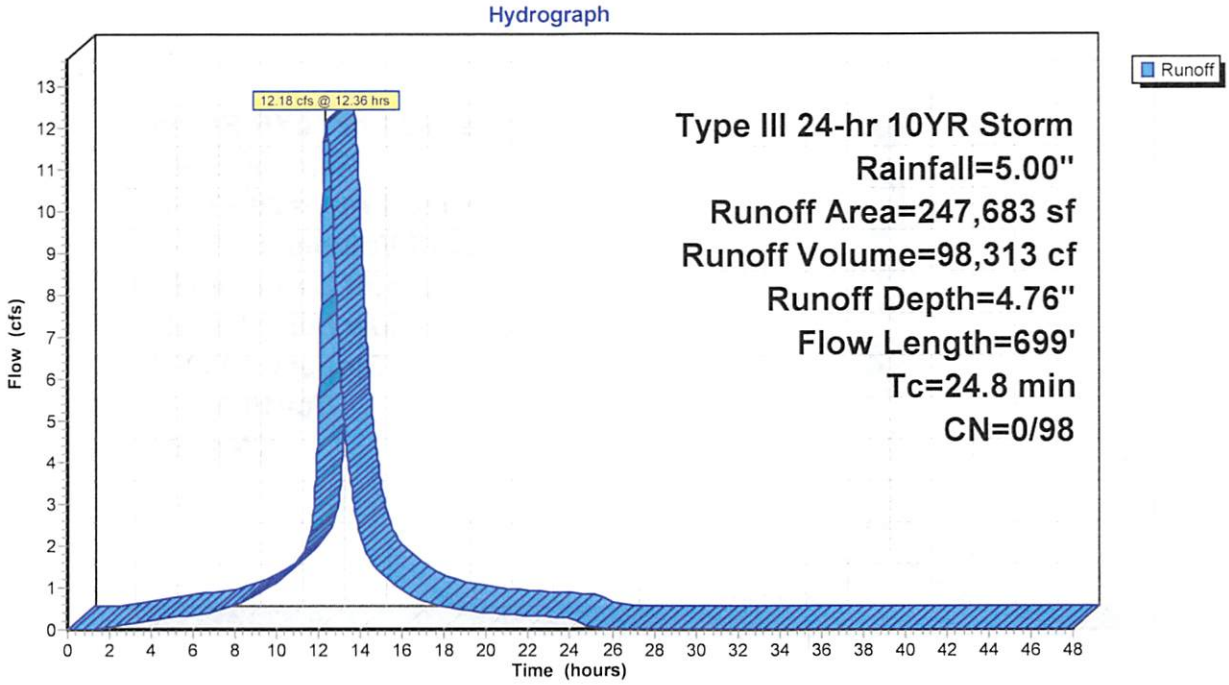


Link P-1: Proposed Site Drainage Area

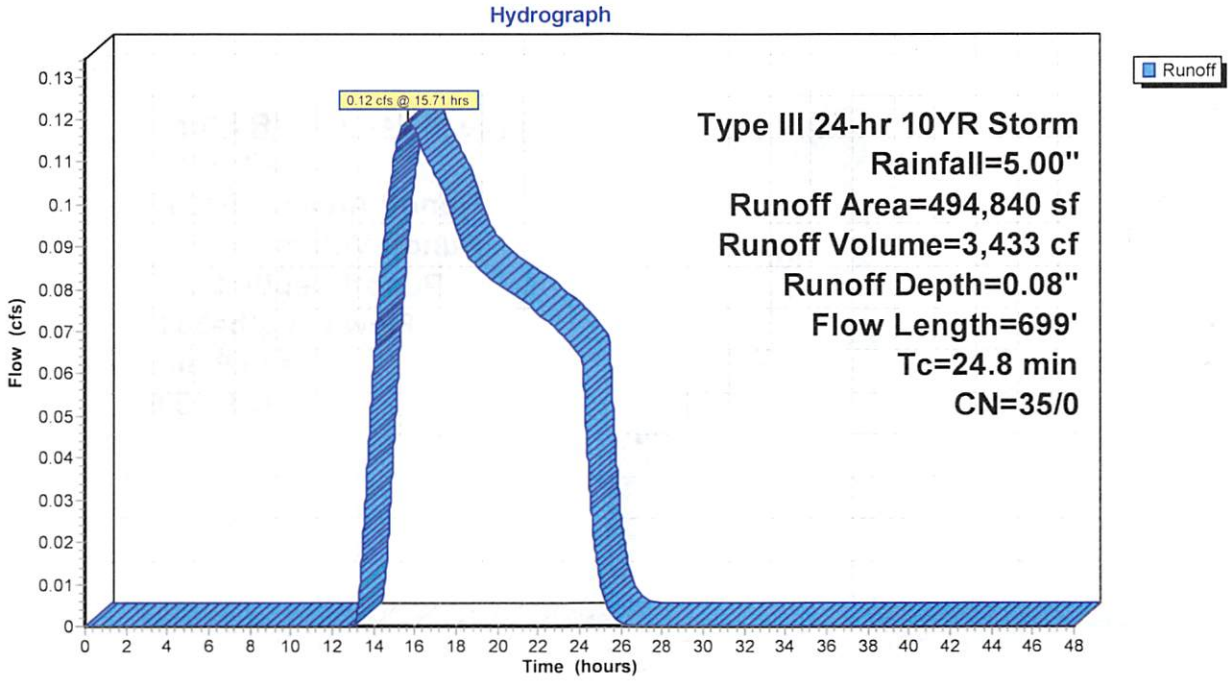
Hydrograph



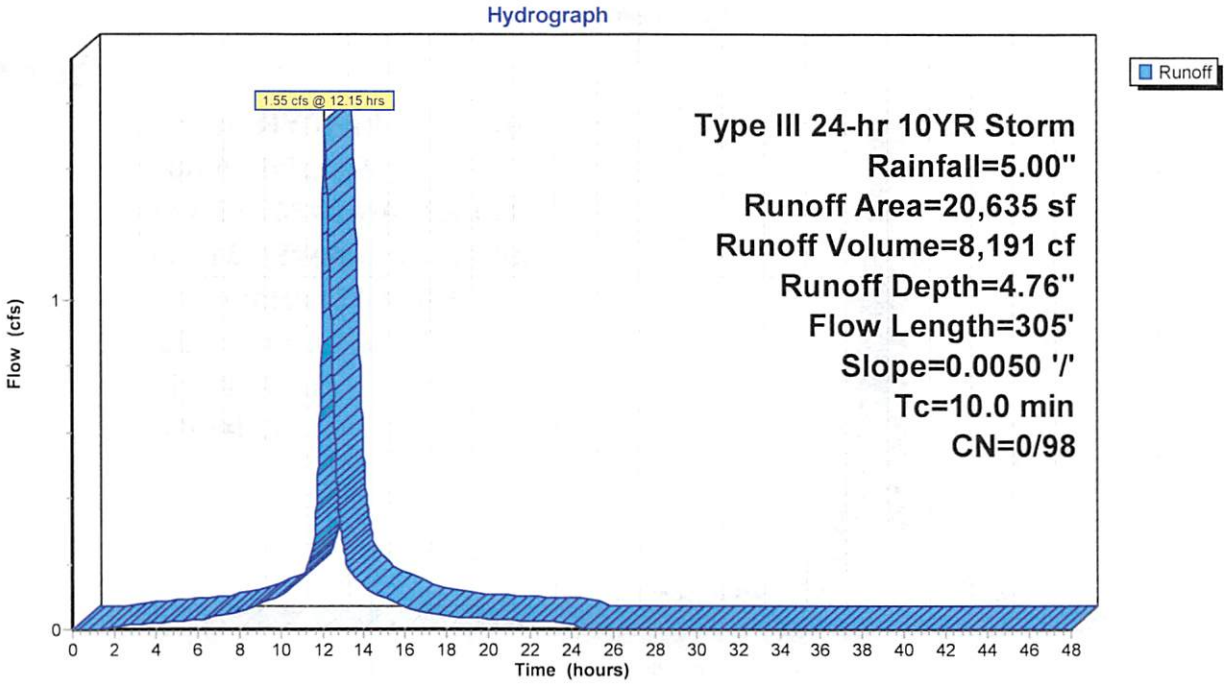
Subcatchment E-1-M: Existing Site Impervious Area



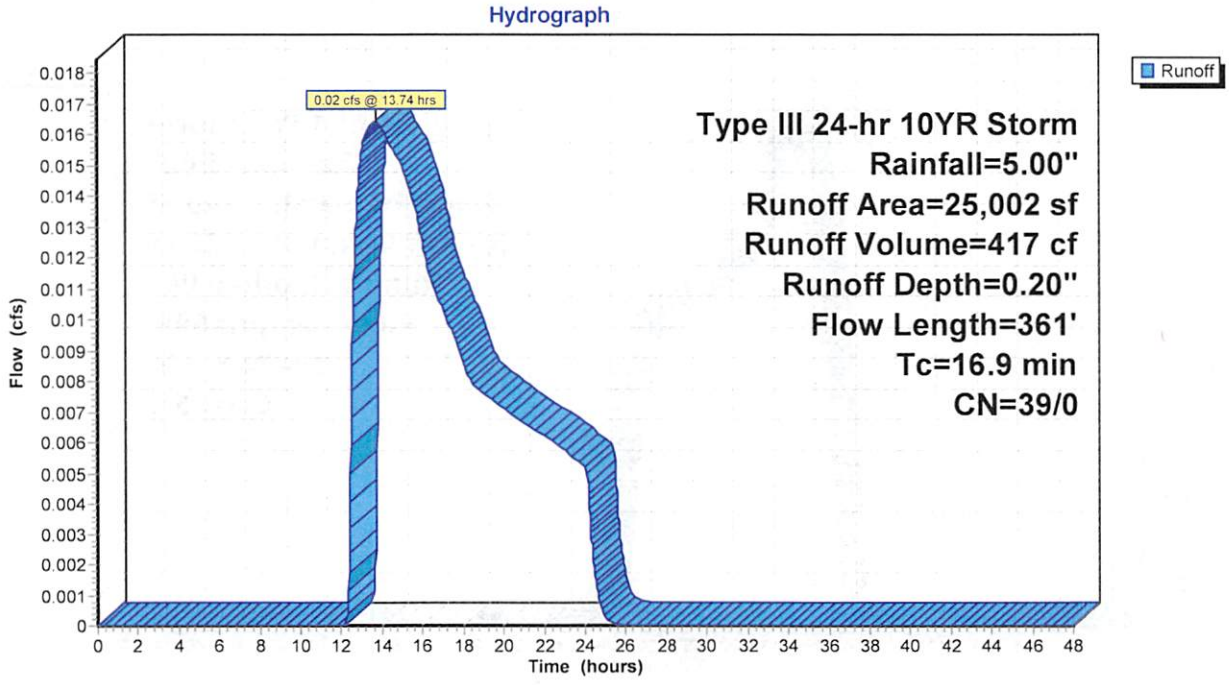
Subcatchment E-1-P: Existing Site Pervious Area



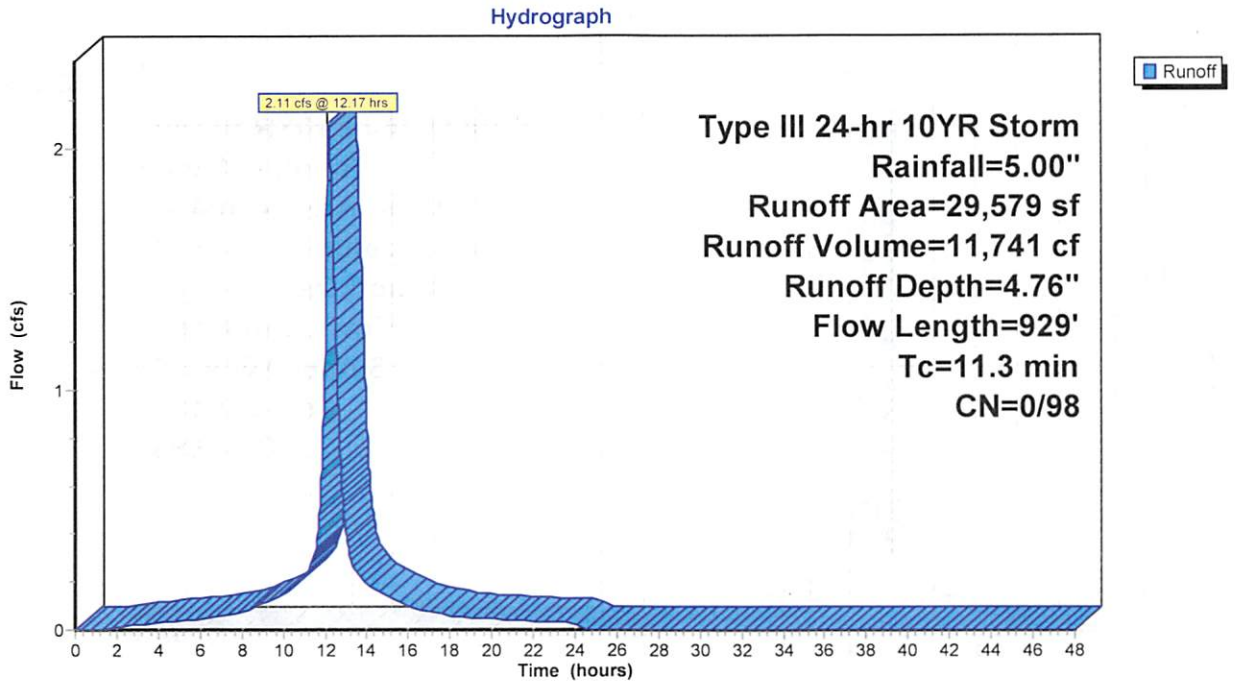
Subcatchment E-2-M: Existing Municipal Impervious Area



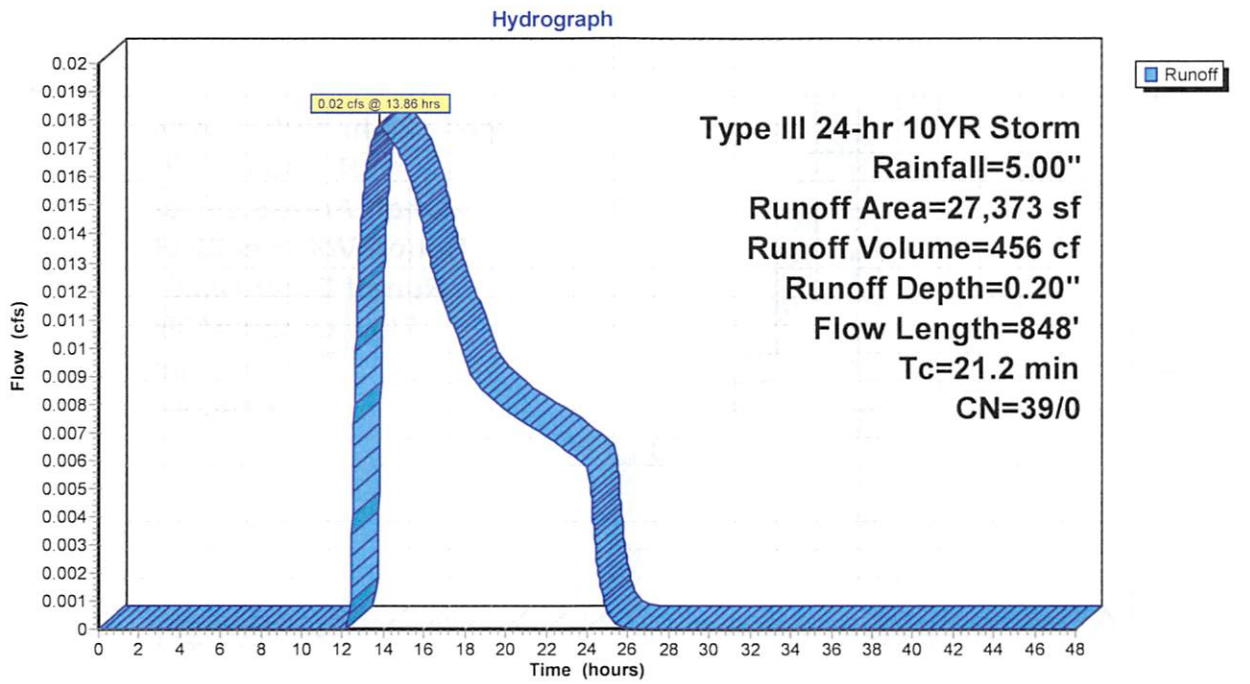
Subcatchment E-2-P: Existing Municipal Pervious Area



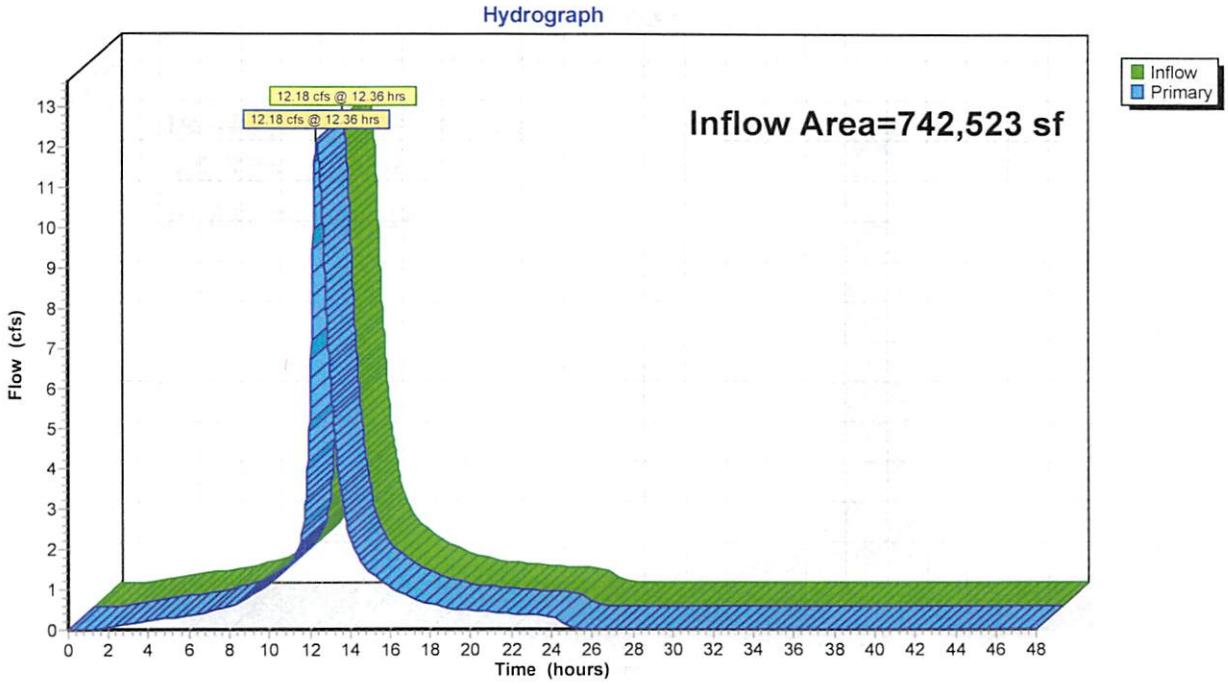
Subcatchment E-3-M: Existing DOT Impervious Drainage Area



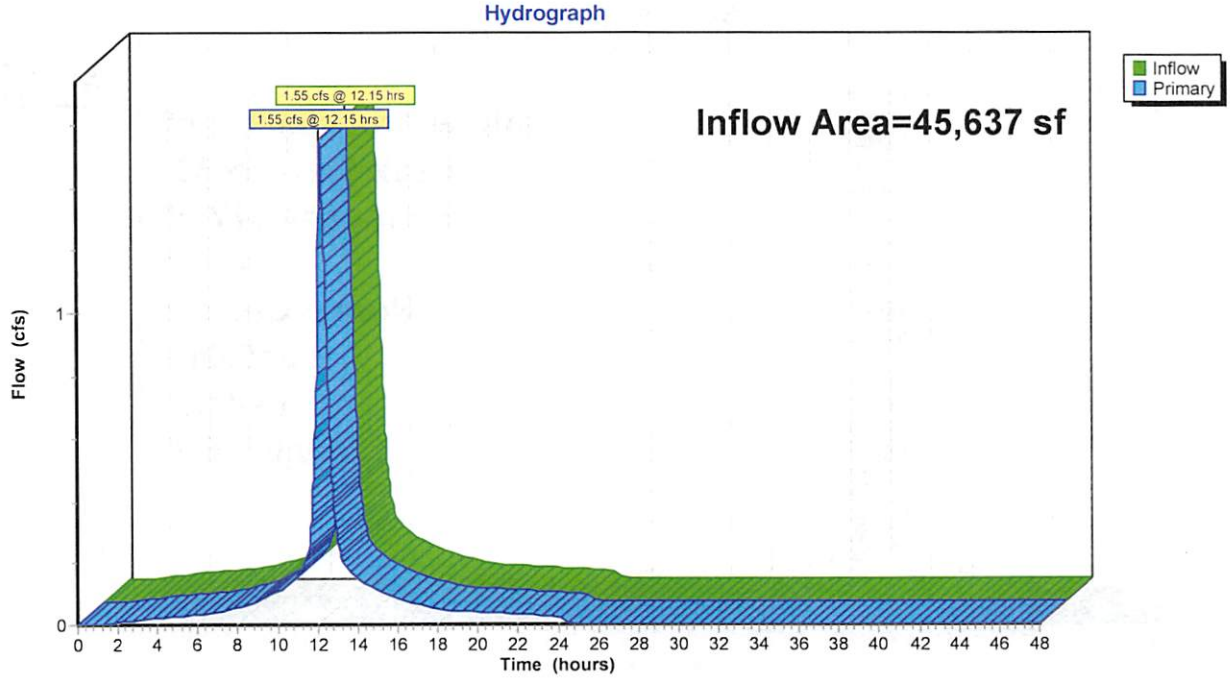
Subcatchment E-3-P: Existing DOT Pervious Drainage Area



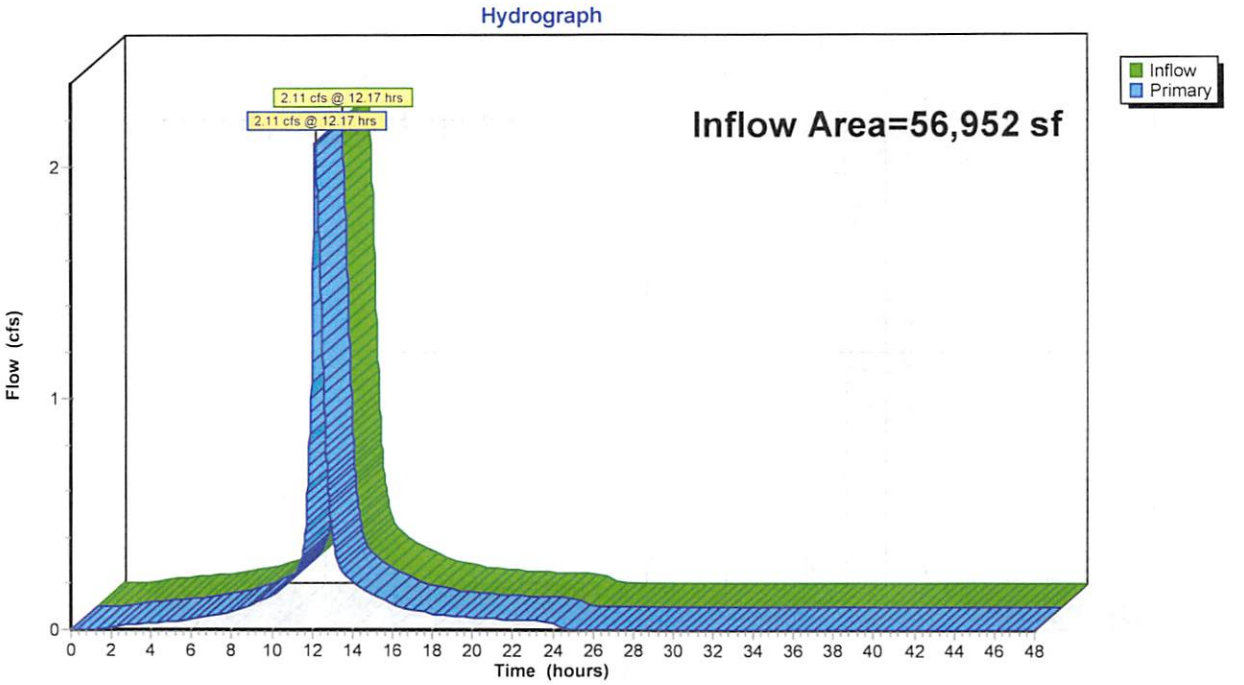
Link E-1: Existing Site Drainage Area



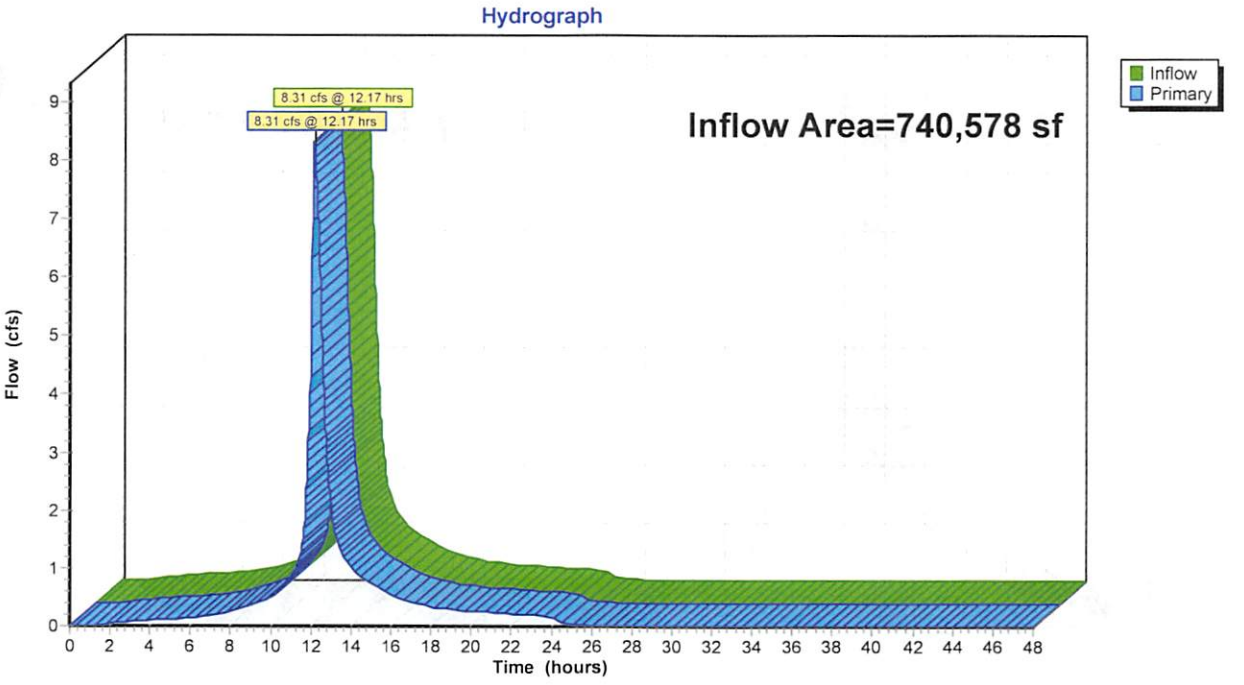
Link E-2: Existing Municipal Drainage Area



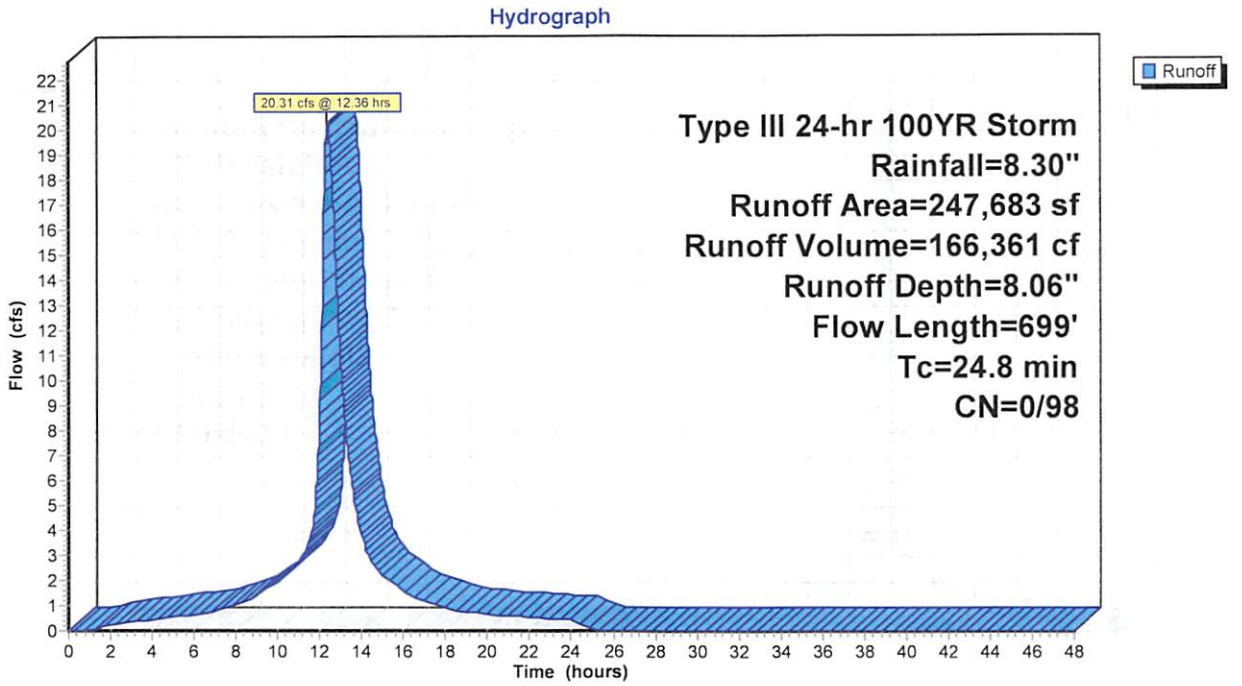
Link E-3: Existing DOT Drainage Area



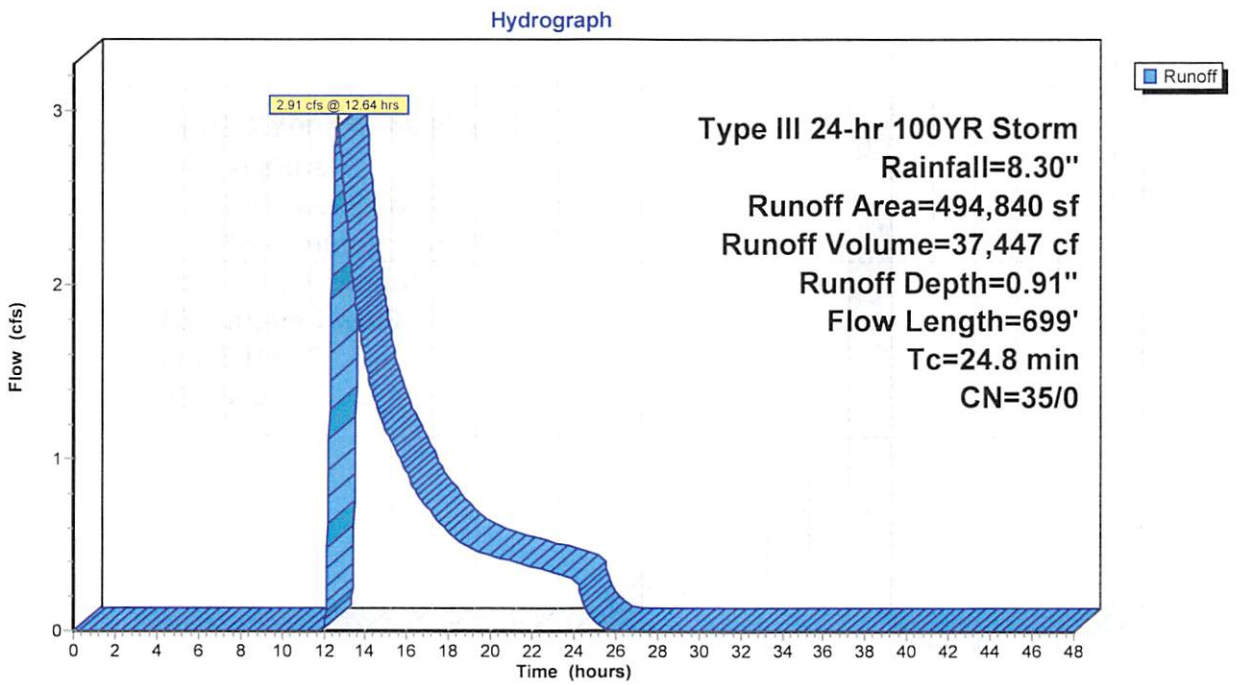
Link P-1: Proposed Site Drainage Area



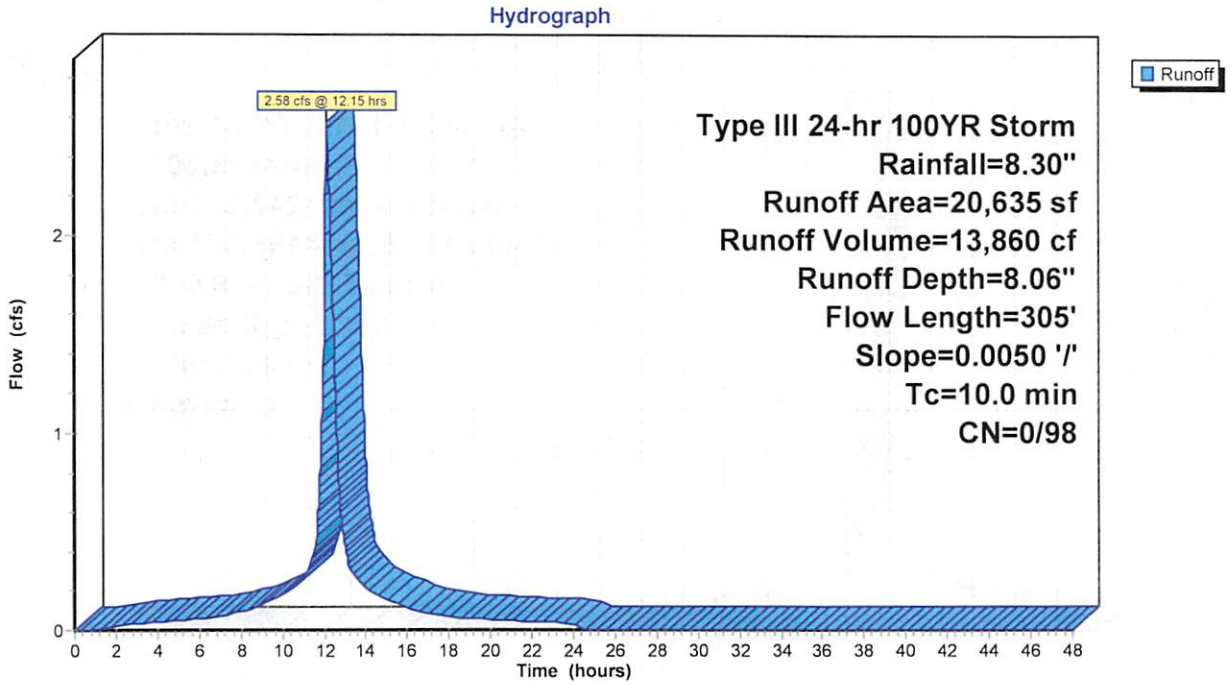
Subcatchment E-1-M: Existing Site Impervious Area



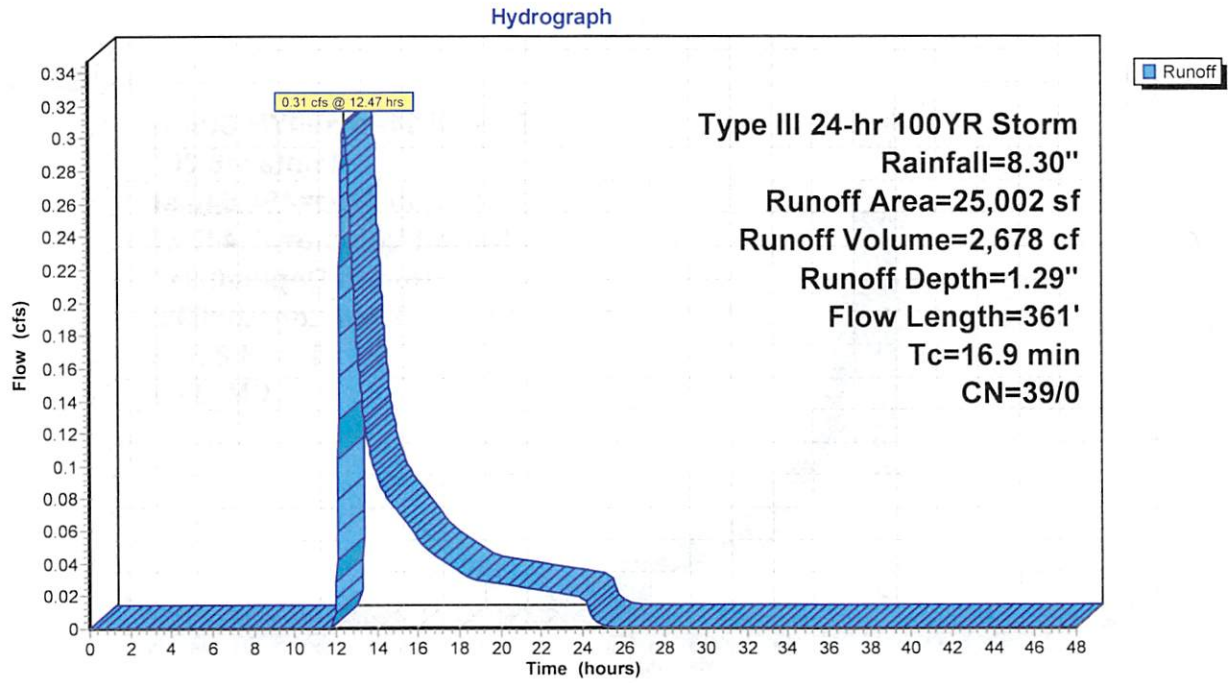
Subcatchment E-1-P: Existing Site Pervious Area



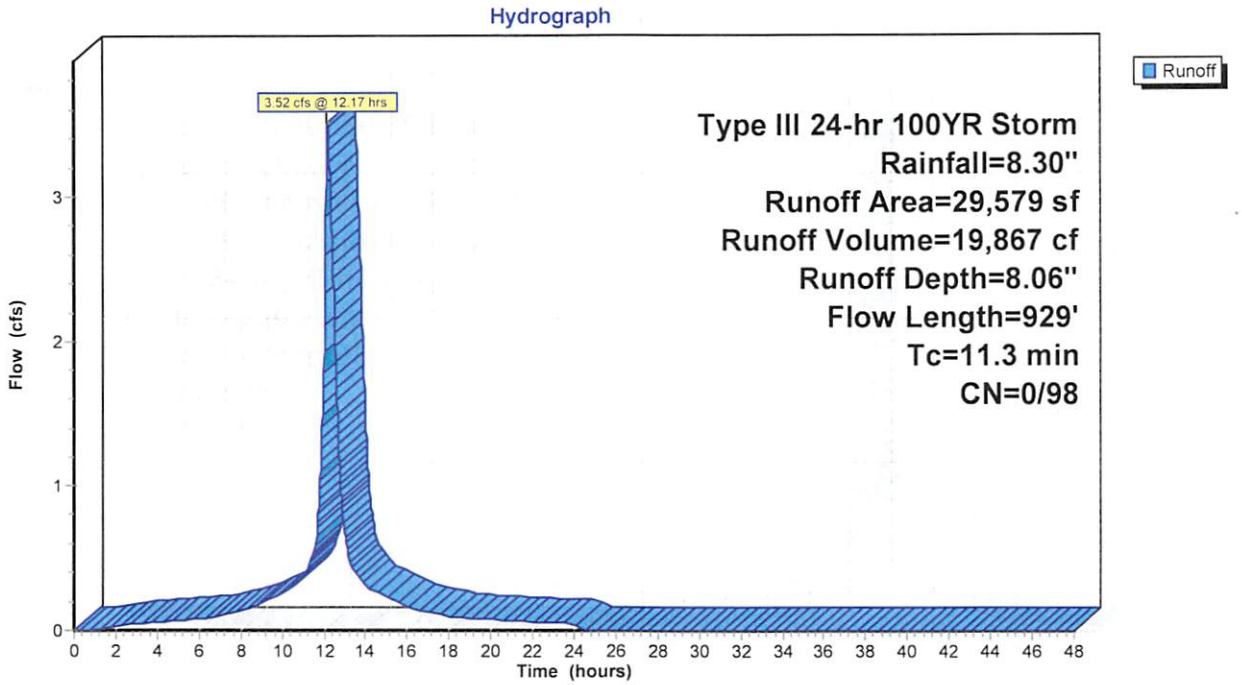
Subcatchment E-2-M: Existing Municipal Impervious Area



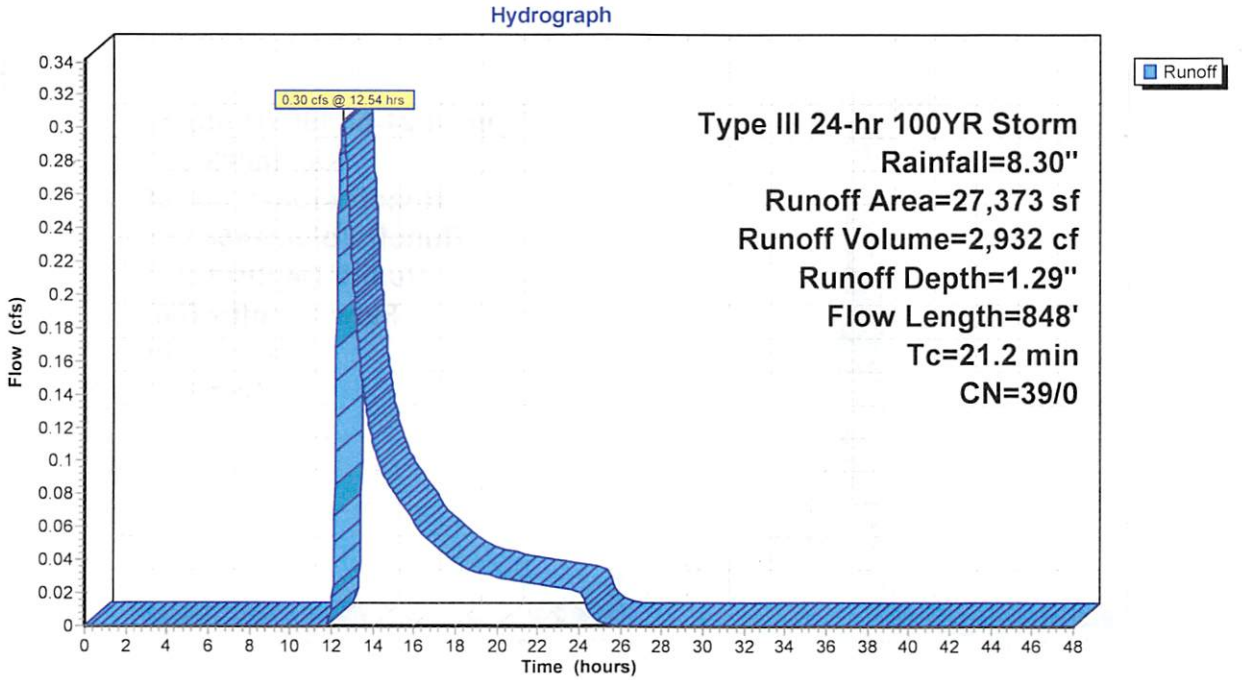
Subcatchment E-2-P: Existing Municipal Pervious Area



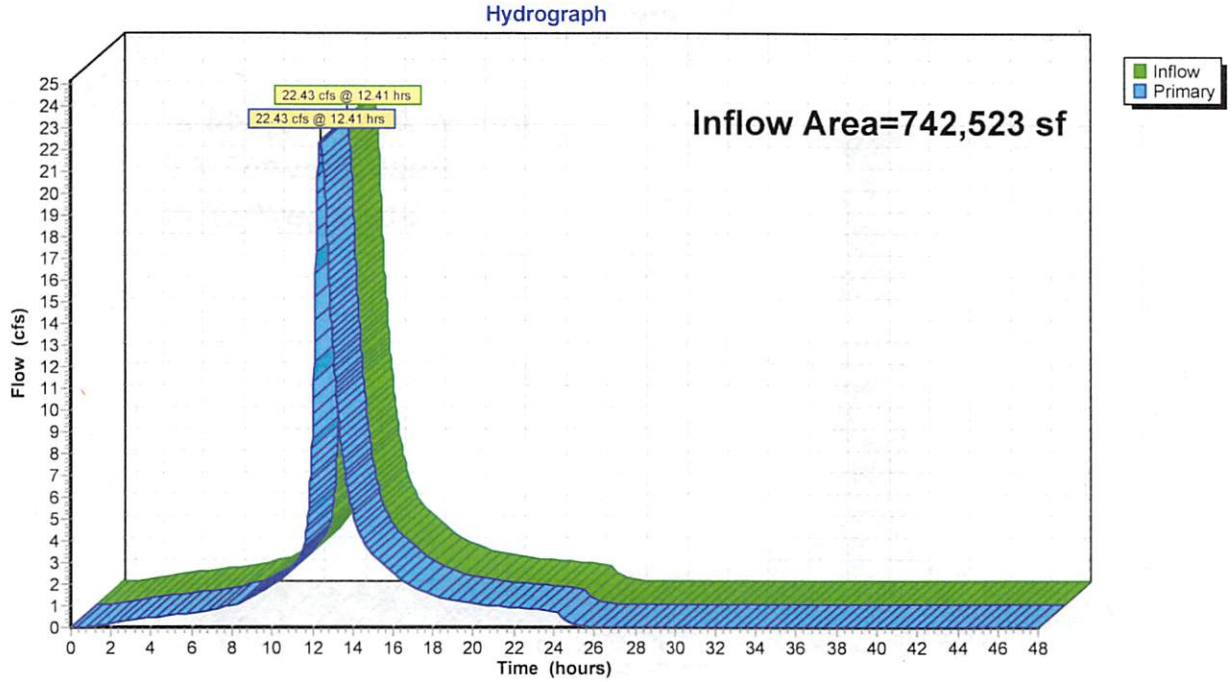
Subcatchment E-3-M: Existing DOT Impervious Drainage Area



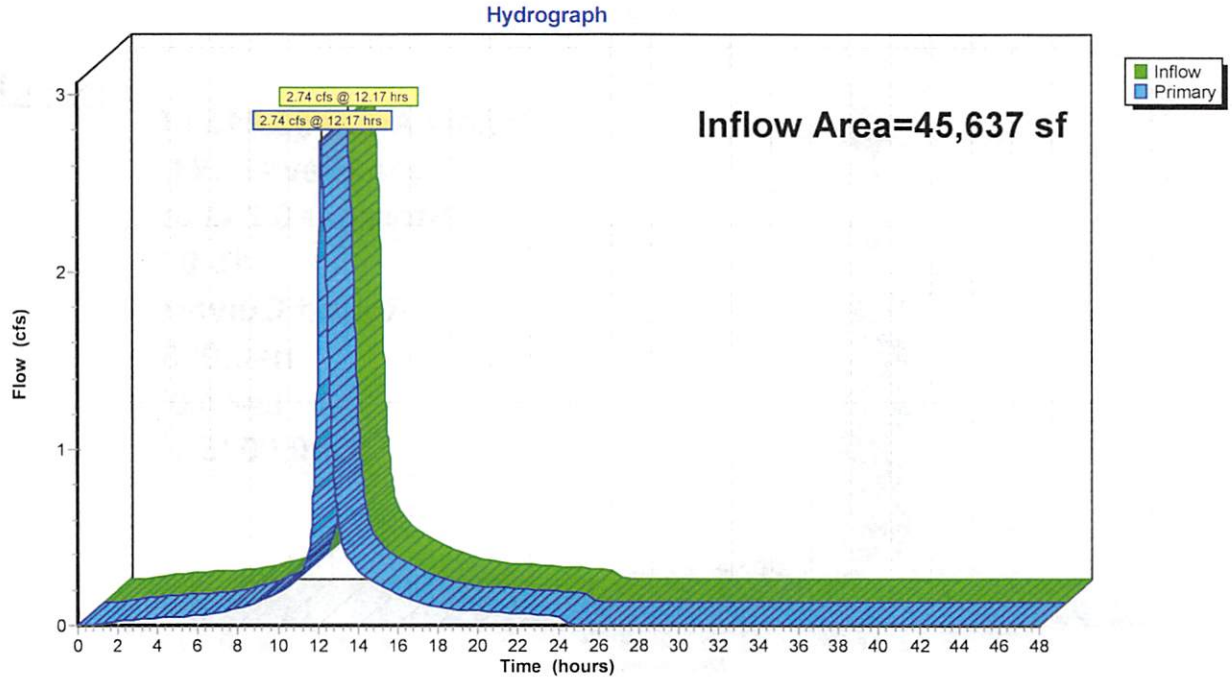
Subcatchment E-3-P: Existing DOT Pervious Drainage Area



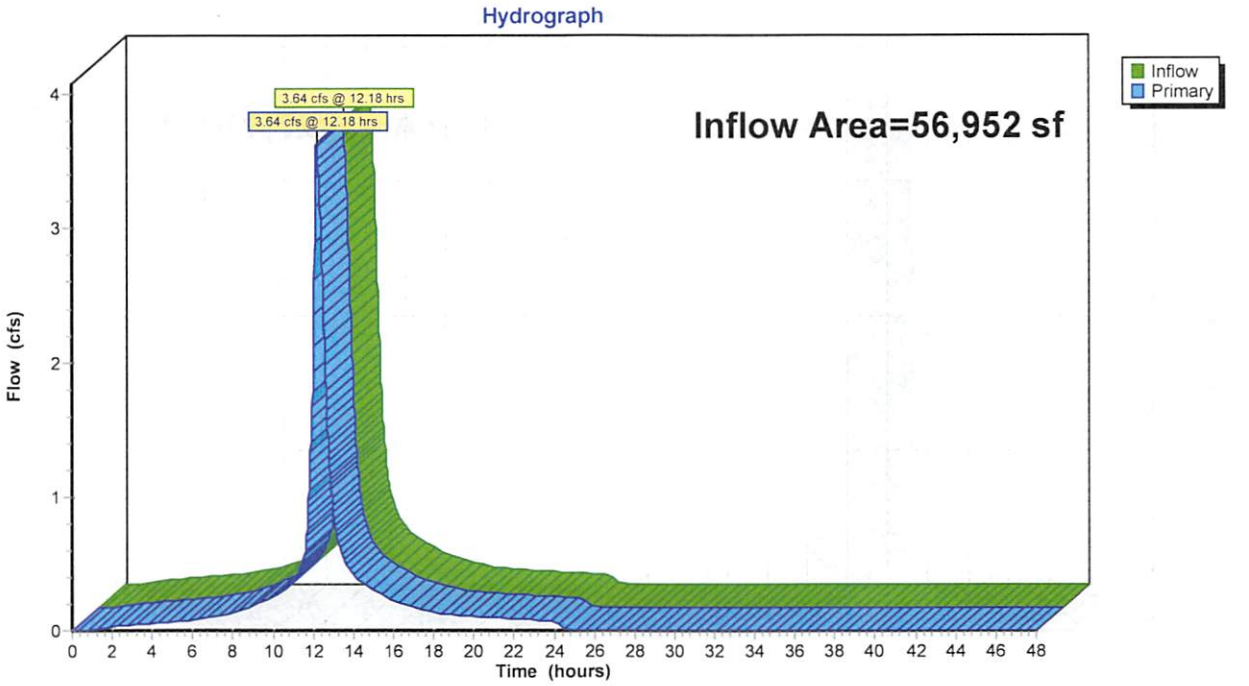
Link E-1: Existing Site Drainage Area



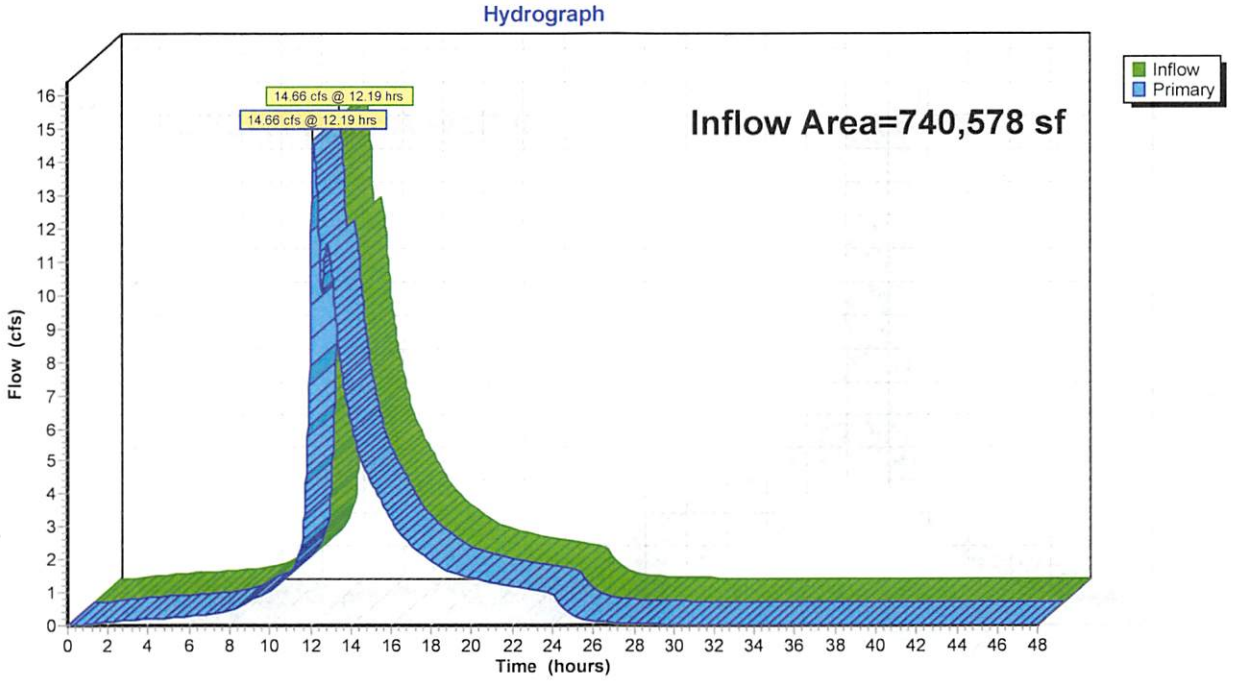
Link E-2: Existing Municipal Drainage Area



Link E-3: Existing DOT Drainage Area

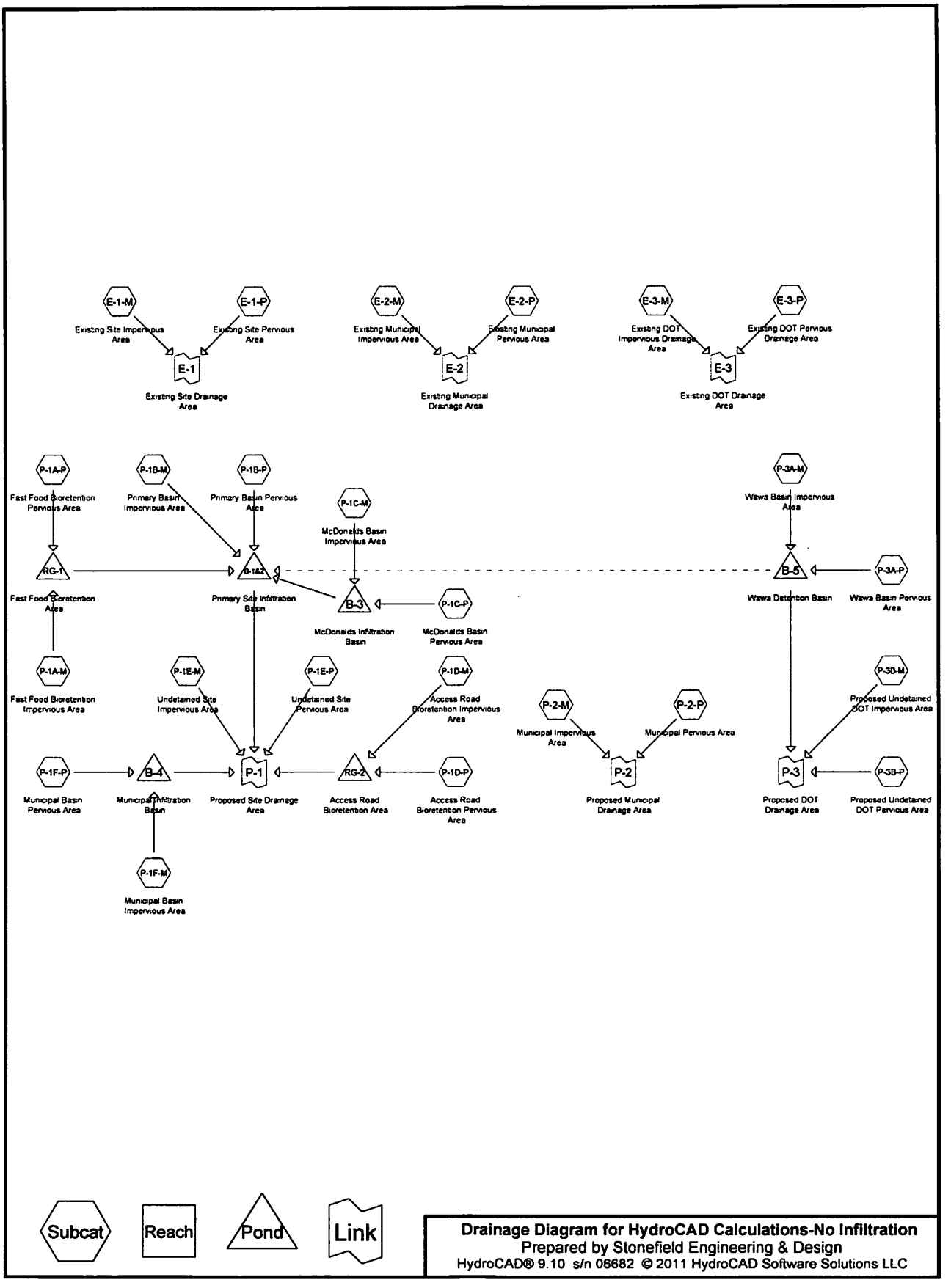


Link P-1: Proposed Site Drainage Area



APPENDIX D

STONEFIELD STORMWATER MANAGEMENT REPORT, DATED DECEMBER 30, 2011, LAST REVISED MARCH 11, 2023
TR-20 CALCULATIONS
POST-DEVELOPMENT CONDITIONS



Drainage Diagram for HydroCAD Calculations-No Infiltration
Prepared by Stonefield Engineering & Design

Summary for Subcatchment P-1A-M: Fast Food Bioretention Impervious Area

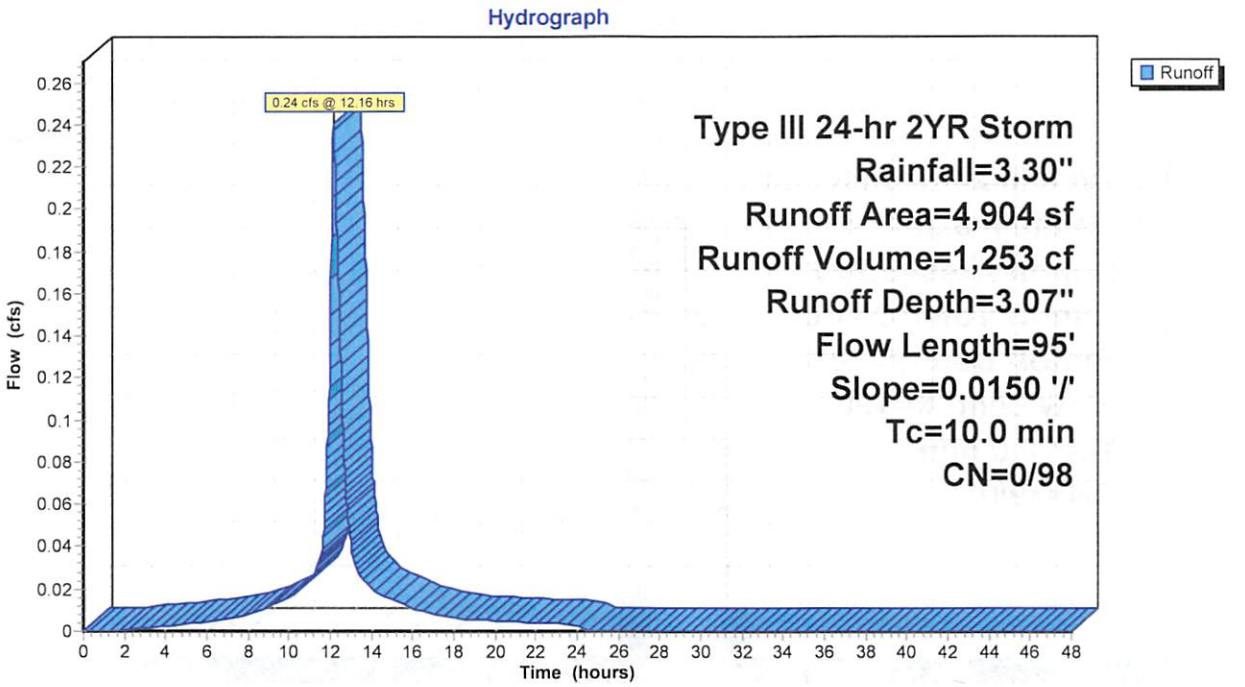
Runoff = 0.24 cfs @ 12.16 hrs, Volume= 1,253 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	4,904	98	Impervious Surfaces
	4,904	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	95	0.0150	2.49		**Shallow Concentrated Flow, Segment 3-4** Paved Kv= 20.3 fps
0.6	95	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1A-M: Fast Food Bioretention Impervious Area



Summary for Subcatchment P-1A-P: Fast Food Bioretention Pervious Area

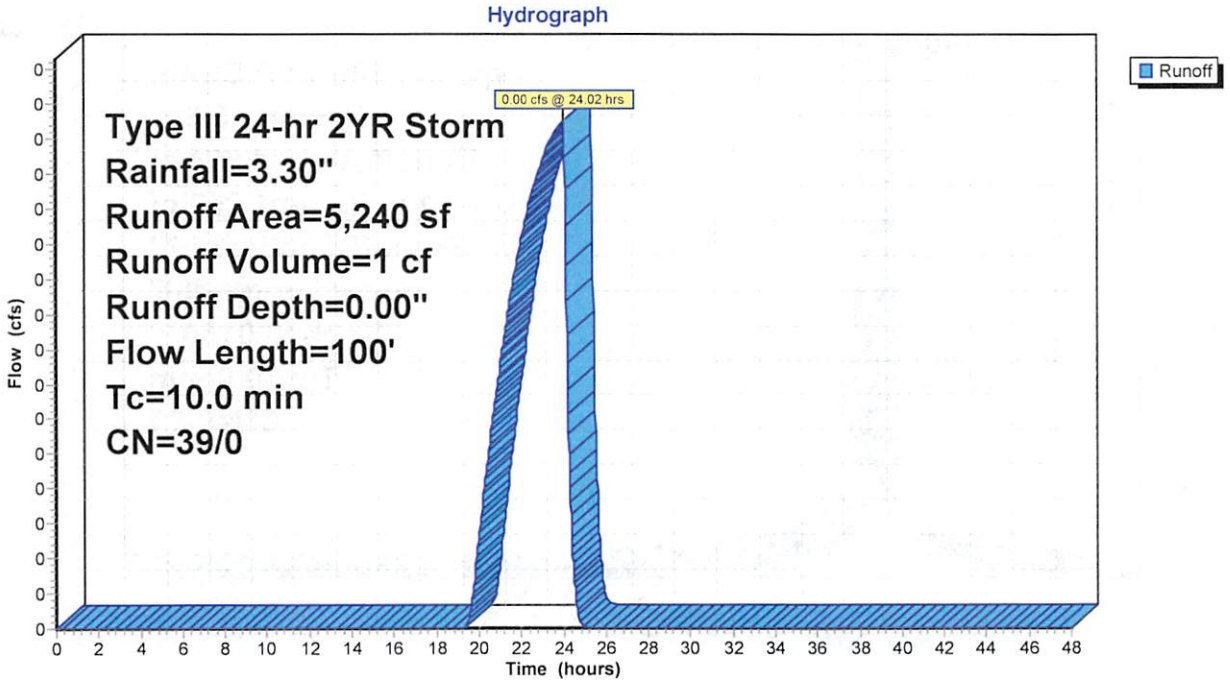
Runoff = 0.00 cfs @ 24.02 hrs, Volume= 1 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
5,240	39	>75% Grass cover, Good, HSG A
5,240	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	26	0.0100	0.06		**Sheet Flow, Segment 1-2** Grass: Dense n= 0.240 P2= 2.50"
0.5	74	0.0133	2.34		**Shallow Concentrated Flow, Segment 2-4** Paved Kv= 20.3 fps
7.8	100	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1A-P: Fast Food Bioretention Pervious Area



Summary for Subcatchment P-1B-M: Primary Basin Impervious Area

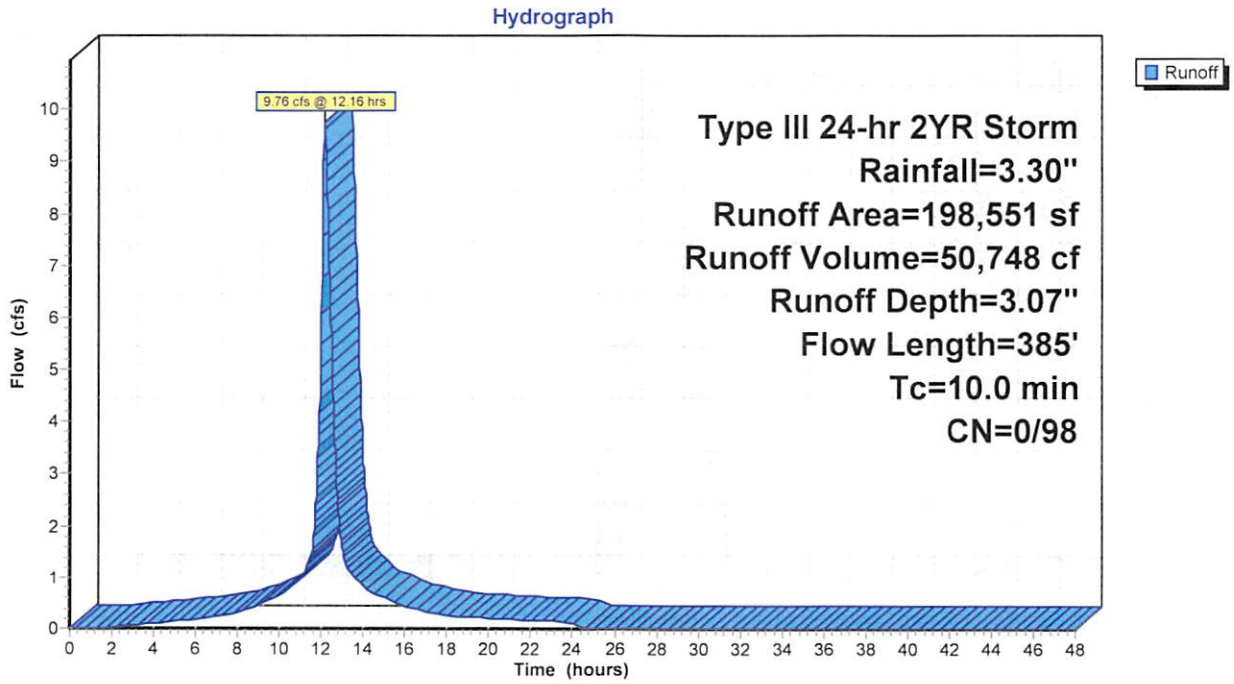
Runoff = 9.76 cfs @ 12.16 hrs, Volume= 50,748 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	191,198	98	Impervious Areas
*	7,353	98	Impervious Areas (Fuel Canopy)
	198,551	98	Weighted Average
	198,551	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	100	0.0075	0.82		**Sheet Flow, Segment 9-10** Smooth surfaces n= 0.011 P2= 2.50"
1.4	150	0.0075	1.76		**Shallow Concentrated Flow, Segment 10-11** Paved Kv= 20.3 fps
0.6	135	0.0050	3.72	4.57	**Pipe Channel, Segment 11-12** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
4.0	385	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1B-M: Primary Basin Impervious Area



Summary for Subcatchment P-1B-P: Primary Basin Pervious Area

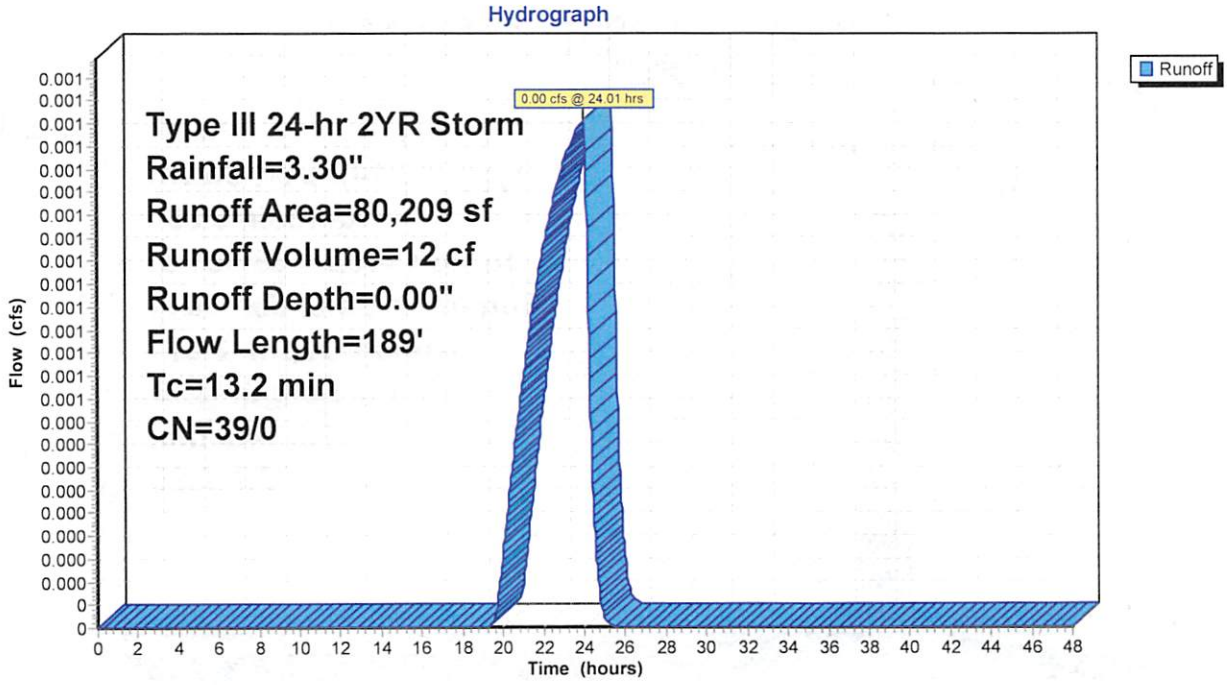
Runoff = 0.00 cfs @ 24.01 hrs, Volume= 12 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
80,209	39	>75% Grass cover, Good, HSG A
80,209	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	52	0.0100	0.07		**Sheet Flow, Segment 5-6** Grass: Dense n= 0.240 P2= 2.50"
0.3	35	0.0125	2.27		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
0.3	102	0.0050	5.09	16.00	**Pipe Channel, Segment 7-8** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections
13.2	189	Total			

Subcatchment P-1B-P: Primary Basin Pervious Area



Summary for Subcatchment P-1C-M: McDonalds Basin Impervious Area

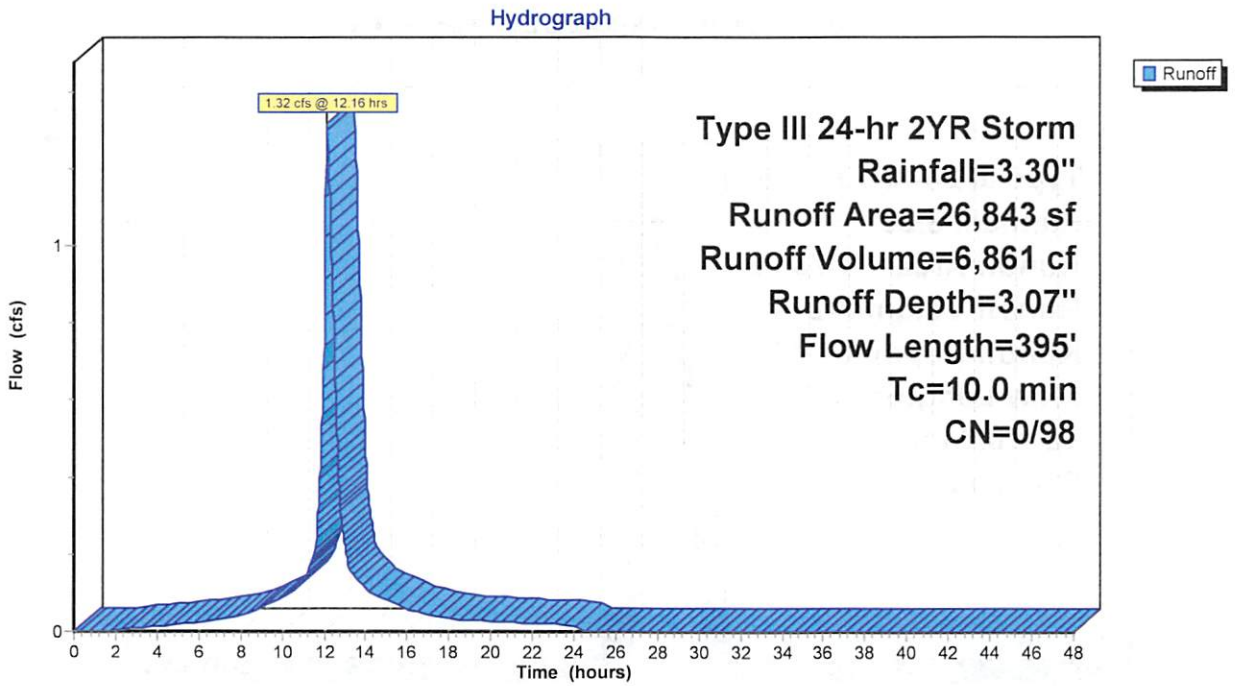
Runoff = 1.32 cfs @ 12.16 hrs, Volume= 6,861 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	26,843	98	Impervious Surfaces
	26,843	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0200	1.10		**Sheet Flow, Segment 14-15** Smooth surfaces n= 0.011 P2= 2.50"
1.9	335	0.0030	2.88	3.54	**Pipe Channel, Segment 15-16** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
2.8	395	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1C-M: McDonalds Basin Impervious Area



Summary for Subcatchment P-1C-P: McDonalds Basin Pervious Area

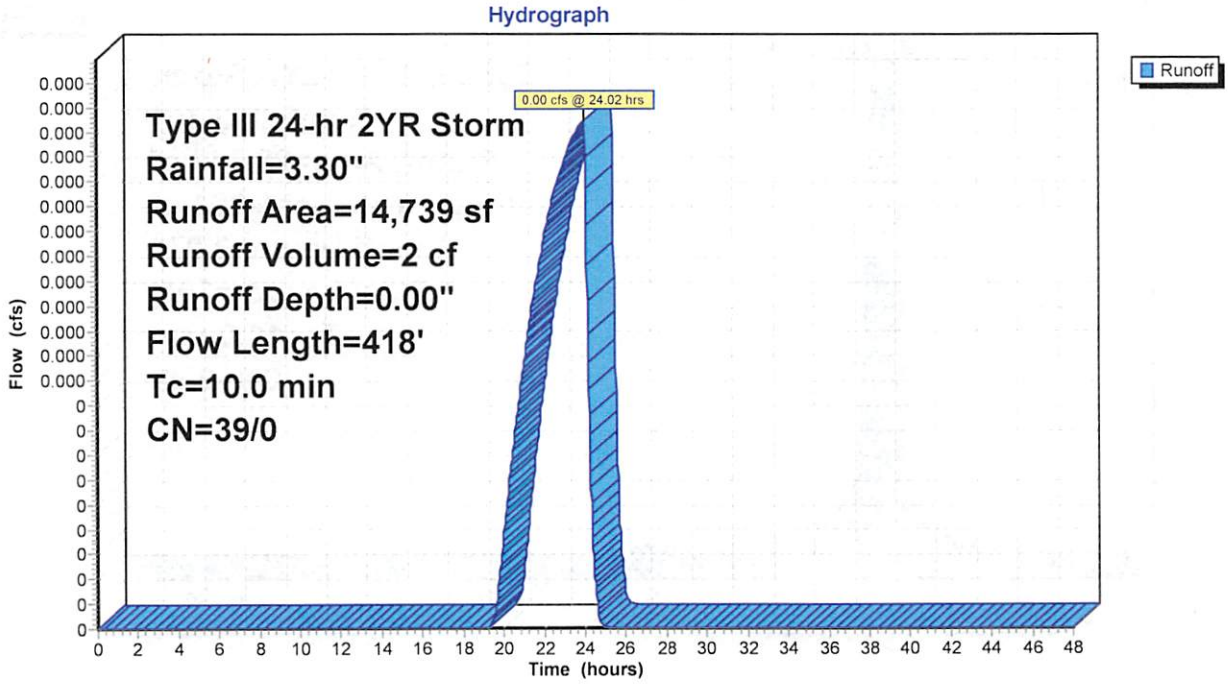
Runoff = 0.00 cfs @ 24.02 hrs, Volume= 2 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
14,739	39	>75% Grass cover, Good, HSG A
14,739	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	23	0.0100	0.06		**Sheet Flow, Segment 13-14** Grass: Dense n= 0.240 P2= 2.50"
0.3	60	0.0200	2.87		**Shallow Concentrated Flow, Segment 14-15** Paved Kv= 20.3 fps
1.9	335	0.0030	2.88	3.54	**Pipe Channel, Segment 15-16** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
8.8	418	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1C-P: McDonalds Basin Pervious Area



Summary for Subcatchment P-1D-M: Access Road Bioretention Impervious Area

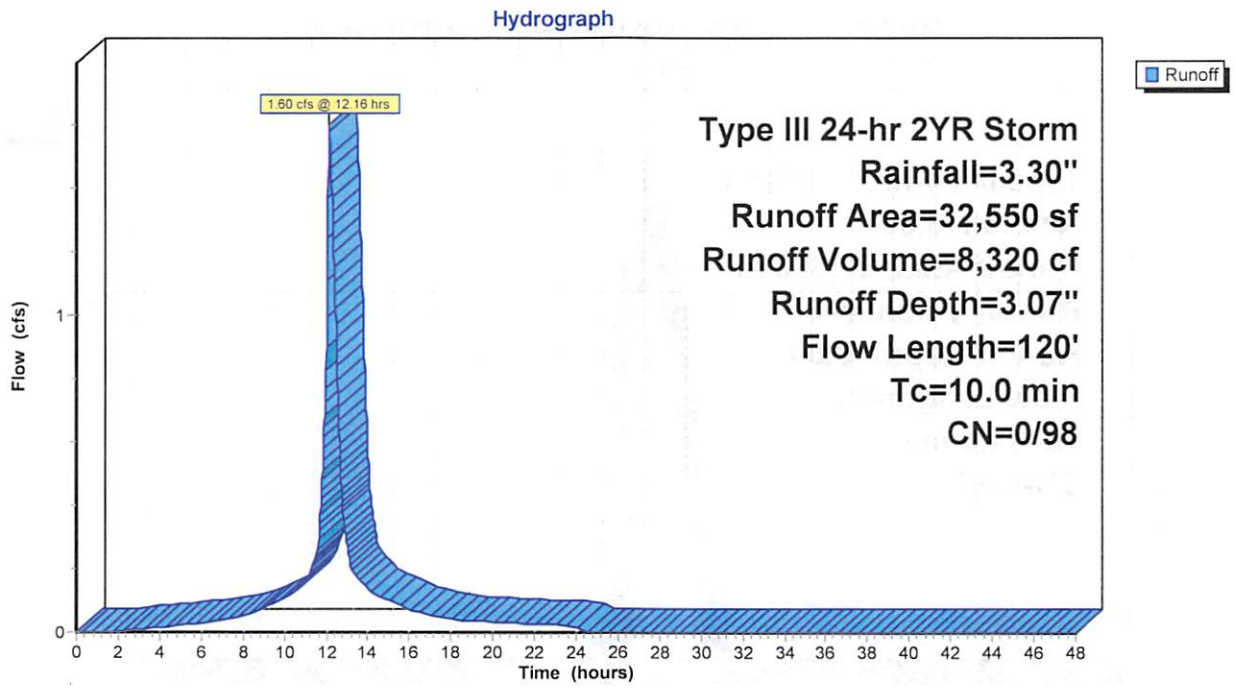
Runoff = 1.60 cfs @ 12.16 hrs, Volume= 8,320 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	2,127	98	Impervious Surfaces
*	30,423	98	Impervious Surfaces (Offsite)
	32,550	98	Weighted Average
	32,550	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0133	1.03		**Sheet Flow, Segment 18-19** Smooth surfaces n= 0.011 P2= 2.50"
0.2	20	0.0150	1.84		**Shallow Concentrated Flow, Segment 19-20** Grassed Waterway Kv= 15.0 fps
1.8	120	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1D-M: Access Road Bioretention Impervious Area



Summary for Subcatchment P-1D-P: Access Road Bioretention Pervious Area

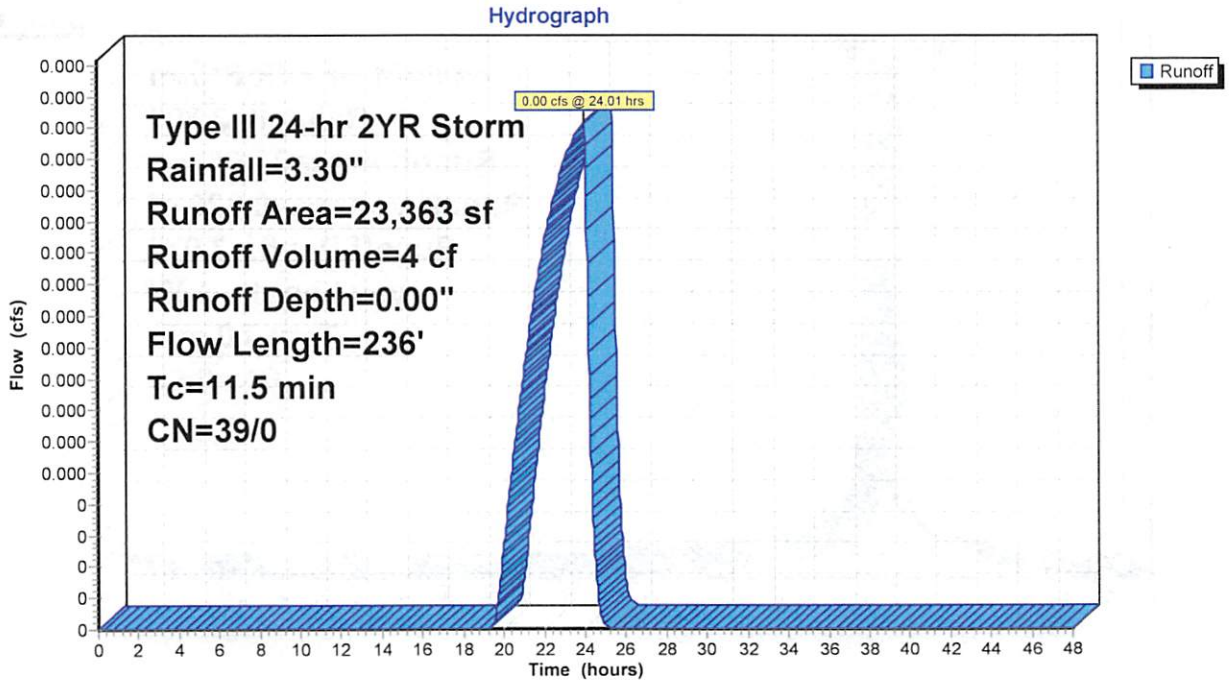
Runoff = 0.00 cfs @ 24.01 hrs, Volume= 4 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
	13,523	39	>75% Grass cover, Good, HSG A
*	9,840	39	>75% Grass cover, Good, HSG A (Offsite)
	23,363	39	Weighted Average
	23,363	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	39	0.0100	0.06		**Sheet Flow, Segment 17-18** Grass: Dense n= 0.240 P2= 2.50"
1.3	177	0.0133	2.34		**Shallow Concentrated Flow, Segment 18-19** Paved Kv= 20.3 fps
0.2	20	0.0100	1.50		**Shallow Concentrated Flow, Segment 19-20** Grassed Waterway Kv= 15.0 fps
11.5	236	Total			

Subcatchment P-1D-P: Access Road Bioretention Pervious Area



Summary for Subcatchment P-1E-M: Undetained Site Impervious Area

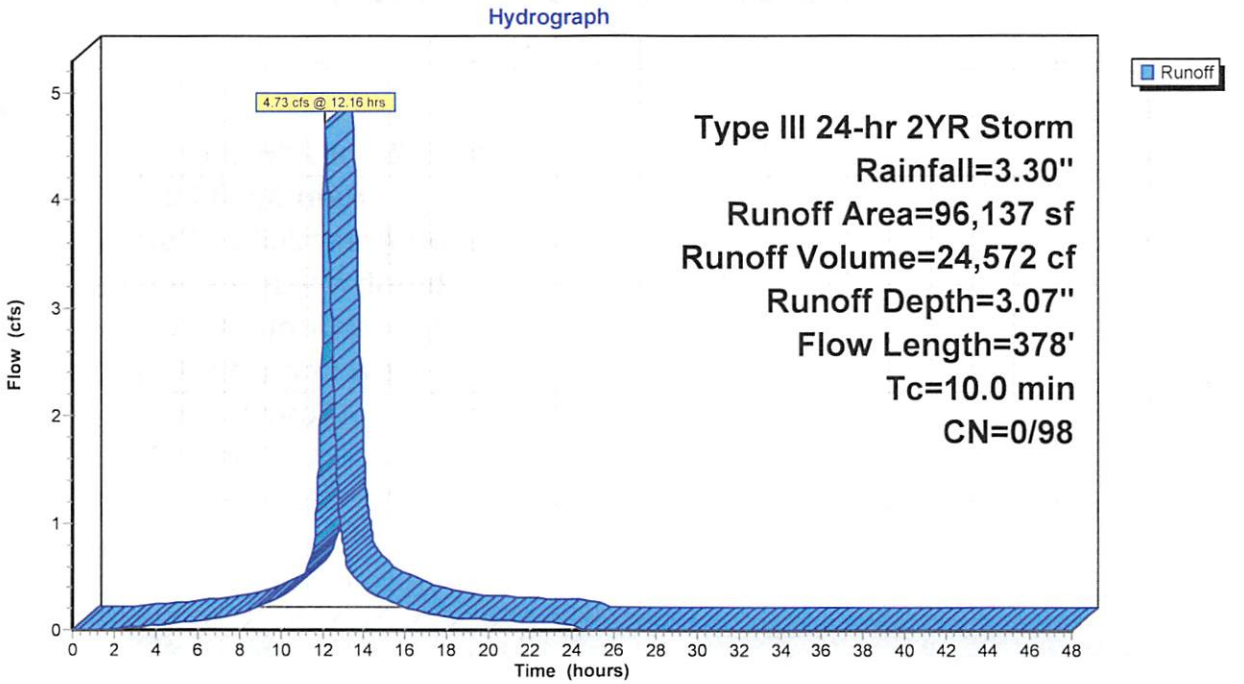
Runoff = 4.73 cfs @ 12.16 hrs, Volume= 24,572 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	501	98	Impervious Surfaces
*	94,952	98	Impervious Surfaces (Existing)
*	684	98	Impervious Surfaces (Offsite)
	96,137	98	Weighted Average
	96,137	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	200	0.0050	0.80		**Sheet Flow, Segment 24-25** Smooth surfaces n= 0.011 P2= 2.50"
2.3	178	0.0075	1.30		**Shallow Concentrated Flow, Segment 25-26** Grassed Waterway Kv= 15.0 fps
6.5	378	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1E-M: Undetained Site Impervious Area



Summary for Subcatchment P-1E-P: Undetained Site Pervious Area

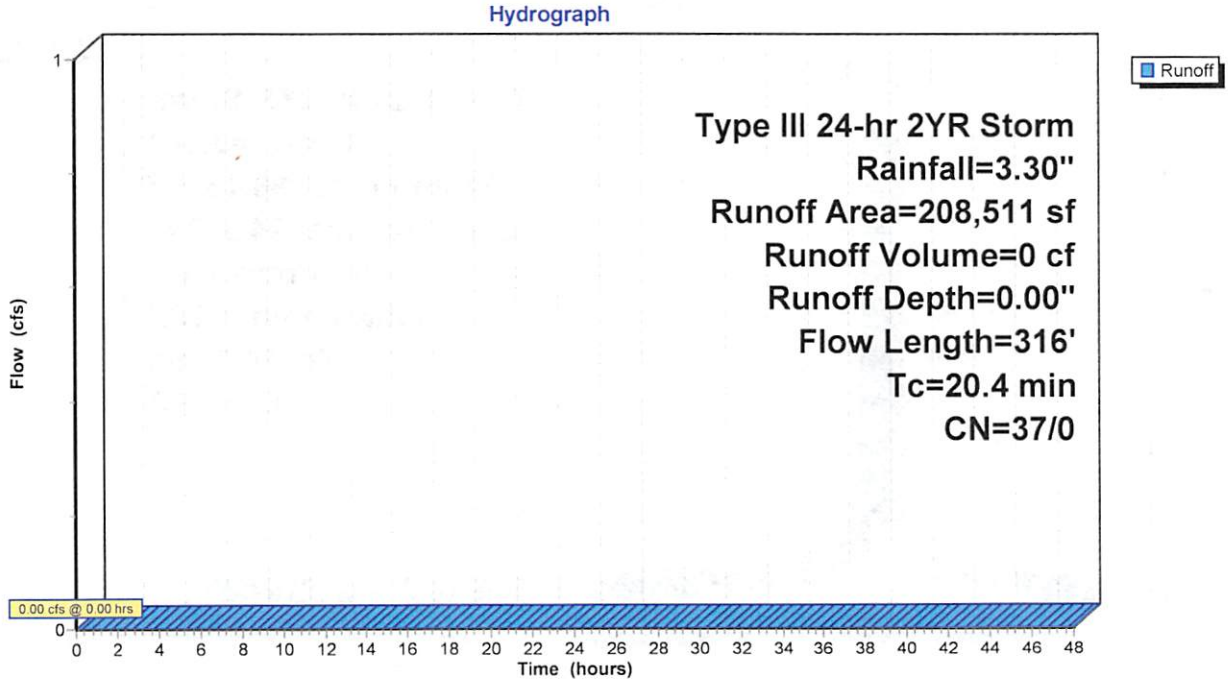
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
41,965	30	Woods, Good, HSG A
166,546	39	>75% Grass cover, Good, HSG A
208,511	37	Weighted Average
208,511	37	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	47	0.0100	0.04		**Sheet Flow, Segment 21-22** Woods: Light underbrush n= 0.400 P2= 2.50"
0.3	70	0.0500	3.35		**Shallow Concentrated Flow, Segment 22-23** Grassed Waterway Kv= 15.0 fps
2.6	199	0.0075	1.30		**Shallow Concentrated Flow, Segment 23-26** Grassed Waterway Kv= 15.0 fps
20.4	316	Total			

Subcatchment P-1E-P: Undetained Site Pervious Area



Summary for Subcatchment P-1F-M: Municipal Basin Impervious Area

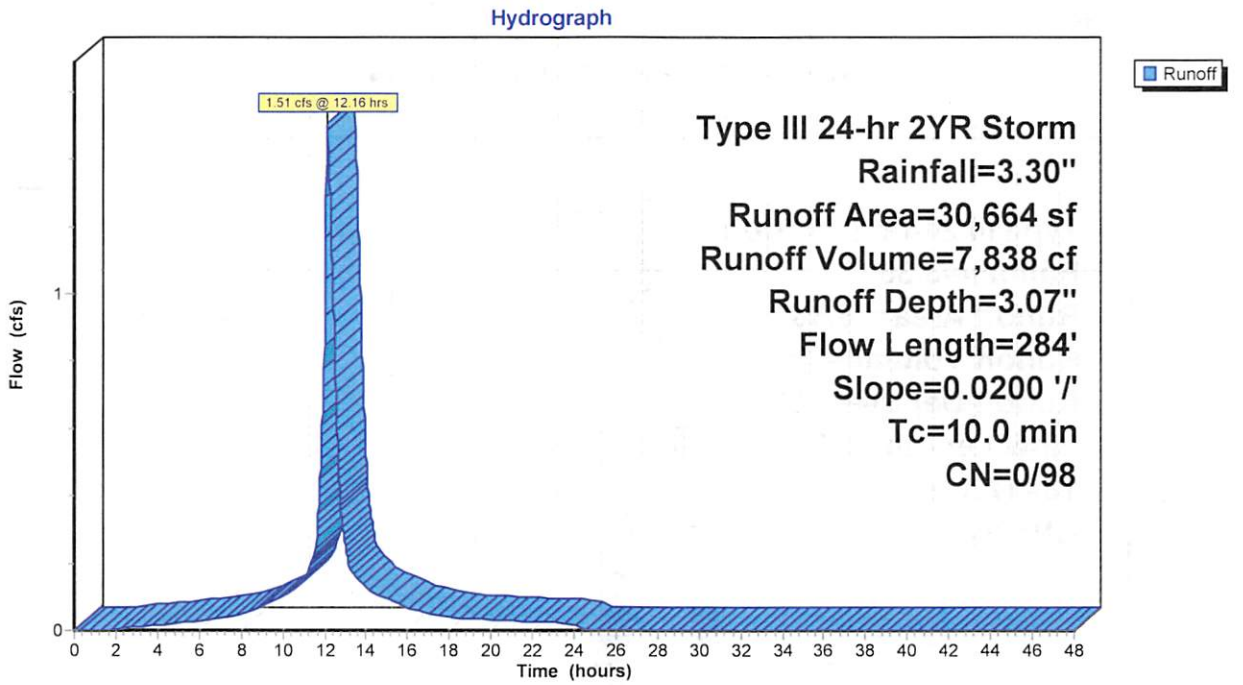
Runoff = 1.51 cfs @ 12.16 hrs, Volume= 7,838 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	30,664	98	Impervious Surfaces
	30,664	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0200	1.22		**Sheet Flow, Segment** Smooth surfaces n= 0.011 P2= 2.50"
1.1	184	0.0200	2.87		**Shallow Concentrated Flow, Segment** Paved Kv= 20.3 fps
2.5	284	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1F-M: Municipal Basin Impervious Area



Summary for Subcatchment P-1F-P: Municipal Basin Pervious Area

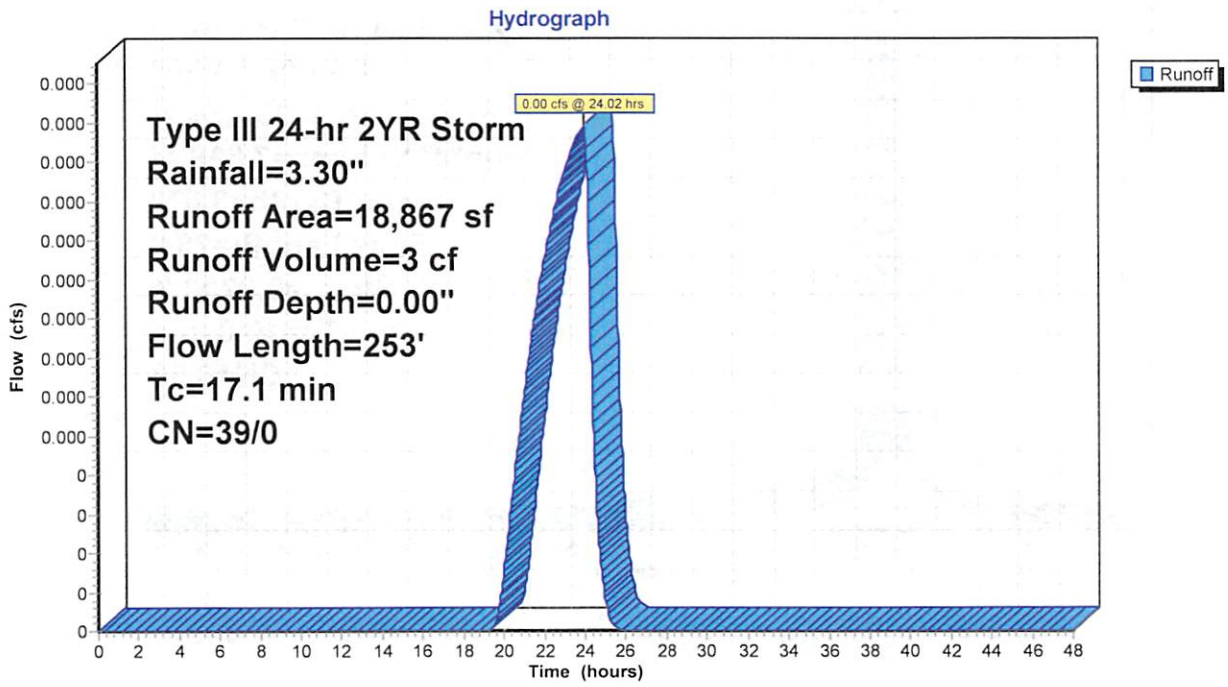
Runoff = 0.00 cfs @ 24.02 hrs, Volume= 3 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
18,867	39	>75% Grass cover, Good, HSG A
18,867	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	98	0.0210	0.10		**Sheet Flow, Segment T-U** Grass: Dense n= 0.240 P2= 2.50"
0.0	6	0.0150	2.49		**Shallow Concentrated Flow, Segment U-V** Paved Kv= 20.3 fps
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, Segment V-W** Unpaved Kv= 16.1 fps
1.4	143	0.0075	1.76		**Shallow Concentrated Flow, Segment W-X** Paved Kv= 20.3 fps
17.1	253	Total			

Subcatchment P-1F-P: Municipal Basin Pervious Area



Summary for Subcatchment P-2-M: Municipal Impervious Area

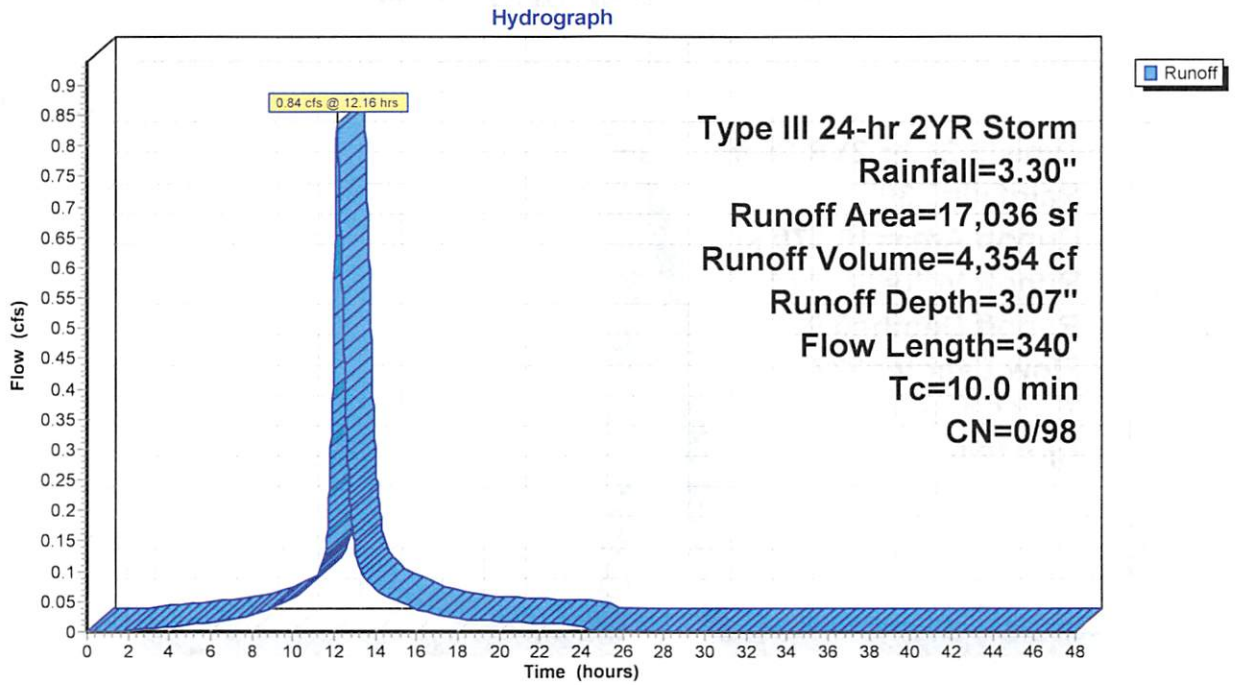
Runoff = 0.84 cfs @ 12.16 hrs, Volume= 4,354 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	17,036	98	Impervious Surfaces
	17,036	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	67	0.0200	1.12		**Sheet Flow, Segment 30-31** Smooth surfaces n= 0.011 P2= 2.50"
0.4	78	0.0300	3.52		**Shallow Concentrated Flow, Segment 31-32** Paved Kv= 20.3 fps
1.8	195	0.0075	1.76		**Shallow Concentrated Flow, Segment 32-33** Paved Kv= 20.3 fps
3.2	340	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-2-M: Municipal Impervious Area



Summary for Subcatchment P-2-P: Municipal Pervious Area

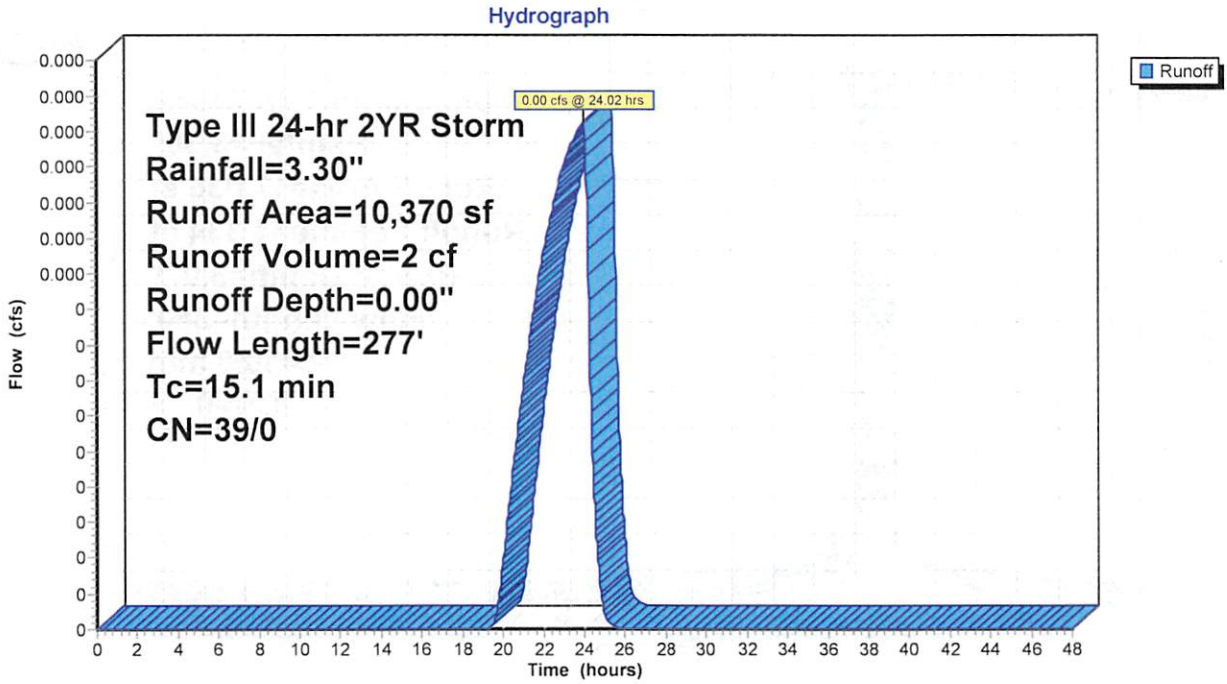
Runoff = 0.00 cfs @ 24.02 hrs, Volume= 2 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
10,370	39	>75% Grass cover, Good, HSG A
10,370	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	55	0.0100	0.07		**Sheet Flow, Segment 27-28** Grass: Dense n= 0.240 P2= 2.50"
1.7	182	0.0075	1.76		**Shallow Concentrated Flow, Segment 28-29** Paved Kv= 20.3 fps
0.2	40	0.0050	4.20	7.43	**Pipe Channel, Segement 29-33** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Concrete pipe, bends & connections
15.1	277	Total			

Subcatchment P-2-P: Municipal Pervious Area



Summary for Subcatchment P-3A-M: Wawa Basin Impervious Area

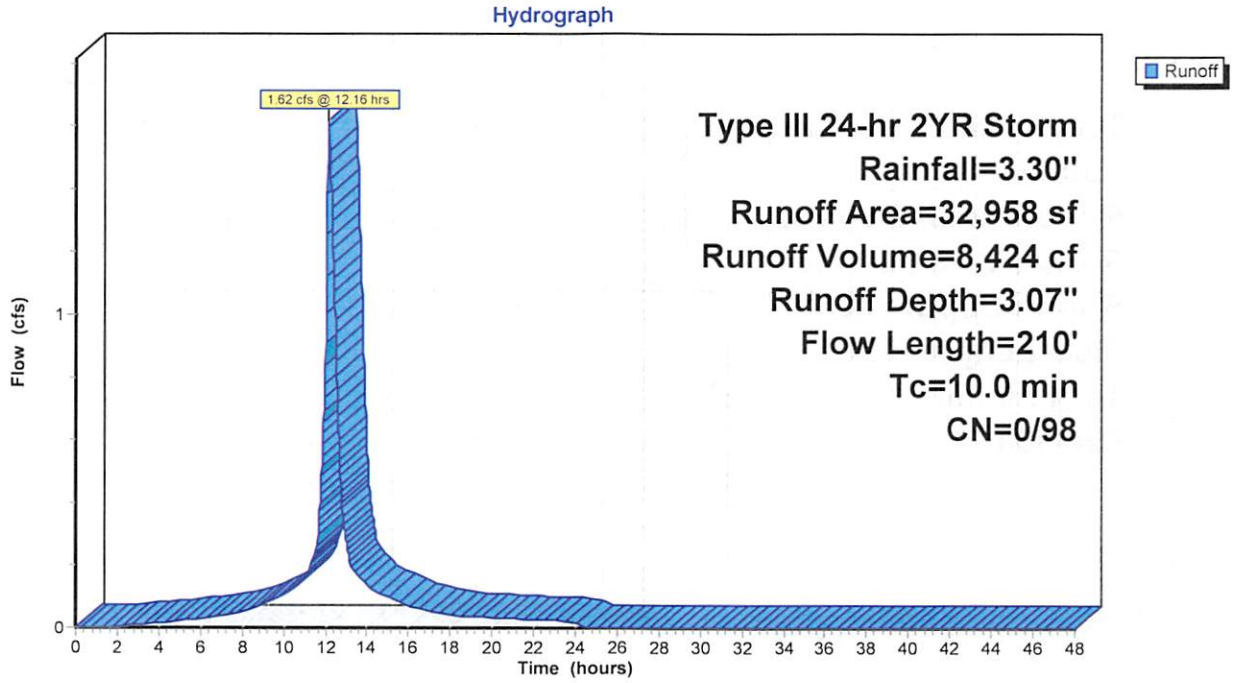
Runoff = 1.62 cfs @ 12.16 hrs, Volume= 8,424 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	32,958	98	Impervious Surfaces
	32,958	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	70	0.0150	1.01		**Sheet Flow, Segment 34-35** Smooth surfaces n= 0.011 P2= 2.50"
0.6	50	0.0100	1.50		**Shallow Concentrated Flow, Segment 35-36** Grassed Waterway Kv= 15.0 fps
0.4	90	0.0050	3.72	4.57	**Pipe Channel, Segment 36-37** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
2.2	210	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-3A-M: Wawa Basin Impervious Area



Summary for Subcatchment P-3A-P: Wawa Basin Pervious Area

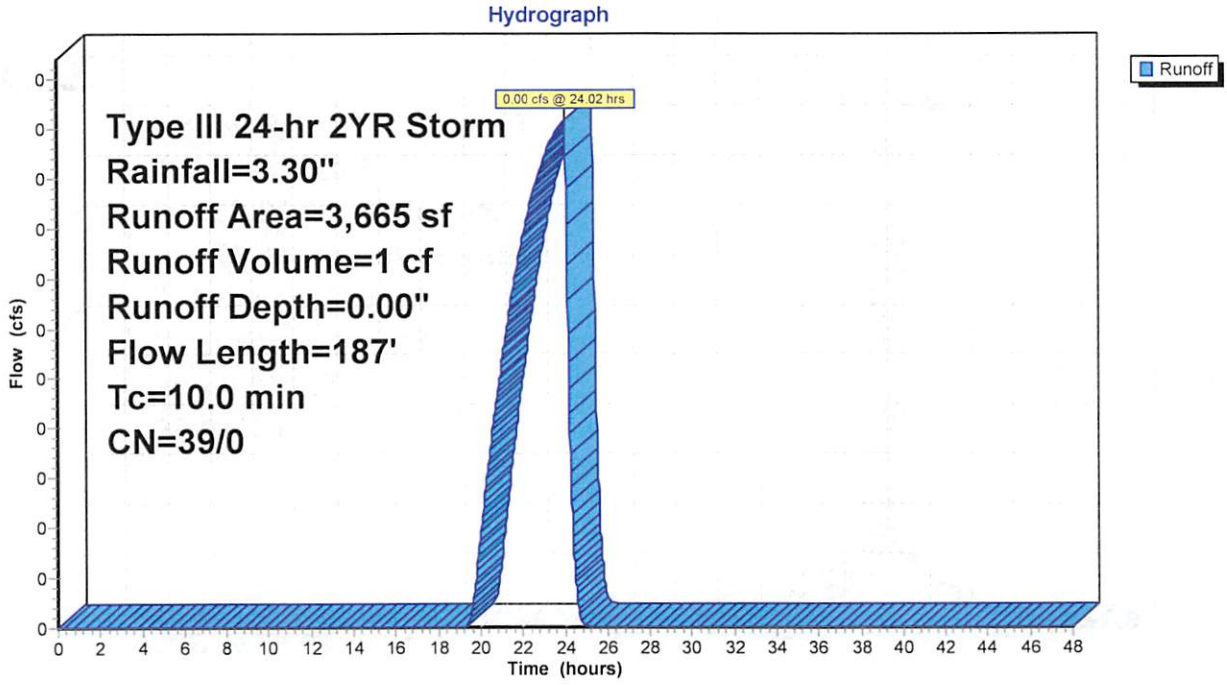
Runoff = 0.00 cfs @ 24.02 hrs, Volume= 1 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
3,665	39	>75% Grass cover, Good, HSG A
3,665	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	17	0.0100	0.05		**Sheet Flow, Segment Y-Z** Grass: Dense n= 0.240 P2= 2.50"
0.4	66	0.0200	2.87		**Shallow Concentrated Flow, Segment Z-AA** Paved Kv= 20.3 fps
0.6	104	0.0030	2.88	3.54	**Pipe Channel, Segment AA-AB** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
6.2	187	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-3A-P: Wawa Basin Pervious Area



Summary for Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area

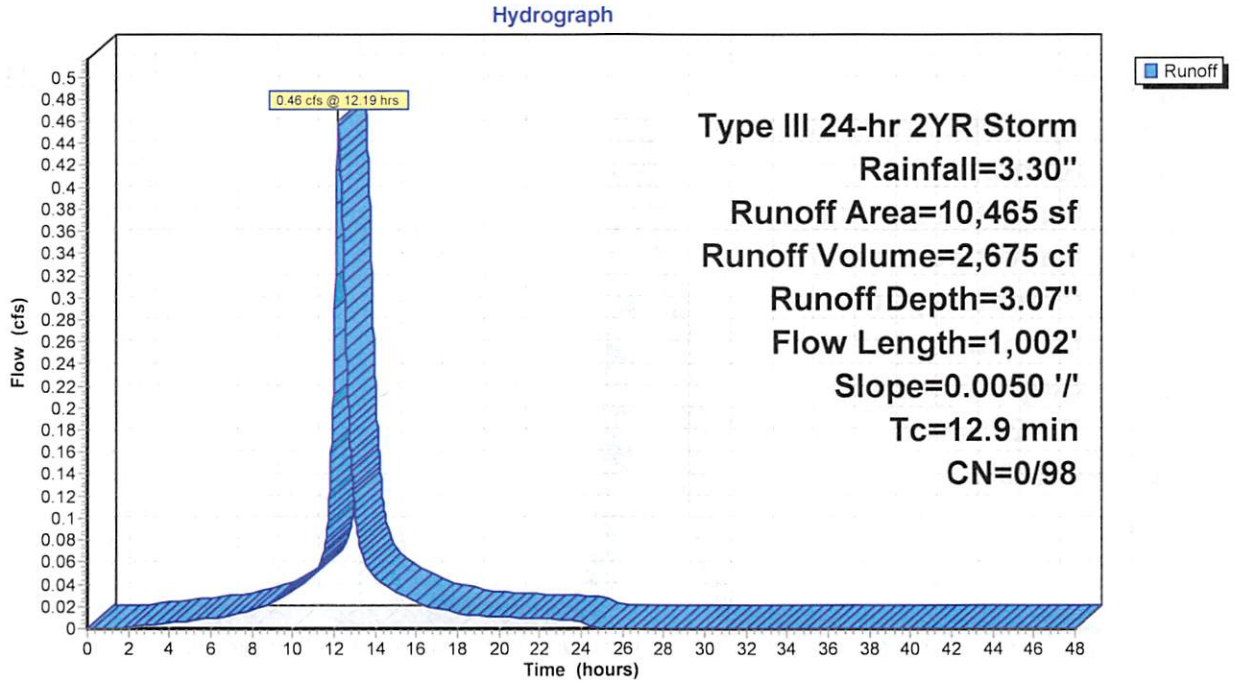
Runoff = 0.46 cfs @ 12.19 hrs, Volume= 2,675 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

	Area (sf)	CN	Description
*	10,465	98	Impervious Surfaces
	10,465	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	100	0.0050	0.70		**Sheet Flow, Segment 40-41** Smooth surfaces n= 0.011 P2= 2.50"
10.5	902	0.0050	1.44		**Shallow Concentrated Flow, Segment 41-42** Paved Kv= 20.3 fps
12.9	1,002	Total			

Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area



Summary for Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area

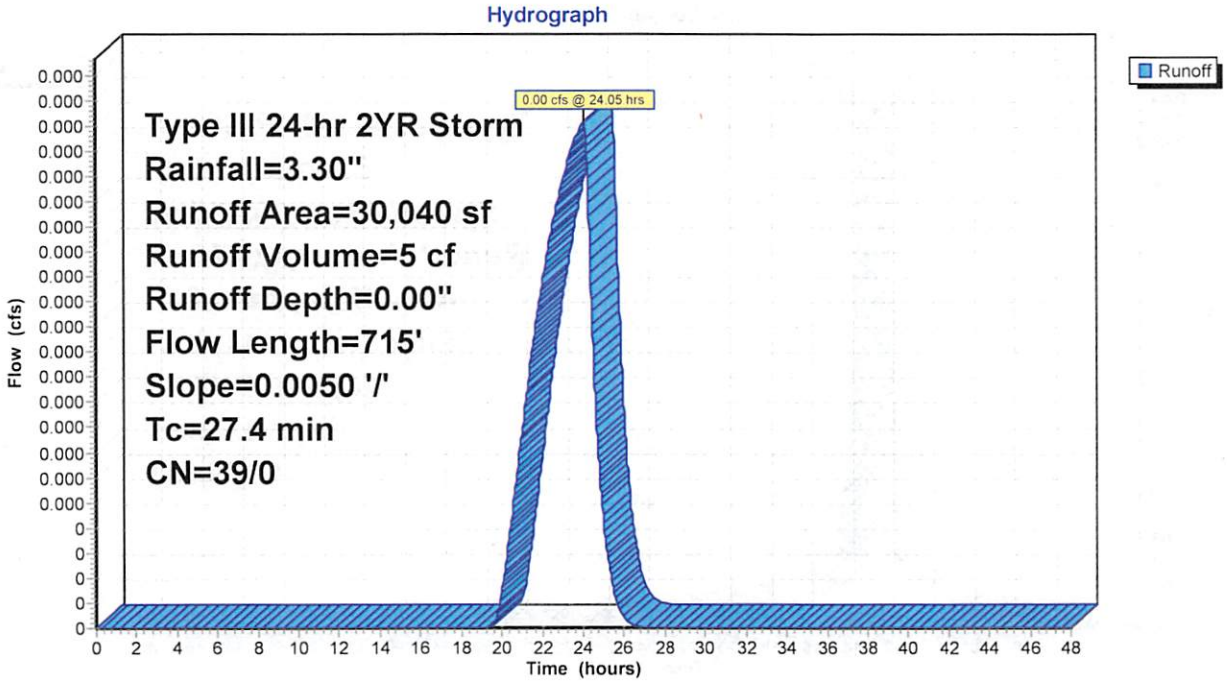
Runoff = 0.00 cfs @ 24.05 hrs, Volume= 5 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 2YR Storm Rainfall=3.30"

Area (sf)	CN	Description
30,040	39	>75% Grass cover, Good, HSG A
30,040	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	65	0.0050	0.05		**Sheet Flow, Segment 38-39** Grass: Dense n= 0.240 P2= 2.50"
7.5	650	0.0050	1.44		**Shallow Concentrated Flow, Segment 39-42** Paved Kv= 20.3 fps
27.4	715	Total			

Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area



Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 1.92" for 2YR Storm event
Inflow = 10.00 cfs @ 12.16 hrs, Volume= 52,777 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.34' @ 27.38 hrs Surf.Area= 35,597 sf Storage= 52,777 cf

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

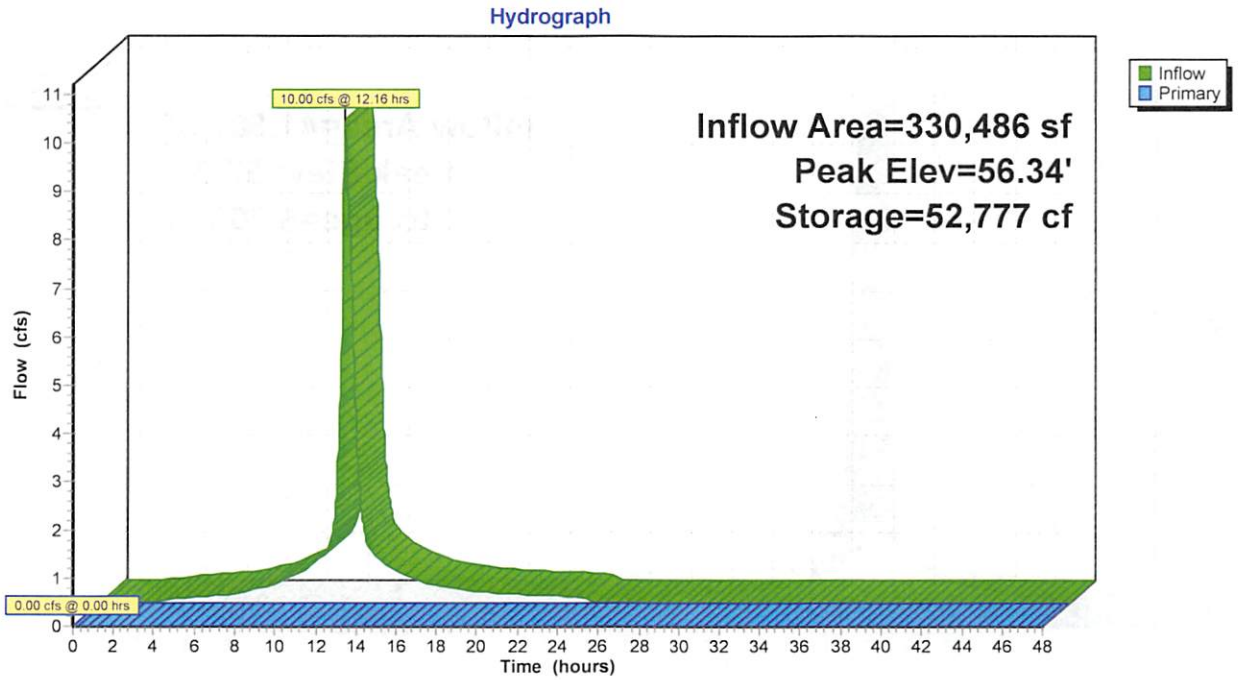
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.50' TW=0.00' (Dynamic Tailwater)
↑—**1=Spillway Culvert** (Controls 0.00 cfs)
↑—**2=Spillway Grate** (Controls 0.00 cfs)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-3: McDonalds Infiltration Basin

Inflow Area = 41,582 sf, 64.55% Impervious, Inflow Depth = 1.98" for 2YR Storm event
Inflow = 1.32 cfs @ 12.16 hrs, Volume= 6,863 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.06' @ 25.10 hrs Surf.Area= 4,256 sf Storage= 6,863 cf

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

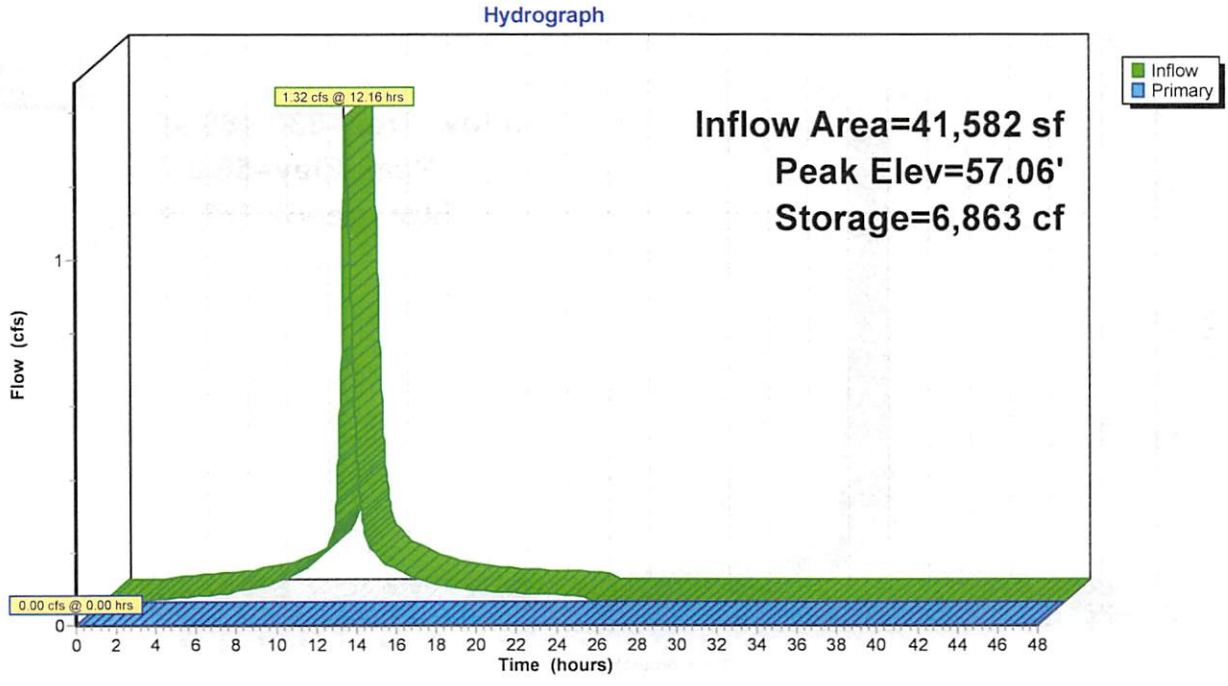
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	17,078 cf	**Infiltration Basin Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	2,481	210.0	0	0	2,481
56.00	3,284	242.0	2,873	2,873	3,654
57.00	4,197	274.0	3,731	6,604	4,993
58.00	5,219	306.0	4,699	11,303	6,498
59.00	6,350	337.0	5,775	17,078	8,117

Device	Routing	Invert	Outlet Devices
#1	Primary	55.68'	**15.0" Round Spillway Culvert** L= 73.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.68' / 55.39' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=54.50' (Dynamic Tailwater)
↳**1=Spillway Culvert** (Controls 0.00 cfs)
↳**2=Spillway Grate** (Controls 0.00 cfs)

Pond B-3: McDonalds Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 1.90" for 2YR Storm event
Inflow = 1.51 cfs @ 12.16 hrs, Volume= 7,840 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 53.34' @ 25.90 hrs Surf.Area= 7,600 sf Storage= 7,840 cf

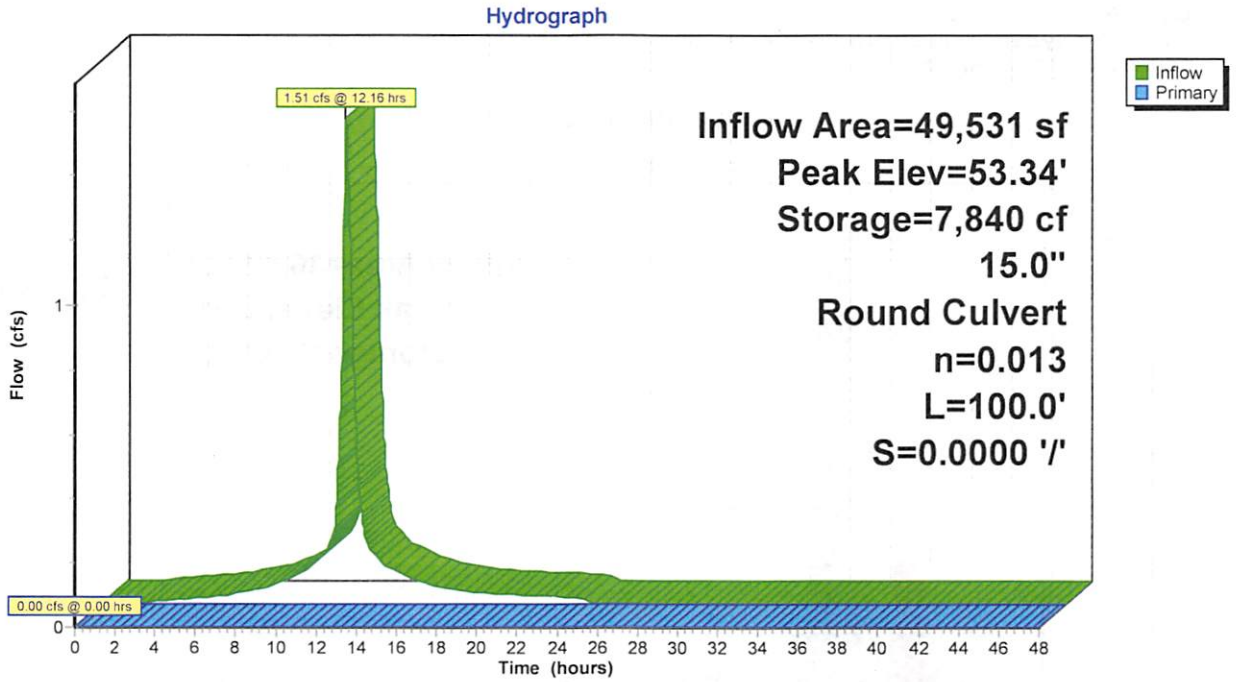
Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	5,274 cf	**48.0"W x 45.0"H x 190.0'L Stone Encasement (30")** x 10 28,500 cf Overall - 13,430 cf Embedded = 15,070 cf x 35.0% Voids
#2	51.80'	9,327 cf	**30.0" D x 190.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 13,430 cf Overall - 3.0" Wall Thickness = 9,327 cf
		14,601 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.50'	**15.0" Round Outlet To Site Rear** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.50' / 54.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.55' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet To Site Rear** (Controls 0.00 cfs)

Pond B-4: Municipal Infiltration Basin



Summary for Pond B-5: Wawa Detention Basin

Inflow Area = 36,623 sf, 89.99% Impervious, Inflow Depth = 2.76" for 2YR Storm event
Inflow = 1.62 cfs @ 12.16 hrs, Volume= 8,424 cf
Outflow = 0.99 cfs @ 12.46 hrs, Volume= 8,424 cf, Atten= 39%, Lag= 18.3 min
Primary = 0.25 cfs @ 12.46 hrs, Volume= 7,334 cf
Secondary = 0.74 cfs @ 12.46 hrs, Volume= 1,091 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.91' @ 12.46 hrs Surf.Area= 1,638 sf Storage= 2,423 cf

Plug-Flow detention time= 70.7 min calculated for 8,421 cf (100% of inflow)
Center-of-Mass det. time= 70.7 min (836.3 - 765.6)

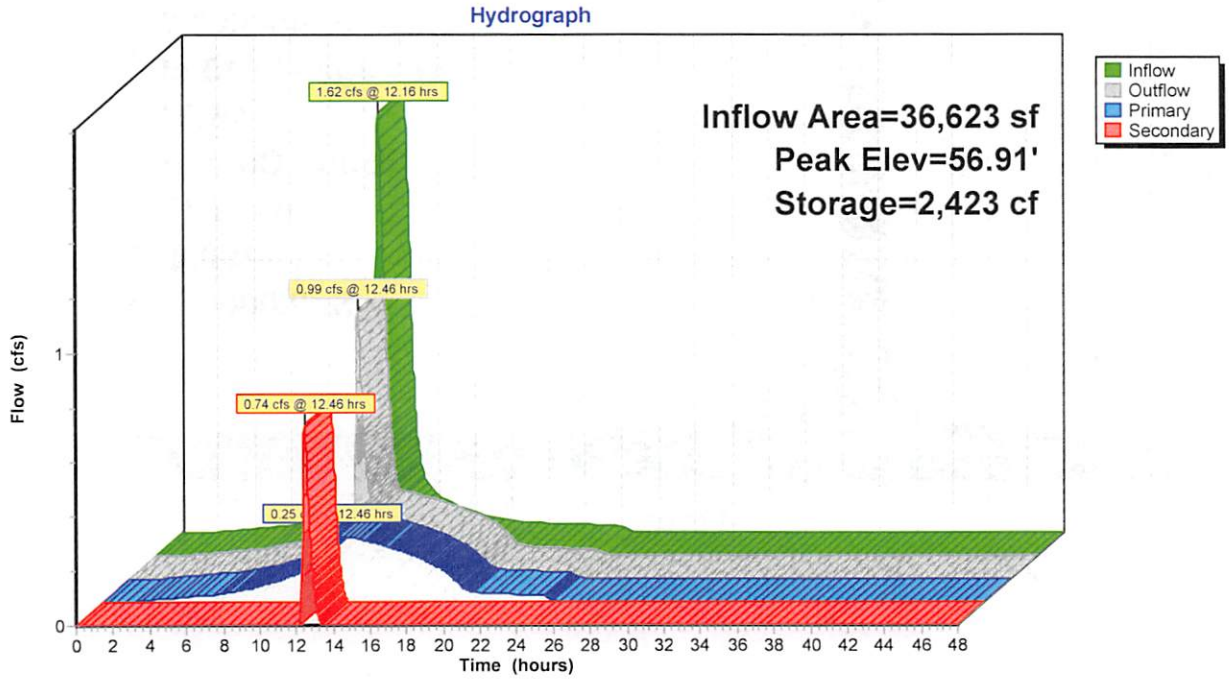
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	3,436 cf	**30.0" D x 100.0'L HDPE Storage S= 0.0050 '/'** x 7

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	**3.0" Round Intake To Water Quality Unit** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.00' / 54.95' S= 0.0036 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	55.75'	**18.0" Round Outlet To Primary Basin** L= 113.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.75' / 54.92' S= 0.0073 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#3	Device 2	56.75'	**4.0' 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=0.25 cfs @ 12.46 hrs HW=56.91' TW=0.00' (Dynamic Tailwater)
└─**1=Intake To Water Quality Unit** (Inlet Controls 0.25 cfs @ 5.08 fps)

Secondary OutFlow Max=0.74 cfs @ 12.46 hrs HW=56.91' TW=55.68' (Dynamic Tailwater)
└─**2=Outlet To Primary Basin** (Passes 0.74 cfs of 4.96 cfs potential flow)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 0.74 cfs @ 1.13 fps)

Pond B-5: Wawa Detention Basin



Summary for Pond RG-1: Fast Food Bioretention Area

Inflow Area = 10,144 sf, 48.34% Impervious, Inflow Depth = 1.48" for 2YR Storm event
Inflow = 0.24 cfs @ 12.16 hrs, Volume= 1,254 cf
Outflow = 0.24 cfs @ 12.17 hrs, Volume= 925 cf, Atten= 0%, Lag= 0.7 min
Primary = 0.24 cfs @ 12.17 hrs, Volume= 925 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.78' @ 12.17 hrs Surf.Area= 536 sf Storage= 344 cf

Plug-Flow detention time= 163.1 min calculated for 925 cf (74% of inflow)
Center-of-Mass det. time= 74.7 min (840.7 - 765.9)

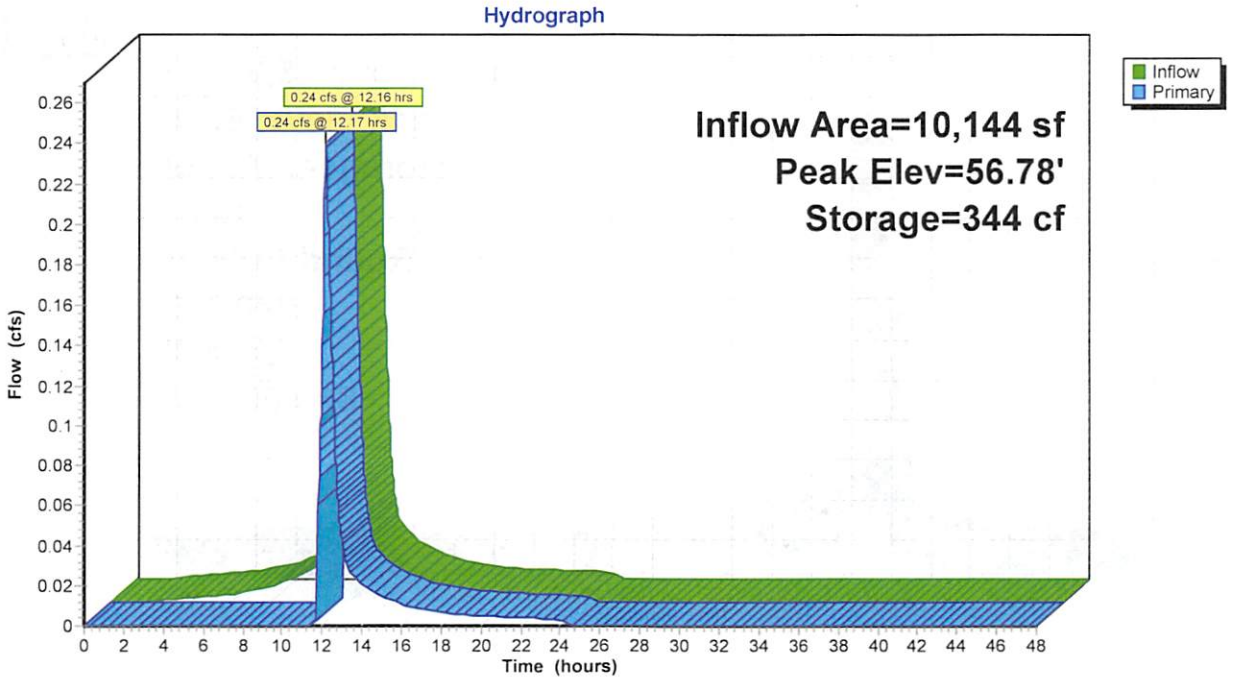
Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	1,236 cf	**Bioretention Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.00	354	71.0	0	0	354
57.00	595	90.0	469	469	610
58.00	953	126.0	767	1,236	1,239

Device	Routing	Invert	Outlet Devices
#1	Primary	54.80'	**12.0" Round Spillway Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.80' / 54.72' S= 0.0031 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	56.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 12.17 hrs HW=56.78' TW=55.38' (Dynamic Tailwater)
↑**1=Spillway Culvert** (Passes 0.24 cfs of 4.26 cfs potential flow)
↑**2=Spillway Grate** (Weir Controls 0.24 cfs @ 0.54 fps)

Pond RG-1: Fast Food Bioretention Area



Summary for Pond RG-2: Access Road Bioretention Area

Inflow Area = 55,913 sf, 58.22% Impervious, Inflow Depth = 1.79" for 2YR Storm event
Inflow = 1.60 cfs @ 12.16 hrs, Volume= 8,323 cf
Outflow = 0.91 cfs @ 12.49 hrs, Volume= 6,491 cf, Atten= 43%, Lag= 20.0 min
Primary = 0.91 cfs @ 12.49 hrs, Volume= 6,491 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.44' @ 12.49 hrs Surf.Area= 4,276 sf Storage= 3,728 cf

Plug-Flow detention time= 217.8 min calculated for 6,491 cf (78% of inflow)
Center-of-Mass det. time= 137.1 min (902.9 - 765.8)

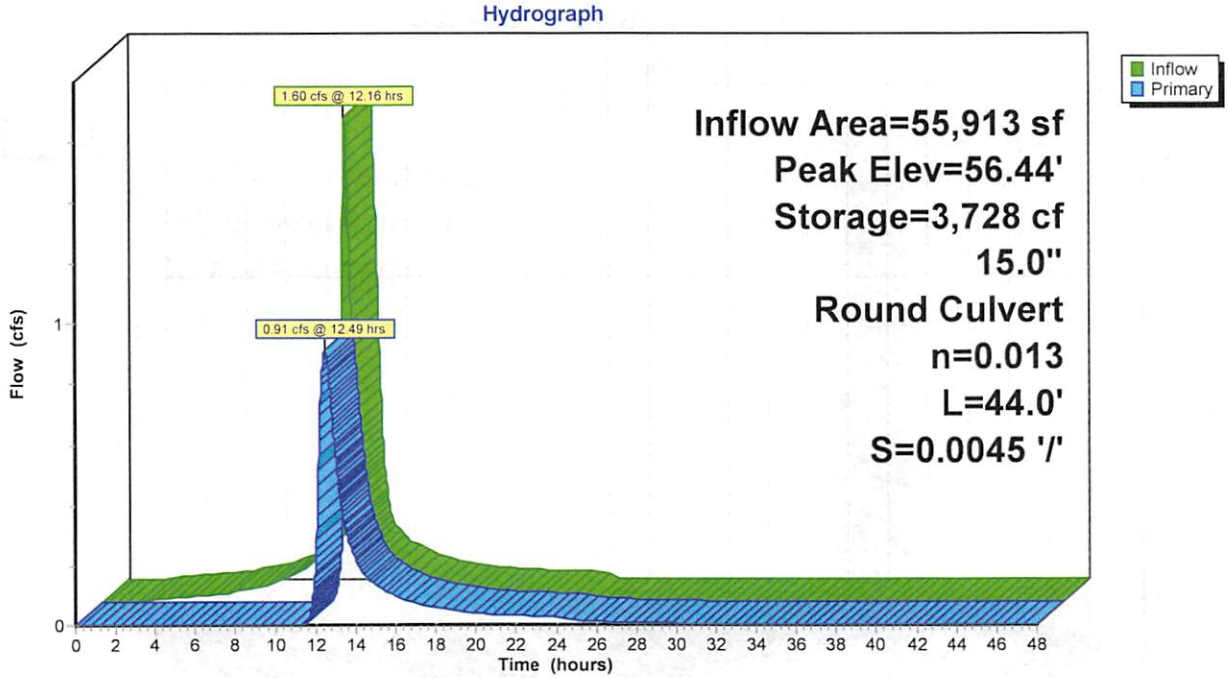
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	6,579 cf	**Swale Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	1,200	750.0	0	0	1,200
56.00	3,155	794.5	2,100	2,100	6,724
57.00	5,950	882.0	4,479	6,579	18,427

Device	Routing	Invert	Outlet Devices
#1	Primary	55.90'	**15.0" Round Outlet Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.90' / 55.70' S= 0.0045 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.91 cfs @ 12.49 hrs HW=56.44' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet Culvert** (Barrel Controls 0.91 cfs @ 2.65 fps)

Pond RG-2: Access Road Bioretention Area

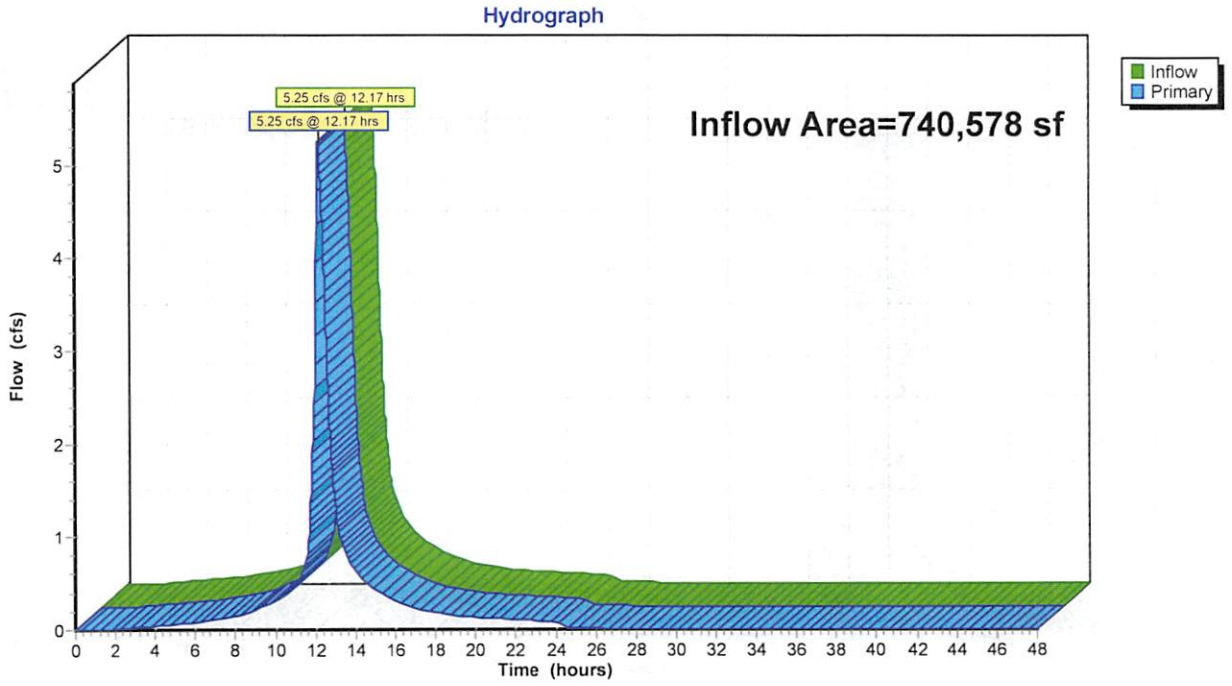


Summary for Link P-1: Proposed Site Drainage Area

Inflow Area = 740,578 sf, 52.61% Impervious, Inflow Depth = 0.50" for 2YR Storm event
Inflow = 5.25 cfs @ 12.17 hrs, Volume= 31,063 cf
Primary = 5.25 cfs @ 12.17 hrs, Volume= 31,063 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-1: Proposed Site Drainage Area

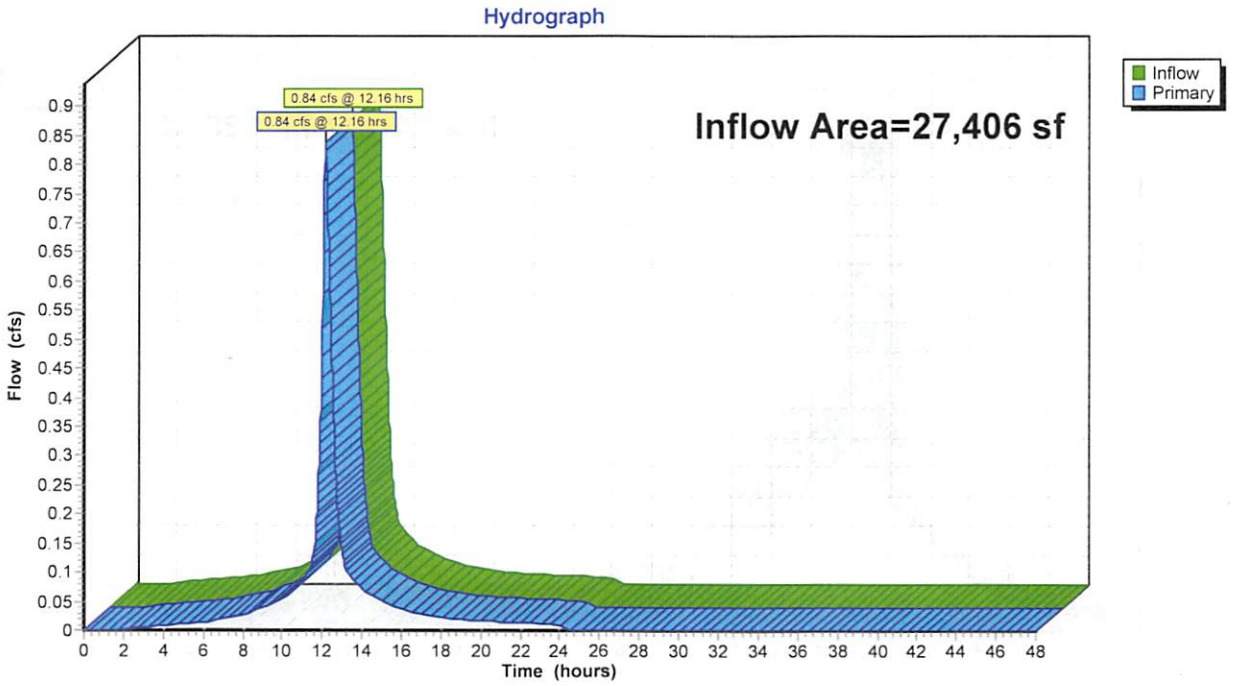


Summary for Link P-2: Proposed Municipal Drainage Area

Inflow Area = 27,406 sf, 62.16% Impervious, Inflow Depth = 1.91" for 2YR Storm event
Inflow = 0.84 cfs @ 12.16 hrs, Volume= 4,356 cf
Primary = 0.84 cfs @ 12.16 hrs, Volume= 4,356 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-2: Proposed Municipal Drainage Area

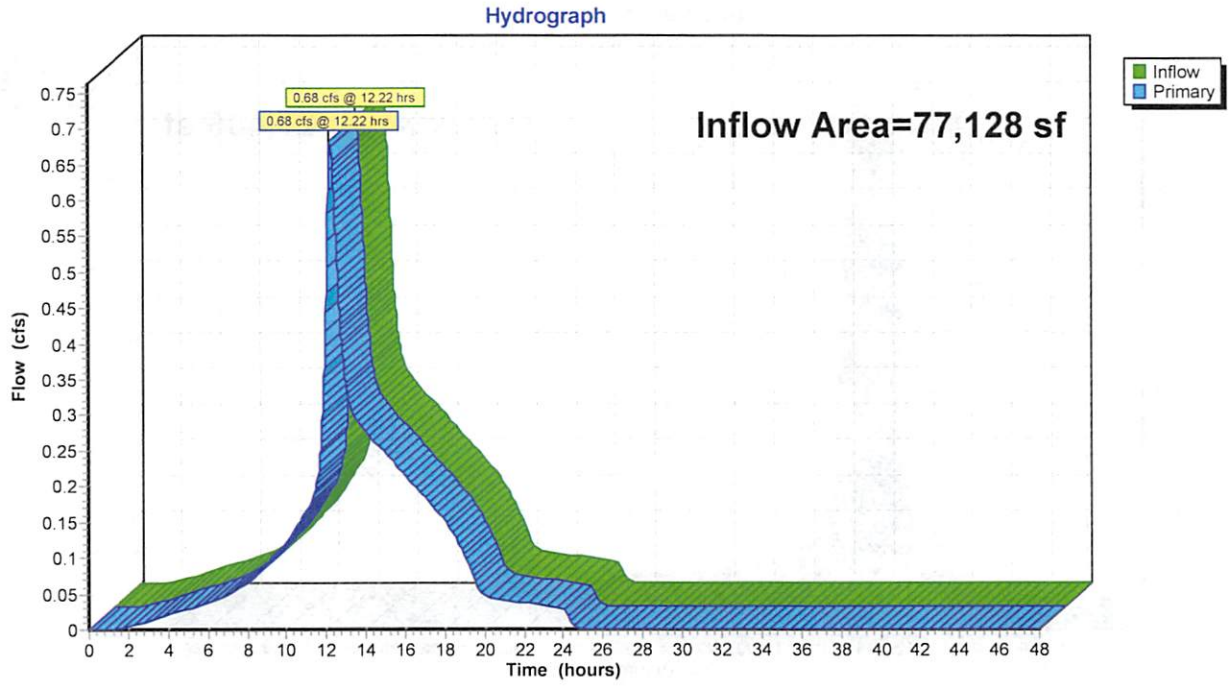


Summary for Link P-3: Proposed DOT Drainage Area

Inflow Area = 77,128 sf, 56.30% Impervious, Inflow Depth = 1.56" for 2YR Storm event
Inflow = 0.68 cfs @ 12.22 hrs, Volume= 10,013 cf
Primary = 0.68 cfs @ 12.22 hrs, Volume= 10,013 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-3: Proposed DOT Drainage Area



Summary for Subcatchment P-1A-M: Fast Food Bioretention Impervious Area

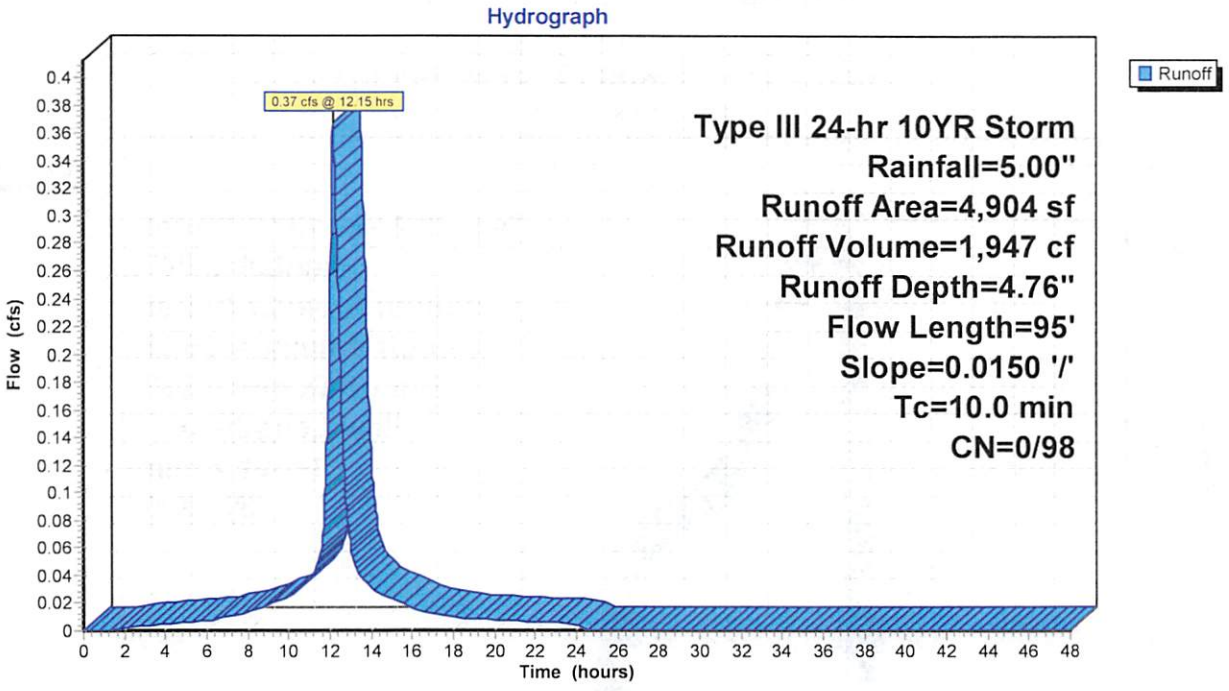
Runoff = 0.37 cfs @ 12.15 hrs, Volume= 1,947 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	4,904	98	Impervious Surfaces
	4,904	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	95	0.0150	2.49		**Shallow Concentrated Flow, Segment 3-4** Paved Kv= 20.3 fps
0.6	95	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1A-M: Fast Food Bioretention Impervious Area



Summary for Subcatchment P-1A-P: Fast Food Bioretention Pervious Area

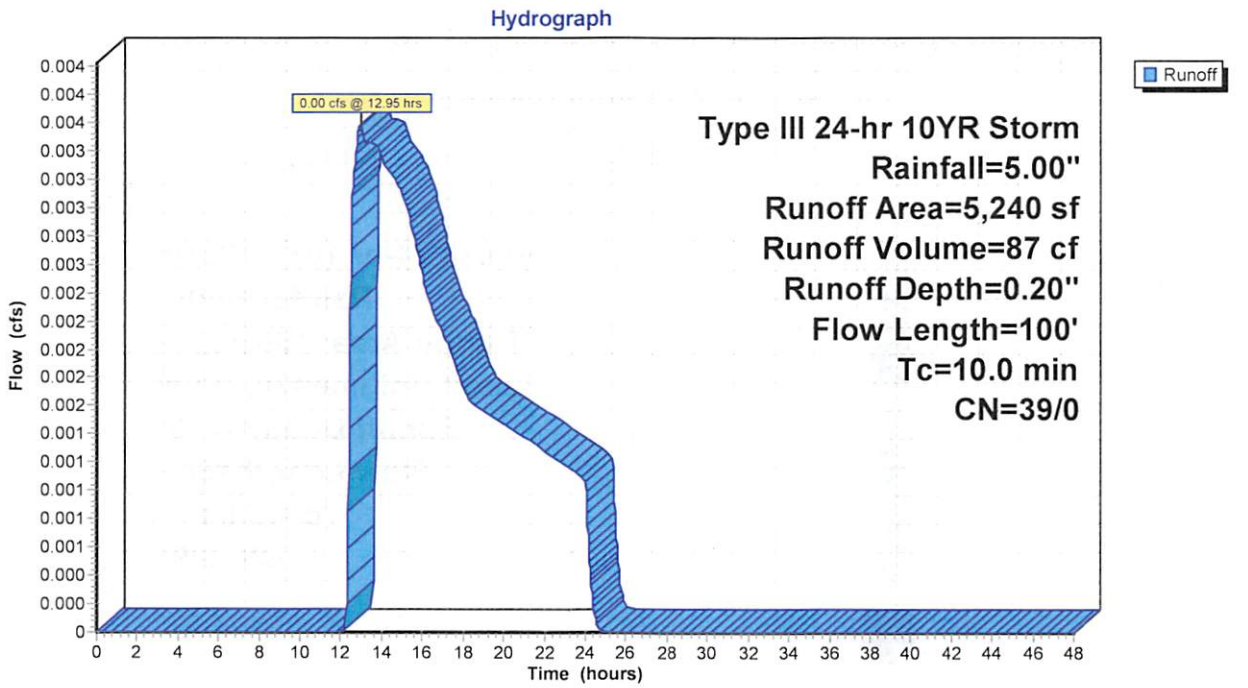
Runoff = 0.00 cfs @ 12.95 hrs, Volume= 87 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
5,240	39	>75% Grass cover, Good, HSG A
5,240	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	26	0.0100	0.06		**Sheet Flow, Segment 1-2** Grass: Dense n= 0.240 P2= 2.50"
0.5	74	0.0133	2.34		**Shallow Concentrated Flow, Segment 2-4** Paved Kv= 20.3 fps
7.8	100	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1A-P: Fast Food Bioretention Pervious Area



Summary for Subcatchment P-1B-M: Primary Basin Impervious Area

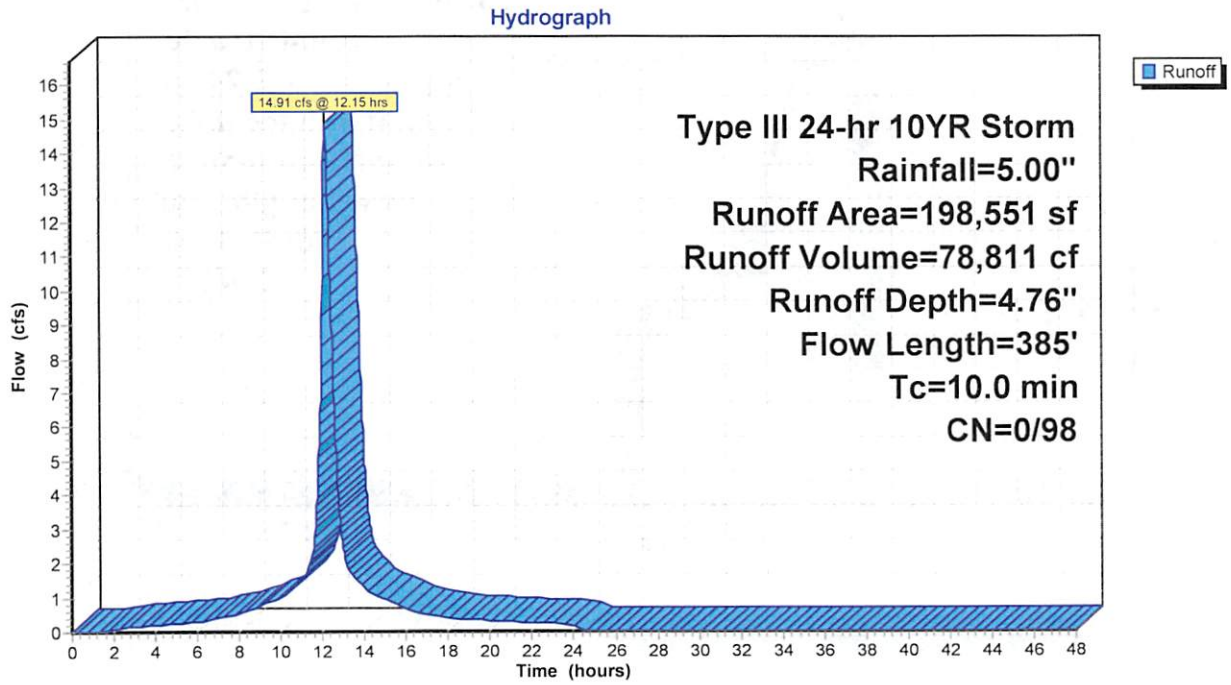
Runoff = 14.91 cfs @ 12.15 hrs, Volume= 78,811 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	191,198	98	Impervious Areas
*	7,353	98	Impervious Areas (Fuel Canopy)
	198,551	98	Weighted Average
	198,551	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	100	0.0075	0.82		**Sheet Flow, Segment 9-10** Smooth surfaces n= 0.011 P2= 2.50"
1.4	150	0.0075	1.76		**Shallow Concentrated Flow, Segment 10-11** Paved Kv= 20.3 fps
0.6	135	0.0050	3.72	4.57	**Pipe Channel, Segment 11-12** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
4.0	385	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1B-M: Primary Basin Impervious Area



Summary for Subcatchment P-1B-P: Primary Basin Pervious Area

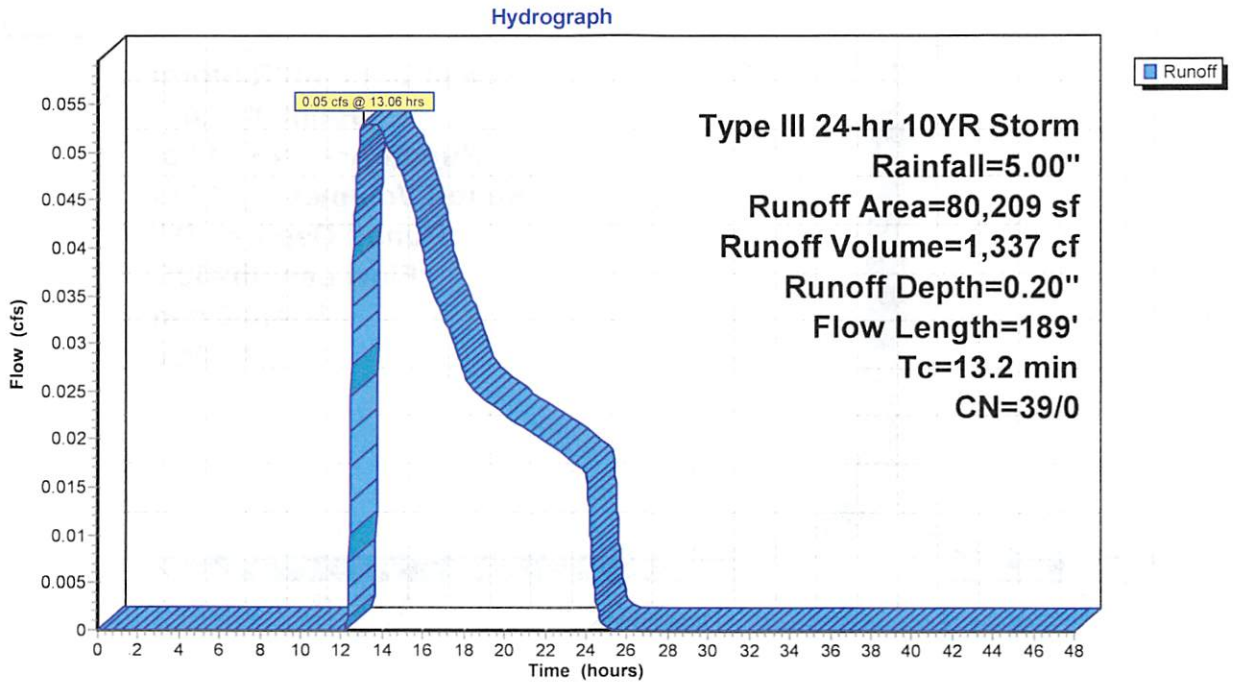
Runoff = 0.05 cfs @ 13.06 hrs, Volume= 1,337 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
80,209	39	>75% Grass cover, Good, HSG A
80,209	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	52	0.0100	0.07		**Sheet Flow, Segment 5-6** Grass: Dense n= 0.240 P2= 2.50"
0.3	35	0.0125	2.27		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
0.3	102	0.0050	5.09	16.00	**Pipe Channel, Segment 7-8** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections
13.2	189	Total			

Subcatchment P-1B-P: Primary Basin Pervious Area



Summary for Subcatchment P-1C-M: McDonalds Basin Impervious Area

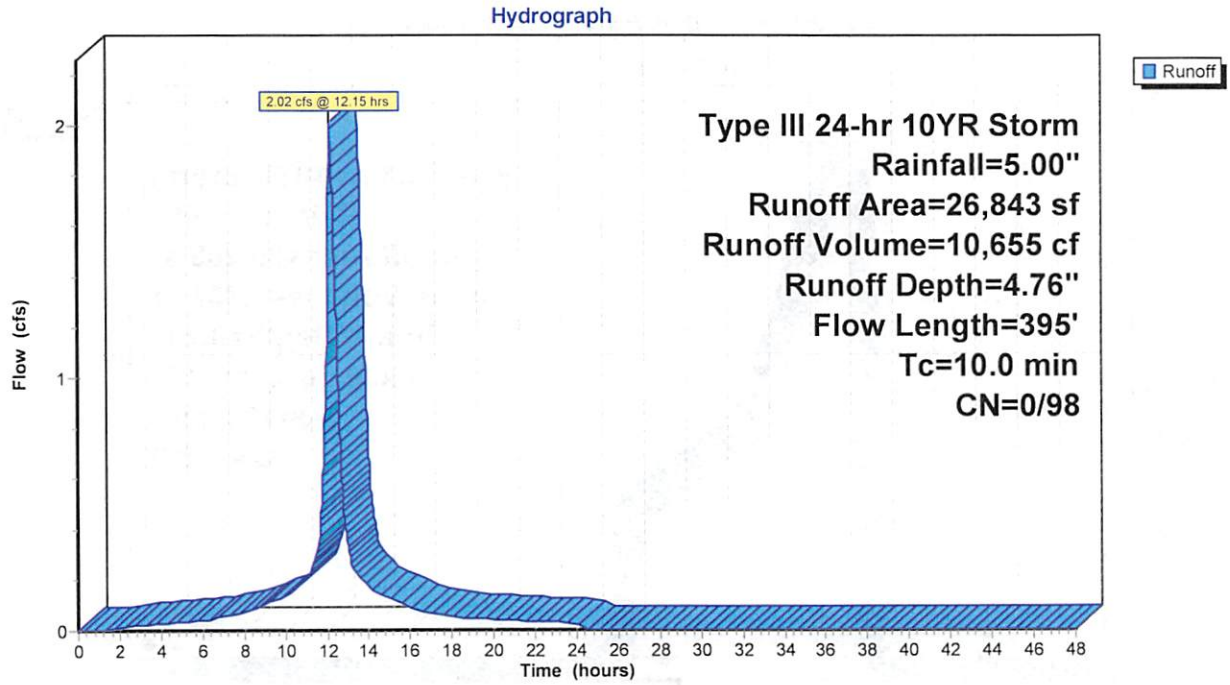
Runoff = 2.02 cfs @ 12.15 hrs, Volume= 10,655 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	26,843	98	Impervious Surfaces
	26,843	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0200	1.10		**Sheet Flow, Segment 14-15** Smooth surfaces n= 0.011 P2= 2.50"
1.9	335	0.0030	2.88	3.54	**Pipe Channel, Segment 15-16** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
2.8	395	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1C-M: McDonalds Basin Impervious Area



Summary for Subcatchment P-1C-P: McDonalds Basin Pervious Area

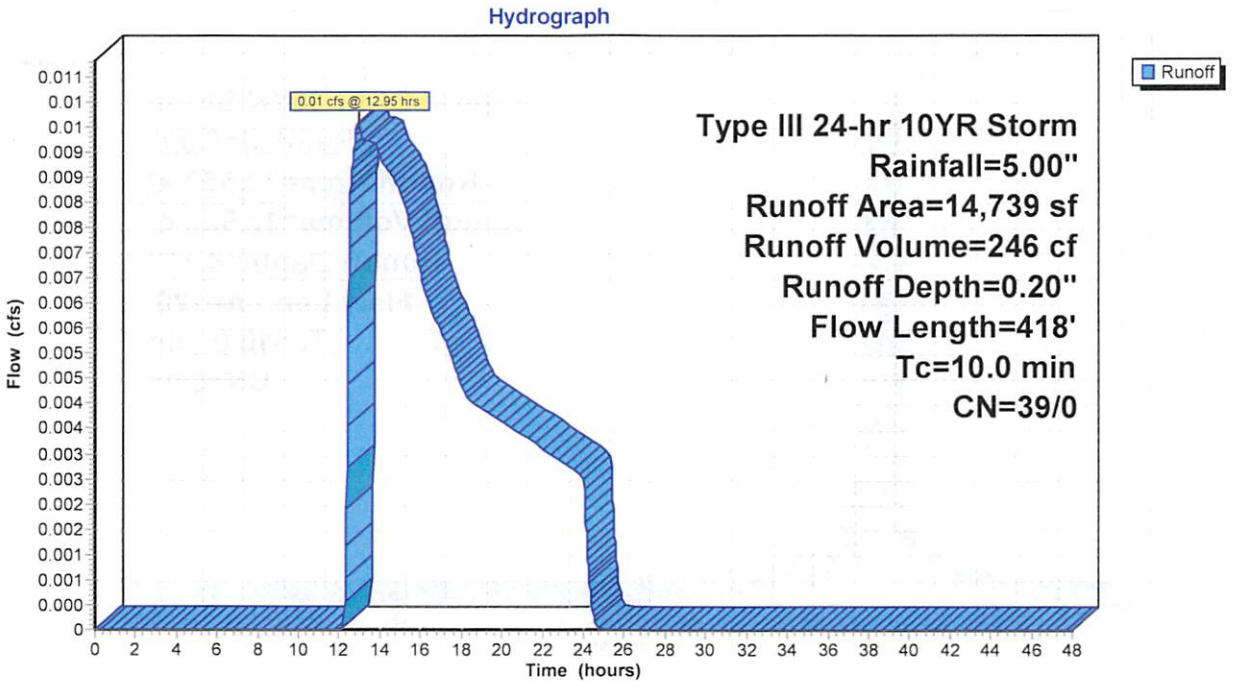
Runoff = 0.01 cfs @ 12.95 hrs, Volume= 246 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
14,739	39	>75% Grass cover, Good, HSG A
14,739	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	23	0.0100	0.06		**Sheet Flow, Segment 13-14** Grass: Dense n= 0.240 P2= 2.50"
0.3	60	0.0200	2.87		**Shallow Concentrated Flow, Segment 14-15** Paved Kv= 20.3 fps
1.9	335	0.0030	2.88	3.54	**Pipe Channel, Segment 15-16** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
8.8	418	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1C-P: McDonalds Basin Pervious Area



Summary for Subcatchment P-1D-M: Access Road Bioretention Impervious Area

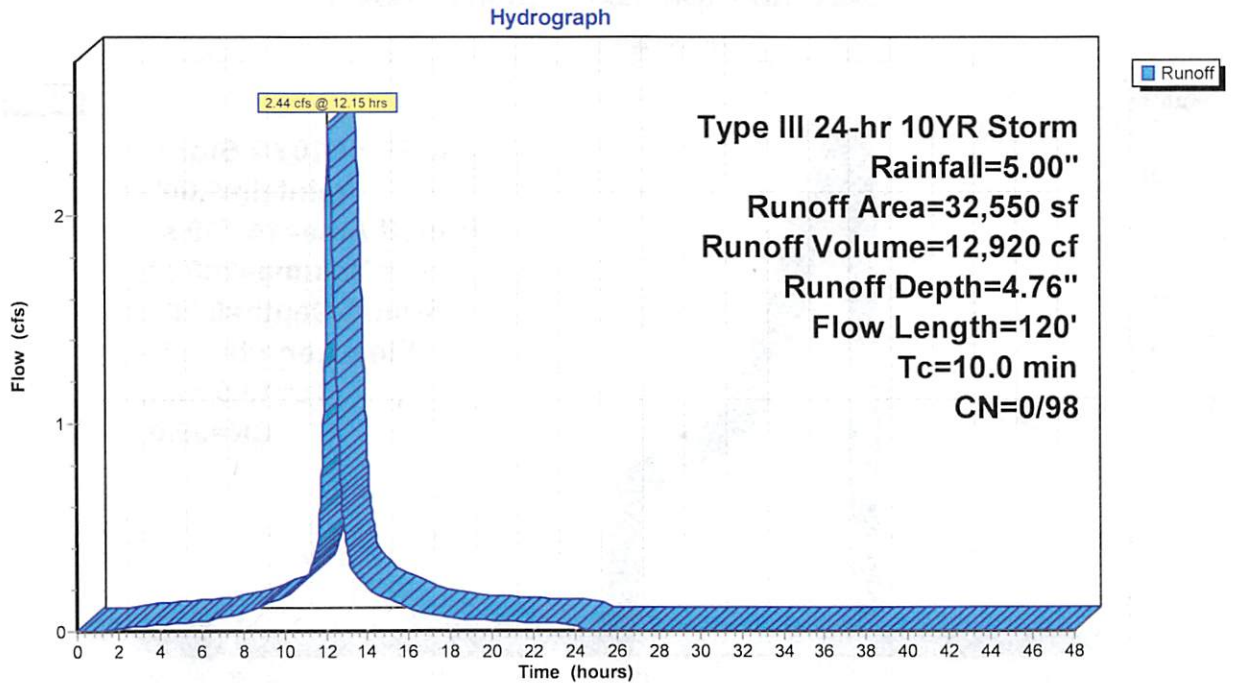
Runoff = 2.44 cfs @ 12.15 hrs, Volume= 12,920 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	2,127	98	Impervious Surfaces
*	30,423	98	Impervious Surfaces (Offsite)
	32,550	98	Weighted Average
	32,550	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0133	1.03		**Sheet Flow, Segment 18-19** Smooth surfaces n= 0.011 P2= 2.50"
0.2	20	0.0150	1.84		**Shallow Concentrated Flow, Segment 19-20** Grassed Waterway Kv= 15.0 fps
1.8	120	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1D-M: Access Road Bioretention Impervious Area



Summary for Subcatchment P-1D-P: Access Road Bioretention Pervious Area

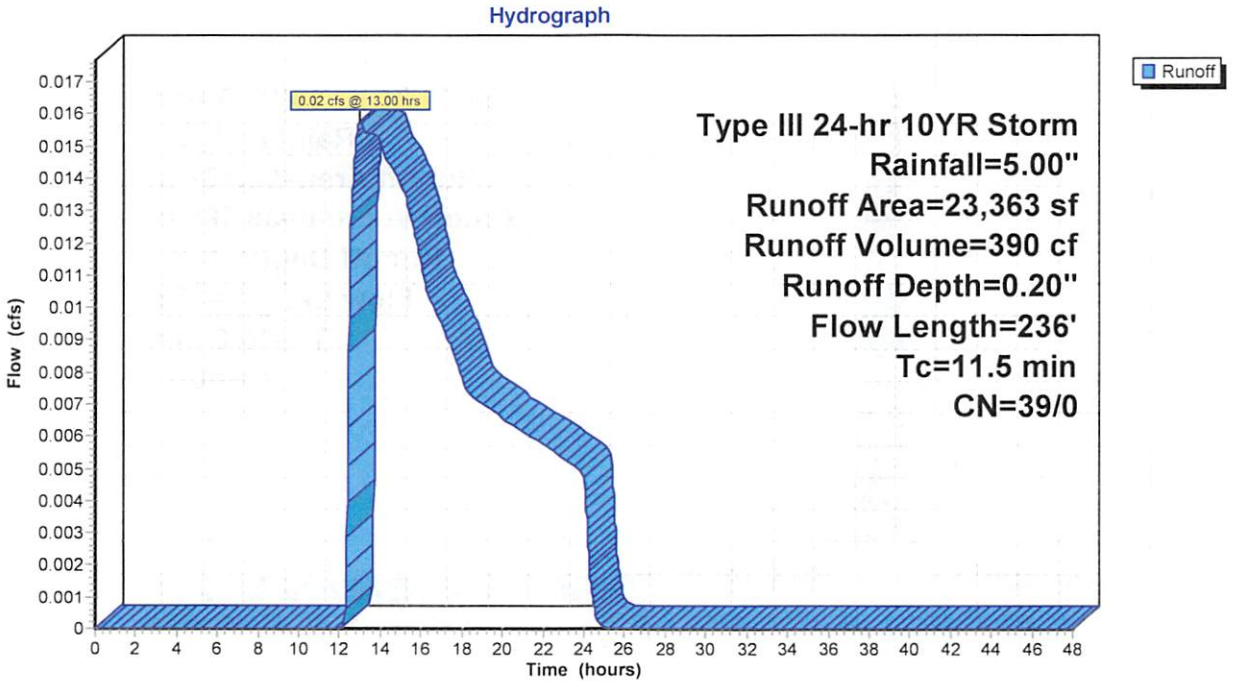
Runoff = 0.02 cfs @ 13.00 hrs, Volume= 390 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
	13,523	39	>75% Grass cover, Good, HSG A
*	9,840	39	>75% Grass cover, Good, HSG A (Offsite)
	23,363	39	Weighted Average
	23,363	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	39	0.0100	0.06		**Sheet Flow, Segment 17-18** Grass: Dense n= 0.240 P2= 2.50"
1.3	177	0.0133	2.34		**Shallow Concentrated Flow, Segment 18-19** Paved Kv= 20.3 fps
0.2	20	0.0100	1.50		**Shallow Concentrated Flow, Segment 19-20** Grassed Waterway Kv= 15.0 fps
11.5	236	Total			

Subcatchment P-1D-P: Access Road Bioretention Pervious Area



Summary for Subcatchment P-1E-M: Undetained Site Impervious Area

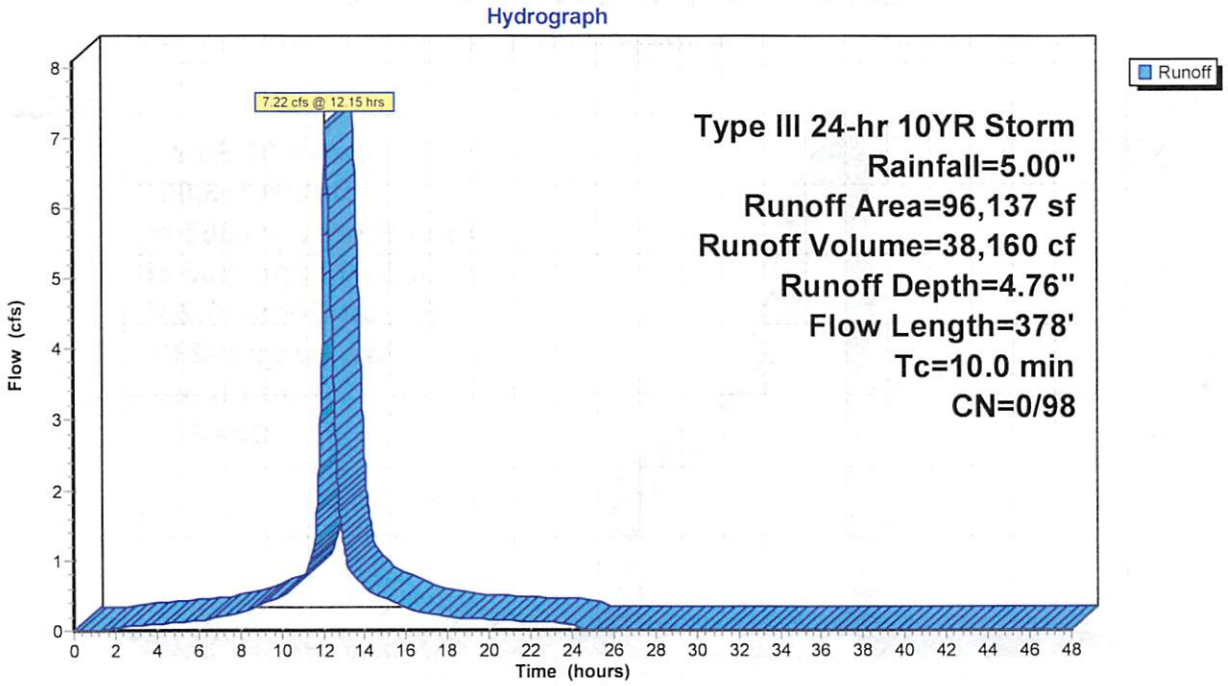
Runoff = 7.22 cfs @ 12.15 hrs, Volume= 38,160 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	501	98	Impervious Surfaces
*	94,952	98	Impervious Surfaces (Existing)
*	684	98	Impervious Surfaces (Offsite)
	96,137	98	Weighted Average
	96,137	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	200	0.0050	0.80		**Sheet Flow, Segment 24-25** Smooth surfaces n= 0.011 P2= 2.50"
2.3	178	0.0075	1.30		**Shallow Concentrated Flow, Segment 25-26** Grassed Waterway Kv= 15.0 fps
6.5	378	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1E-M: Undetained Site Impervious Area



Summary for Subcatchment P-1E-P: Undetained Site Pervious Area

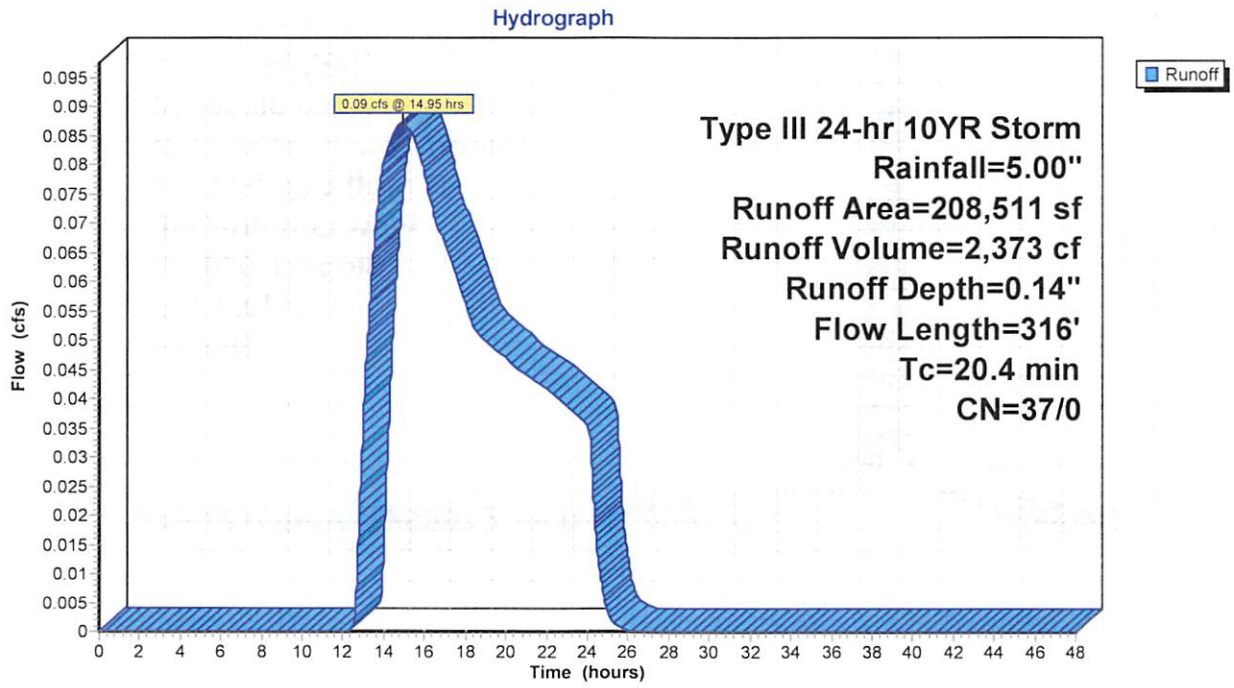
Runoff = 0.09 cfs @ 14.95 hrs, Volume= 2,373 cf, Depth= 0.14"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
41,965	30	Woods, Good, HSG A
166,546	39	>75% Grass cover, Good, HSG A
208,511	37	Weighted Average
208,511	37	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	47	0.0100	0.04		**Sheet Flow, Segment 21-22** Woods: Light underbrush n= 0.400 P2= 2.50"
0.3	70	0.0500	3.35		**Shallow Concentrated Flow, Segment 22-23** Grassed Waterway Kv= 15.0 fps
2.6	199	0.0075	1.30		**Shallow Concentrated Flow, Segment 23-26** Grassed Waterway Kv= 15.0 fps
20.4	316	Total			

Subcatchment P-1E-P: Undetained Site Pervious Area



Summary for Subcatchment P-1F-M: Municipal Basin Impervious Area

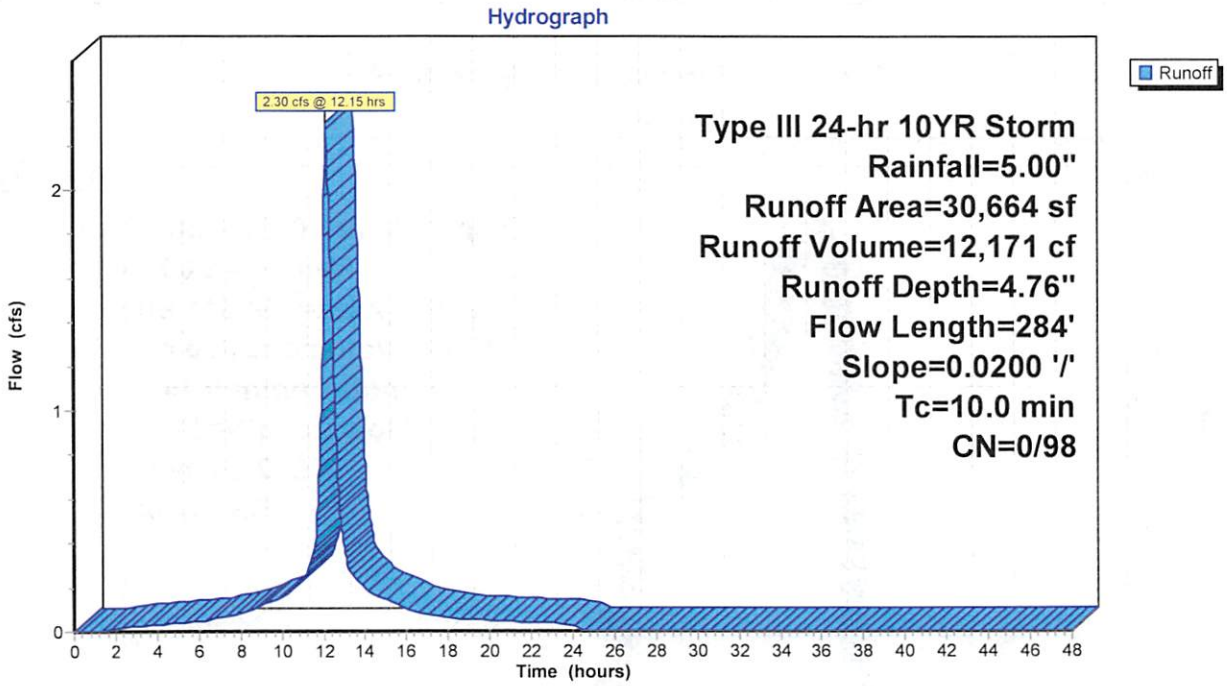
Runoff = 2.30 cfs @ 12.15 hrs, Volume= 12,171 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	30,664	98	Impervious Surfaces
	30,664	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0200	1.22		**Sheet Flow, Segment** Smooth surfaces n= 0.011 P2= 2.50"
1.1	184	0.0200	2.87		**Shallow Concentrated Flow, Segment** Paved Kv= 20.3 fps
2.5	284	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1F-M: Municipal Basin Impervious Area



Summary for Subcatchment P-1F-P: Municipal Basin Pervious Area

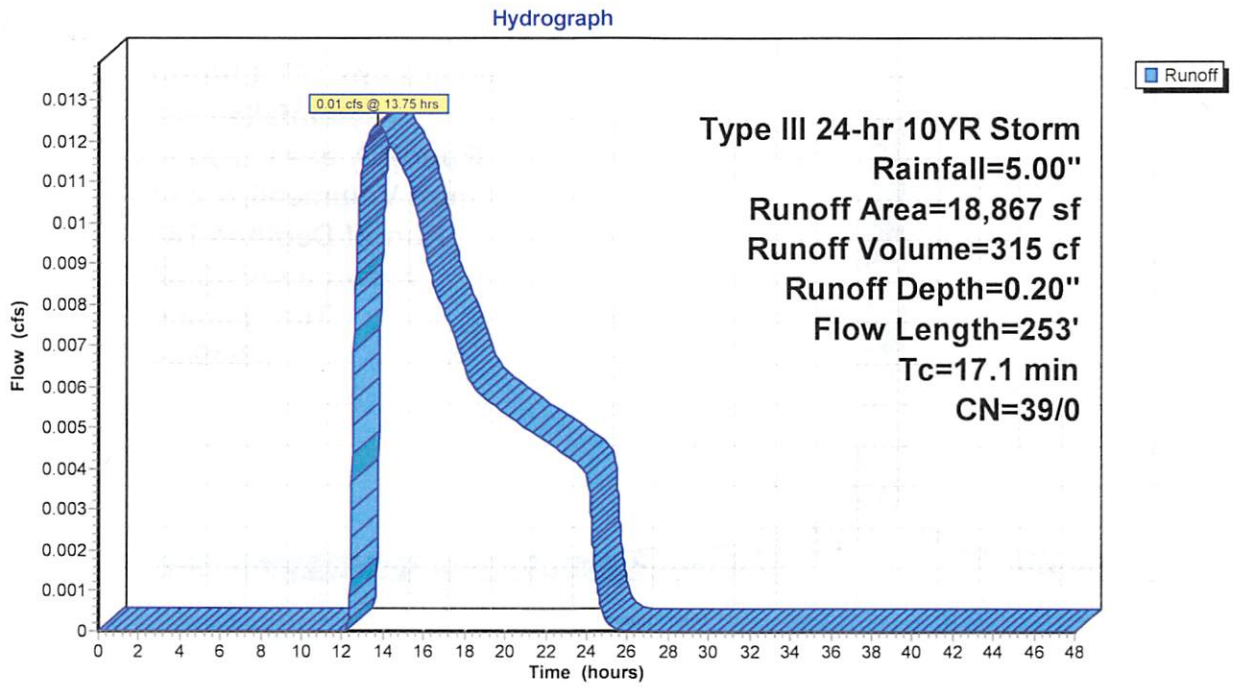
Runoff = 0.01 cfs @ 13.75 hrs, Volume= 315 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
18,867	39	>75% Grass cover, Good, HSG A
18,867	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	98	0.0210	0.10		**Sheet Flow, Segment T-U** Grass: Dense n= 0.240 P2= 2.50"
0.0	6	0.0150	2.49		**Shallow Concentrated Flow, Segment U-V** Paved Kv= 20.3 fps
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, Segment V-W** Unpaved Kv= 16.1 fps
1.4	143	0.0075	1.76		**Shallow Concentrated Flow, Segment W-X** Paved Kv= 20.3 fps
17.1	253	Total			

Subcatchment P-1F-P: Municipal Basin Pervious Area



Summary for Subcatchment P-2-M: Municipal Impervious Area

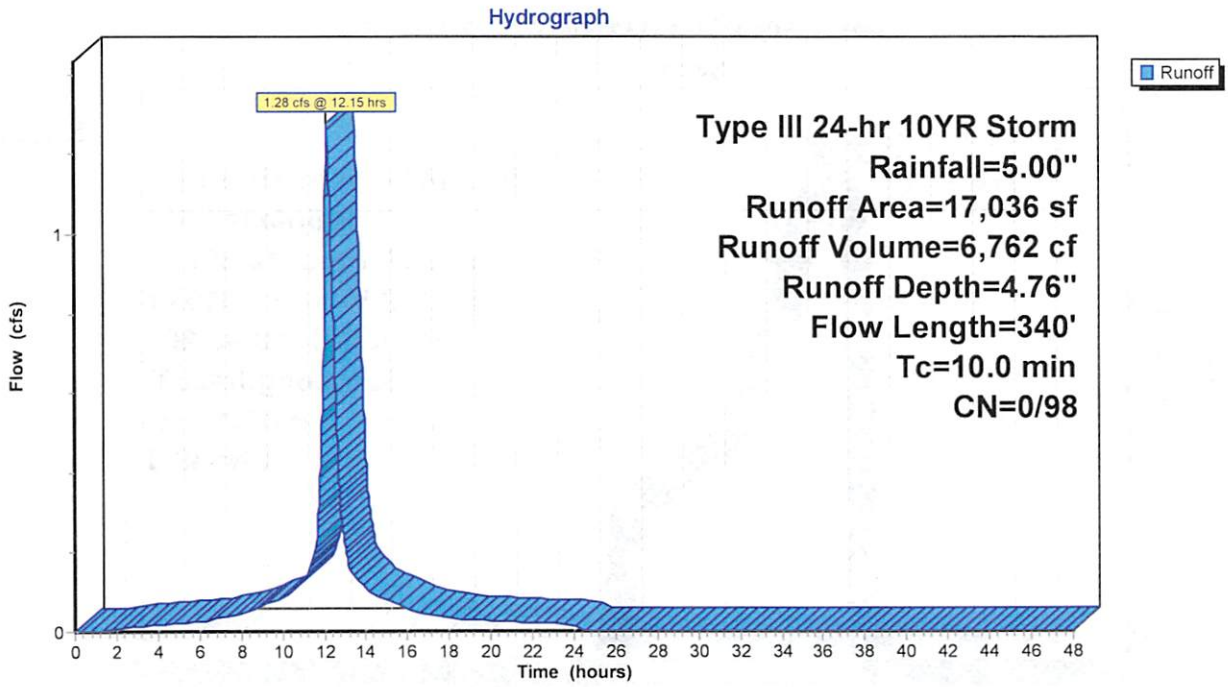
Runoff = 1.28 cfs @ 12.15 hrs, Volume= 6,762 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	17,036	98	Impervious Surfaces
	17,036	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	67	0.0200	1.12		**Sheet Flow, Segment 30-31** Smooth surfaces n= 0.011 P2= 2.50"
0.4	78	0.0300	3.52		**Shallow Concentrated Flow, Segment 31-32** Paved Kv= 20.3 fps
1.8	195	0.0075	1.76		**Shallow Concentrated Flow, Segment 32-33** Paved Kv= 20.3 fps
3.2	340	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-2-M: Municipal Impervious Area



Summary for Subcatchment P-2-P: Municipal Pervious Area

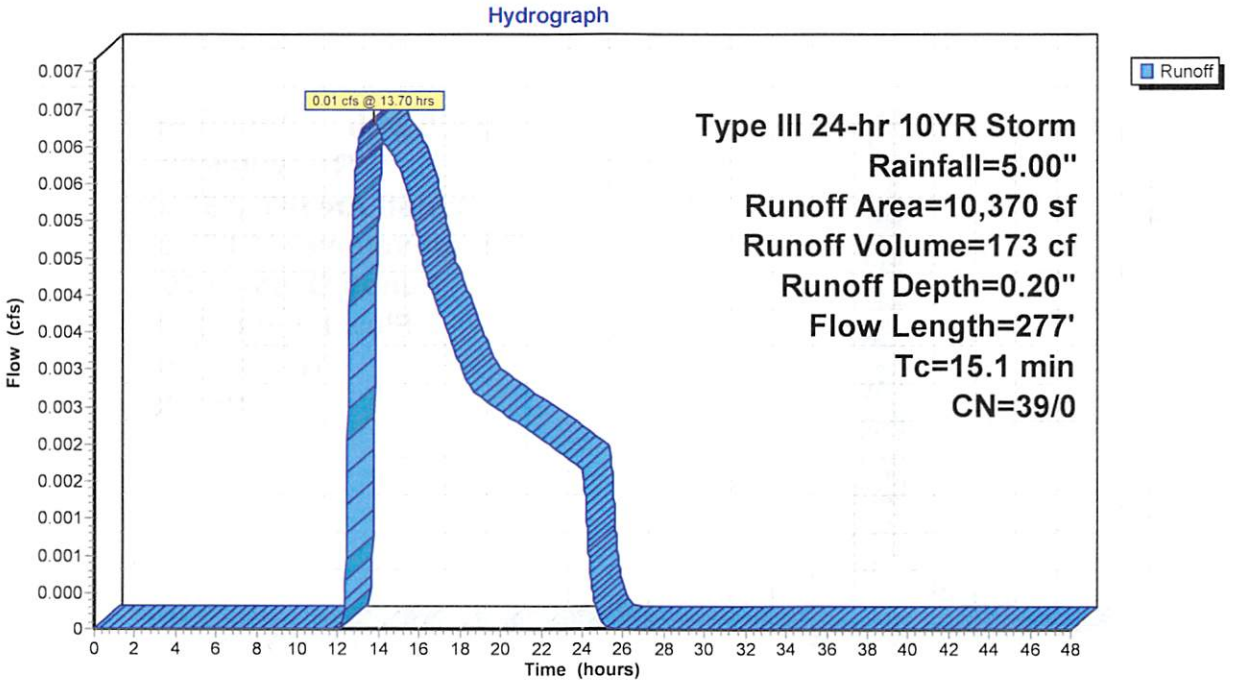
Runoff = 0.01 cfs @ 13.70 hrs, Volume= 173 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
10,370	39	>75% Grass cover, Good, HSG A
10,370	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	55	0.0100	0.07		**Sheet Flow, Segment 27-28** Grass: Dense n= 0.240 P2= 2.50"
1.7	182	0.0075	1.76		**Shallow Concentrated Flow, Segment 28-29** Paved Kv= 20.3 fps
0.2	40	0.0050	4.20	7.43	**Pipe Channel, Segement 29-33** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Concrete pipe, bends & connections
15.1	277	Total			

Subcatchment P-2-P: Municipal Pervious Area



Summary for Subcatchment P-3A-M: Wawa Basin Impervious Area

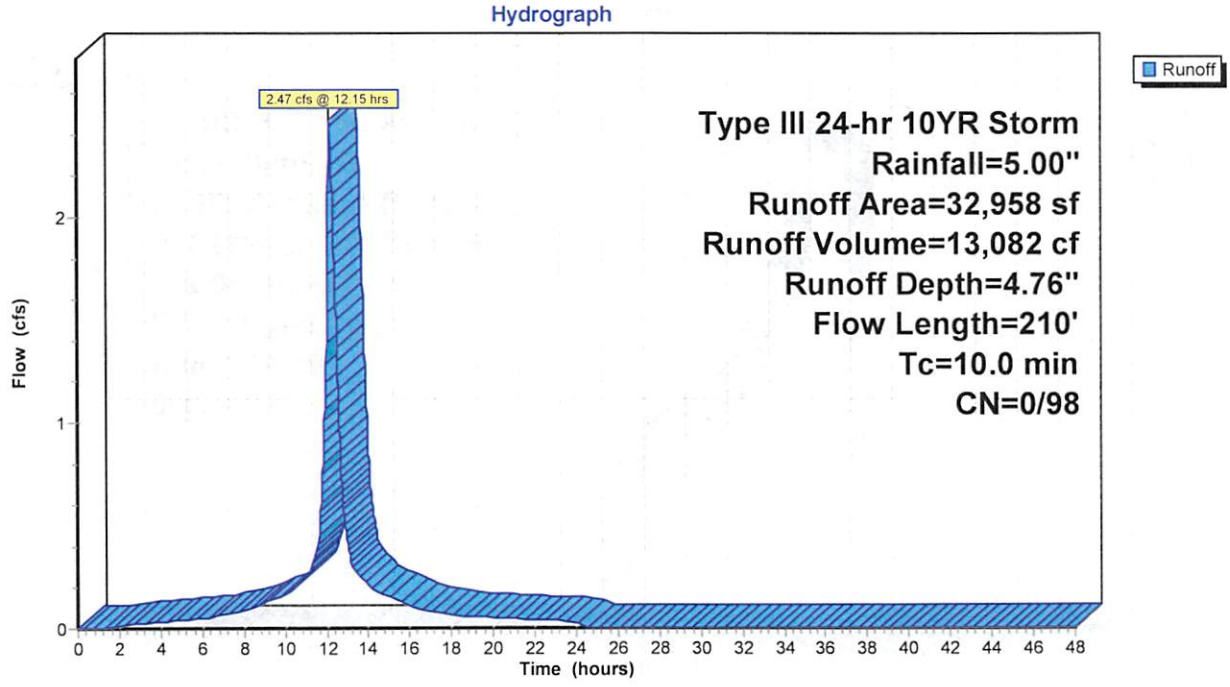
Runoff = 2.47 cfs @ 12.15 hrs, Volume= 13,082 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	32,958	98	Impervious Surfaces
	32,958	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	70	0.0150	1.01		**Sheet Flow, Segment 34-35** Smooth surfaces n= 0.011 P2= 2.50"
0.6	50	0.0100	1.50		**Shallow Concentrated Flow, Segment 35-36** Grassed Waterway Kv= 15.0 fps
0.4	90	0.0050	3.72	4.57	**Pipe Channel, Segment 36-37** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
2.2	210	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-3A-M: Wawa Basin Impervious Area



Summary for Subcatchment P-3A-P: Wawa Basin Pervious Area

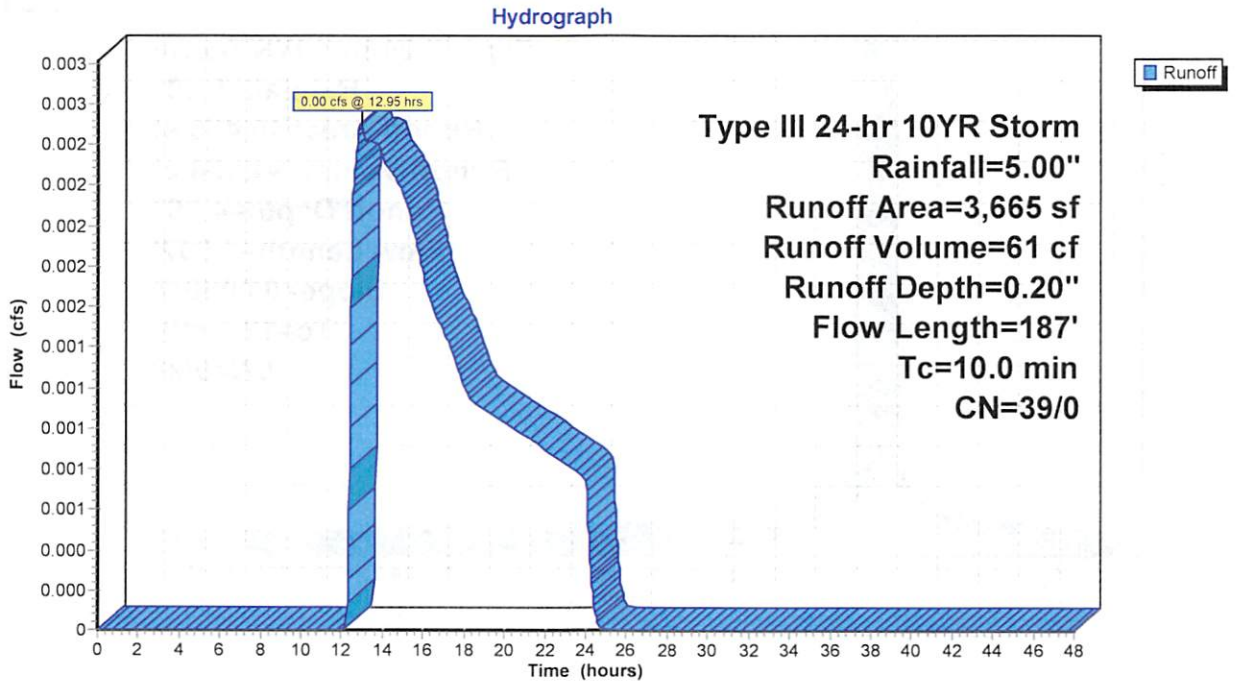
Runoff = 0.00 cfs @ 12.95 hrs, Volume= 61 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
3,665	39	>75% Grass cover, Good, HSG A
3,665	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	17	0.0100	0.05		**Sheet Flow, Segment Y-Z** Grass: Dense n= 0.240 P2= 2.50"
0.4	66	0.0200	2.87		**Shallow Concentrated Flow, Segment Z-AA** Paved Kv= 20.3 fps
0.6	104	0.0030	2.88	3.54	**Pipe Channel, Segment AA-AB** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
6.2	187	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-3A-P: Wawa Basin Pervious Area



Summary for Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area

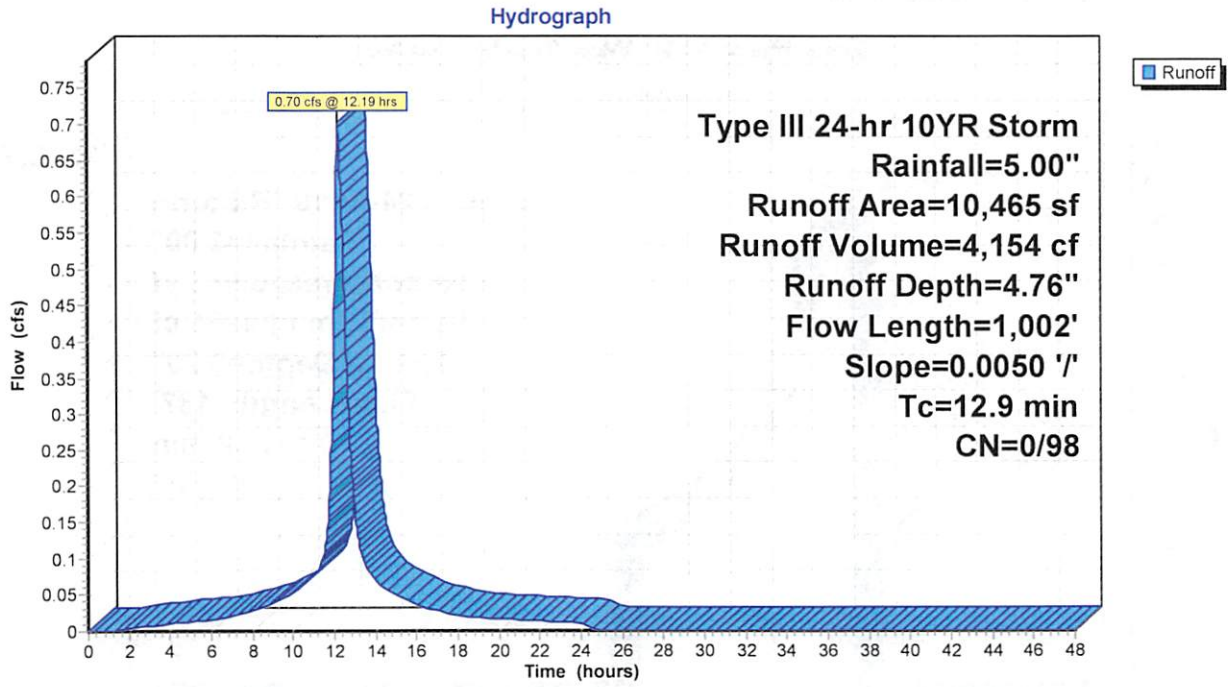
Runoff = 0.70 cfs @ 12.19 hrs, Volume= 4,154 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

	Area (sf)	CN	Description
*	10,465	98	Impervious Surfaces
	10,465	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	100	0.0050	0.70		**Sheet Flow, Segment 40-41** Smooth surfaces n= 0.011 P2= 2.50"
10.5	902	0.0050	1.44		**Shallow Concentrated Flow, Segment 41-42** Paved Kv= 20.3 fps
12.9	1,002	Total			

Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area



Summary for Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area

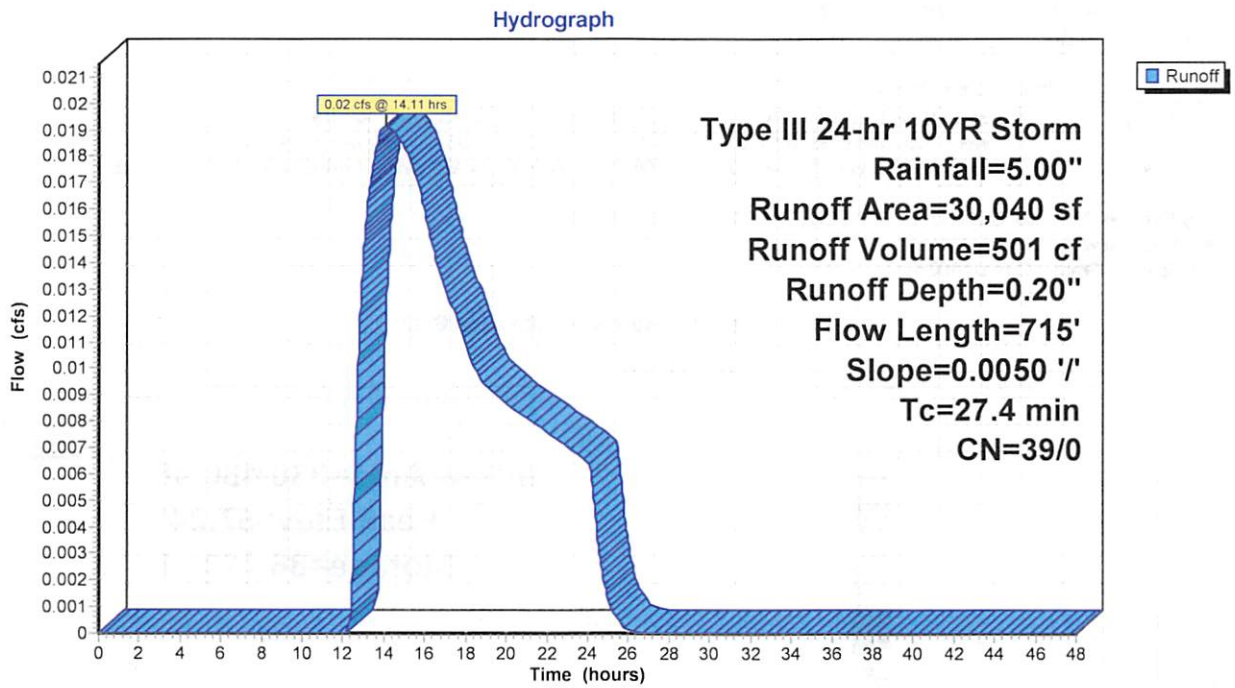
Runoff = 0.02 cfs @ 14.11 hrs, Volume= 501 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 10YR Storm Rainfall=5.00"

Area (sf)	CN	Description
30,040	39	>75% Grass cover, Good, HSG A
30,040	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	65	0.0050	0.05		**Sheet Flow, Segment 38-39** Grass: Dense n= 0.240 P2= 2.50"
7.5	650	0.0050	1.44		**Shallow Concentrated Flow, Segment 39-42** Paved Kv= 20.3 fps
27.4	715	Total			

Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area



Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 3.13" for 10YR Storm event
Inflow = 16.75 cfs @ 12.18 hrs, Volume= 86,123 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.24' @ 48.00 hrs Surf.Area= 39,110 sf Storage= 86,123 cf

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

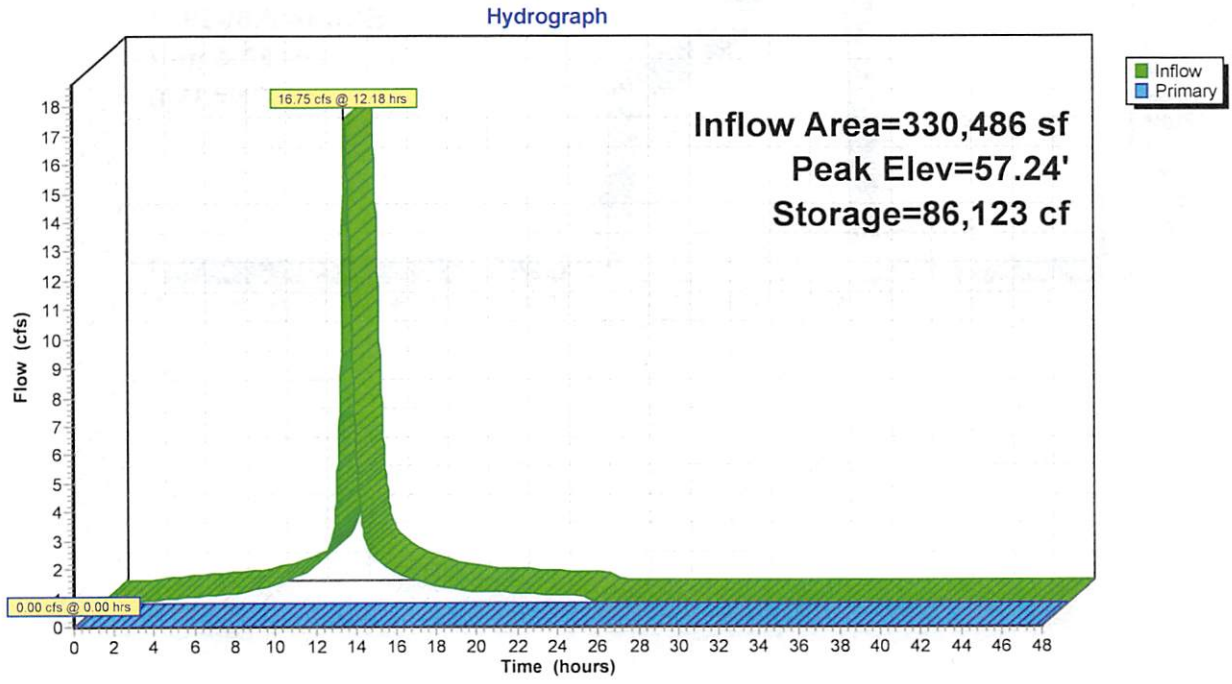
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.50' TW=0.00' (Dynamic Tailwater)
↳**1=Spillway Culvert** (Controls 0.00 cfs)
↳**2=Spillway Grate** (Controls 0.00 cfs)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-3: McDonalds Infiltration Basin

Inflow Area = 41,582 sf, 64.55% Impervious, Inflow Depth = 3.15" for 10YR Storm event
Inflow = 2.02 cfs @ 12.15 hrs, Volume= 10,901 cf
Outflow = 0.05 cfs @ 19.20 hrs, Volume= 869 cf, Atten= 98%, Lag= 422.5 min
Primary = 0.05 cfs @ 19.20 hrs, Volume= 869 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.76' @ 19.20 hrs Surf.Area= 4,963 sf Storage= 10,080 cf

Plug-Flow detention time= 925.1 min calculated for 868 cf (8% of inflow)
Center-of-Mass det. time= 515.2 min (1,278.9 - 763.7)

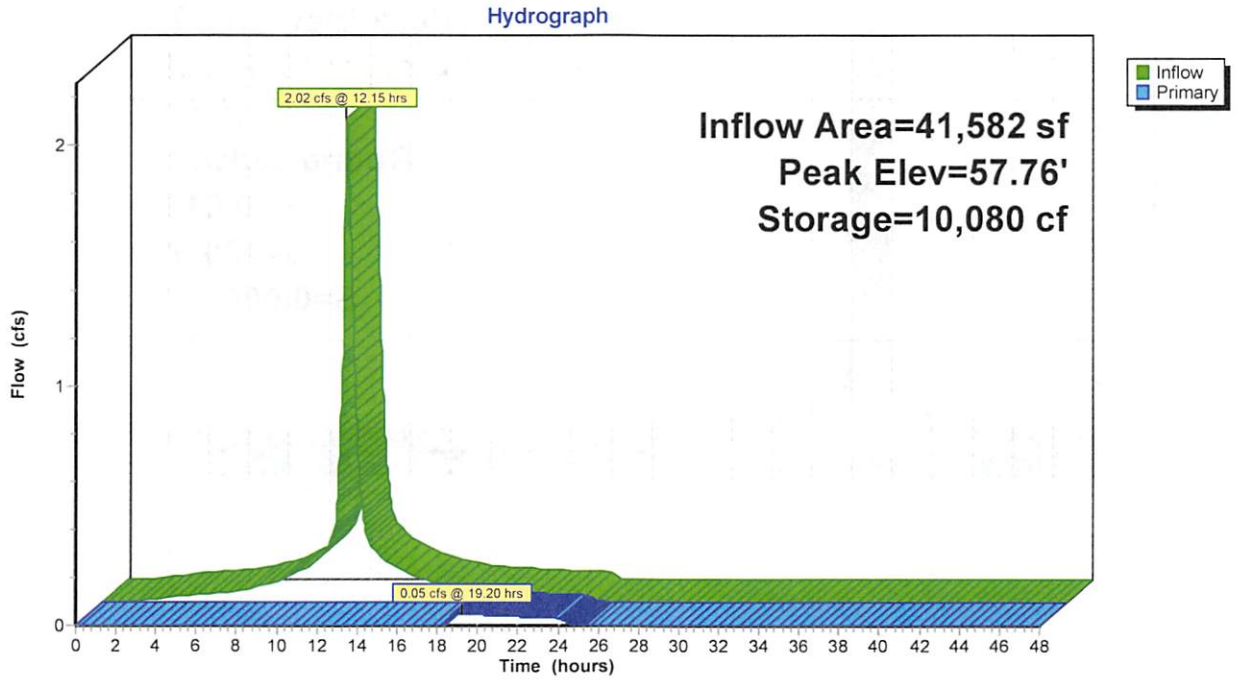
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	17,078 cf	**Infiltration Basin Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	2,481	210.0	0	0	2,481
56.00	3,284	242.0	2,873	2,873	3,654
57.00	4,197	274.0	3,731	6,604	4,993
58.00	5,219	306.0	4,699	11,303	6,498
59.00	6,350	337.0	5,775	17,078	8,117

Device	Routing	Invert	Outlet Devices
#1	Primary	55.68'	**15.0" Round Spillway Culvert** L= 73.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.68' / 55.39' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 19.20 hrs HW=57.76' TW=57.08' (Dynamic Tailwater)
↳**1=Spillway Culvert** (Passes 0.05 cfs of 4.53 cfs potential flow)
↳**2=Spillway Grate** (Weir Controls 0.05 cfs @ 0.32 fps)

Pond B-3: McDonalds Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 3.03" for 10YR Storm event
Inflow = 2.30 cfs @ 12.15 hrs, Volume= 12,486 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 54.50' @ 25.90 hrs Surf.Area= 7,600 sf Storage= 12,486 cf

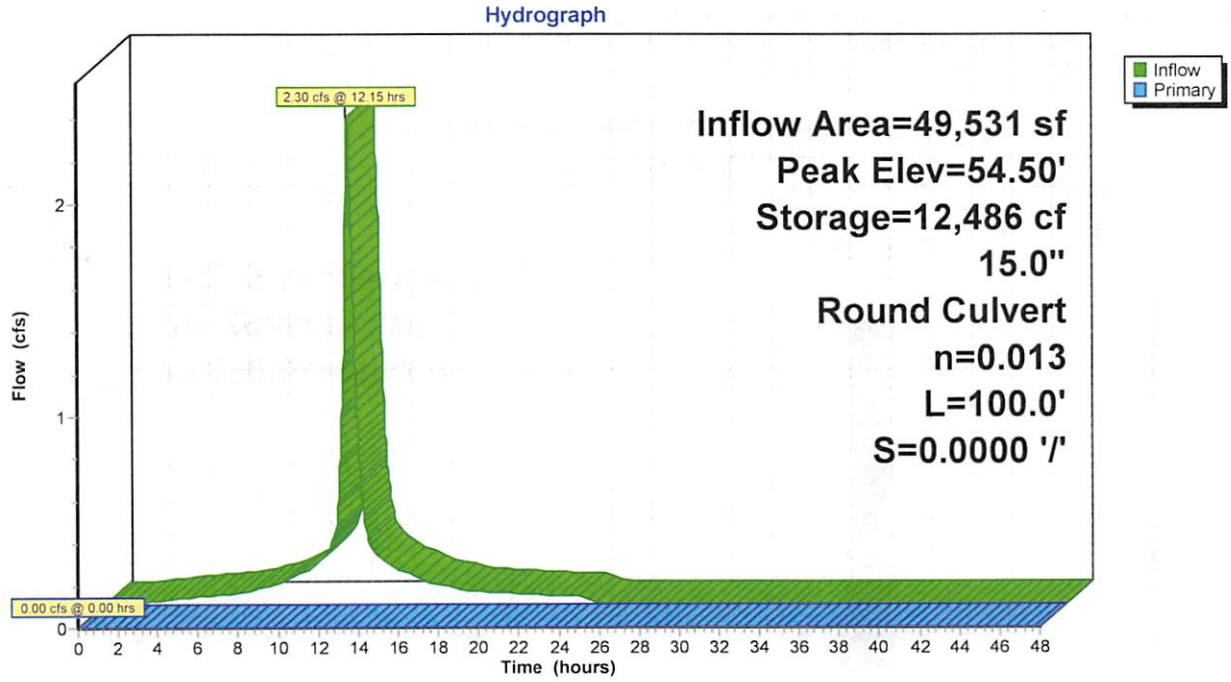
Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	5,274 cf	**48.0'W x 45.0'H x 190.0'L Stone Encasement (30")** x 10 28,500 cf Overall - 13,430 cf Embedded = 15,070 cf x 35.0% Voids
#2	51.80'	9,327 cf	**30.0" D x 190.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 13,430 cf Overall - 3.0" Wall Thickness = 9,327 cf
		14,601 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.50'	**15.0" Round Outlet To Site Rear** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.50' / 54.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.55' TW=0.00' (Dynamic Tailwater)
↑**1=Outlet To Site Rear** (Controls 0.00 cfs)

Pond B-4: Municipal Infiltration Basin



Summary for Pond B-5: Wawa Detention Basin

Inflow Area = 36,623 sf, 89.99% Impervious, Inflow Depth = 4.31" for 10YR Storm event
Inflow = 2.47 cfs @ 12.15 hrs, Volume= 13,143 cf
Outflow = 2.23 cfs @ 12.25 hrs, Volume= 13,143 cf, Atten= 10%, Lag= 5.6 min
Primary = 0.26 cfs @ 12.25 hrs, Volume= 9,453 cf
Secondary = 1.97 cfs @ 12.25 hrs, Volume= 3,690 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.06' @ 12.25 hrs Surf.Area= 1,548 sf Storage= 2,656 cf

Plug-Flow detention time= 63.3 min calculated for 13,138 cf (100% of inflow)
Center-of-Mass det. time= 63.3 min (822.3 - 759.0)

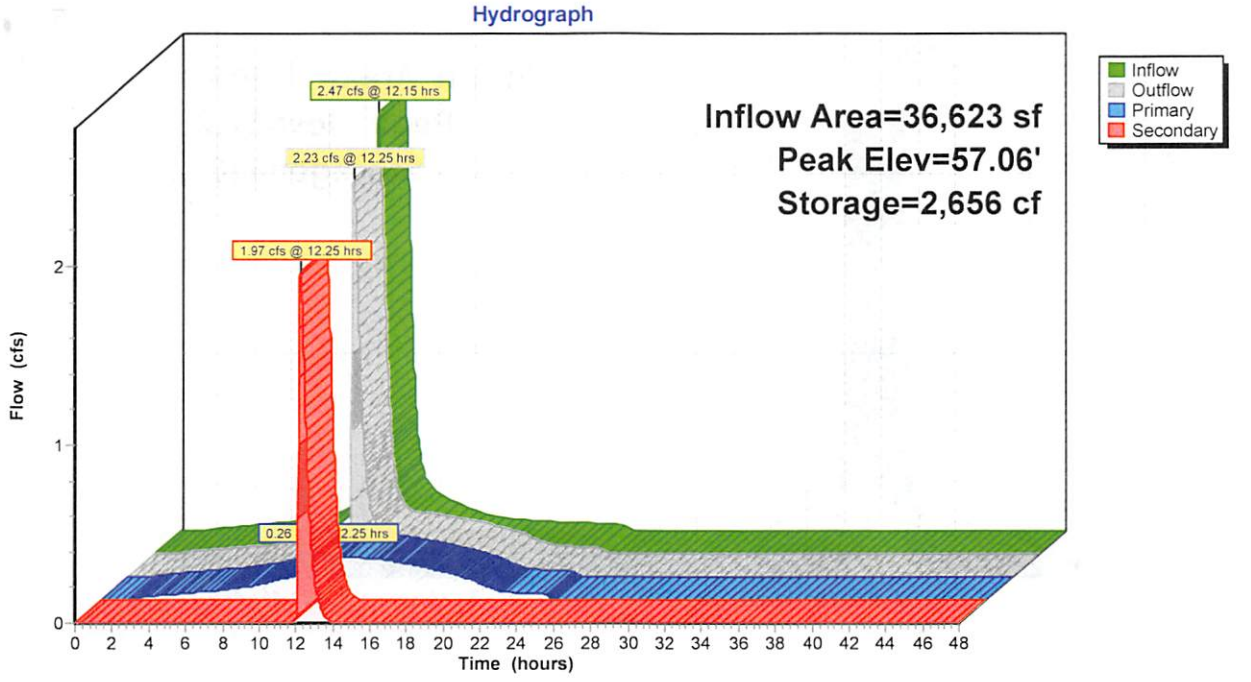
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	3,436 cf	**30.0" D x 100.0'L HDPE Storage S= 0.0050 '/'** x 7

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	**3.0" Round Intake To Water Quality Unit** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.00' / 54.95' S= 0.0036 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	55.75'	**18.0" Round Outlet To Primary Basin** L= 113.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.75' / 54.92' S= 0.0073 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#3	Device 2	56.75'	**4.0' 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=0.26 cfs @ 12.25 hrs HW=57.06' TW=0.00' (Dynamic Tailwater)
└─**1=Intake To Water Quality Unit** (Inlet Controls 0.26 cfs @ 5.29 fps)

Secondary OutFlow Max=1.97 cfs @ 12.25 hrs HW=57.06' TW=55.96' (Dynamic Tailwater)
└─**2=Outlet To Primary Basin** (Passes 1.97 cfs of 5.76 cfs potential flow)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 1.97 cfs @ 1.59 fps)

Pond B-5: Wawa Detention Basin



Summary for Pond RG-1: Fast Food Bioretention Area

Inflow Area = 10,144 sf, 48.34% Impervious, Inflow Depth = 2.41" for 10YR Storm event
Inflow = 0.37 cfs @ 12.15 hrs, Volume= 2,034 cf
Outflow = 0.37 cfs @ 12.17 hrs, Volume= 1,416 cf, Atten= 0%, Lag= 0.6 min
Primary = 0.37 cfs @ 12.17 hrs, Volume= 1,416 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.23' @ 25.06 hrs Surf.Area= 672 sf Storage= 618 cf

Plug-Flow detention time= 110.2 min calculated for 1,416 cf (70% of inflow)
Center-of-Mass det. time= 8.3 min (777.4 - 769.1)

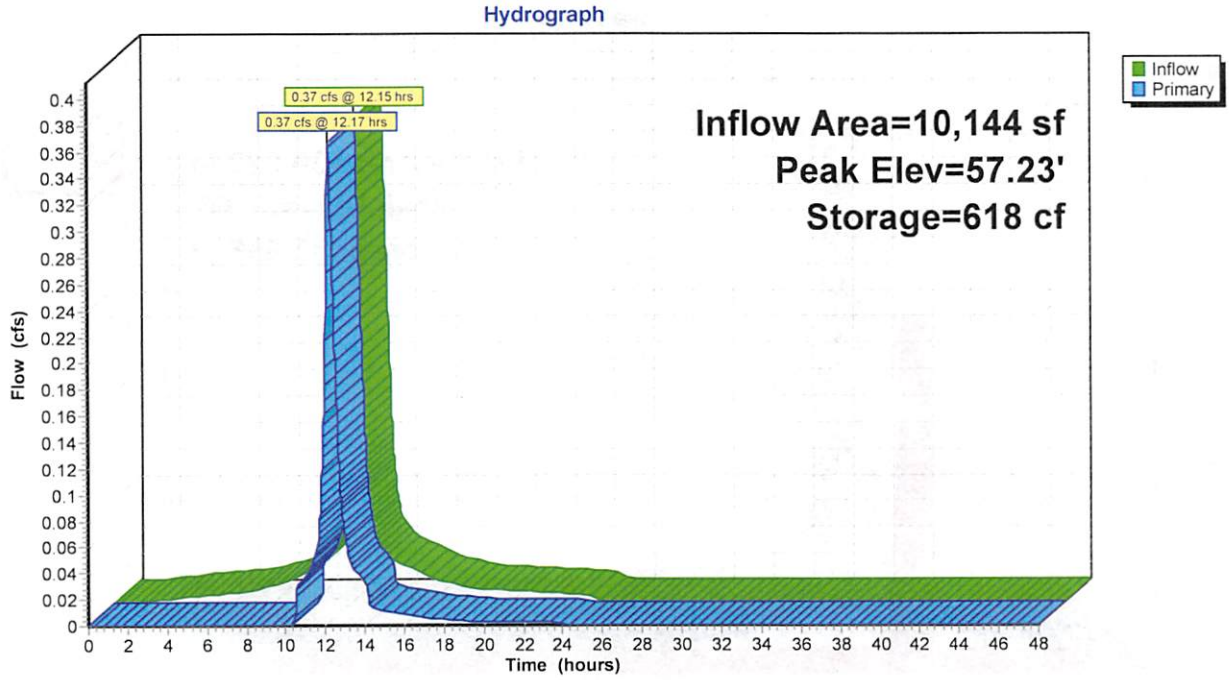
Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	1,236 cf	**Bioretention Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.00	354	71.0	0	0	354
57.00	595	90.0	469	469	610
58.00	953	126.0	767	1,236	1,239

Device	Routing	Invert	Outlet Devices
#1	Primary	54.80'	**12.0" Round Spillway Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.80' / 54.72' S= 0.0031 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	56.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.37 cfs @ 12.17 hrs HW=56.79' TW=55.81' (Dynamic Tailwater)
└─**1=Spillway Culvert** (Passes 0.37 cfs of 3.73 cfs potential flow)
└─**2=Spillway Grate** (Weir Controls 0.37 cfs @ 0.63 fps)

Pond RG-1: Fast Food Bioretention Area



Summary for Pond RG-2: Access Road Bioretention Area

Inflow Area = 55,913 sf, 58.22% Impervious, Inflow Depth = 2.86" for 10YR Storm event
Inflow = 2.44 cfs @ 12.15 hrs, Volume= 13,310 cf
Outflow = 1.56 cfs @ 12.44 hrs, Volume= 11,477 cf, Atten= 36%, Lag= 17.0 min
Primary = 1.56 cfs @ 12.44 hrs, Volume= 11,477 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.63' @ 12.44 hrs Surf.Area= 4,804 sf Storage= 4,577 cf

Plug-Flow detention time= 173.3 min calculated for 11,472 cf (86% of inflow)
Center-of-Mass det. time= 110.3 min (875.9 - 765.6)

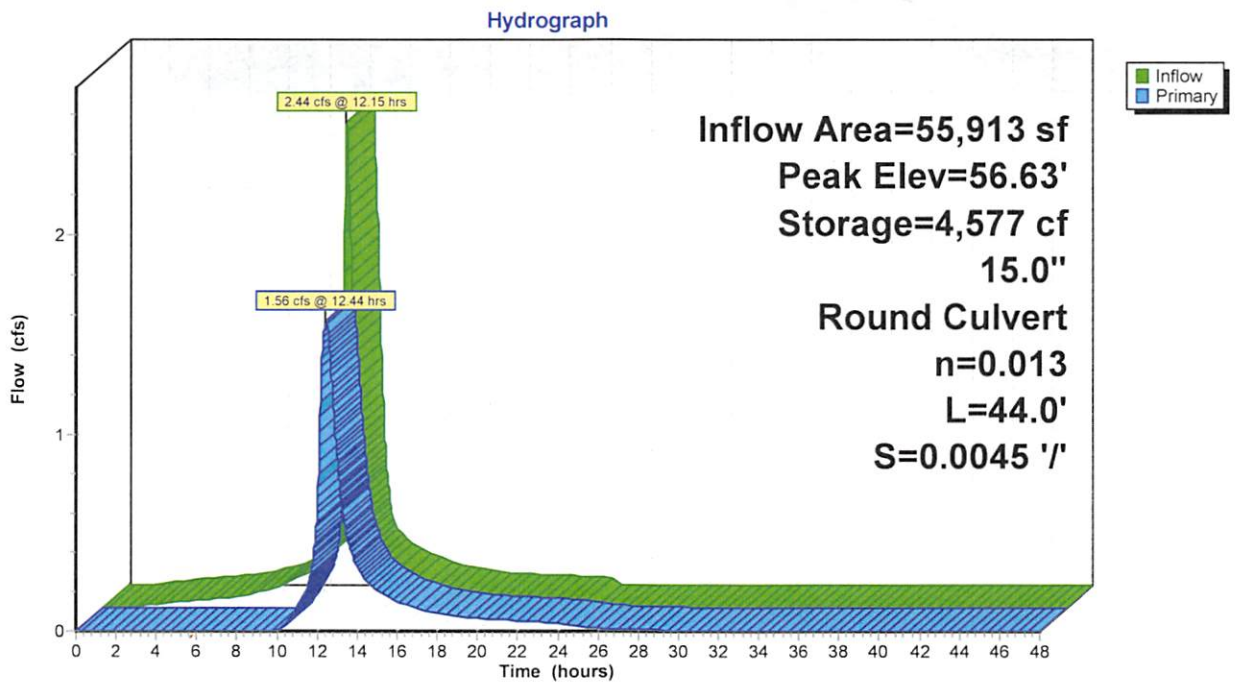
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	6,579 cf	**Swale Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	1,200	750.0	0	0	1,200
56.00	3,155	794.5	2,100	2,100	6,724
57.00	5,950	882.0	4,479	6,579	18,427

Device	Routing	Invert	Outlet Devices
#1	Primary	55.90'	**15.0" Round Outlet Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.90' / 55.70' S= 0.0045 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.56 cfs @ 12.44 hrs HW=56.63' TW=0.00' (Dynamic Tailwater)
↑**1=Outlet Culvert** (Barrel Controls 1.56 cfs @ 3.04 fps)

Pond RG-2: Access Road Bioretention Area

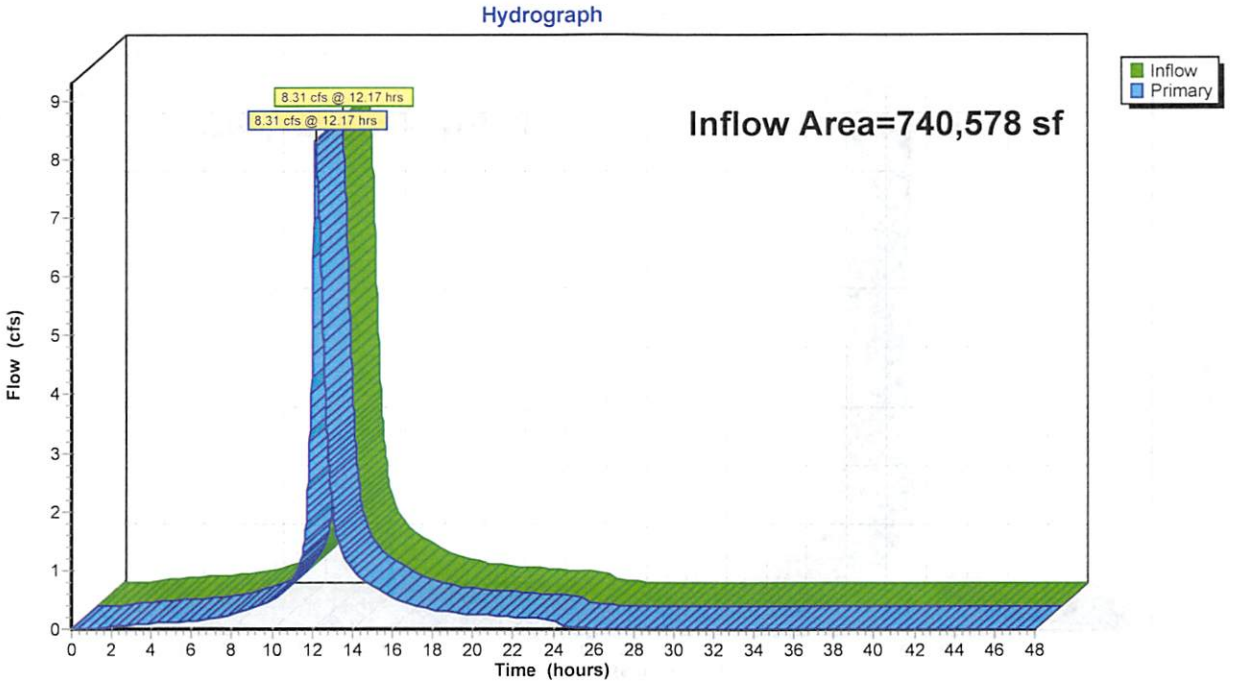


Summary for Link P-1: Proposed Site Drainage Area

Inflow Area = 740,578 sf, 52.61% Impervious, Inflow Depth = 0.84" for 10YR Storm event
Inflow = 8.31 cfs @ 12.17 hrs, Volume= 52,009 cf
Primary = 8.31 cfs @ 12.17 hrs, Volume= 52,009 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-1: Proposed Site Drainage Area

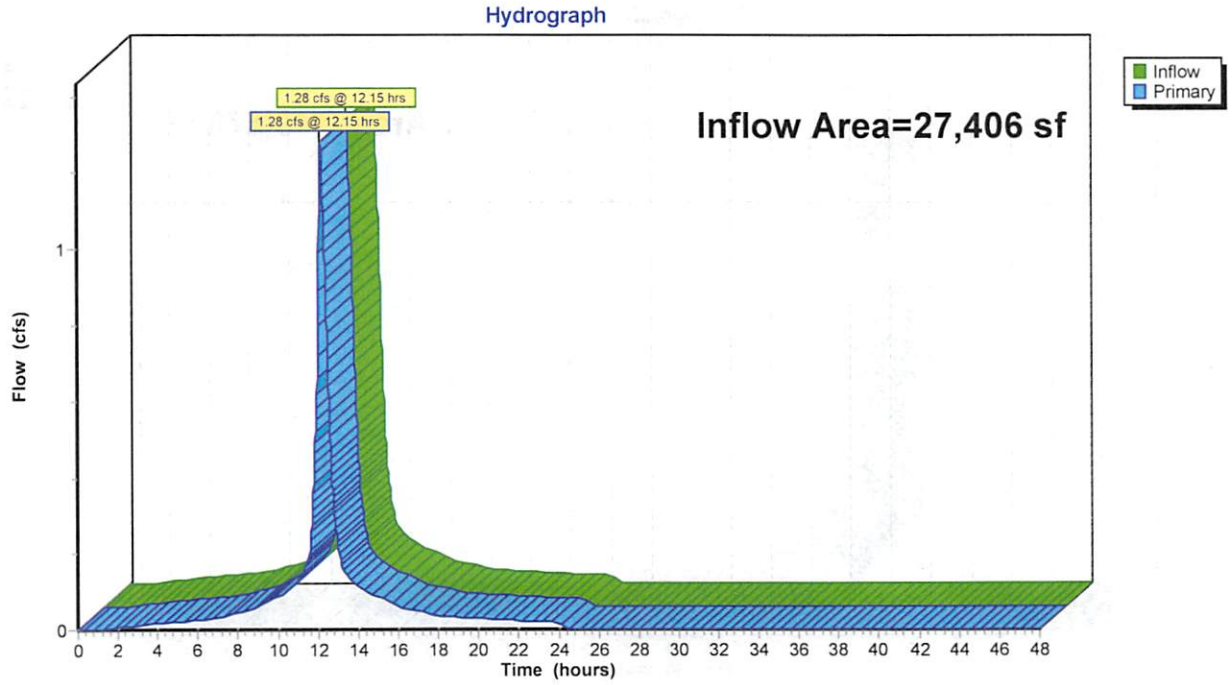


Summary for Link P-2: Proposed Municipal Drainage Area

Inflow Area = 27,406 sf, 62.16% Impervious, Inflow Depth = 3.04" for 10YR Storm event
Inflow = 1.28 cfs @ 12.15 hrs, Volume= 6,935 cf
Primary = 1.28 cfs @ 12.15 hrs, Volume= 6,935 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-2: Proposed Municipal Drainage Area

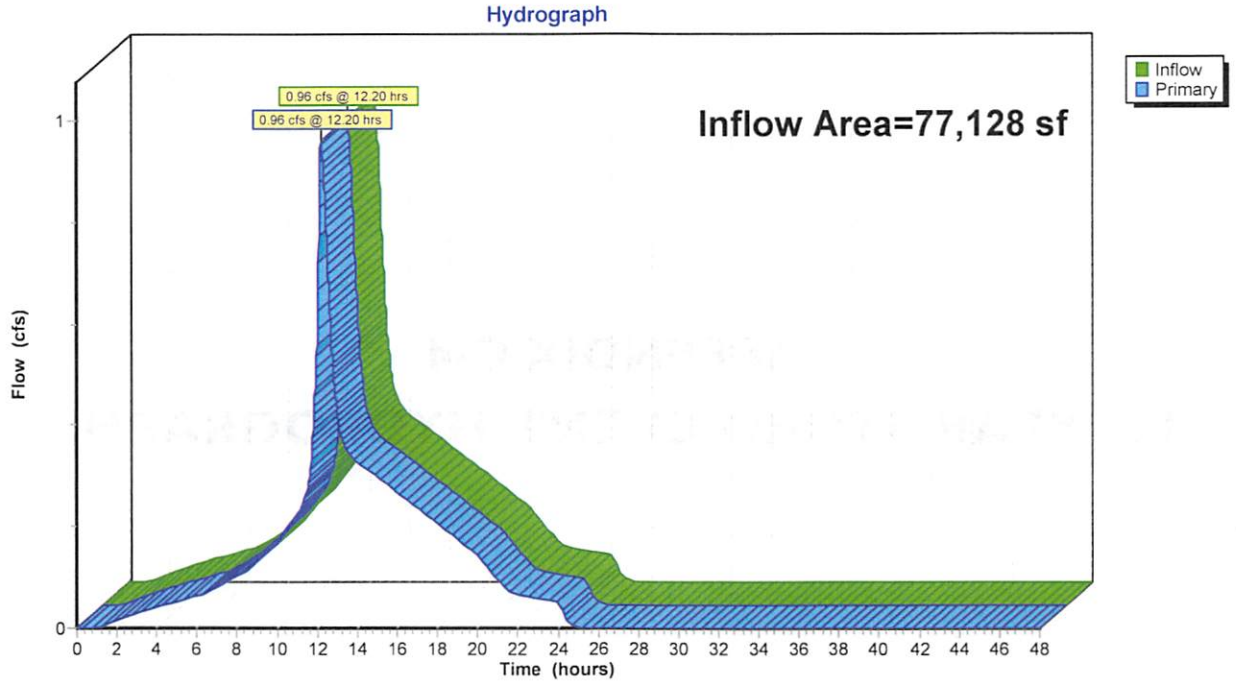


Summary for Link P-3: Proposed DOT Drainage Area

Inflow Area = 77,128 sf, 56.30% Impervious, Inflow Depth = 2.19" for 10YR Storm event
Inflow = 0.96 cfs @ 12.20 hrs, Volume= 14,108 cf
Primary = 0.96 cfs @ 12.20 hrs, Volume= 14,108 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-3: Proposed DOT Drainage Area



Summary for Subcatchment P-1A-M: Fast Food Bioretention Impervious Area

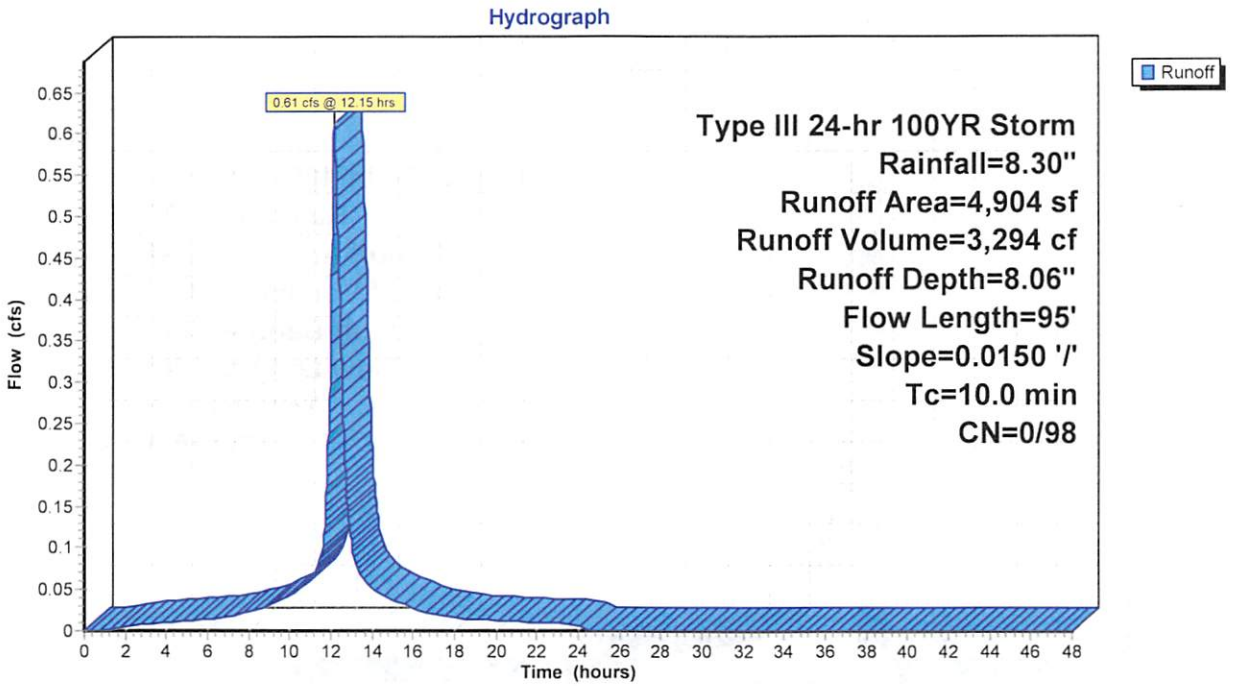
Runoff = 0.61 cfs @ 12.15 hrs, Volume= 3,294 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	4,904	98	Impervious Surfaces
	4,904	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	95	0.0150	2.49		**Shallow Concentrated Flow, Segment 3-4** Paved Kv= 20.3 fps
0.6	95	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1A-M: Fast Food Bioretention Impervious Area



Summary for Subcatchment P-1A-P: Fast Food Bioretention Pervious Area

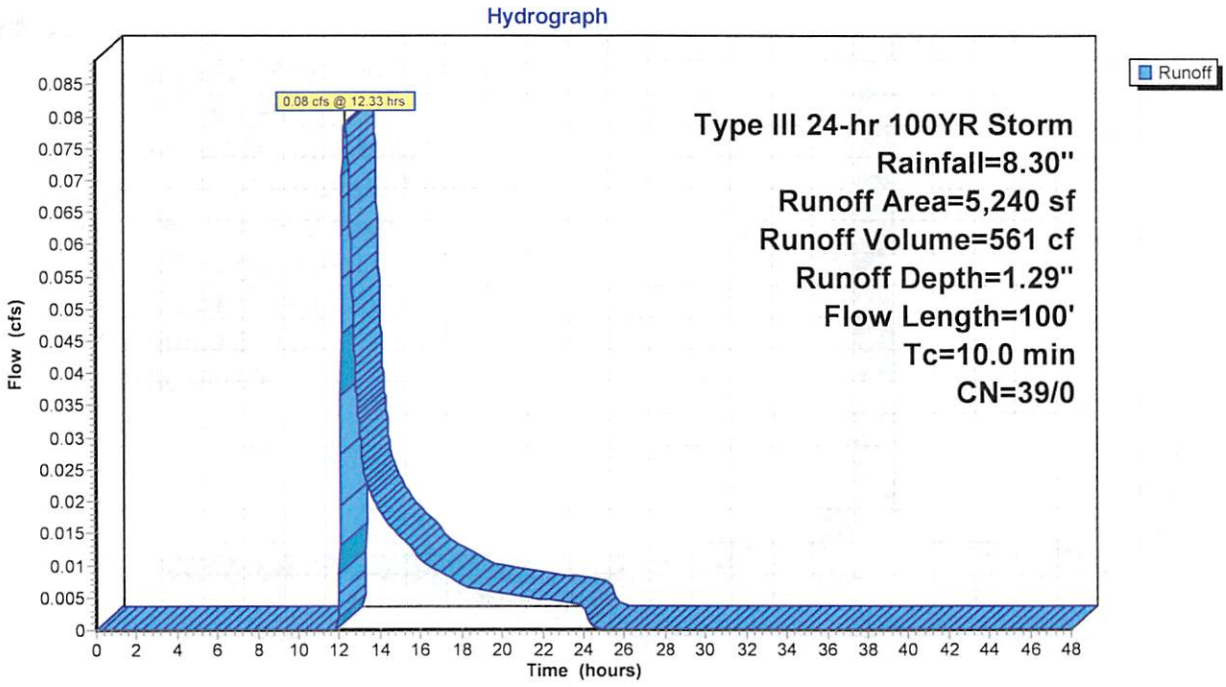
Runoff = 0.08 cfs @ 12.33 hrs, Volume= 561 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
5,240	39	>75% Grass cover, Good, HSG A
5,240	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	26	0.0100	0.06		**Sheet Flow, Segment 1-2** Grass: Dense n= 0.240 P2= 2.50"
0.5	74	0.0133	2.34		**Shallow Concentrated Flow, Segment 2-4** Paved Kv= 20.3 fps
7.8	100	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1A-P: Fast Food Bioretention Pervious Area



Summary for Subcatchment P-1B-M: Primary Basin Impervious Area

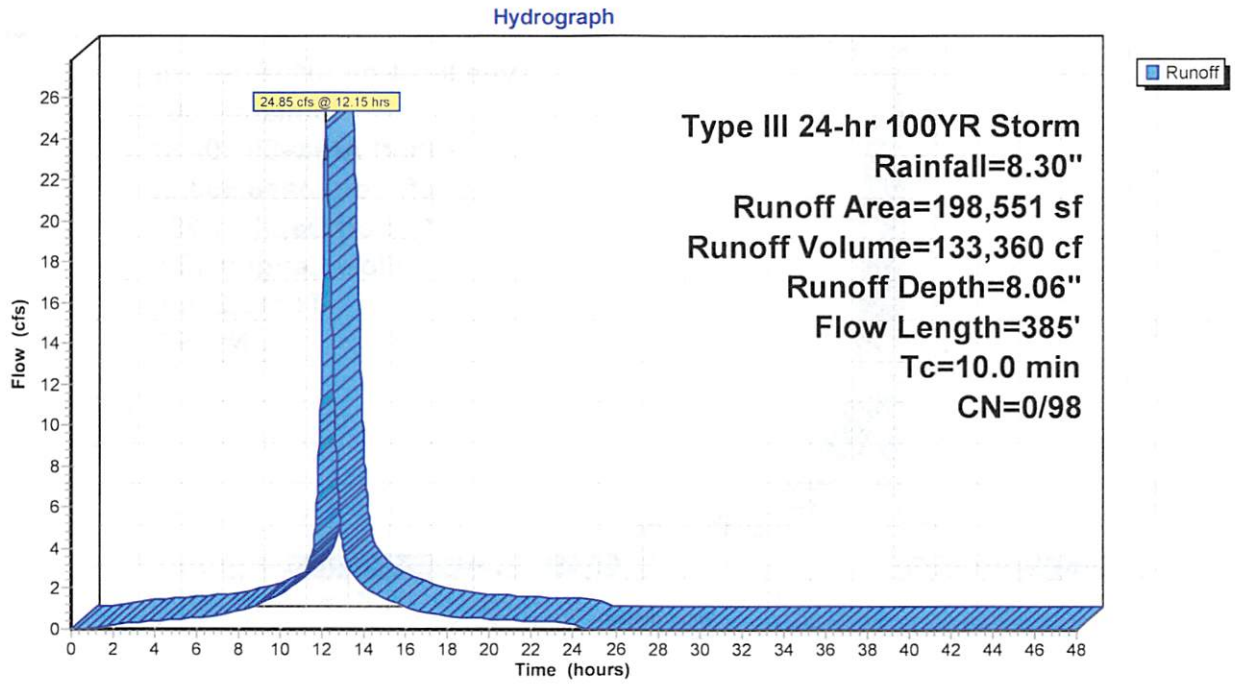
Runoff = 24.85 cfs @ 12.15 hrs, Volume= 133,360 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	191,198	98	Impervious Areas
*	7,353	98	Impervious Areas (Fuel Canopy)
	198,551	98	Weighted Average
	198,551	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	100	0.0075	0.82		**Sheet Flow, Segment 9-10** Smooth surfaces n= 0.011 P2= 2.50"
1.4	150	0.0075	1.76		**Shallow Concentrated Flow, Segment 10-11** Paved Kv= 20.3 fps
0.6	135	0.0050	3.72	4.57	**Pipe Channel, Segment 11-12** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
4.0	385	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1B-M: Primary Basin Impervious Area



Summary for Subcatchment P-1B-P: Primary Basin Pervious Area

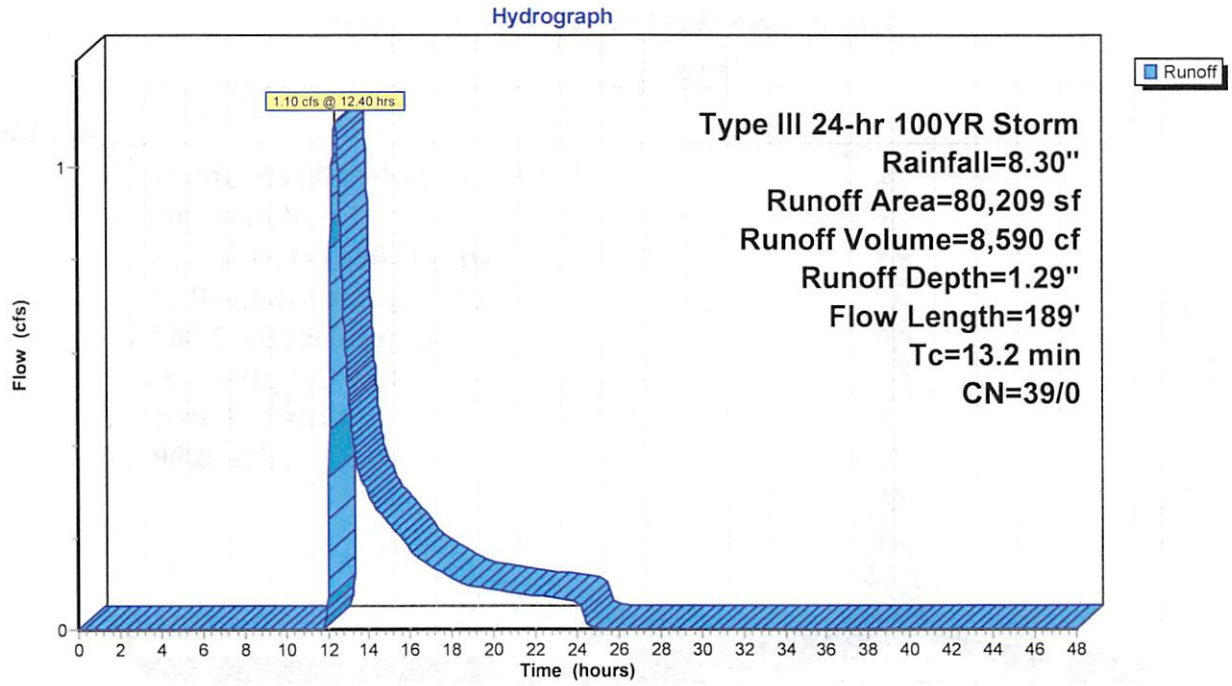
Runoff = 1.10 cfs @ 12.40 hrs, Volume= 8,590 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
80,209	39	>75% Grass cover, Good, HSG A
80,209	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	52	0.0100	0.07		**Sheet Flow, Segment 5-6** Grass: Dense n= 0.240 P2= 2.50"
0.3	35	0.0125	2.27		**Shallow Concentrated Flow, Segment 6-7** Paved Kv= 20.3 fps
0.3	102	0.0050	5.09	16.00	**Pipe Channel, Segment 7-8** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections
13.2	189	Total			

Subcatchment P-1B-P: Primary Basin Pervious Area



Summary for Subcatchment P-1C-M: McDonalds Basin Impervious Area

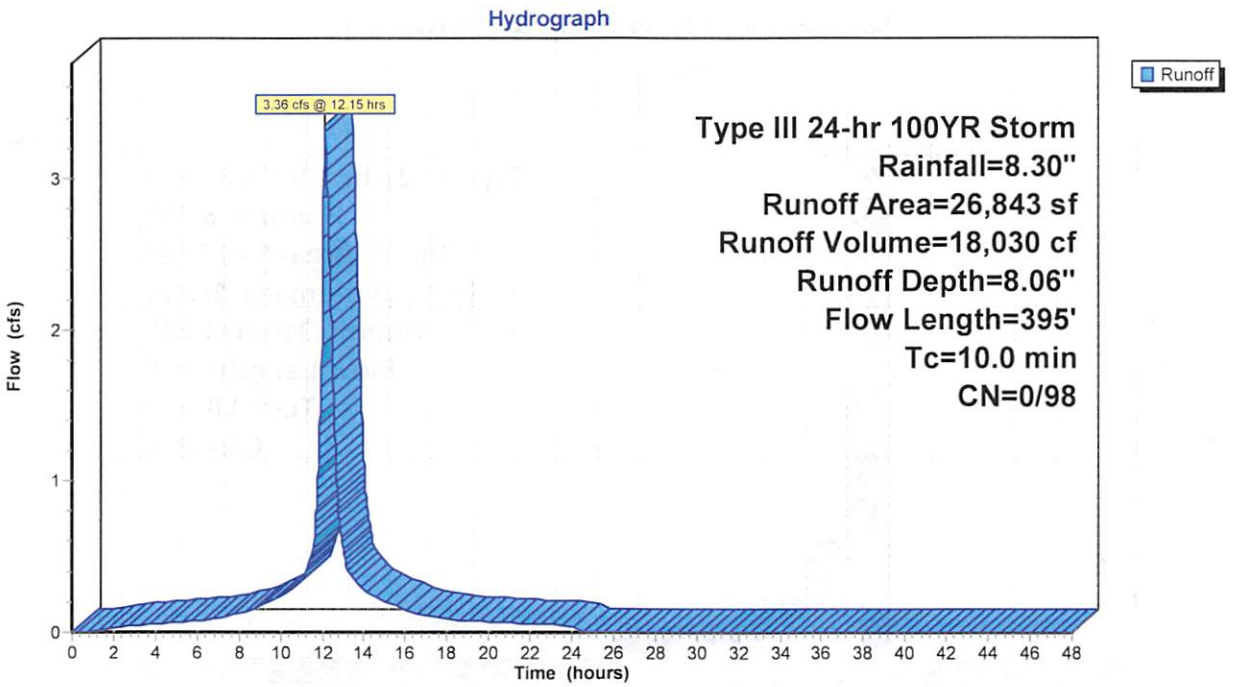
Runoff = 3.36 cfs @ 12.15 hrs, Volume= 18,030 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	26,843	98	Impervious Surfaces
	26,843	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	60	0.0200	1.10		**Sheet Flow, Segment 14-15** Smooth surfaces n= 0.011 P2= 2.50"
1.9	335	0.0030	2.88	3.54	**Pipe Channel, Segment 15-16** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
2.8	395	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1C-M: McDonalds Basin Impervious Area



Summary for Subcatchment P-1C-P: McDonalds Basin Pervious Area

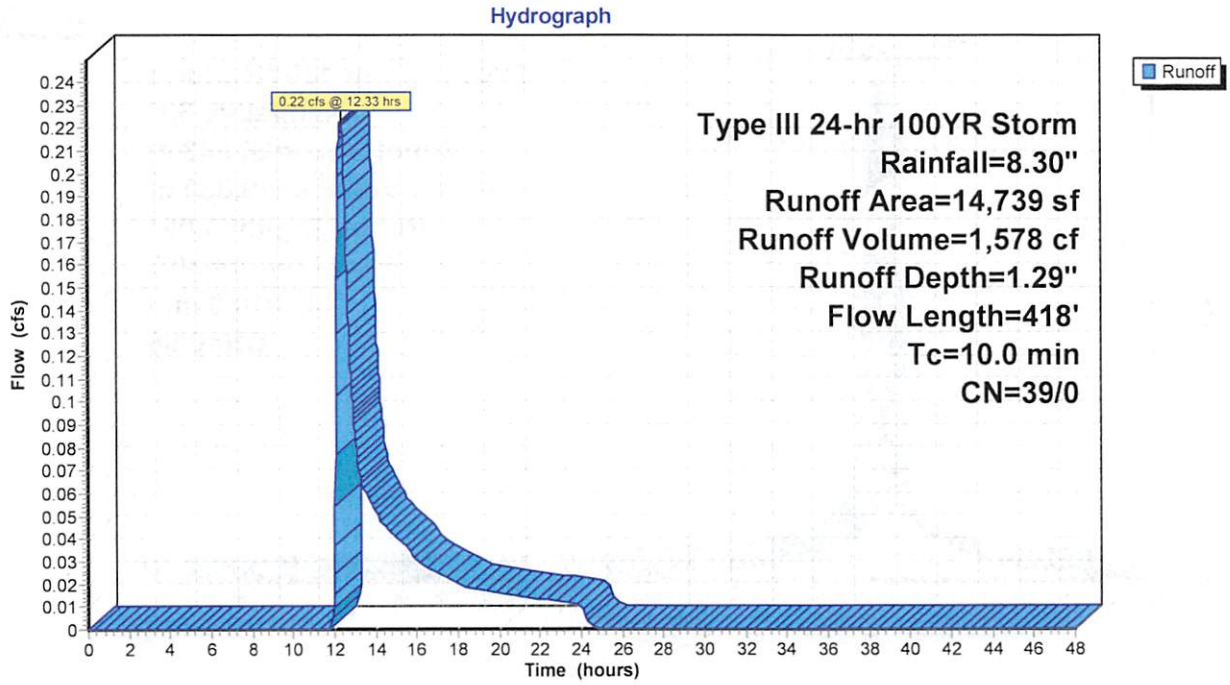
Runoff = 0.22 cfs @ 12.33 hrs, Volume= 1,578 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
14,739	39	>75% Grass cover, Good, HSG A
14,739	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	23	0.0100	0.06		**Sheet Flow, Segment 13-14** Grass: Dense n= 0.240 P2= 2.50"
0.3	60	0.0200	2.87		**Shallow Concentrated Flow, Segment 14-15** Paved Kv= 20.3 fps
1.9	335	0.0030	2.88	3.54	**Pipe Channel, Segment 15-16** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
8.8	418	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1C-P: McDonalds Basin Pervious Area



Summary for Subcatchment P-1D-M: Access Road Bioretention Impervious Area

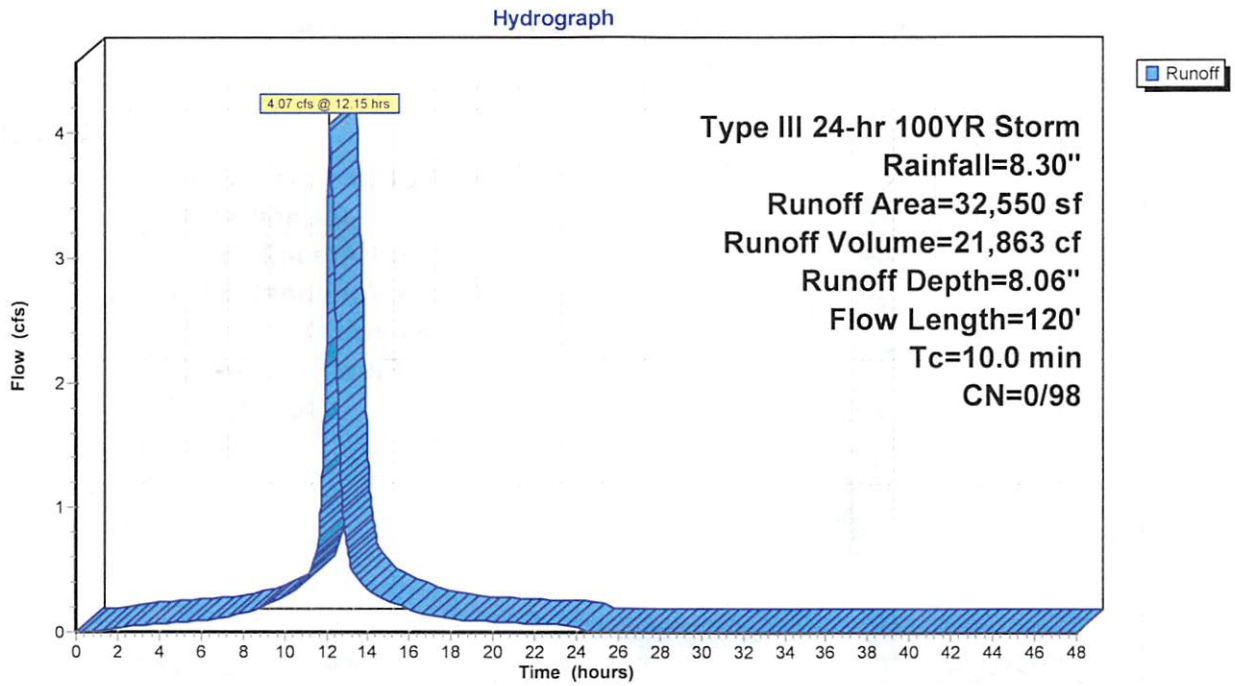
Runoff = 4.07 cfs @ 12.15 hrs, Volume= 21,863 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	2,127	98	Impervious Surfaces
*	30,423	98	Impervious Surfaces (Offsite)
	32,550	98	Weighted Average
	32,550	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0133	1.03		**Sheet Flow, Segment 18-19** Smooth surfaces n= 0.011 P2= 2.50"
0.2	20	0.0150	1.84		**Shallow Concentrated Flow, Segment 19-20** Grassed Waterway Kv= 15.0 fps
1.8	120	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1D-M: Access Road Bioretention Impervious Area



Summary for Subcatchment P-1D-P: Access Road Bioretention Pervious Area

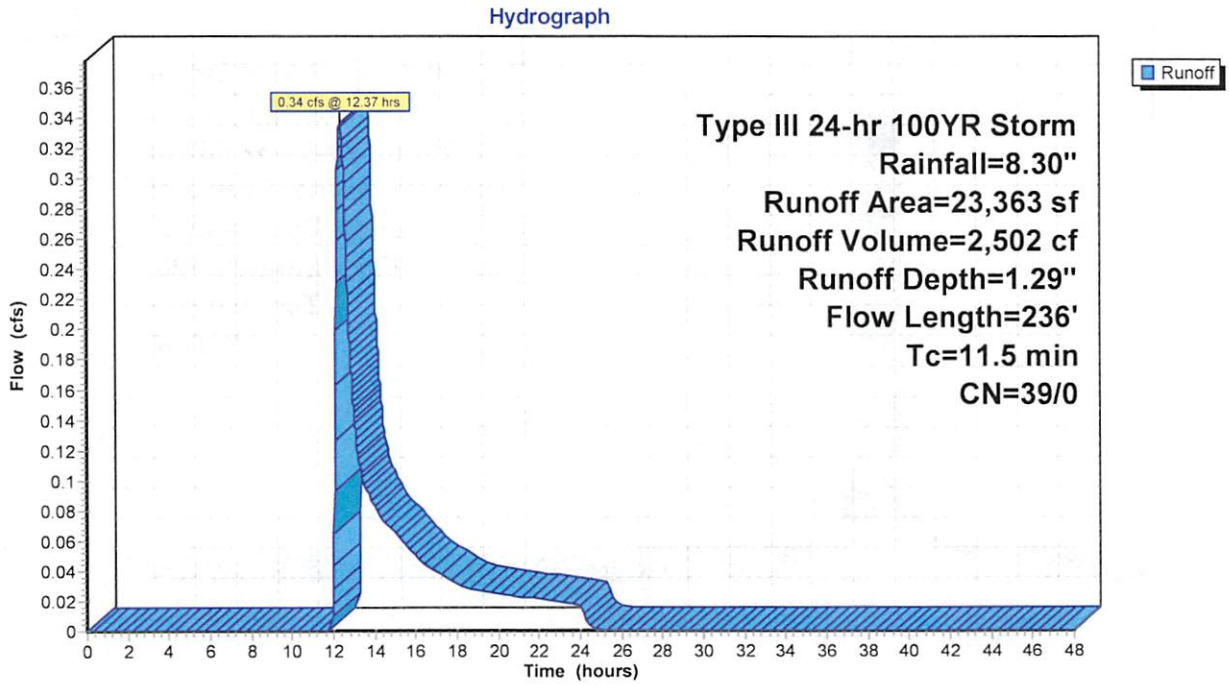
Runoff = 0.34 cfs @ 12.37 hrs, Volume= 2,502 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
	13,523	39	>75% Grass cover, Good, HSG A
*	9,840	39	>75% Grass cover, Good, HSG A (Offsite)
	23,363	39	Weighted Average
	23,363	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	39	0.0100	0.06		**Sheet Flow, Segment 17-18** Grass: Dense n= 0.240 P2= 2.50"
1.3	177	0.0133	2.34		**Shallow Concentrated Flow, Segment 18-19** Paved Kv= 20.3 fps
0.2	20	0.0100	1.50		**Shallow Concentrated Flow, Segment 19-20** Grassed Waterway Kv= 15.0 fps
11.5	236	Total			

Subcatchment P-1D-P: Access Road Bioretention Pervious Area



Summary for Subcatchment P-1E-M: Undetained Site Impervious Area

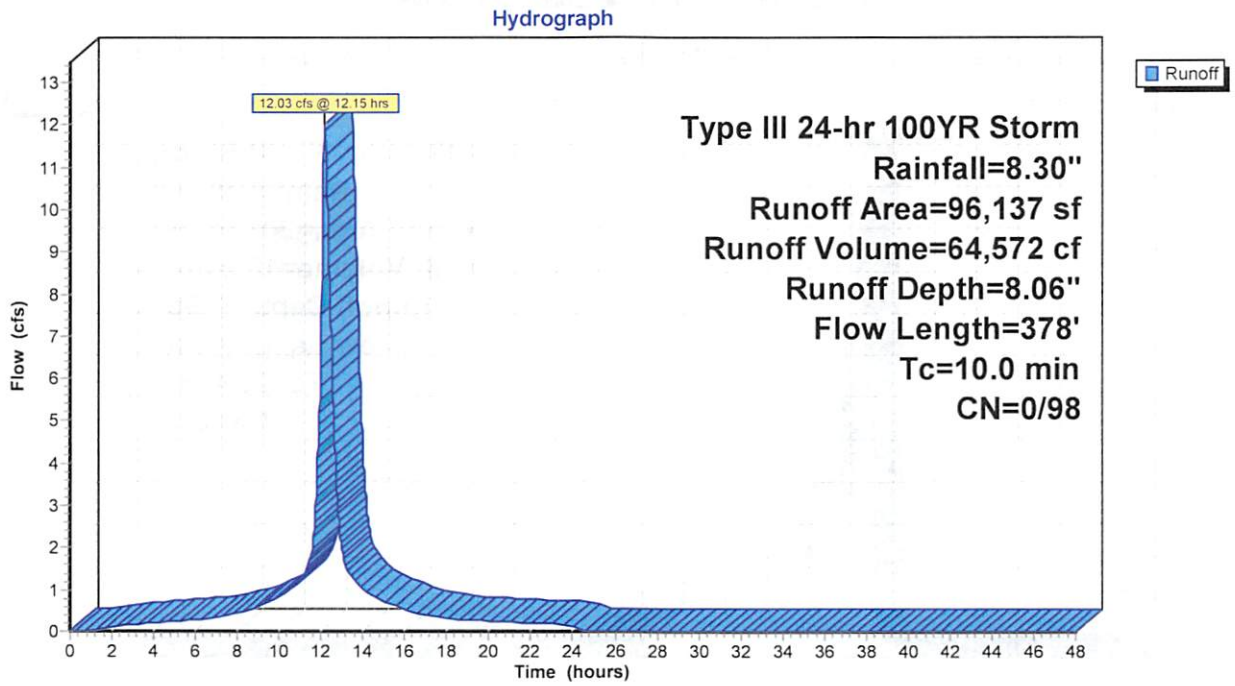
Runoff = 12.03 cfs @ 12.15 hrs, Volume= 64,572 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	501	98	Impervious Surfaces
*	94,952	98	Impervious Surfaces (Existing)
*	684	98	Impervious Surfaces (Offsite)
	96,137	98	Weighted Average
	96,137	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	200	0.0050	0.80		**Sheet Flow, Segment 24-25** Smooth surfaces n= 0.011 P2= 2.50"
2.3	178	0.0075	1.30		**Shallow Concentrated Flow, Segment 25-26** Grassed Waterway Kv= 15.0 fps
6.5	378	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1E-M: Undetained Site Impervious Area



Summary for Subcatchment P-1E-P: Undetained Site Pervious Area

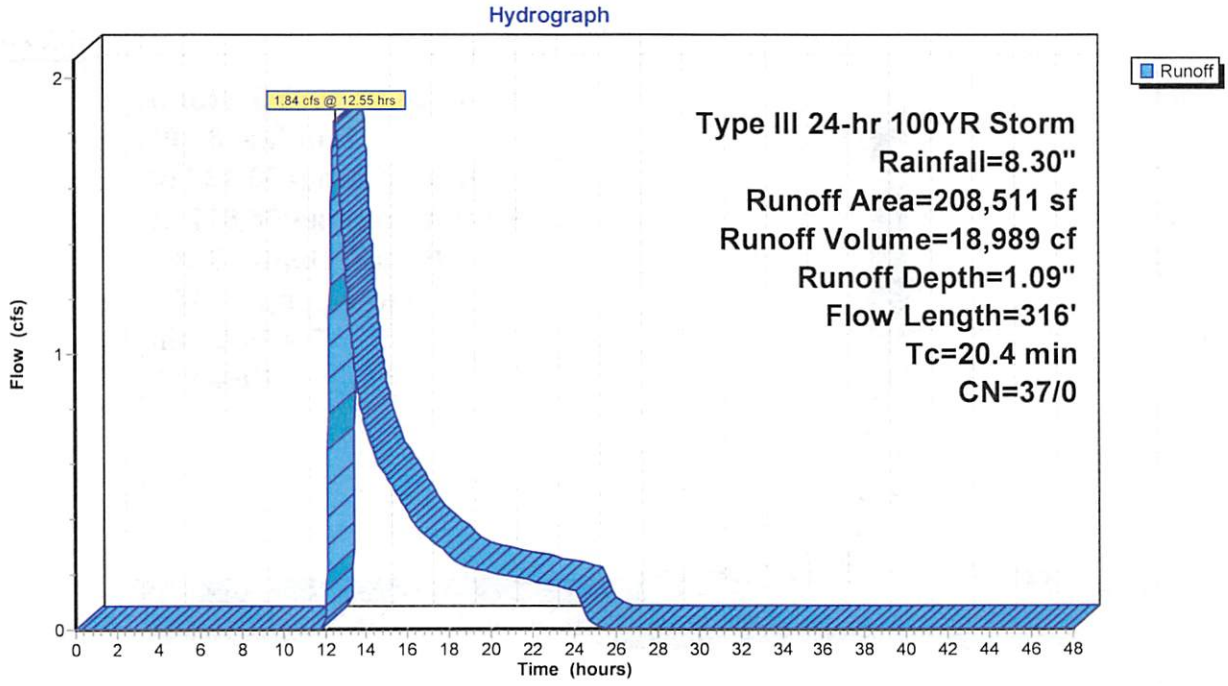
Runoff = 1.84 cfs @ 12.55 hrs, Volume= 18,989 cf, Depth= 1.09"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
41,965	30	Woods, Good, HSG A
166,546	39	>75% Grass cover, Good, HSG A
208,511	37	Weighted Average
208,511	37	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	47	0.0100	0.04		**Sheet Flow, Segment 21-22** Woods: Light underbrush n= 0.400 P2= 2.50"
0.3	70	0.0500	3.35		**Shallow Concentrated Flow, Segment 22-23** Grassed Waterway Kv= 15.0 fps
2.6	199	0.0075	1.30		**Shallow Concentrated Flow, Segment 23-26** Grassed Waterway Kv= 15.0 fps
20.4	316	Total			

Subcatchment P-1E-P: Undetained Site Pervious Area



Summary for Subcatchment P-1F-M: Municipal Basin Impervious Area

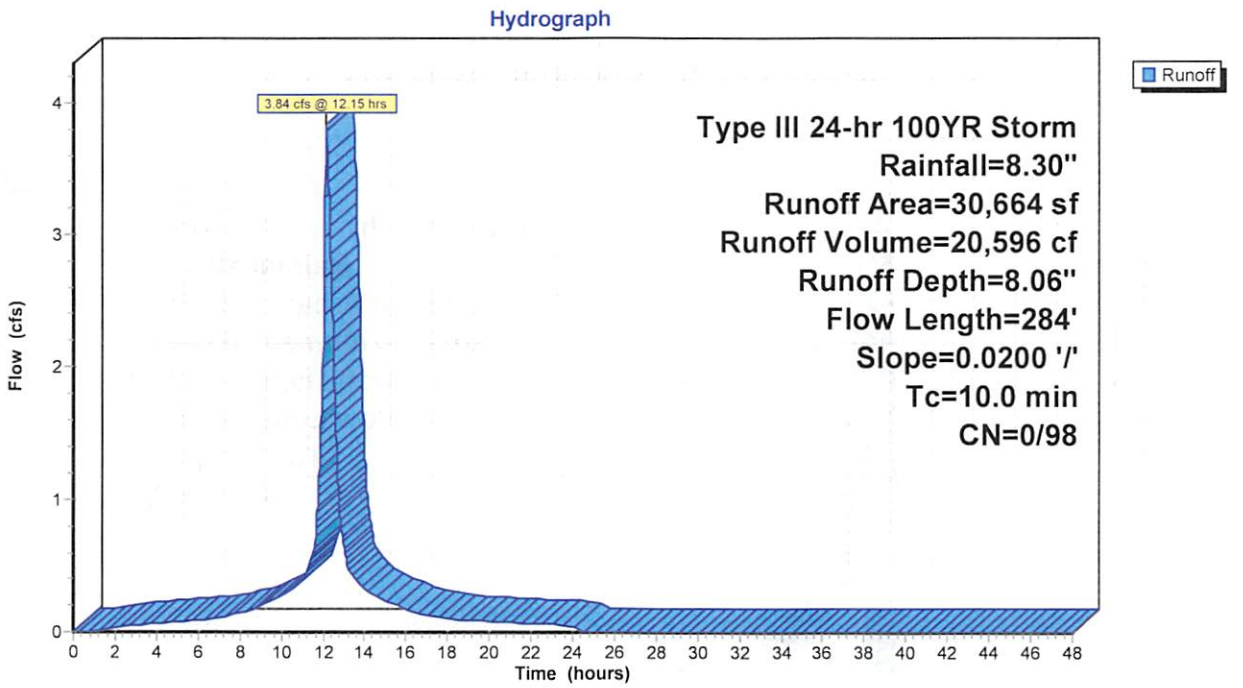
Runoff = 3.84 cfs @ 12.15 hrs, Volume= 20,596 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	30,664	98	Impervious Surfaces
	30,664	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0200	1.22		**Sheet Flow, Segment** Smooth surfaces n= 0.011 P2= 2.50"
1.1	184	0.0200	2.87		**Shallow Concentrated Flow, Segment** Paved Kv= 20.3 fps
2.5	284	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-1F-M: Municipal Basin Impervious Area



Summary for Subcatchment P-1F-P: Municipal Basin Pervious Area

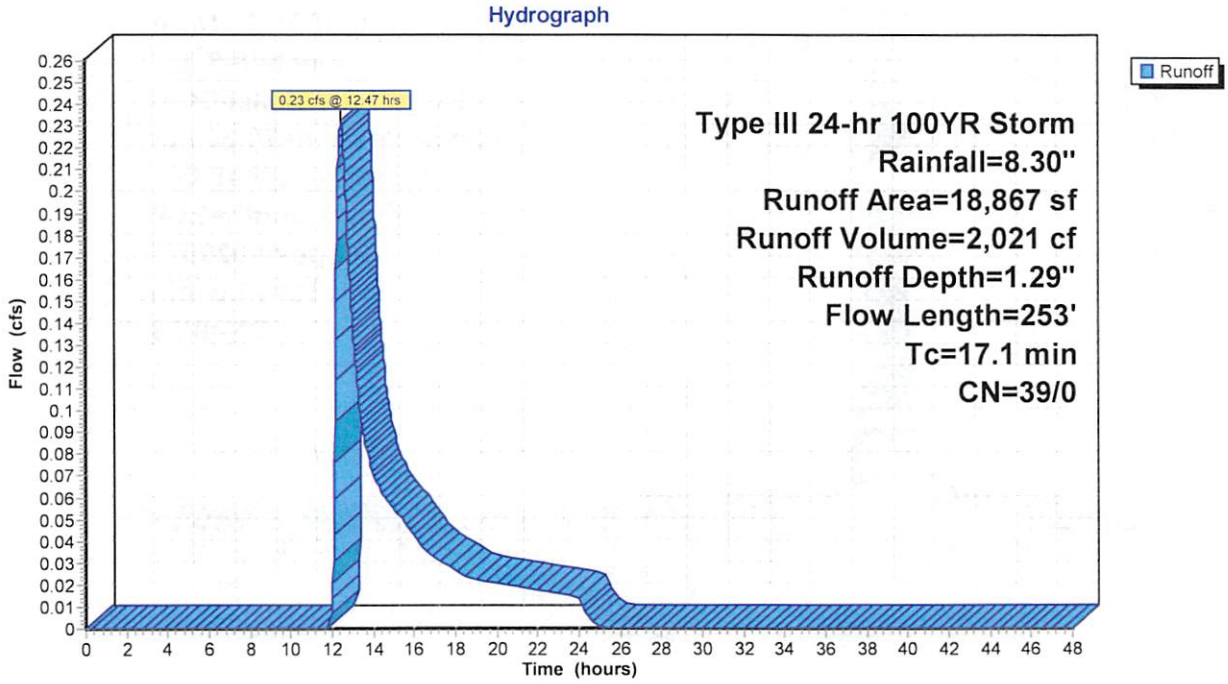
Runoff = 0.23 cfs @ 12.47 hrs, Volume= 2,021 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
18,867	39	>75% Grass cover, Good, HSG A
18,867	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	98	0.0210	0.10		**Sheet Flow, Segment T-U** Grass: Dense n= 0.240 P2= 2.50"
0.0	6	0.0150	2.49		**Shallow Concentrated Flow, Segment U-V** Paved Kv= 20.3 fps
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, Segment V-W** Unpaved Kv= 16.1 fps
1.4	143	0.0075	1.76		**Shallow Concentrated Flow, Segment W-X** Paved Kv= 20.3 fps
17.1	253	Total			

Subcatchment P-1F-P: Municipal Basin Pervious Area



Summary for Subcatchment P-2-M: Municipal Impervious Area

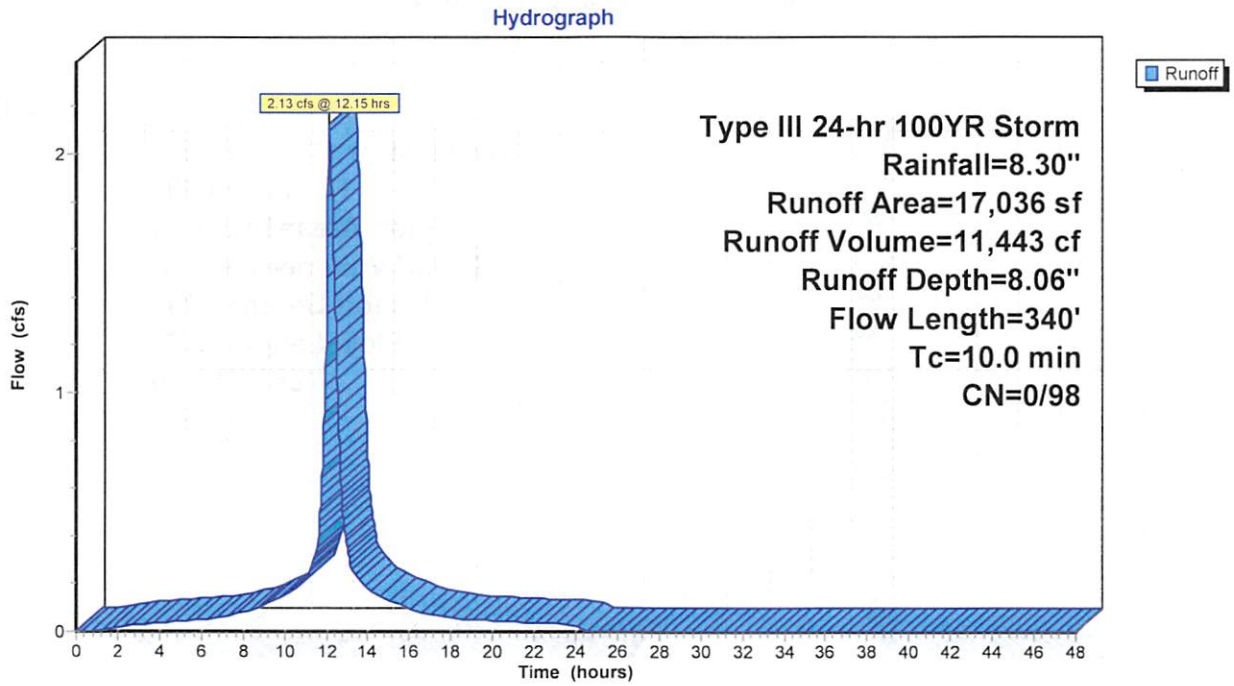
Runoff = 2.13 cfs @ 12.15 hrs, Volume= 11,443 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	17,036	98	Impervious Surfaces
	17,036	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	67	0.0200	1.12		**Sheet Flow, Segment 30-31** Smooth surfaces n= 0.011 P2= 2.50"
0.4	78	0.0300	3.52		**Shallow Concentrated Flow, Segment 31-32** Paved Kv= 20.3 fps
1.8	195	0.0075	1.76		**Shallow Concentrated Flow, Segment 32-33** Paved Kv= 20.3 fps
3.2	340	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-2-M: Municipal Impervious Area



Summary for Subcatchment P-2-P: Municipal Pervious Area

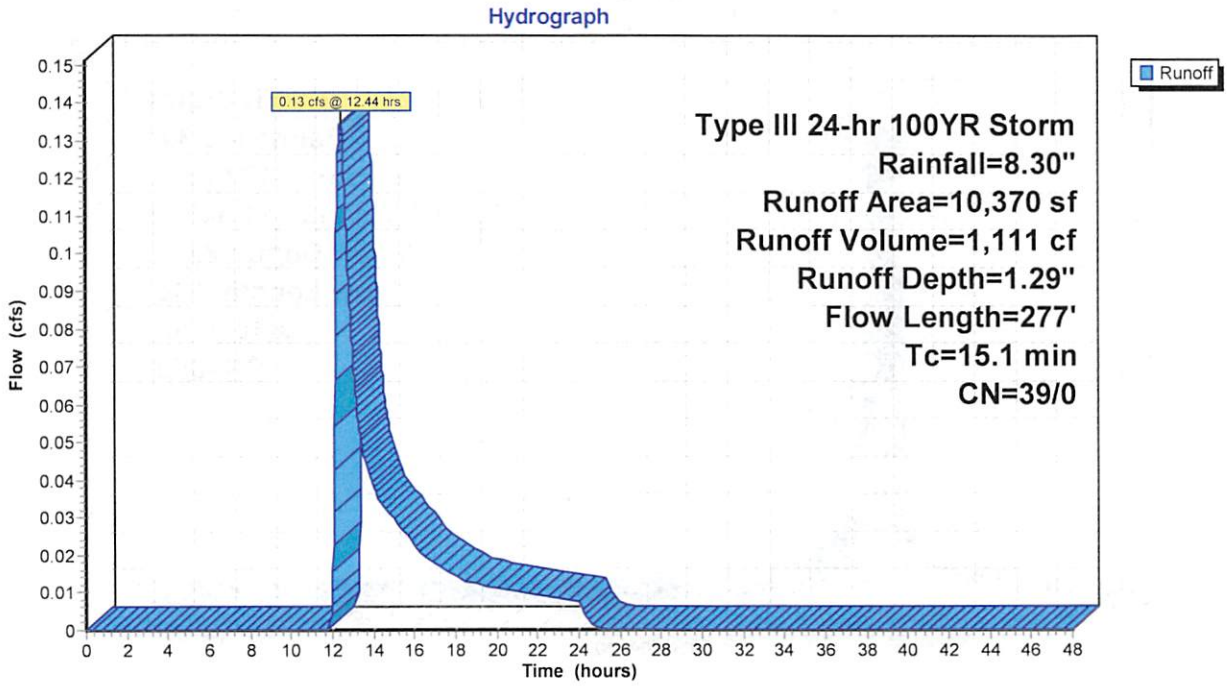
Runoff = 0.13 cfs @ 12.44 hrs, Volume= 1,111 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
10,370	39	>75% Grass cover, Good, HSG A
10,370	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	55	0.0100	0.07		**Sheet Flow, Segment 27-28** Grass: Dense n= 0.240 P2= 2.50"
1.7	182	0.0075	1.76		**Shallow Concentrated Flow, Segment 28-29** Paved Kv= 20.3 fps
0.2	40	0.0050	4.20	7.43	**Pipe Channel, Segement 29-33** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Concrete pipe, bends & connections
15.1	277	Total			

Subcatchment P-2-P: Municipal Pervious Area



Summary for Subcatchment P-3A-M: Wawa Basin Impervious Area

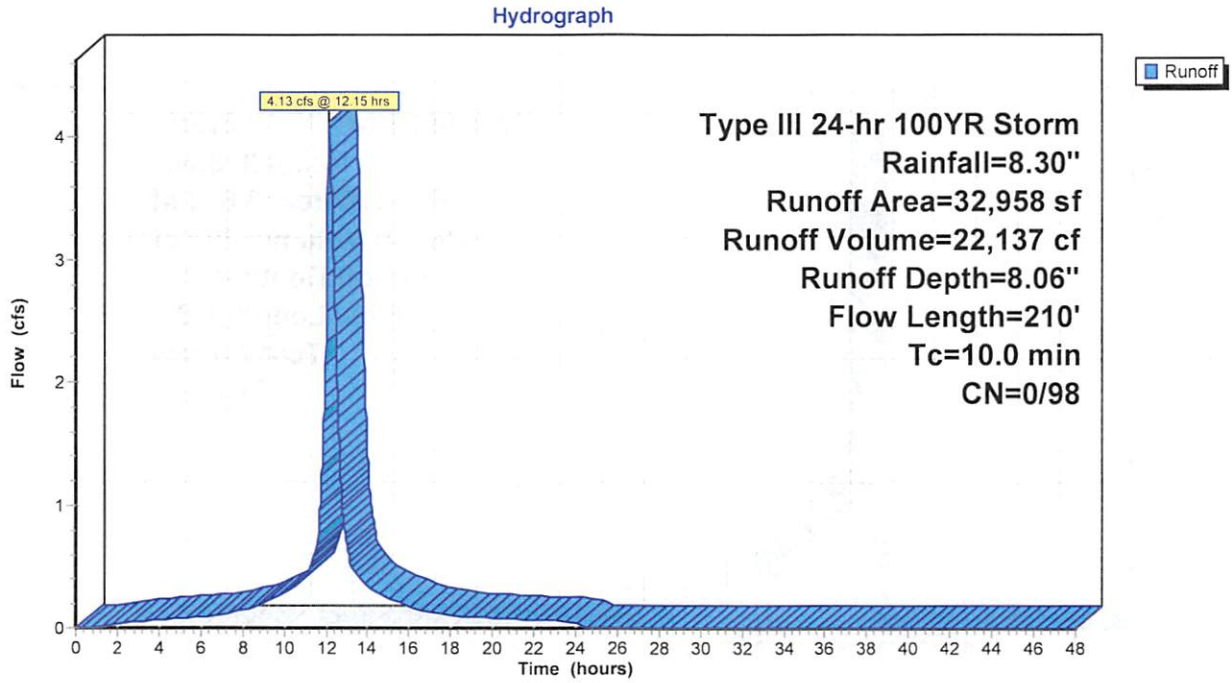
Runoff = 4.13 cfs @ 12.15 hrs, Volume= 22,137 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	32,958	98	Impervious Surfaces
	32,958	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	70	0.0150	1.01		**Sheet Flow, Segment 34-35** Smooth surfaces n= 0.011 P2= 2.50"
0.6	50	0.0100	1.50		**Shallow Concentrated Flow, Segment 35-36** Grassed Waterway Kv= 15.0 fps
0.4	90	0.0050	3.72	4.57	**Pipe Channel, Segment 36-37** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
2.2	210	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-3A-M: Wawa Basin Impervious Area



Summary for Subcatchment P-3A-P: Wawa Basin Pervious Area

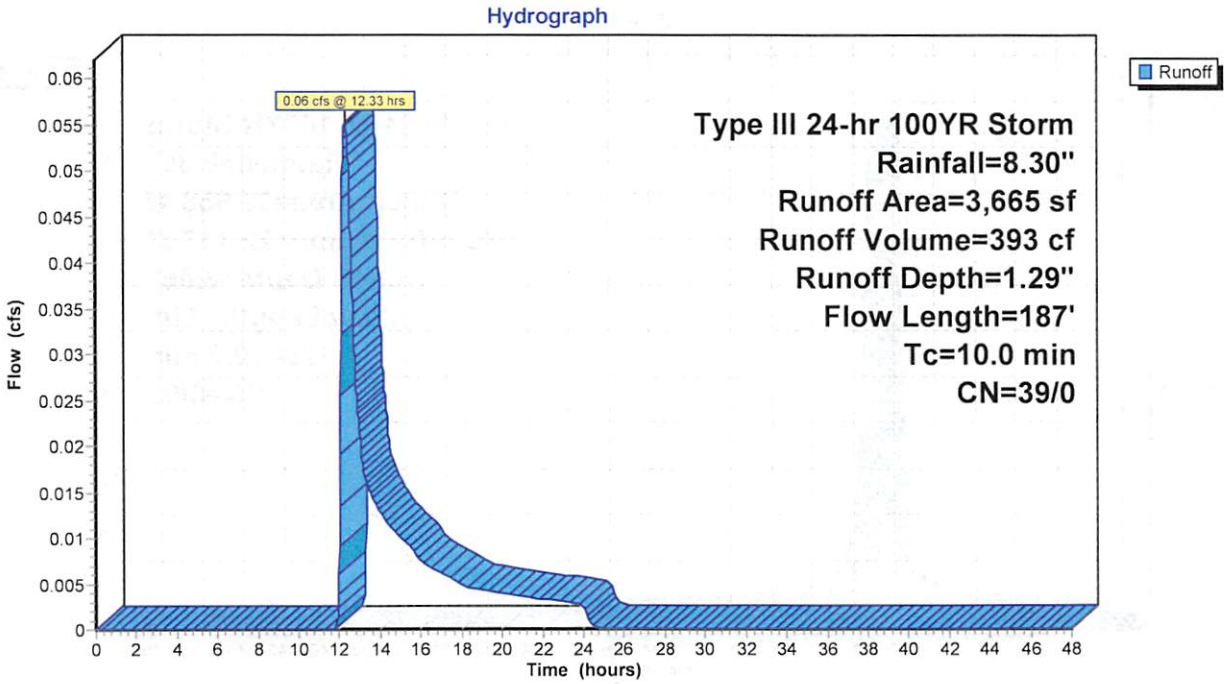
Runoff = 0.06 cfs @ 12.33 hrs, Volume= 393 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
3,665	39	>75% Grass cover, Good, HSG A
3,665	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	17	0.0100	0.05		**Sheet Flow, Segment Y-Z** Grass: Dense n= 0.240 P2= 2.50"
0.4	66	0.0200	2.87		**Shallow Concentrated Flow, Segment Z-AA** Paved Kv= 20.3 fps
0.6	104	0.0030	2.88	3.54	**Pipe Channel, Segment AA-AB** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
6.2	187	Total, Increased to minimum Tc = 10.0 min			

Subcatchment P-3A-P: Wawa Basin Pervious Area



Summary for Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area

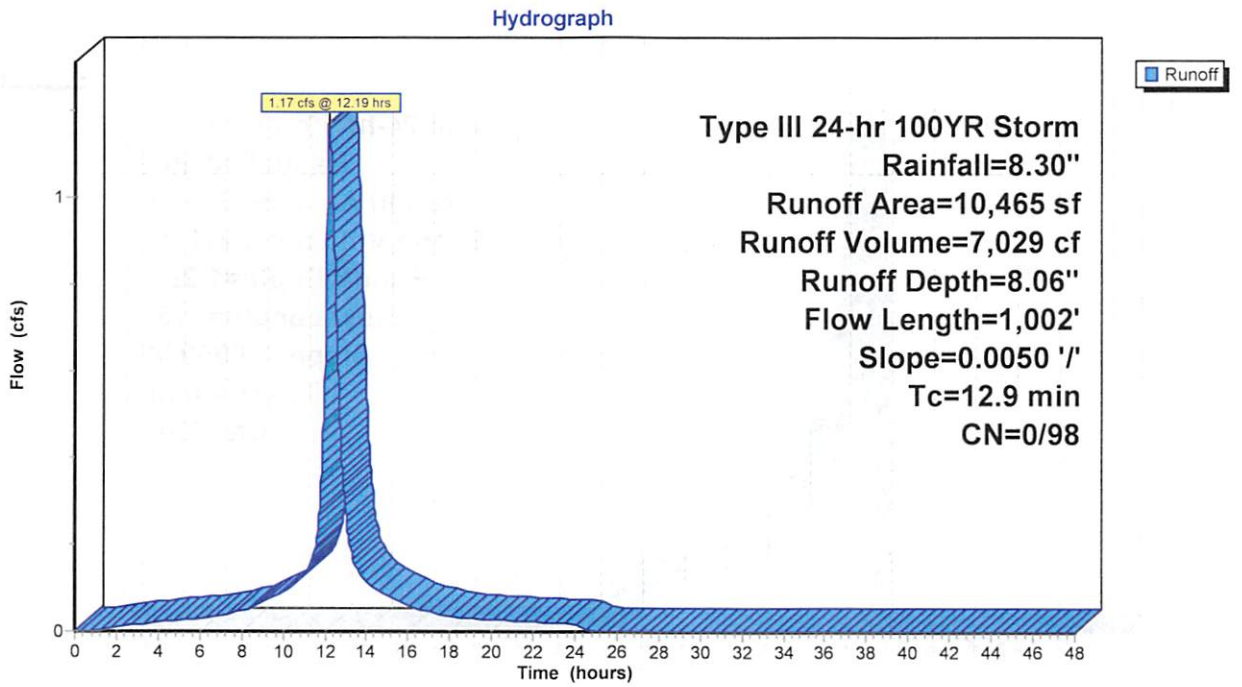
Runoff = 1.17 cfs @ 12.19 hrs, Volume= 7,029 cf, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

	Area (sf)	CN	Description
*	10,465	98	Impervious Surfaces
	10,465	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	100	0.0050	0.70		**Sheet Flow, Segment 40-41** Smooth surfaces n= 0.011 P2= 2.50"
10.5	902	0.0050	1.44		**Shallow Concentrated Flow, Segment 41-42** Paved Kv= 20.3 fps
12.9	1,002	Total			

Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area



Summary for Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area

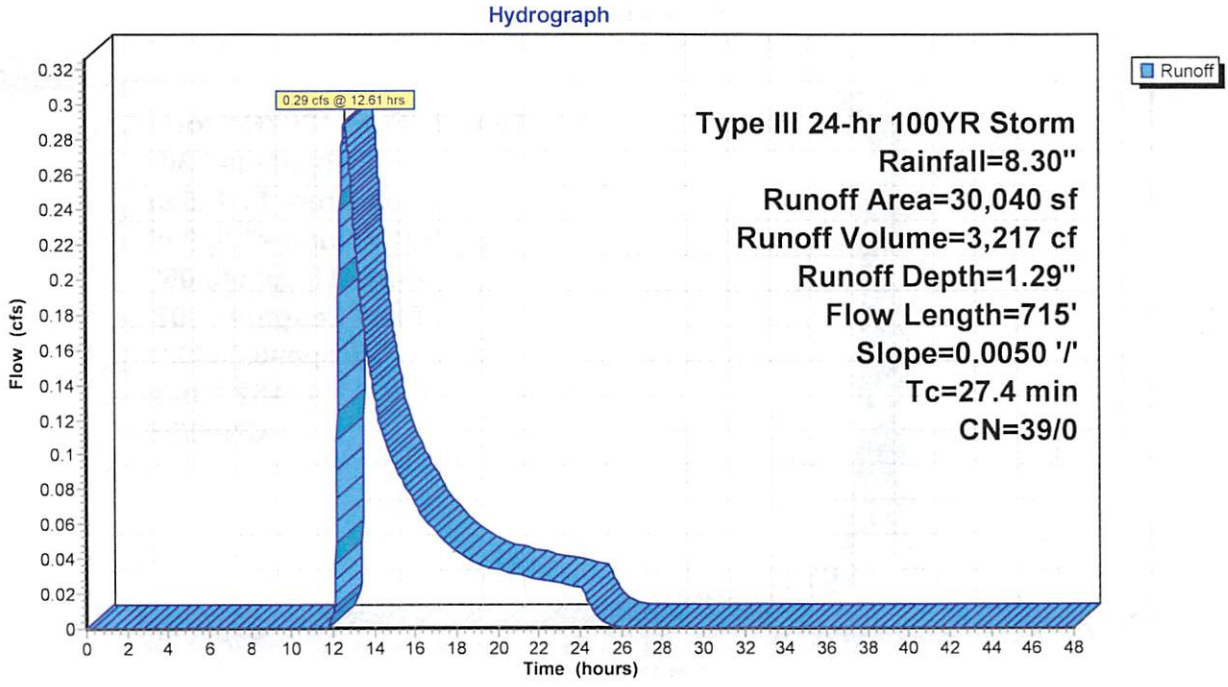
Runoff = 0.29 cfs @ 12.61 hrs, Volume= 3,217 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, dt= 0.02 hrs
Type III 24-hr 100YR Storm Rainfall=8.30"

Area (sf)	CN	Description
30,040	39	>75% Grass cover, Good, HSG A
30,040	39	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	65	0.0050	0.05		**Sheet Flow, Segment 38-39** Grass: Dense n= 0.240 P2= 2.50"
7.5	650	0.0050	1.44		**Shallow Concentrated Flow, Segment 39-42** Paved Kv= 20.3 fps
27.4	715	Total			

Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area



Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 5.91" for 100YR Storm event
Inflow = 30.00 cfs @ 12.16 hrs, Volume= 162,757 cf
Outflow = 5.47 cfs @ 13.06 hrs, Volume= 66,132 cf, Atten= 82%, Lag= 53.5 min
Primary = 5.47 cfs @ 13.06 hrs, Volume= 66,132 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.72' @ 13.06 hrs Surf.Area= 41,045 sf Storage= 105,624 cf

Plug-Flow detention time= 369.4 min calculated for 66,104 cf (41% of inflow)
Center-of-Mass det. time= 212.1 min (982.8 - 770.7)

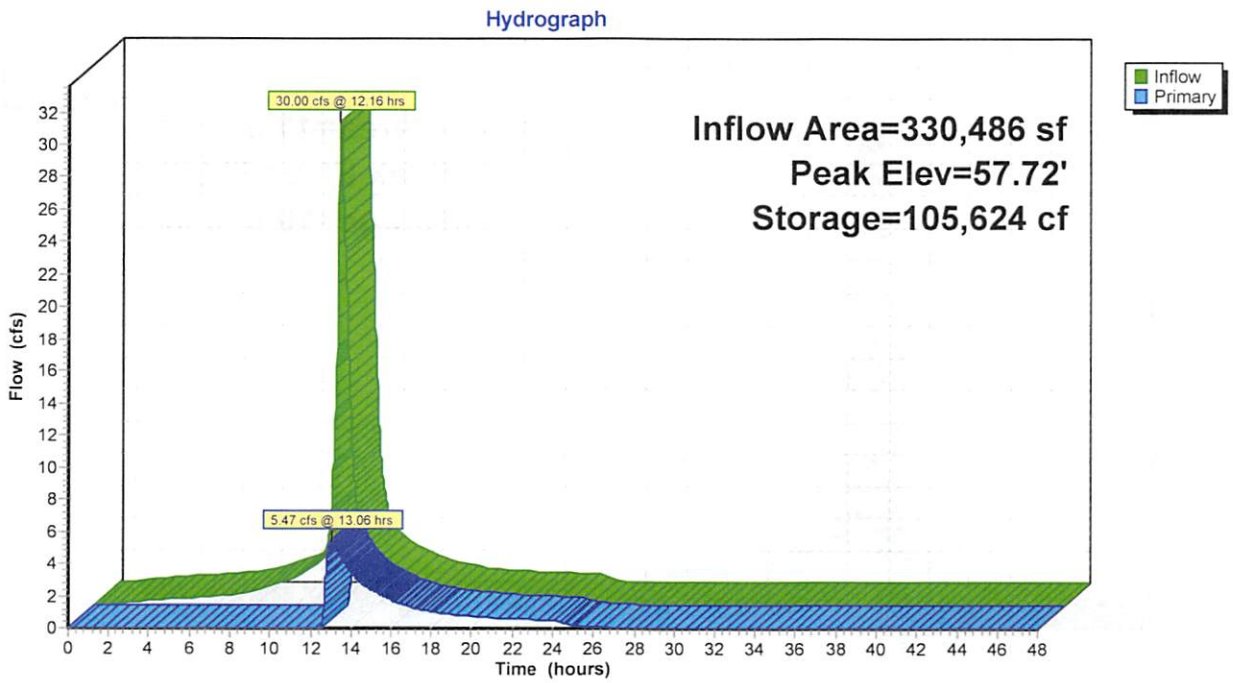
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=5.47 cfs @ 13.06 hrs HW=57.72' TW=0.00' (Dynamic Tailwater)
↑—**1=Spillway Culvert** (Passes 5.47 cfs of 31.28 cfs potential flow)
↑—**2=Spillway Grate** (Weir Controls 5.47 cfs @ 1.54 fps)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-3: McDonalds Infiltration Basin

Inflow Area = 41,582 sf, 64.55% Impervious, Inflow Depth = 5.66" for 100YR Storm event
Inflow = 3.55 cfs @ 12.16 hrs, Volume= 19,608 cf
Outflow = 2.08 cfs @ 12.50 hrs, Volume= 9,576 cf, Atten= 41%, Lag= 20.2 min
Primary = 2.08 cfs @ 12.50 hrs, Volume= 9,576 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.87' @ 12.50 hrs Surf.Area= 5,076 sf Storage= 10,616 cf

Plug-Flow detention time= 293.1 min calculated for 9,572 cf (49% of inflow)
Center-of-Mass det. time= 151.7 min (915.7 - 764.0)

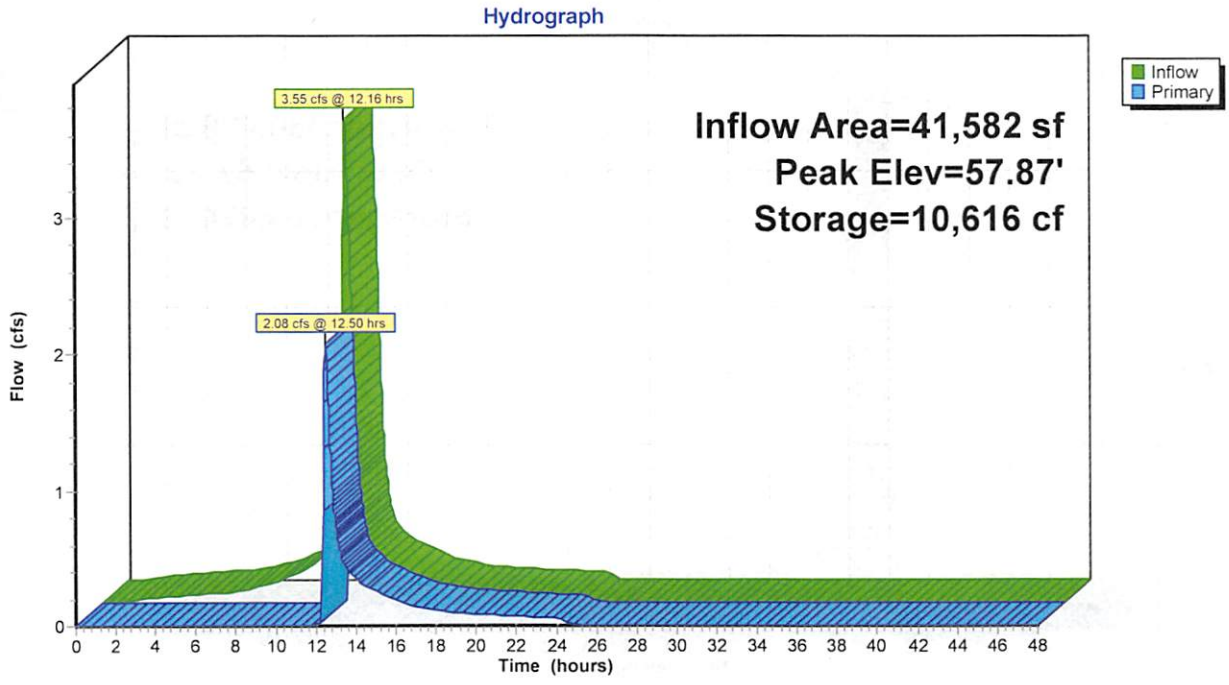
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	17,078 cf	**Infiltration Basin Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	2,481	210.0	0	0	2,481
56.00	3,284	242.0	2,873	2,873	3,654
57.00	4,197	274.0	3,731	6,604	4,993
58.00	5,219	306.0	4,699	11,303	6,498
59.00	6,350	337.0	5,775	17,078	8,117

Device	Routing	Invert	Outlet Devices
#1	Primary	55.68'	**15.0" Round Spillway Culvert** L= 73.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.68' / 55.39' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.08 cfs @ 12.50 hrs HW=57.87' TW=57.37' (Dynamic Tailwater)
↳**1=Spillway Culvert** (Passes 2.08 cfs of 3.88 cfs potential flow)
↳**2=Spillway Grate** (Weir Controls 2.08 cfs @ 1.12 fps)

Pond B-3: McDonalds Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 5.48" for 100YR Storm event
Inflow = 3.95 cfs @ 12.16 hrs, Volume= 22,617 cf
Outflow = 0.82 cfs @ 12.97 hrs, Volume= 10,028 cf, Atten= 79%, Lag= 48.4 min
Primary = 0.82 cfs @ 12.97 hrs, Volume= 10,028 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 55.21' @ 12.97 hrs Surf.Area= 7,600 sf Storage= 14,364 cf

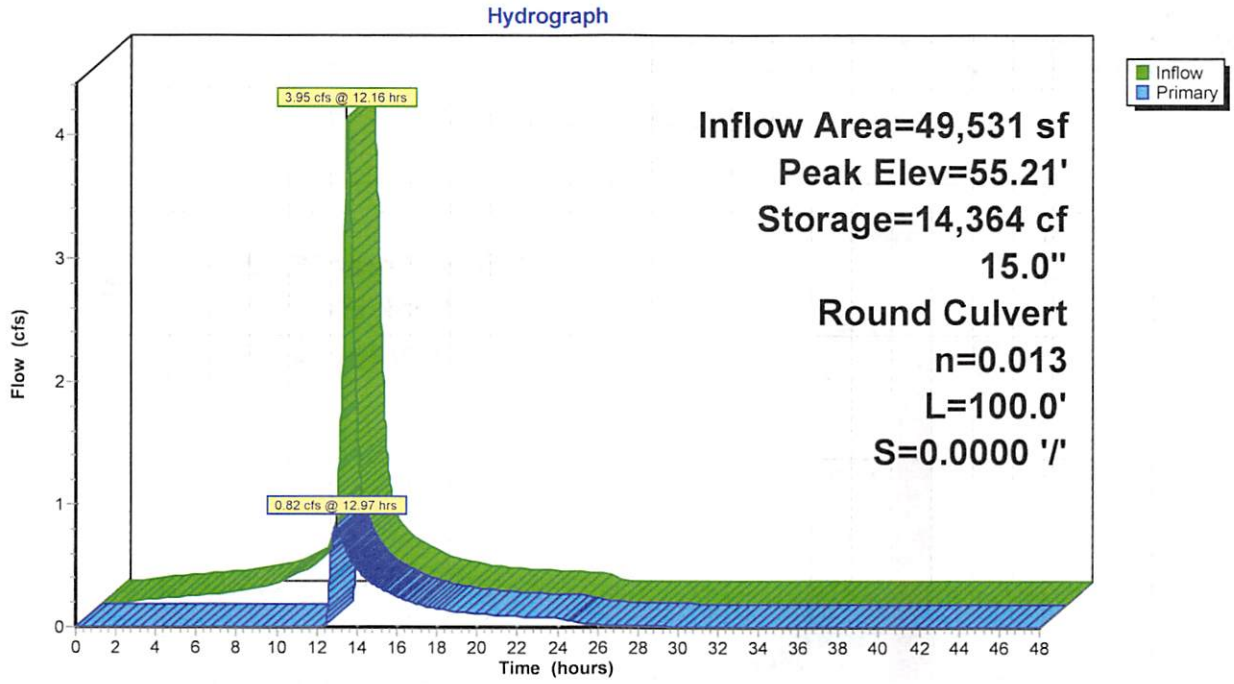
Plug-Flow detention time= 391.5 min calculated for 10,028 cf (44% of inflow)
Center-of-Mass det. time= 237.2 min (1,003.6 - 766.4)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	5,274 cf	**48.0"W x 45.0"H x 190.0'L Stone Encasement (30")** x 10 28,500 cf Overall - 13,430 cf Embedded = 15,070 cf x 35.0% Voids
#2	51.80'	9,327 cf	**30.0" D x 190.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 13,430 cf Overall - 3.0" Wall Thickness = 9,327 cf
		14,601 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.50'	**15.0" Round Outlet To Site Rear** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.50' / 54.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.82 cfs @ 12.97 hrs HW=55.21' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet To Site Rear** (Barrel Controls 0.82 cfs @ 1.65 fps)

Pond B-4: Municipal Infiltration Basin



Summary for Pond B-5: Wawa Detention Basin

Inflow Area = 36,623 sf, 89.99% Impervious, Inflow Depth = 7.38" for 100YR Storm event
Inflow = 4.17 cfs @ 12.16 hrs, Volume= 22,529 cf
Outflow = 4.08 cfs @ 12.19 hrs, Volume= 22,529 cf, Atten= 2%, Lag= 2.1 min
Primary = 0.30 cfs @ 13.04 hrs, Volume= 14,346 cf
Secondary = 3.81 cfs @ 12.19 hrs, Volume= 8,183 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.72' @ 13.04 hrs Surf.Area= 413 sf Storage= 3,390 cf

Plug-Flow detention time= 78.0 min calculated for 22,520 cf (100% of inflow)
Center-of-Mass det. time= 78.0 min (831.5 - 753.5)

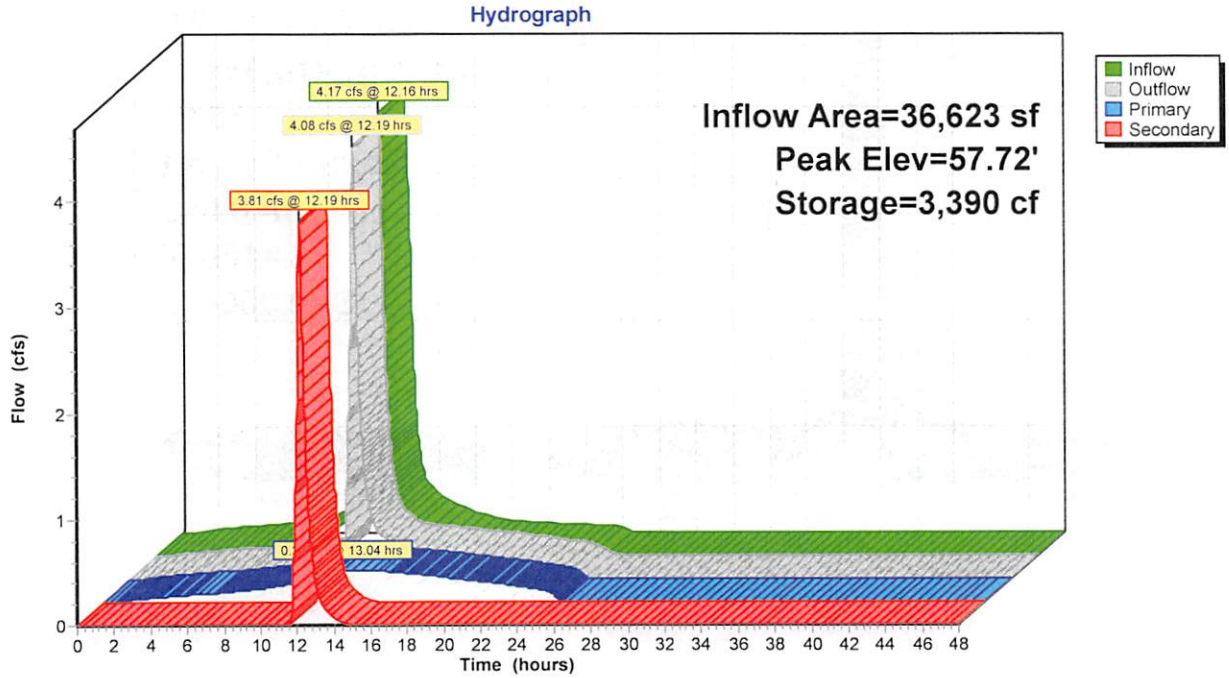
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	3,436 cf	**30.0" D x 100.0'L HDPE Storage S= 0.0050 '/'** x 7

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	**3.0" Round Intake To Water Quality Unit** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.00' / 54.95' S= 0.0036 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	55.75'	**18.0" Round Outlet To Primary Basin** L= 113.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.75' / 54.92' S= 0.0073 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#3	Device 2	56.75'	**4.0' 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=0.30 cfs @ 13.04 hrs HW=57.72' TW=0.00' (Dynamic Tailwater)
└─**1=Intake To Water Quality Unit** (Inlet Controls 0.30 cfs @ 6.13 fps)

Secondary OutFlow Max=3.80 cfs @ 12.19 hrs HW=57.22' TW=56.69' (Dynamic Tailwater)
└─**2=Outlet To Primary Basin** (Passes 3.80 cfs of 4.59 cfs potential flow)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 3.80 cfs @ 2.03 fps)

Pond B-5: Wawa Detention Basin



Summary for Pond RG-1: Fast Food Bioretention Area

Inflow Area = 10,144 sf, 48.34% Impervious, Inflow Depth = 4.56" for 100YR Storm event
Inflow = 0.68 cfs @ 12.16 hrs, Volume= 3,855 cf
Outflow = 0.68 cfs @ 12.17 hrs, Volume= 3,047 cf, Atten= 0%, Lag= 0.5 min
Primary = 0.68 cfs @ 12.17 hrs, Volume= 3,047 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.72' @ 13.06 hrs Surf.Area= 845 sf Storage= 987 cf

Plug-Flow detention time= 154.1 min calculated for 3,047 cf (79% of inflow)
Center-of-Mass det. time= 68.6 min (843.4 - 774.8)

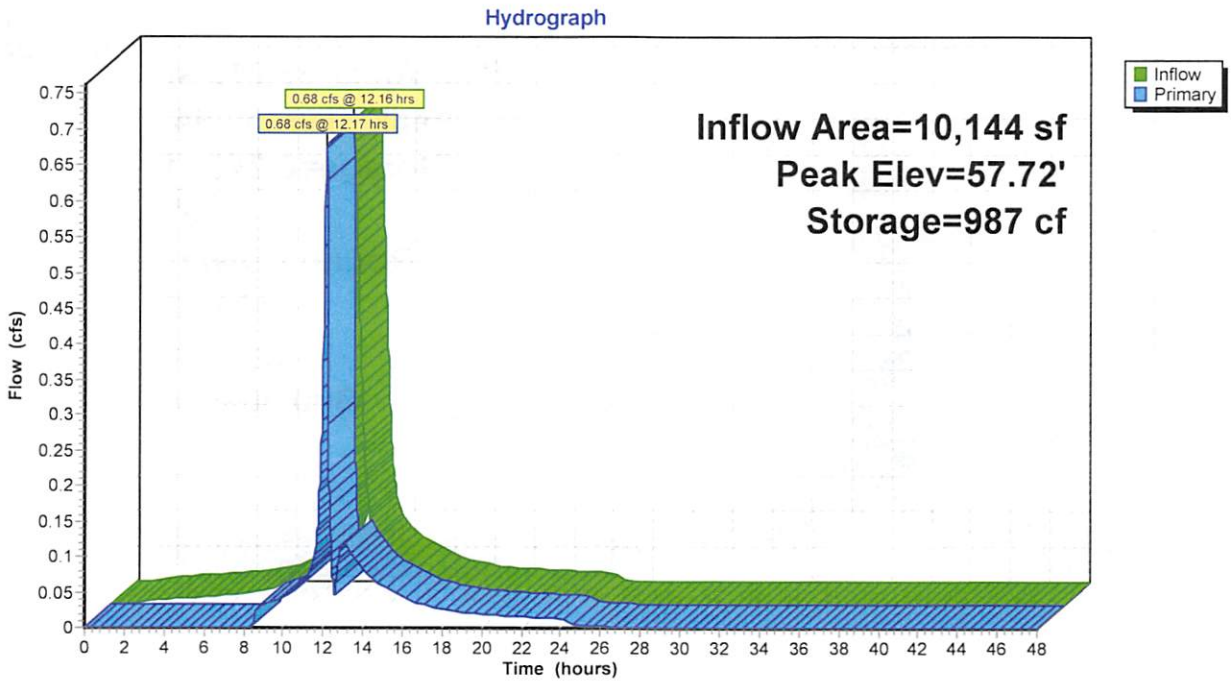
Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	1,236 cf	**Bioretention Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.00	354	71.0	0	0	354
57.00	595	90.0	469	469	610
58.00	953	126.0	767	1,236	1,239

Device	Routing	Invert	Outlet Devices
#1	Primary	54.80'	**12.0" Round Spillway Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.80' / 54.72' S= 0.0031 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	56.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.17 hrs HW=56.81' TW=56.63' (Dynamic Tailwater)
↑—**1=Spillway Culvert** (Passes 0.68 cfs of 1.57 cfs potential flow)
↑—**2=Spillway Grate** (Weir Controls 0.68 cfs @ 0.77 fps)

Pond RG-1: Fast Food Bioretention Area



Summary for Pond RG-2: Access Road Bioretention Area

Inflow Area = 55,913 sf, 58.22% Impervious, Inflow Depth = 5.23" for 100YR Storm event
Inflow = 4.33 cfs @ 12.16 hrs, Volume= 24,365 cf
Outflow = 2.86 cfs @ 12.45 hrs, Volume= 22,531 cf, Atten= 34%, Lag= 17.3 min
Primary = 2.86 cfs @ 12.45 hrs, Volume= 22,531 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.94' @ 12.45 hrs Surf.Area= 5,765 sf Storage= 6,243 cf

Plug-Flow detention time= 124.1 min calculated for 22,531 cf (92% of inflow)
Center-of-Mass det. time= 82.5 min (850.5 - 767.9)

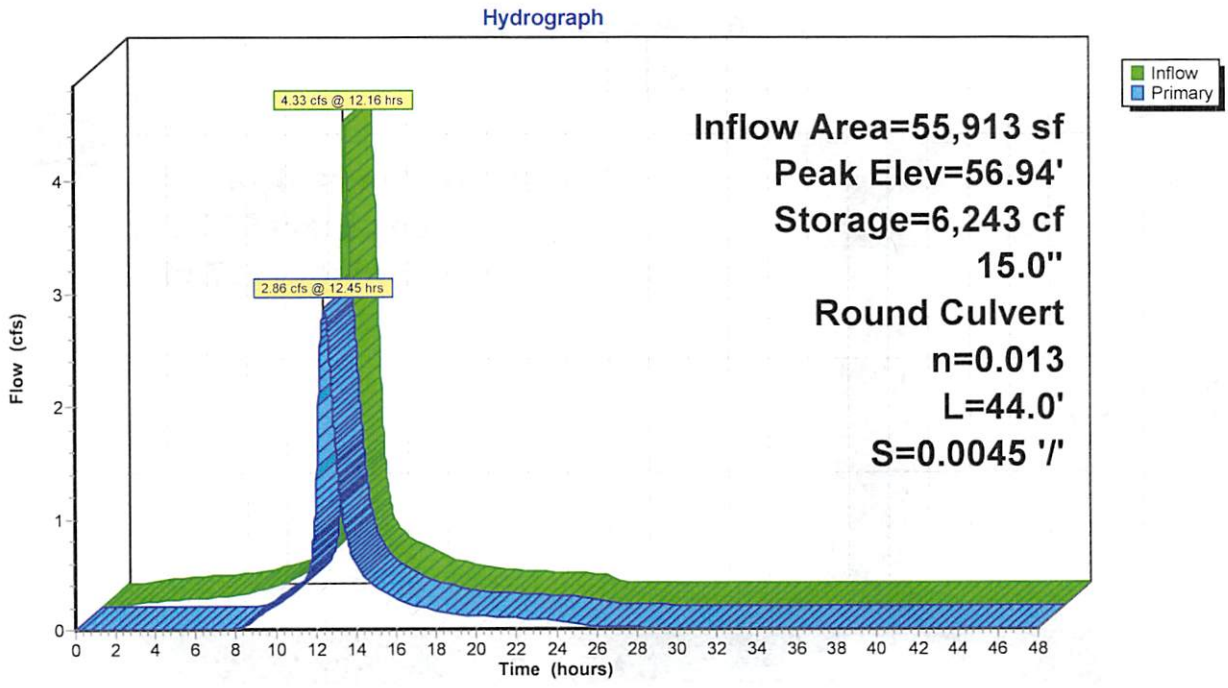
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	6,579 cf	**Swale Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	1,200	750.0	0	0	1,200
56.00	3,155	794.5	2,100	2,100	6,724
57.00	5,950	882.0	4,479	6,579	18,427

Device	Routing	Invert	Outlet Devices
#1	Primary	55.90'	**15.0" Round Outlet Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.90' / 55.70' S= 0.0045 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=2.86 cfs @ 12.45 hrs HW=56.94' TW=0.00' (Dynamic Tailwater)
↳ **1=Outlet Culvert** (Barrel Controls 2.86 cfs @ 3.54 fps)

Pond RG-2: Access Road Bioretention Area

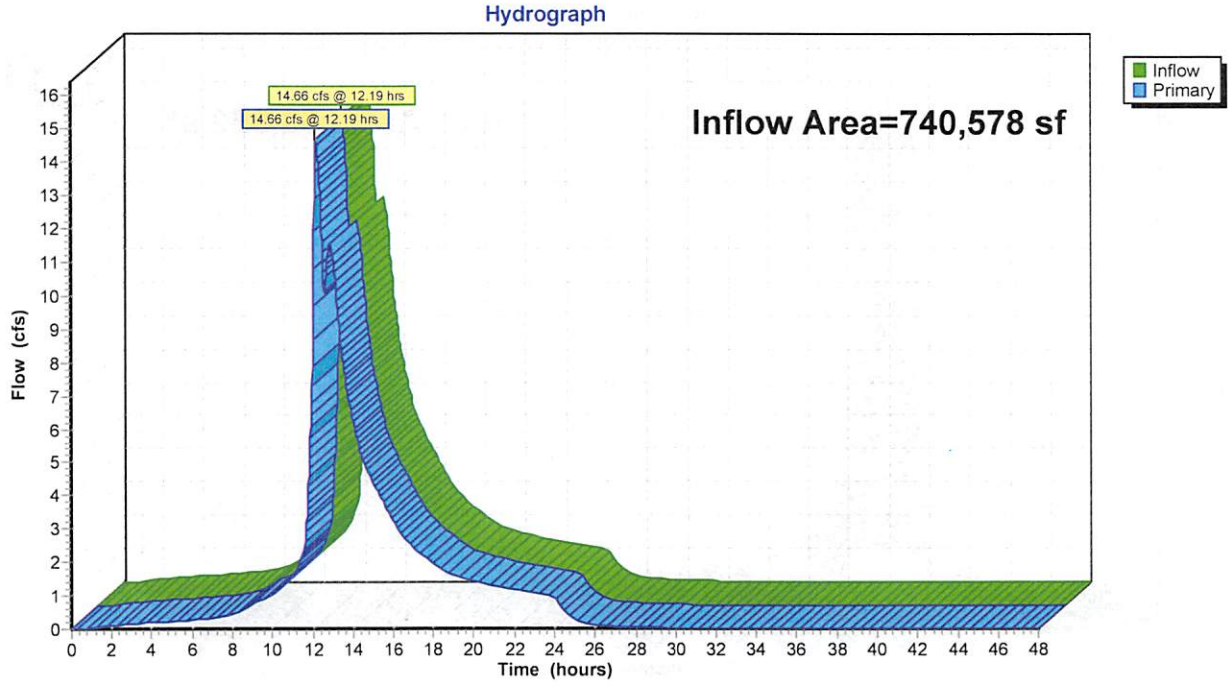


Summary for Link P-1: Proposed Site Drainage Area

Inflow Area = 740,578 sf, 52.61% Impervious, Inflow Depth = 2.95" for 100YR Storm event
Inflow = 14.66 cfs @ 12.19 hrs, Volume= 182,253 cf
Primary = 14.66 cfs @ 12.19 hrs, Volume= 182,253 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-1: Proposed Site Drainage Area

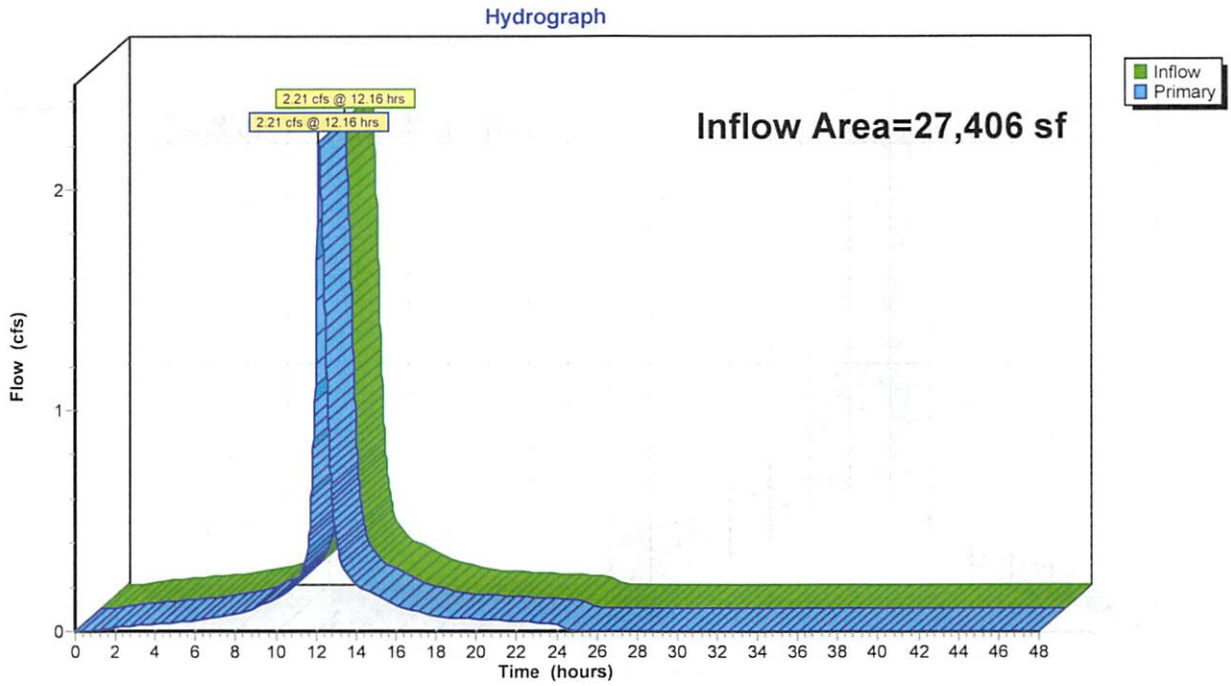


Summary for Link P-2: Proposed Municipal Drainage Area

Inflow Area = 27,406 sf, 62.16% Impervious, Inflow Depth = 5.50" for 100YR Storm event
Inflow = 2.21 cfs @ 12.16 hrs, Volume= 12,553 cf
Primary = 2.21 cfs @ 12.16 hrs, Volume= 12,553 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-2: Proposed Municipal Drainage Area

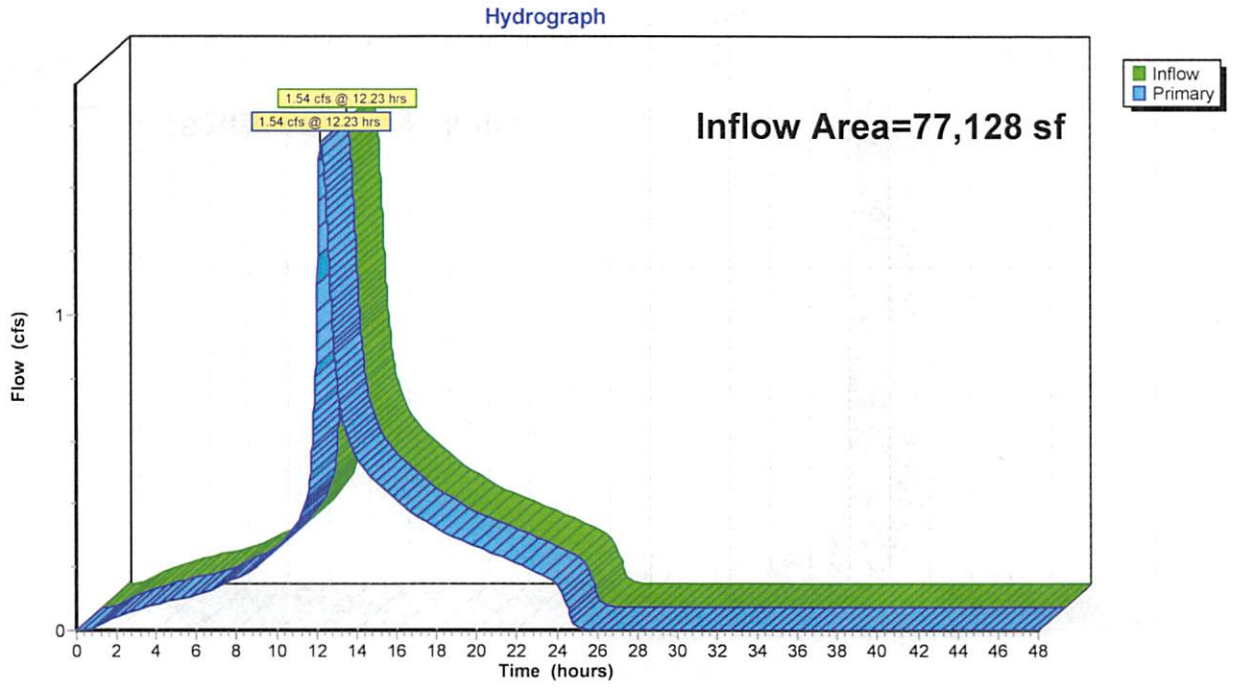


Summary for Link P-3: Proposed DOT Drainage Area

Inflow Area = 77,128 sf, 56.30% Impervious, Inflow Depth = 3.83" for 100YR Storm event
Inflow = 1.54 cfs @ 12.23 hrs, Volume= 24,592 cf
Primary = 1.54 cfs @ 12.23 hrs, Volume= 24,592 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

Link P-3: Proposed DOT Drainage Area



Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 0.62" for Water Quality event
Inflow = 8.51 cfs @ 1.17 hrs, Volume= 17,212 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 55.22' @ 5.52 hrs Surf.Area= 26,562 sf Storage= 17,212 cf

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

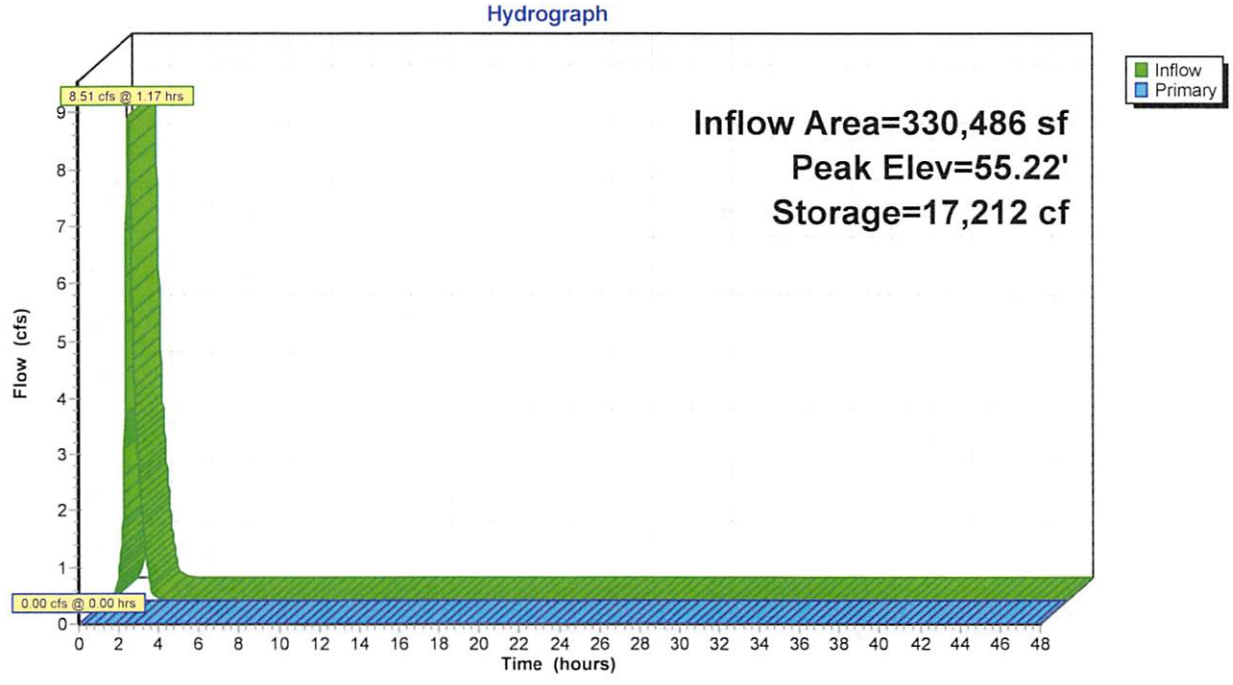
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.50' TW=0.00' (Dynamic Tailwater)
└─**1=Spillway Culvert** (Controls 0.00 cfs)
└─**2=Spillway Grate** (Controls 0.00 cfs)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-3: McDonalds Infiltration Basin

Inflow Area = 41,582 sf, 64.55% Impervious, Inflow Depth = 0.67" for Water Quality event
Inflow = 1.15 cfs @ 1.17 hrs, Volume= 2,314 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 55.83' @ 3.10 hrs Surf.Area= 3,136 sf Storage= 2,314 cf

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

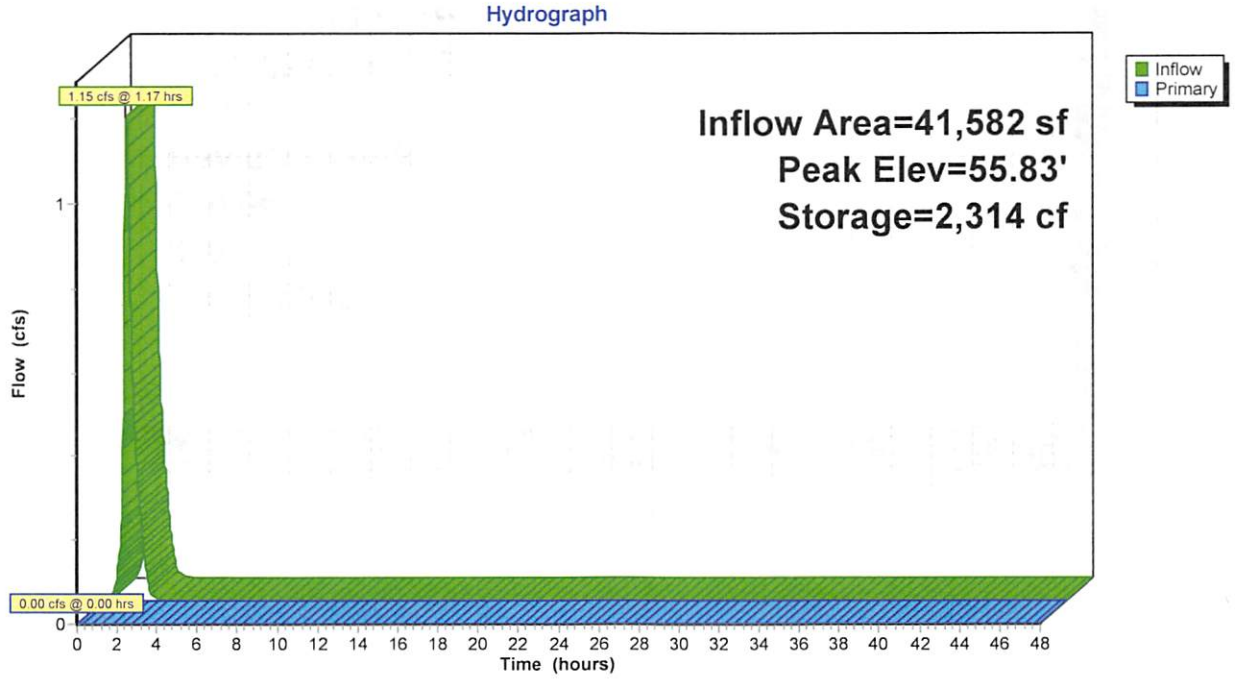
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	17,078 cf	**Infiltration Basin Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	2,481	210.0	0	0	2,481
56.00	3,284	242.0	2,873	2,873	3,654
57.00	4,197	274.0	3,731	6,604	4,993
58.00	5,219	306.0	4,699	11,303	6,498
59.00	6,350	337.0	5,775	17,078	8,117

Device	Routing	Invert	Outlet Devices
#1	Primary	55.68'	**15.0" Round Spillway Culvert** L= 73.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 55.68' / 55.39' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=54.50' (Dynamic Tailwater)
↑**1=Spillway Culvert** (Controls 0.00 cfs)
↑**2=Spillway Grate** (Controls 0.00 cfs)

Pond B-3: McDonalds Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 0.64" for Water Quality event
Inflow = 1.31 cfs @ 1.17 hrs, Volume= 2,644 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 52.35' @ 3.10 hrs Surf.Area= 7,600 sf Storage= 2,644 cf

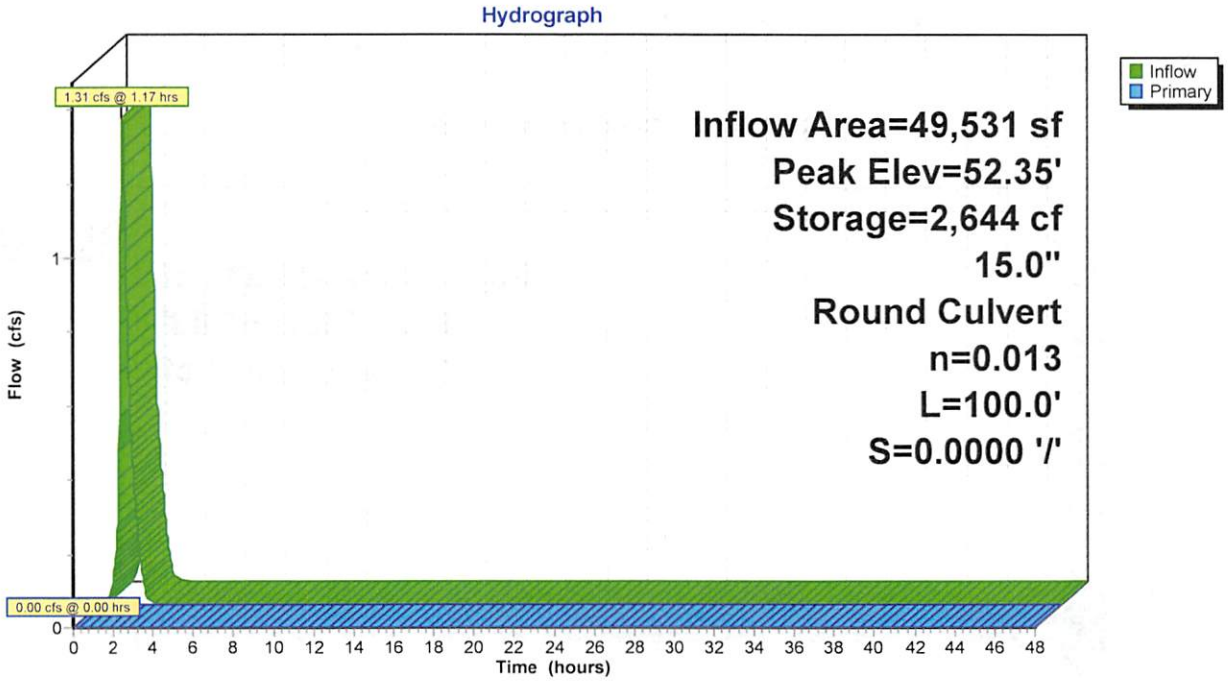
Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	5,274 cf	**48.0"W x 45.0"H x 190.0'L Stone Encasement (30")** x 10 28,500 cf Overall - 13,430 cf Embedded = 15,070 cf x 35.0% Voids
#2	51.80'	9,327 cf	**30.0" D x 190.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 13,430 cf Overall - 3.0" Wall Thickness = 9,327 cf
		14,601 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.50'	**15.0" Round Outlet To Site Rear** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.50' / 54.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.55' TW=0.00' (Dynamic Tailwater)
└**1=Outlet To Site Rear** (Controls 0.00 cfs)

Pond B-4: Municipal Infiltration Basin



Summary for Pond B-5: Wawa Detention Basin

Inflow Area = 36,623 sf, 89.99% Impervious, Inflow Depth = 0.93" for Water Quality event
Inflow = 1.41 cfs @ 1.17 hrs, Volume= 2,841 cf
Outflow = 0.23 cfs @ 1.88 hrs, Volume= 2,841 cf, Atten= 84%, Lag= 42.9 min
Primary = 0.23 cfs @ 1.88 hrs, Volume= 2,841 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.62' @ 1.88 hrs Surf.Area= 1,731 sf Storage= 1,918 cf

Plug-Flow detention time= 92.3 min calculated for 2,840 cf (100% of inflow)
Center-of-Mass det. time= 92.3 min (172.4 - 80.1)

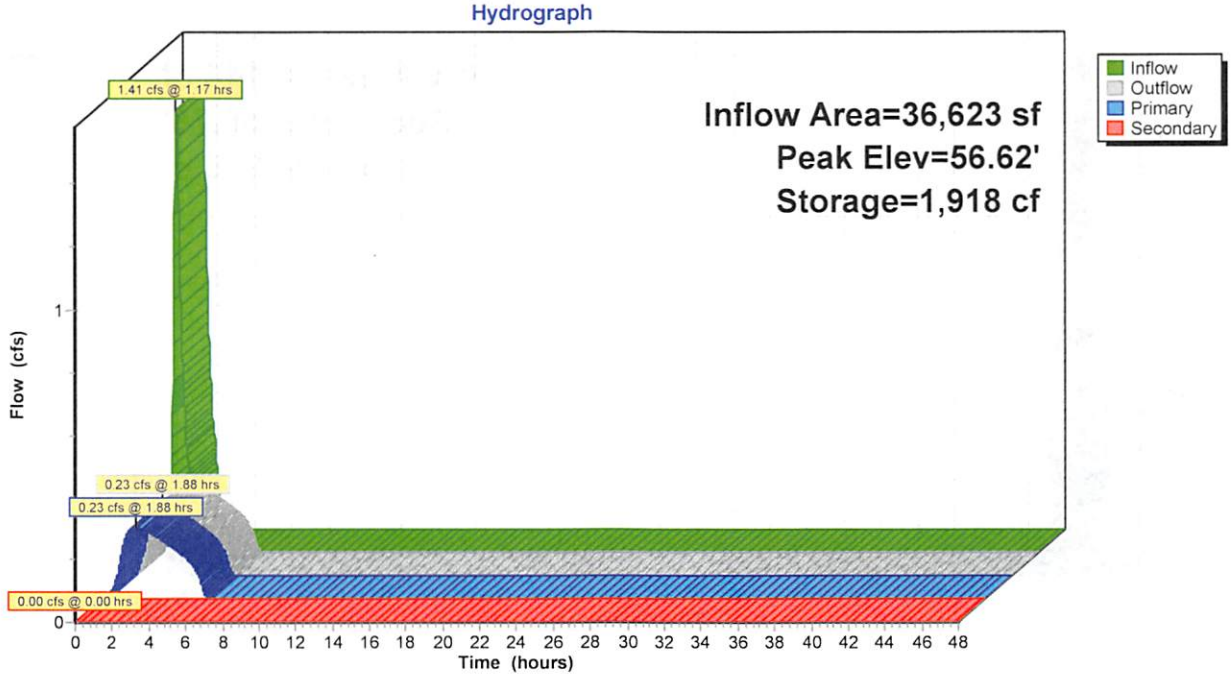
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	3,436 cf	**30.0" D x 100.0'L HDPE Storage S= 0.0050 '/'** x 7

Device	Routing	Invert	Outlet Devices
#1	Primary	55.00'	**3.0" Round Intake To Water Quality Unit** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.00' / 54.95' S= 0.0036 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	55.75'	**18.0" Round Outlet To Primary Basin** L= 113.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.75' / 54.92' S= 0.0073 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#3	Device 2	56.75'	**4.0' 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=0.23 cfs @ 1.88 hrs HW=56.62' TW=0.00' (Dynamic Tailwater)
└─**1=Intake To Water Quality Unit** (Inlet Controls 0.23 cfs @ 4.64 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=54.50' (Dynamic Tailwater)
└─**2=Outlet To Primary Basin** (Controls 0.00 cfs)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond B-5: Wawa Detention Basin



Summary for Pond RG-1: Fast Food Bioretention Area

Inflow Area = 10,144 sf, 48.34% Impervious, Inflow Depth = 0.50" for Water Quality event
Inflow = 0.21 cfs @ 1.17 hrs, Volume= 423 cf
Outflow = 0.07 cfs @ 1.61 hrs, Volume= 94 cf, Atten= 68%, Lag= 26.7 min
Primary = 0.07 cfs @ 1.61 hrs, Volume= 94 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.76' @ 1.61 hrs Surf.Area= 532 sf Storage= 335 cf

Plug-Flow detention time= 52.4 min calculated for 94 cf (22% of inflow)
Center-of-Mass det. time= 30.5 min (110.6 - 80.1)

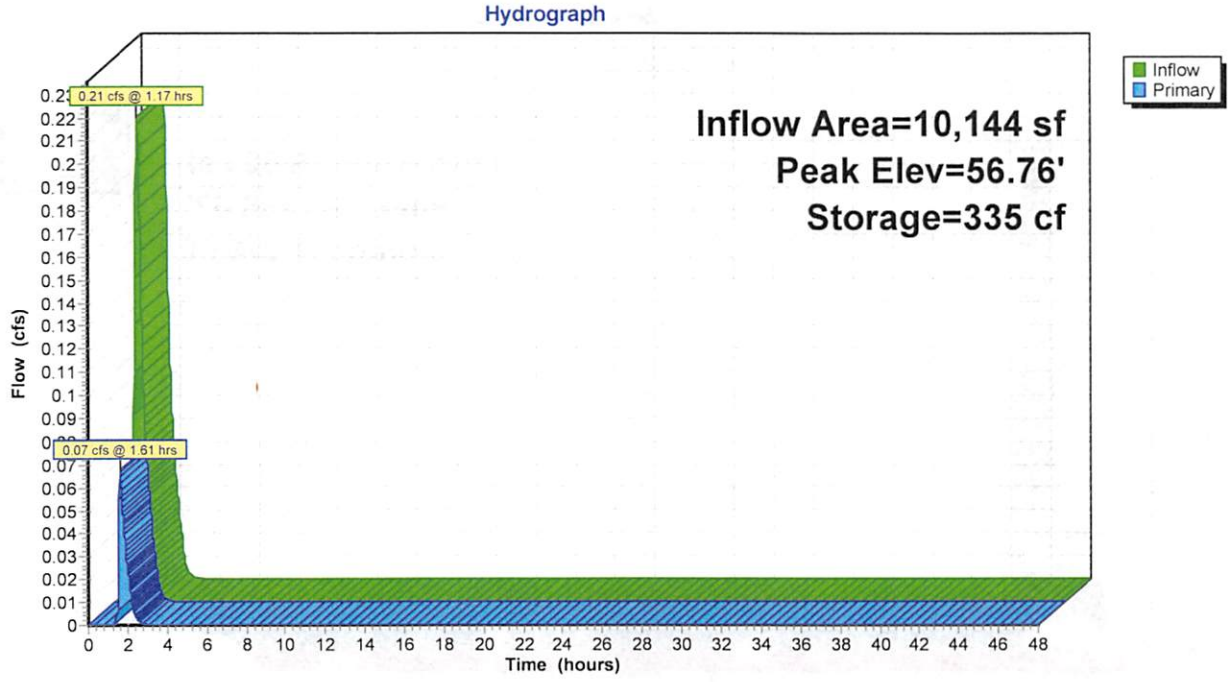
Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	1,236 cf	**Bioretention Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.00	354	71.0	0	0	354
57.00	595	90.0	469	469	610
58.00	953	126.0	767	1,236	1,239

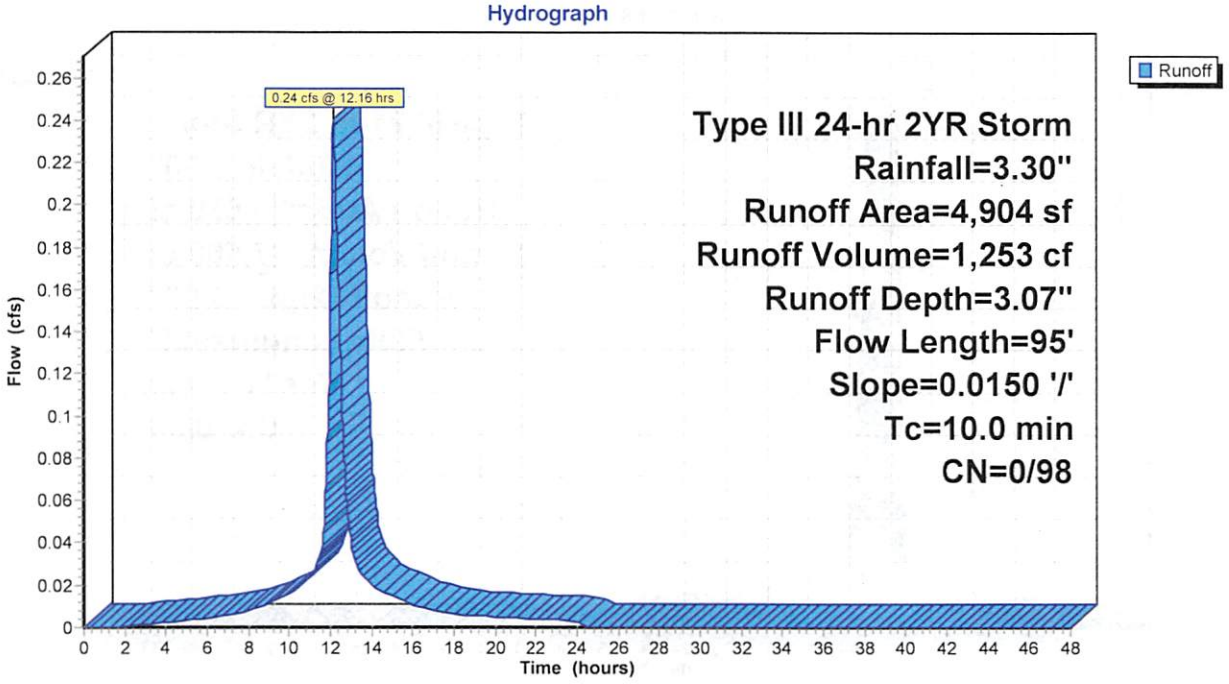
Device	Routing	Invert	Outlet Devices
#1	Primary	54.80'	**12.0" Round Spillway Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.80' / 54.72' S= 0.0031 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	56.75'	**48.0" x 48.0" Horiz. Spillway Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 1.61 hrs HW=56.76' TW=55.10' (Dynamic Tailwater)
↳ **1=Spillway Culvert** (Passes 0.07 cfs of 4.23 cfs potential flow)
↳ **2=Spillway Grate** (Weir Controls 0.07 cfs @ 0.36 fps)

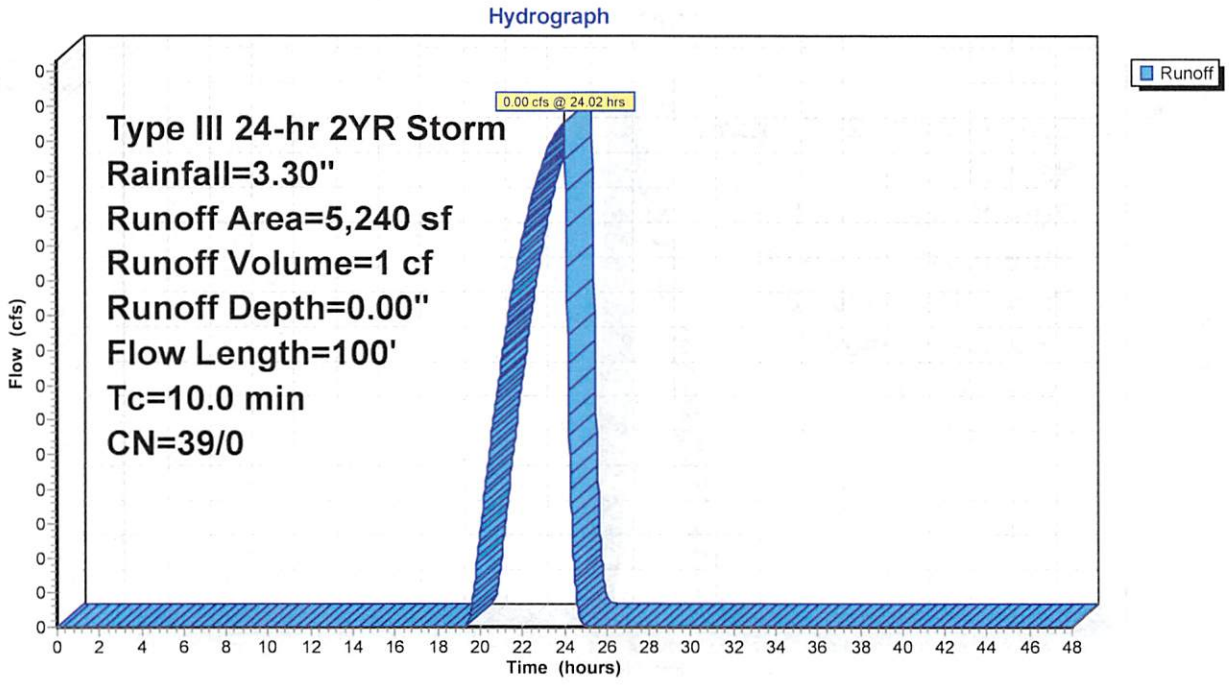
Pond RG-1: Fast Food Bioretention Area



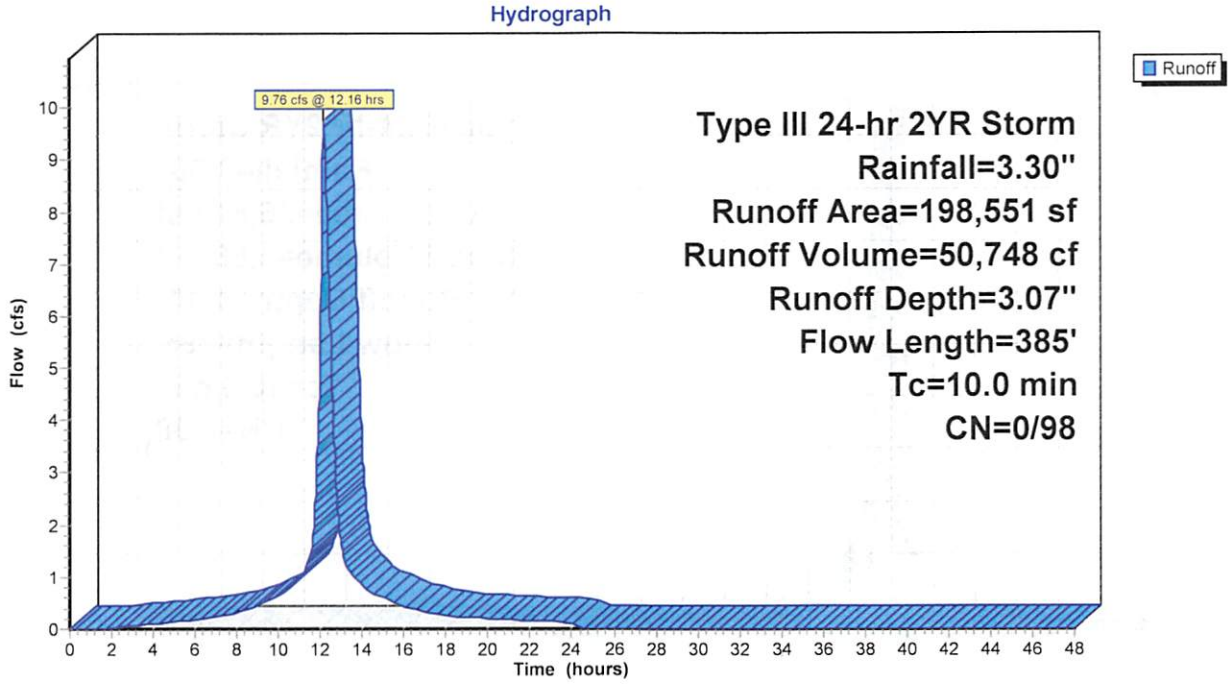
Subcatchment P-1A-M: Fast Food Bioretention Impervious Area



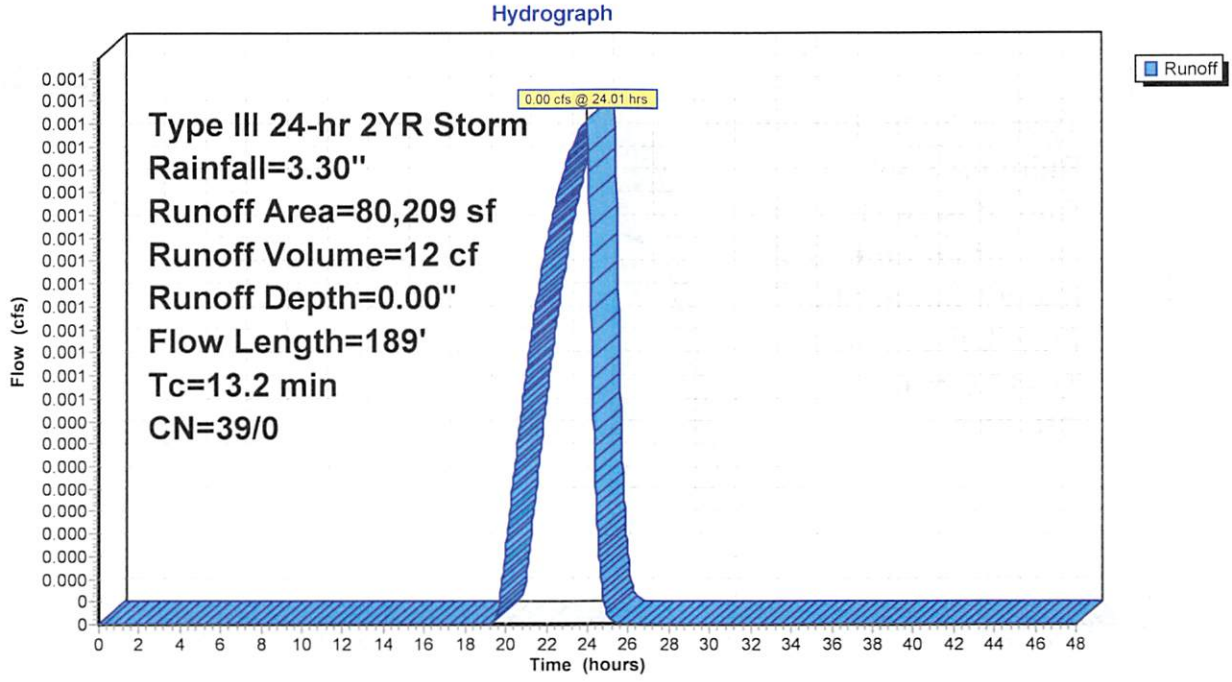
Subcatchment P-1A-P: Fast Food Bioretention Pervious Area



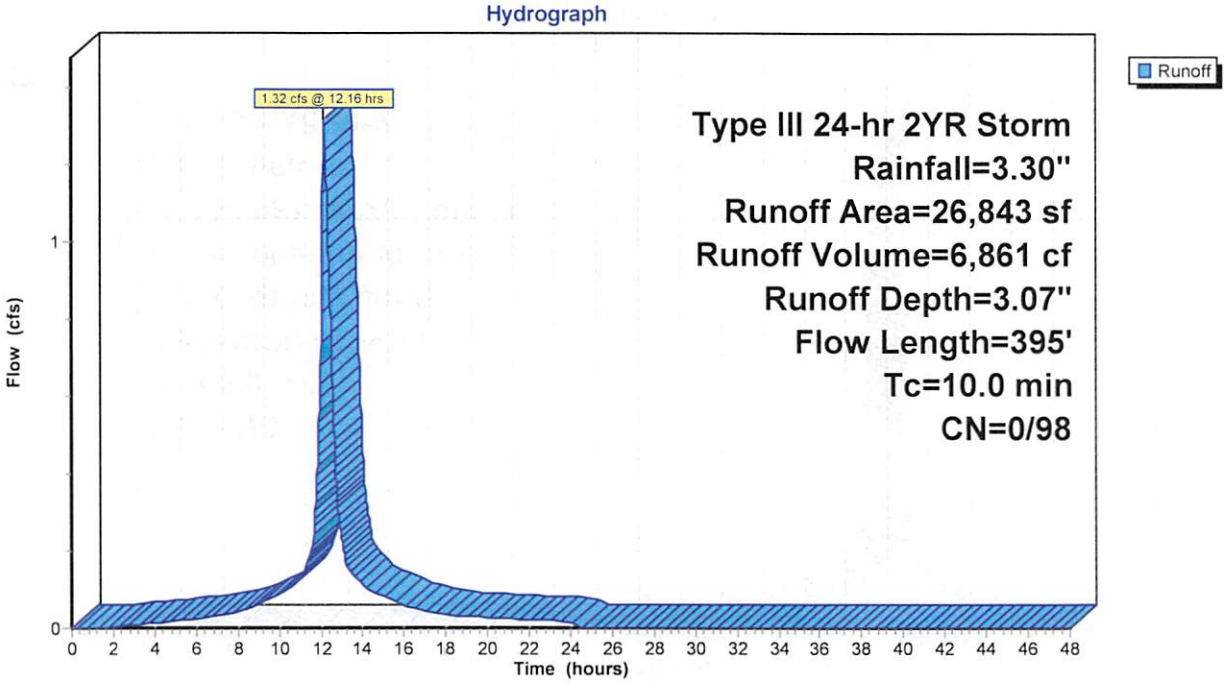
Subcatchment P-1B-M: Primary Basin Impervious Area



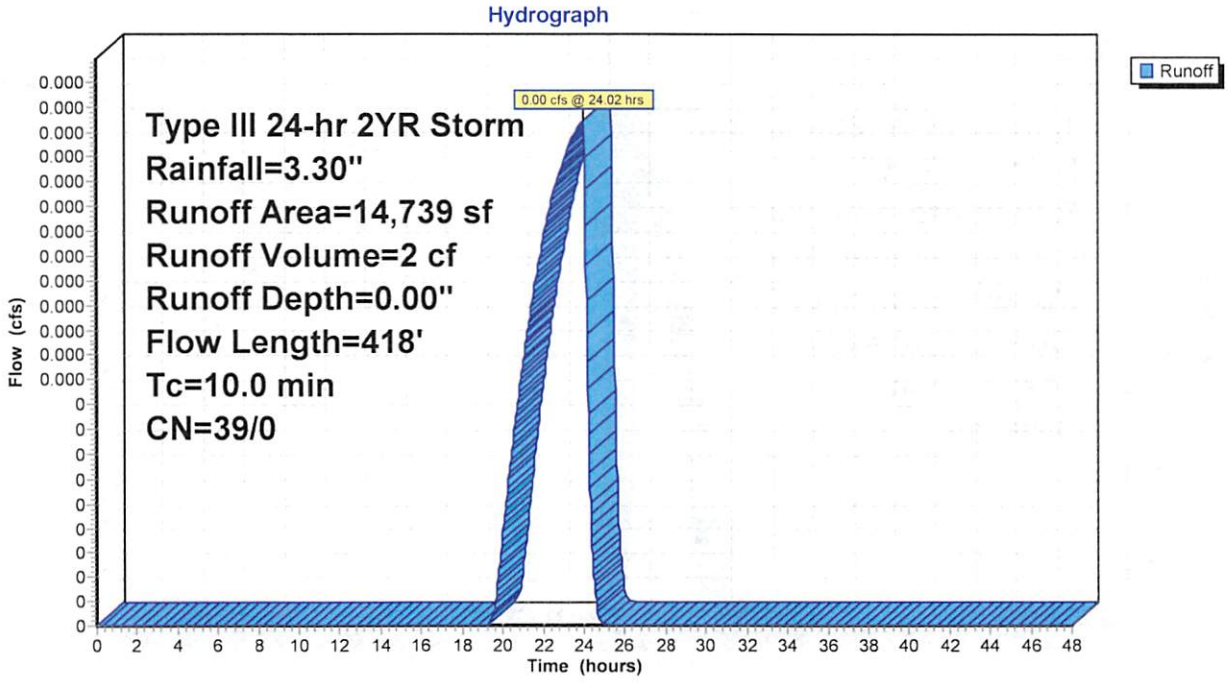
Subcatchment P-1B-P: Primary Basin Pervious Area



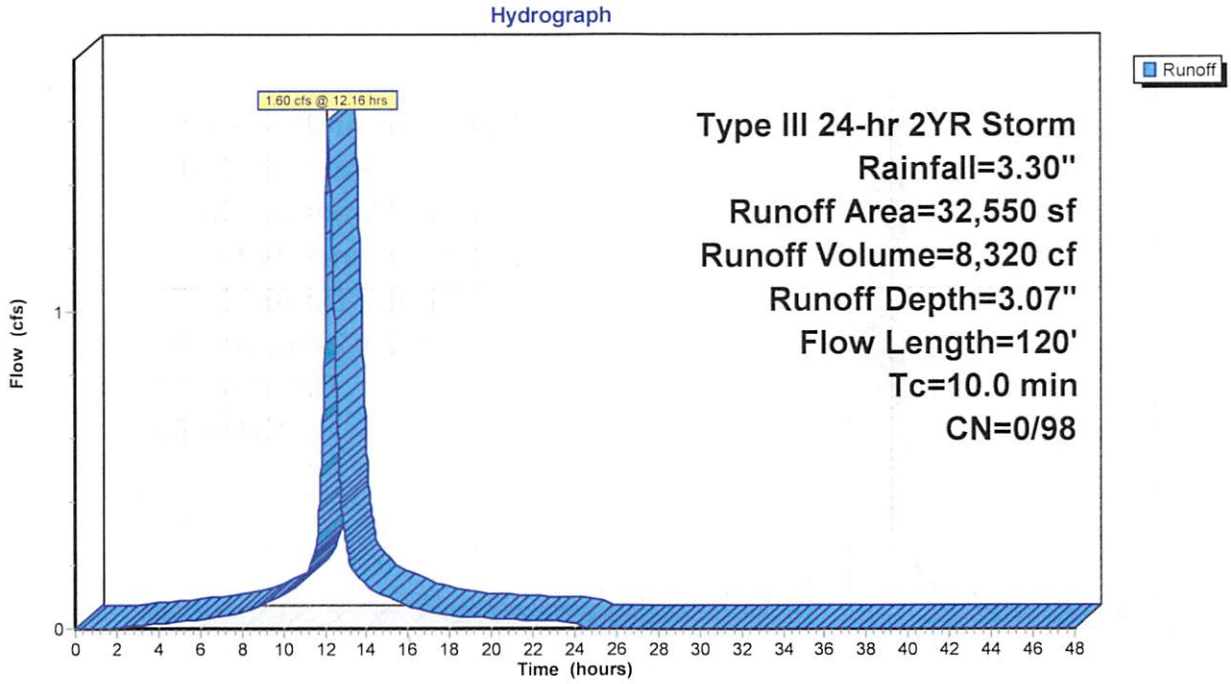
Subcatchment P-1C-M: McDonalds Basin Impervious Area



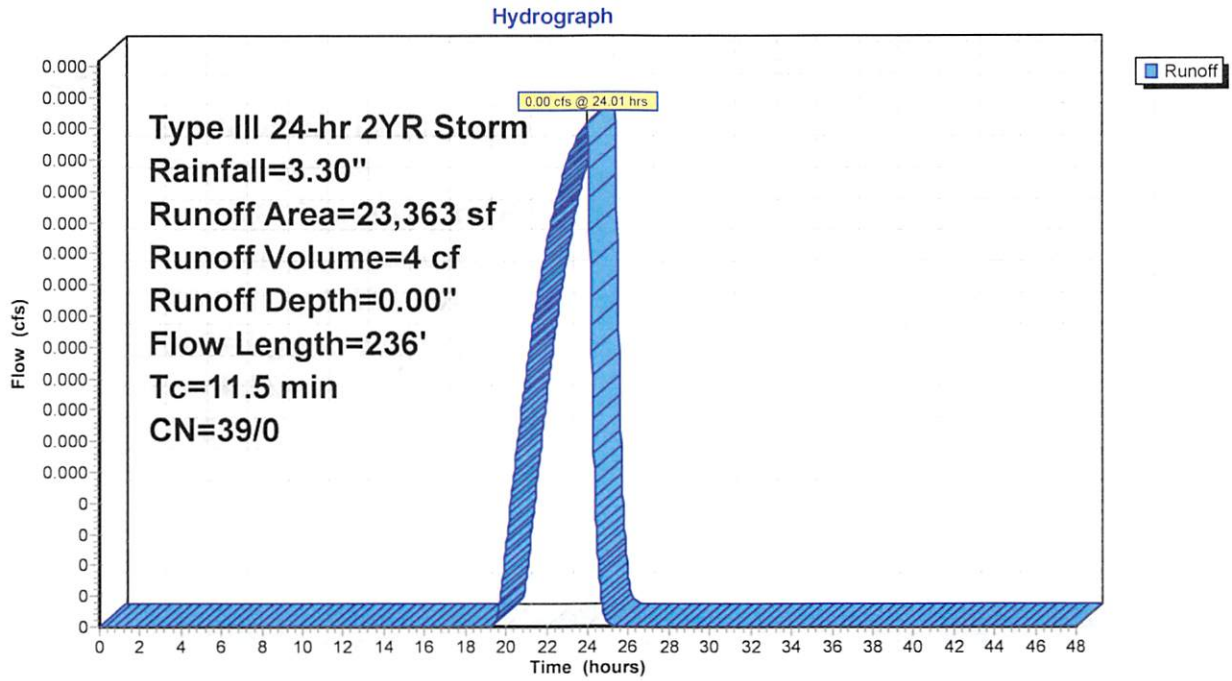
Subcatchment P-1C-P: McDonalds Basin Pervious Area



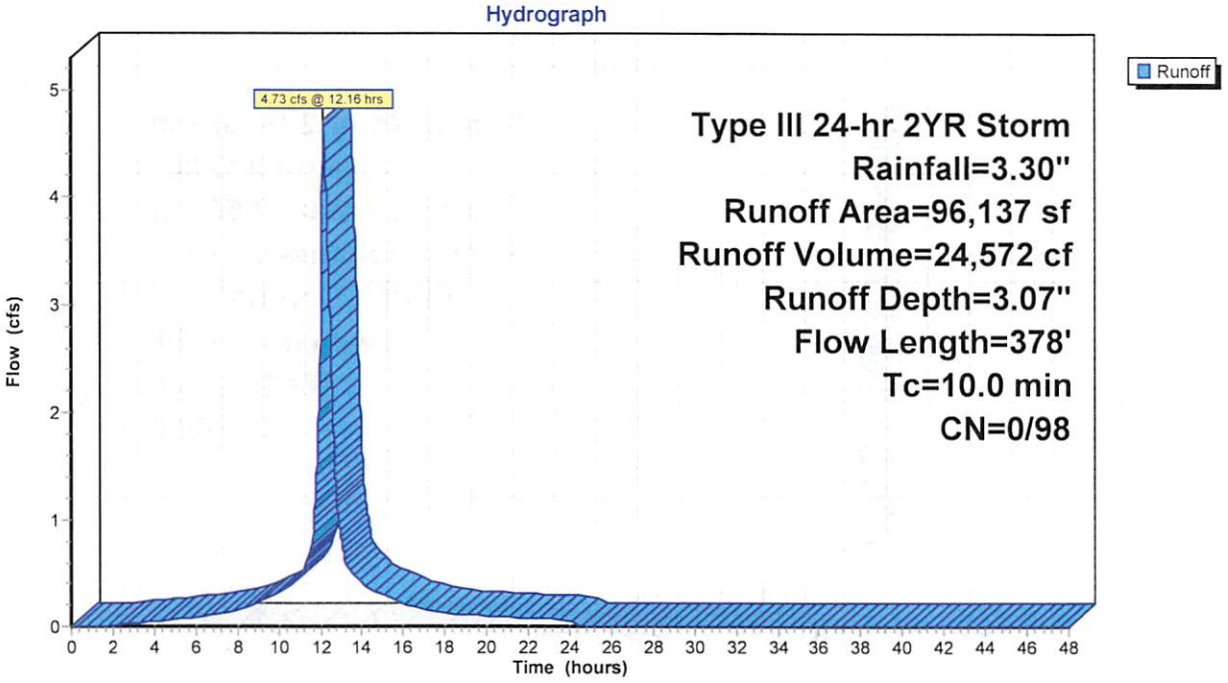
Subcatchment P-1D-M: Access Road Bioretention Impervious Area



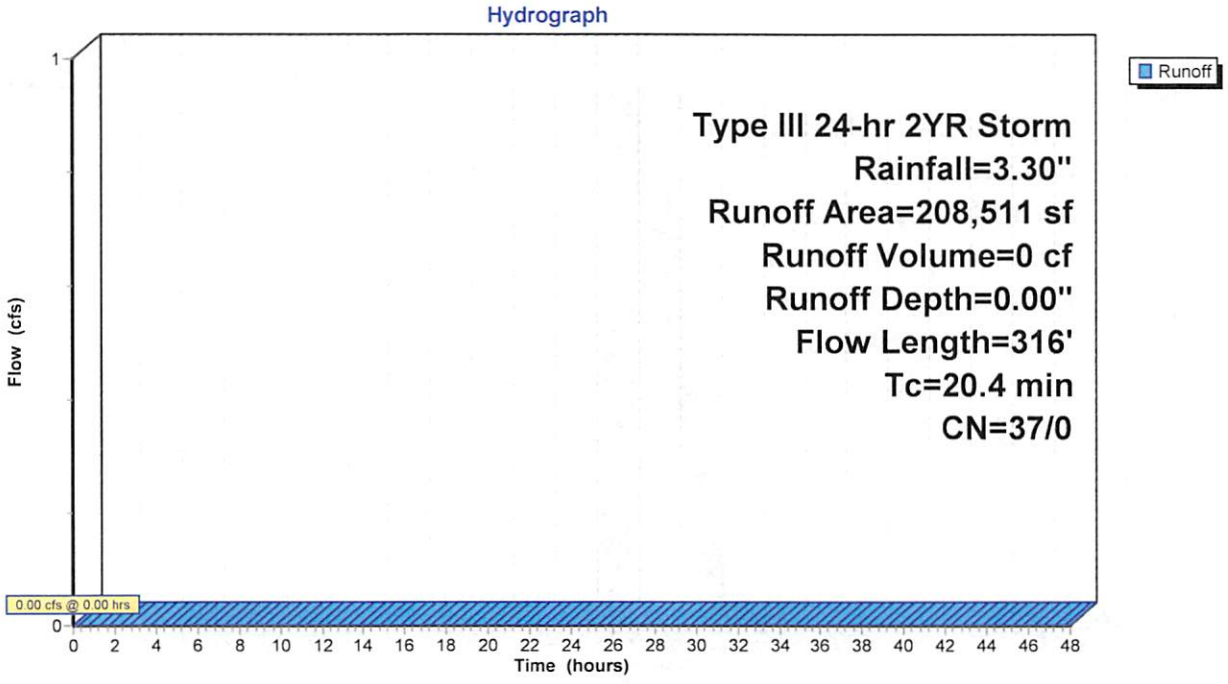
Subcatchment P-1D-P: Access Road Bioretention Pervious Area



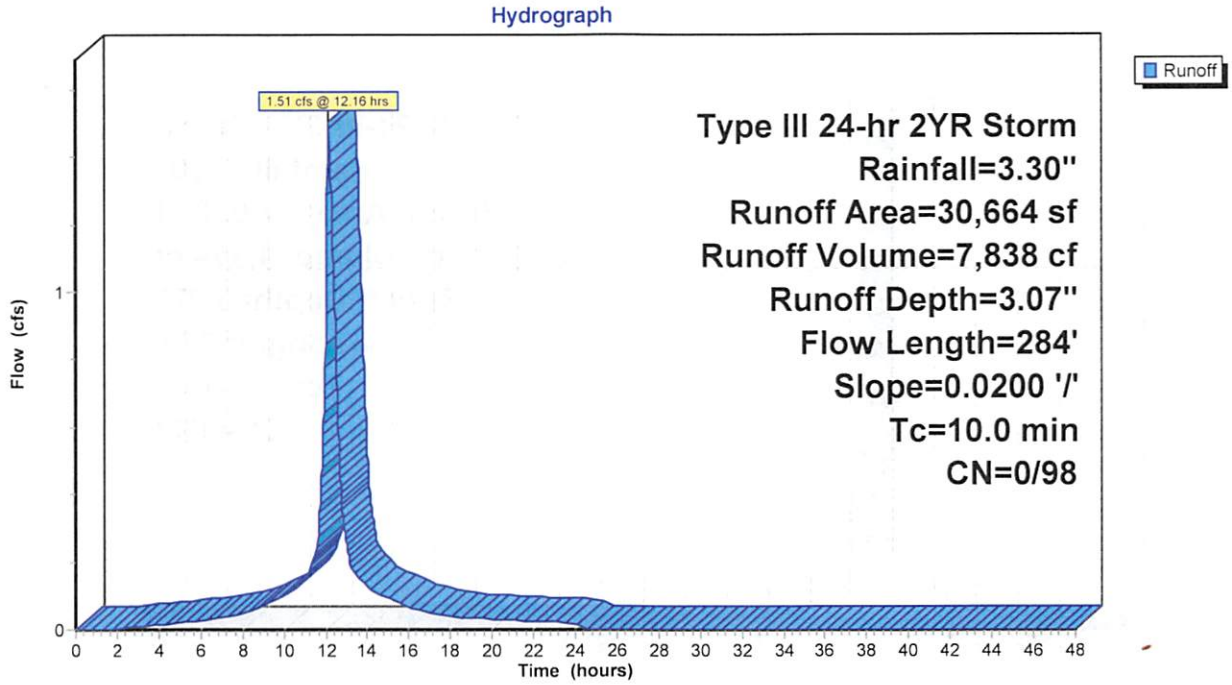
Subcatchment P-1E-M: Undetained Site Impervious Area



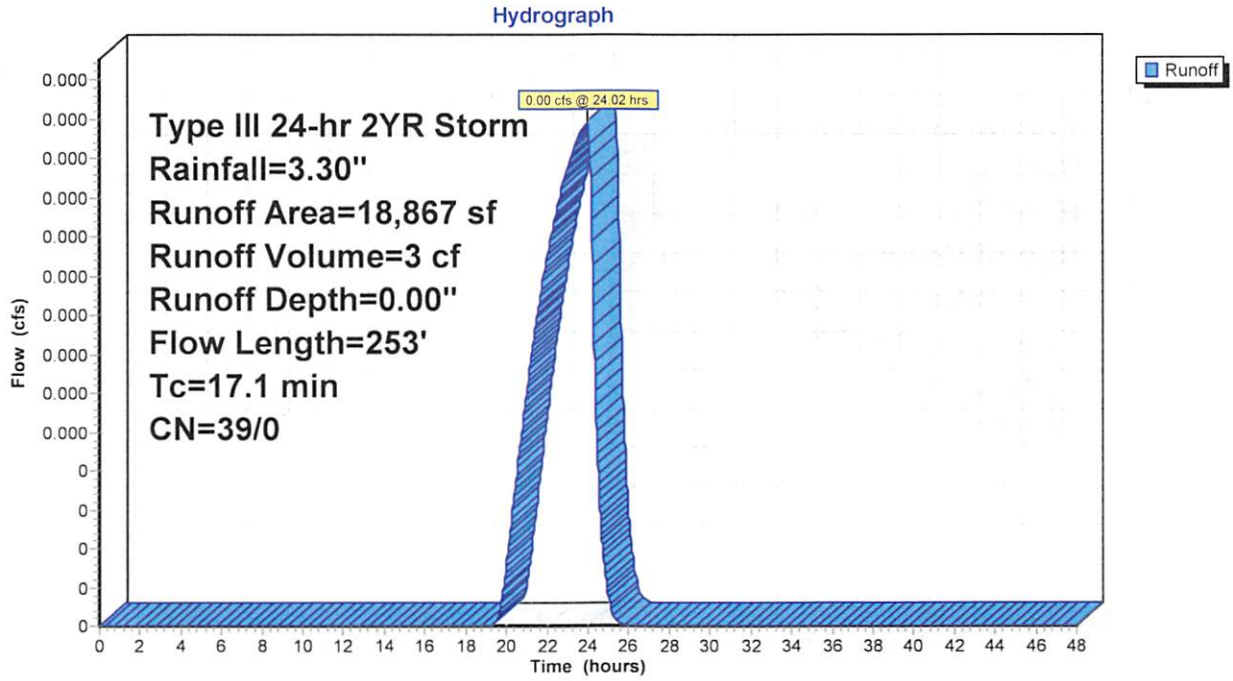
Subcatchment P-1E-P: Undetained Site Pervious Area



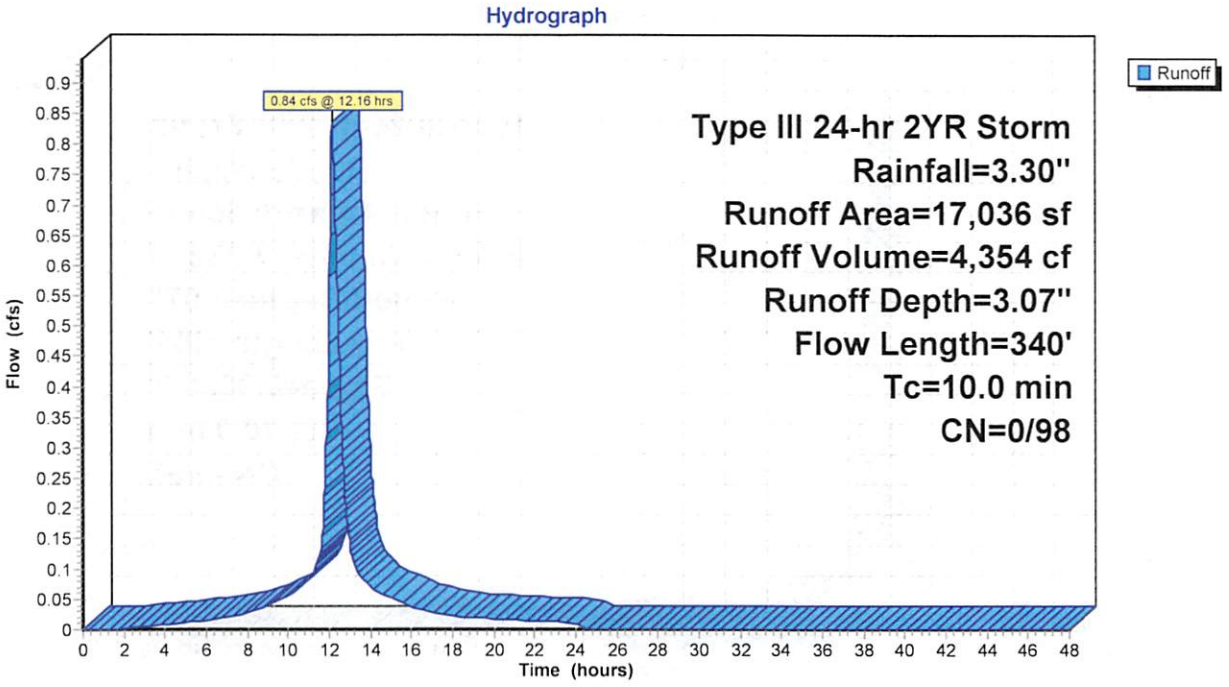
Subcatchment P-1F-M: Municipal Basin Impervious Area



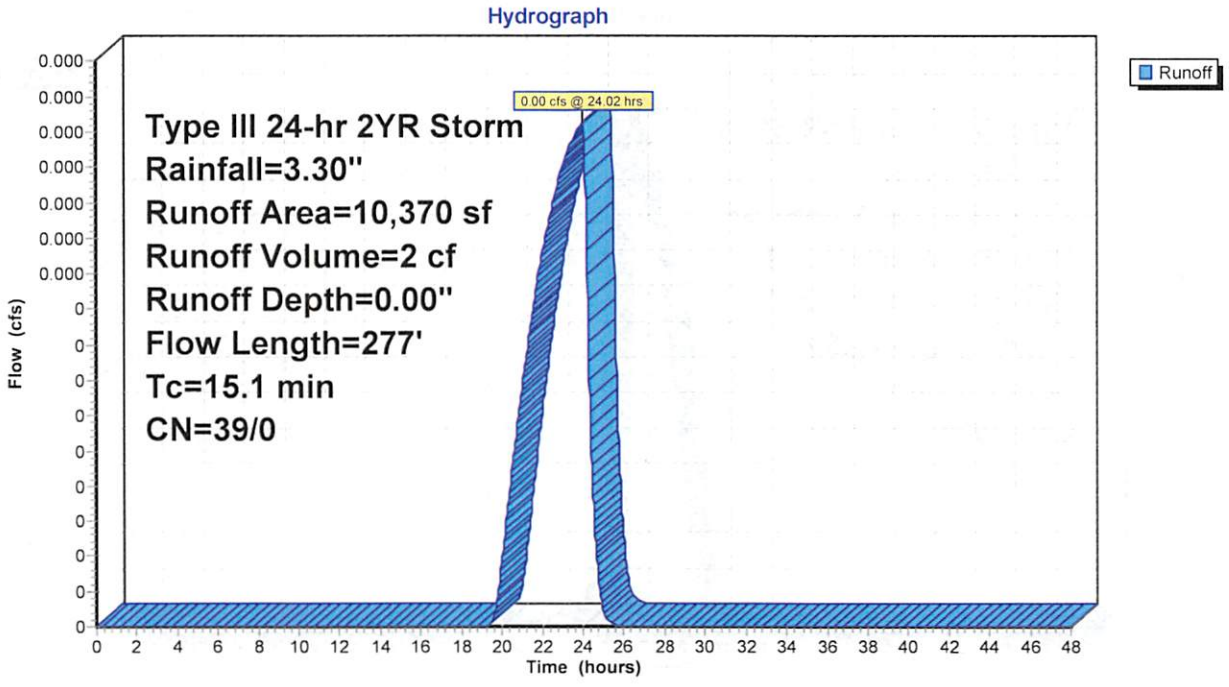
Subcatchment P-1F-P: Municipal Basin Pervious Area



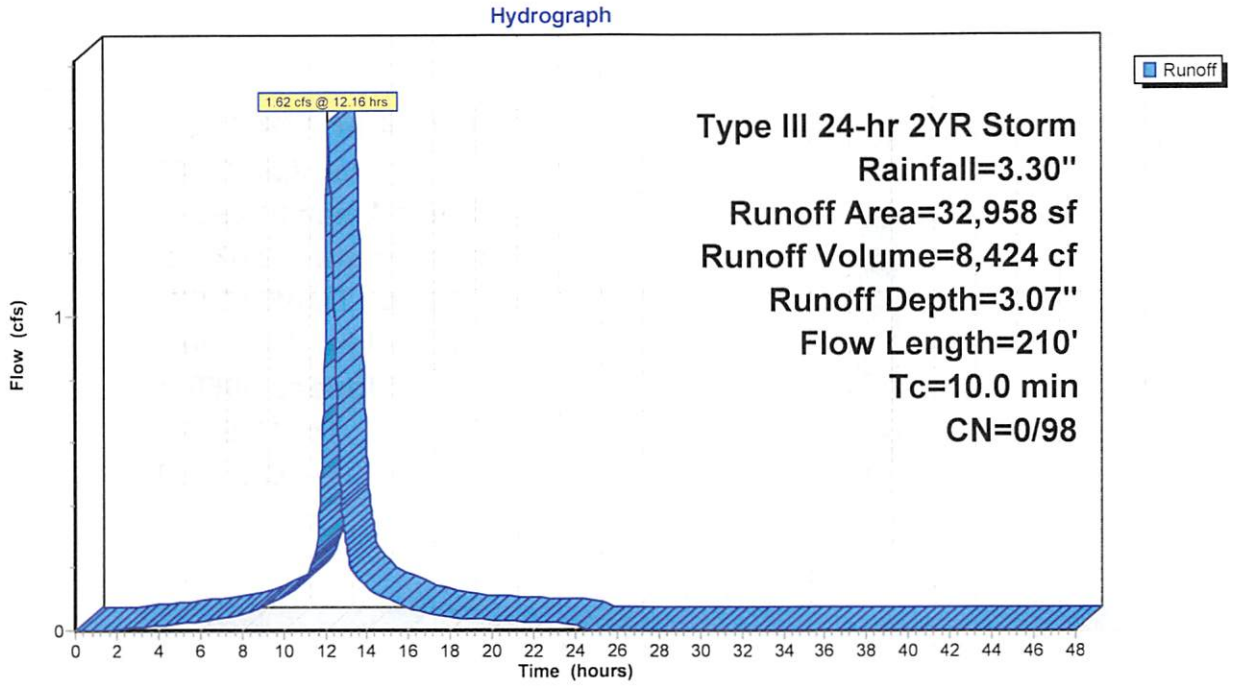
Subcatchment P-2-M: Municipal Impervious Area



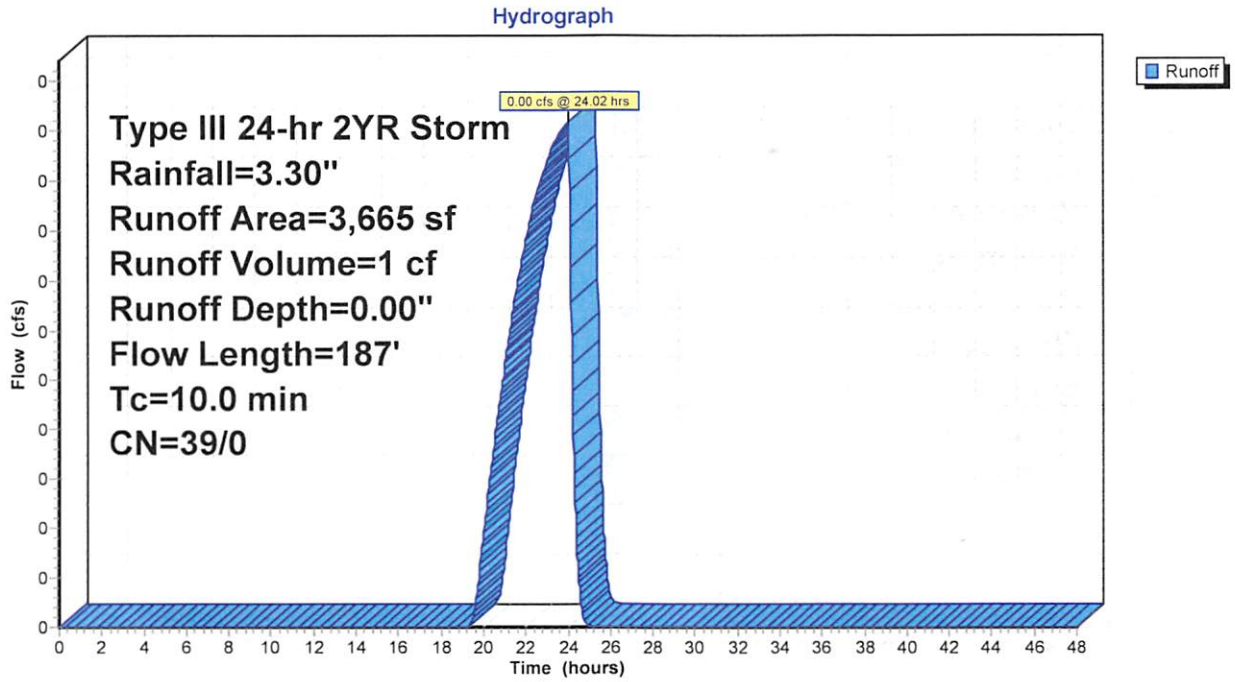
Subcatchment P-2-P: Municipal Pervious Area



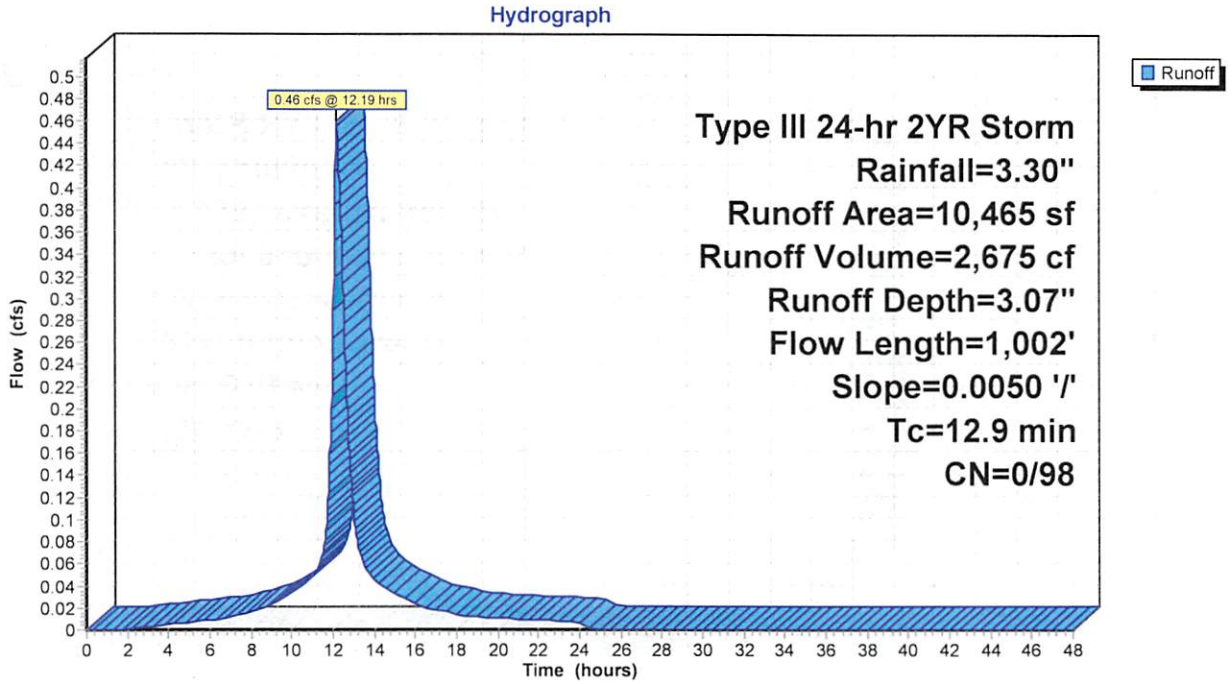
Subcatchment P-3A-M: Wawa Basin Impervious Area



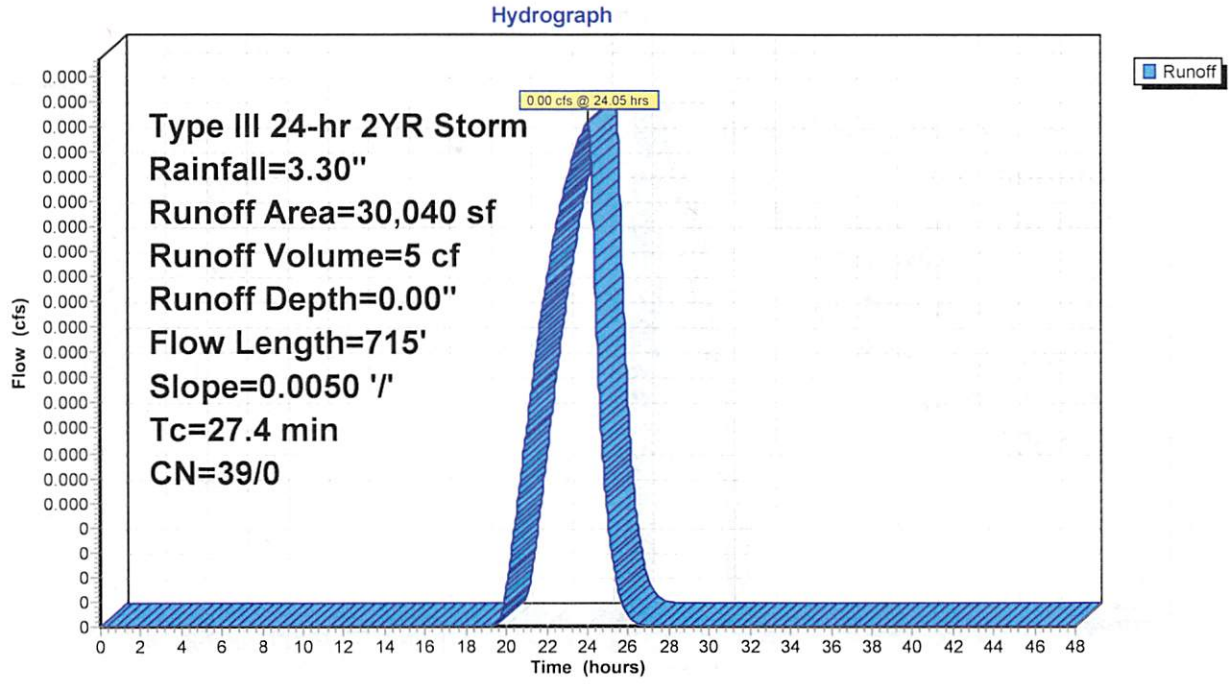
Subcatchment P-3A-P: Wawa Basin Pervious Area



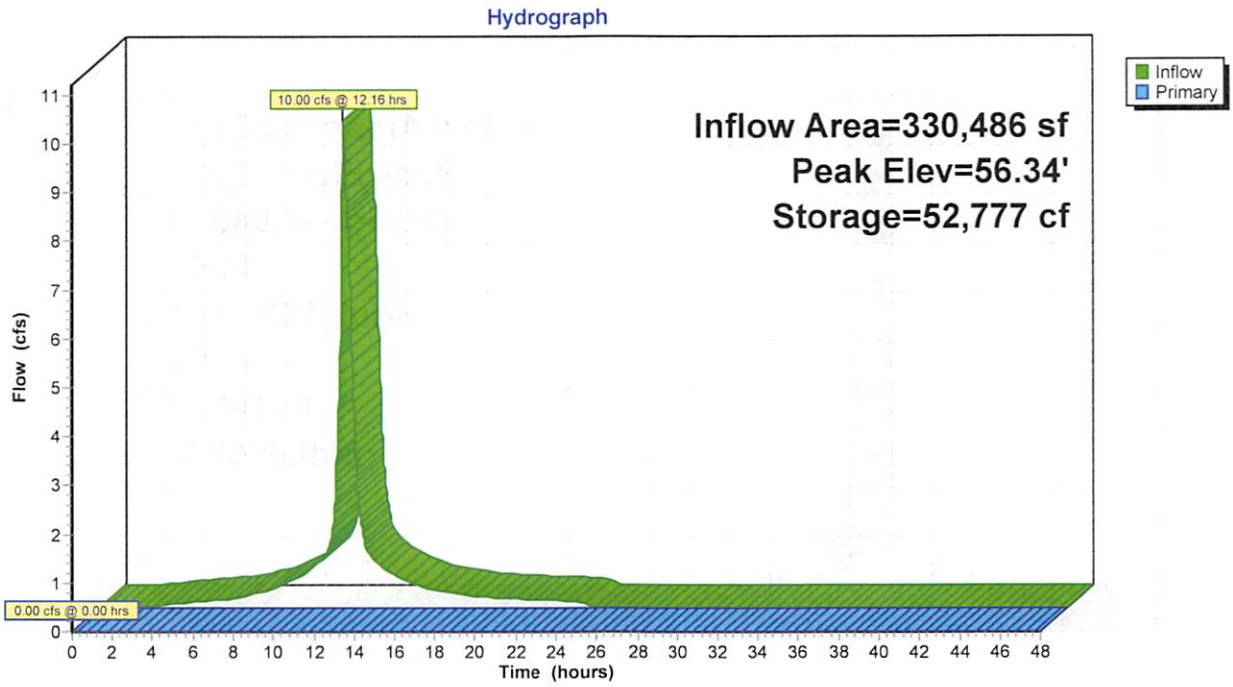
Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area



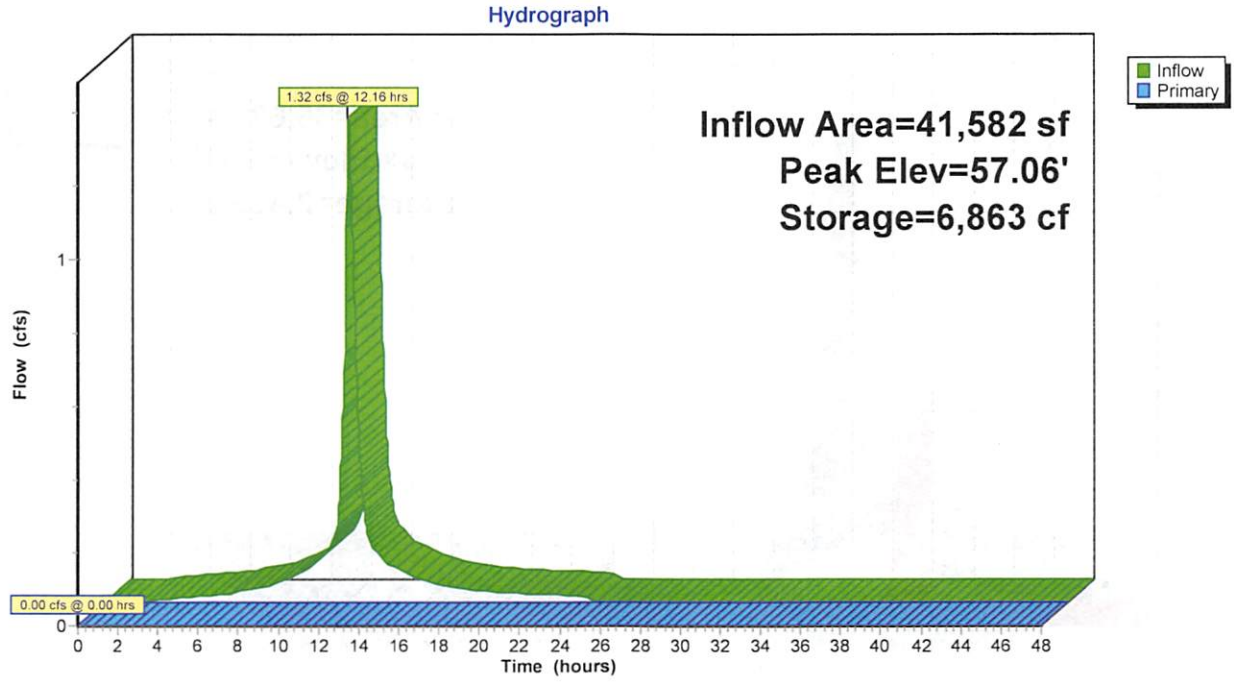
Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area



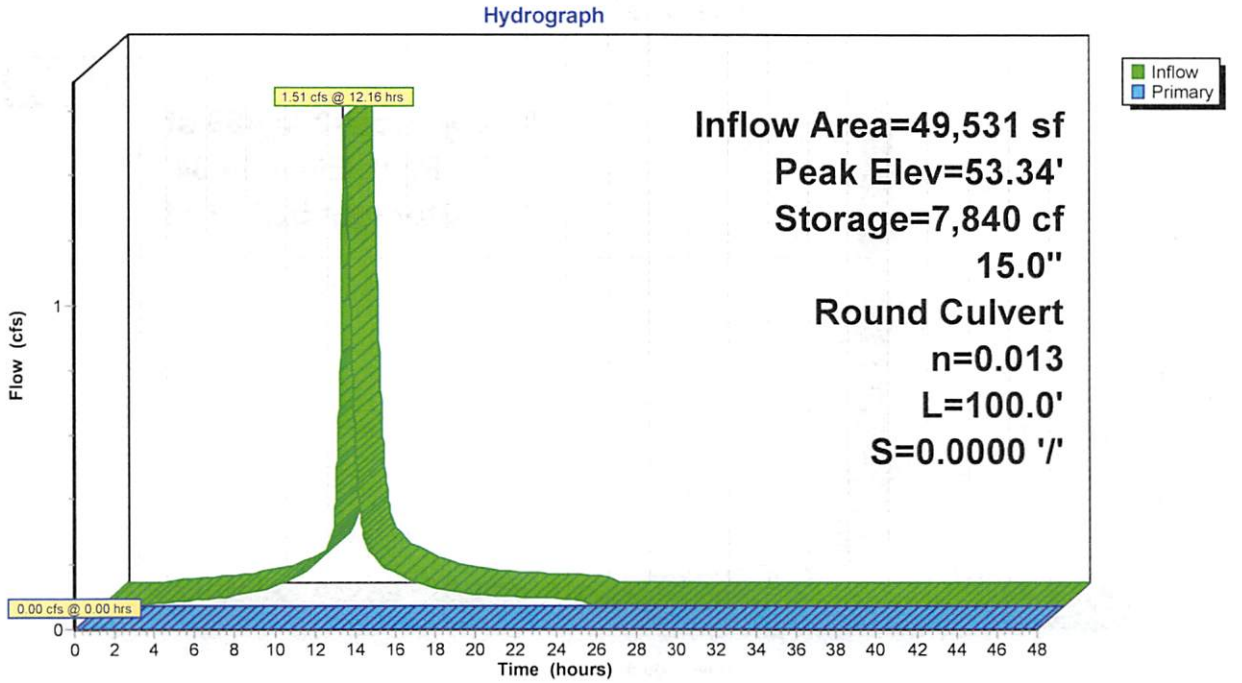
Pond B-1&2: Primary Site Infiltration Basin



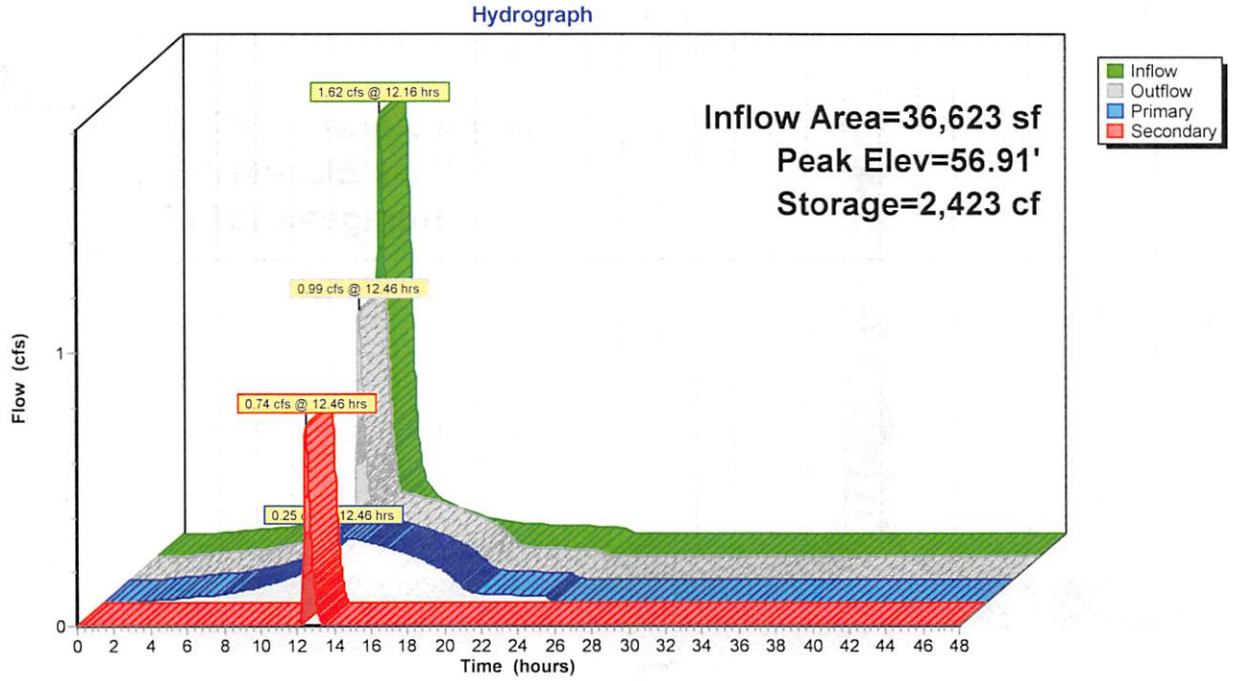
Pond B-3: McDonalds Infiltration Basin



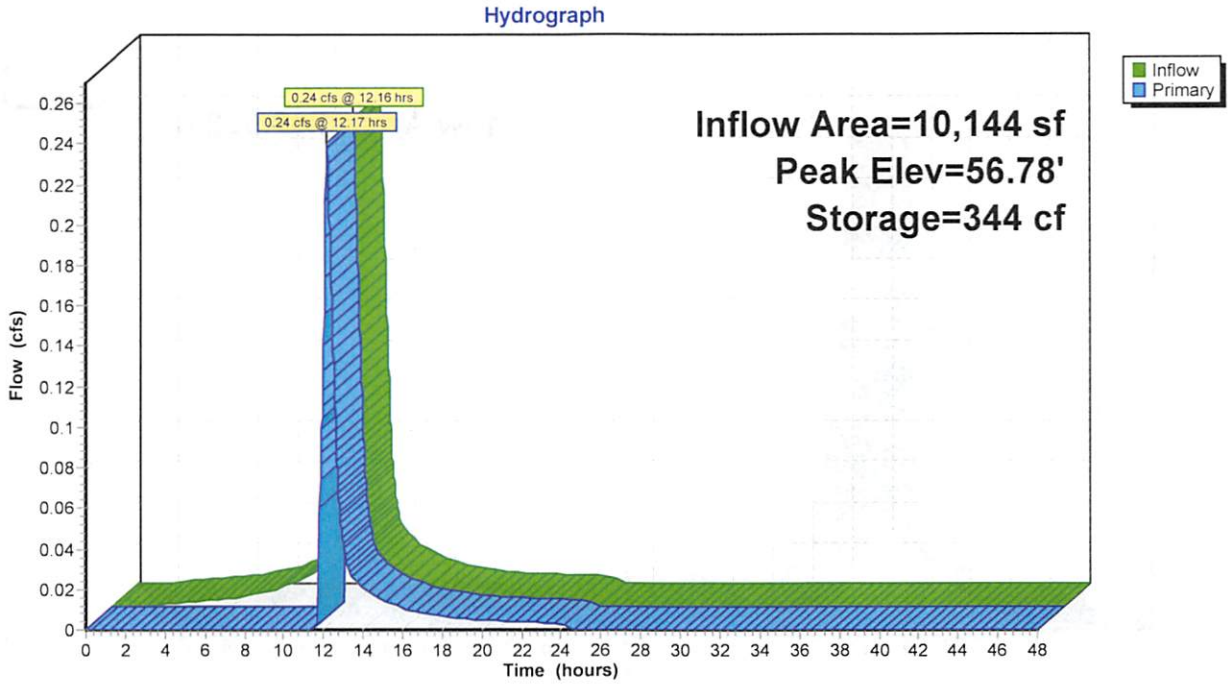
Pond B-4: Municipal Infiltration Basin



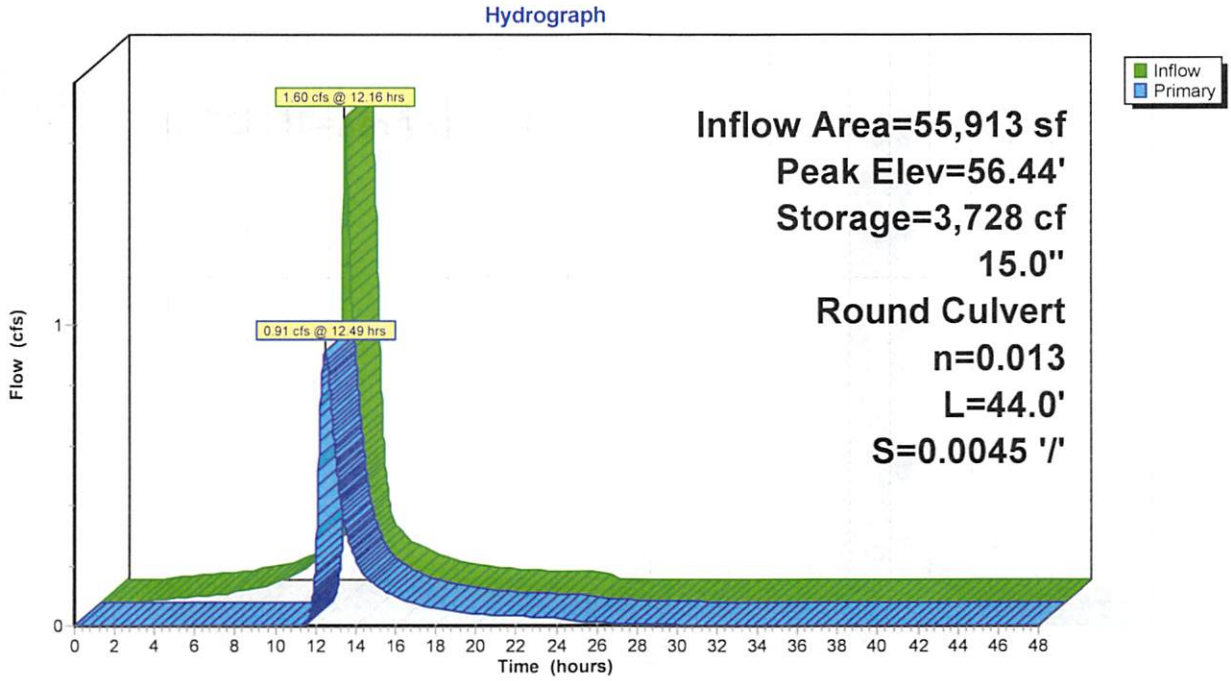
Pond B-5: Wawa Detention Basin



Pond RG-1: Fast Food Bioretention Area

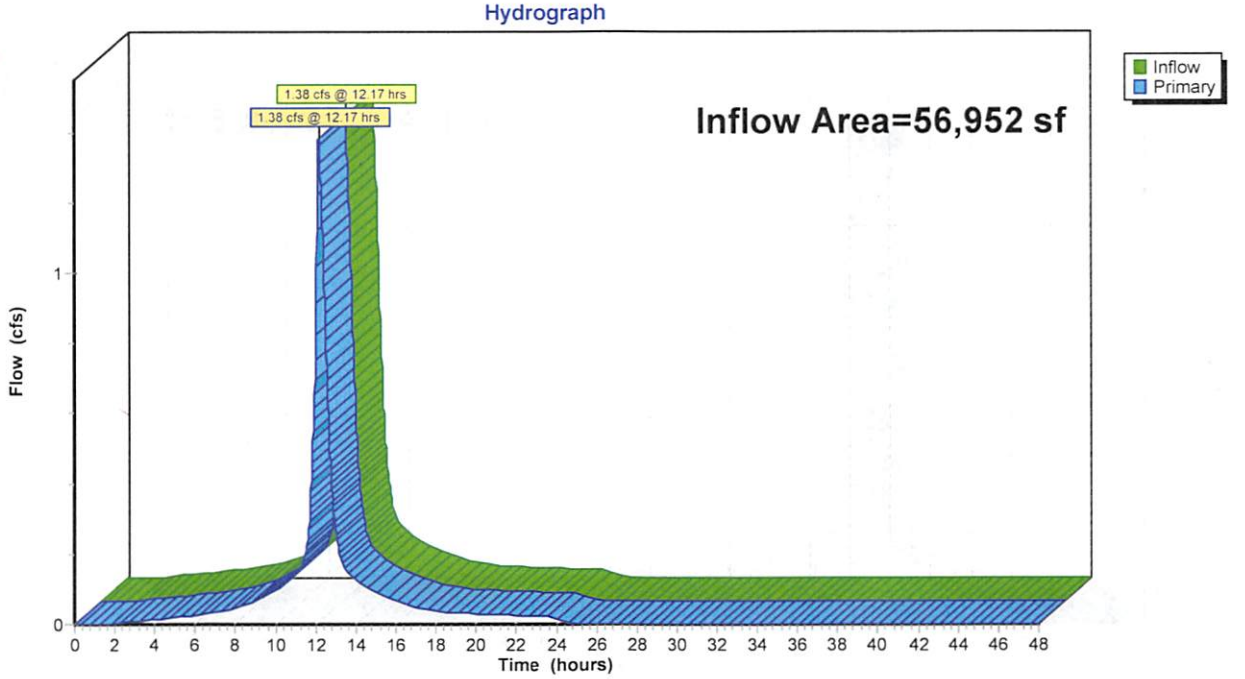


Pond RG-2: Access Road Bioretention Area



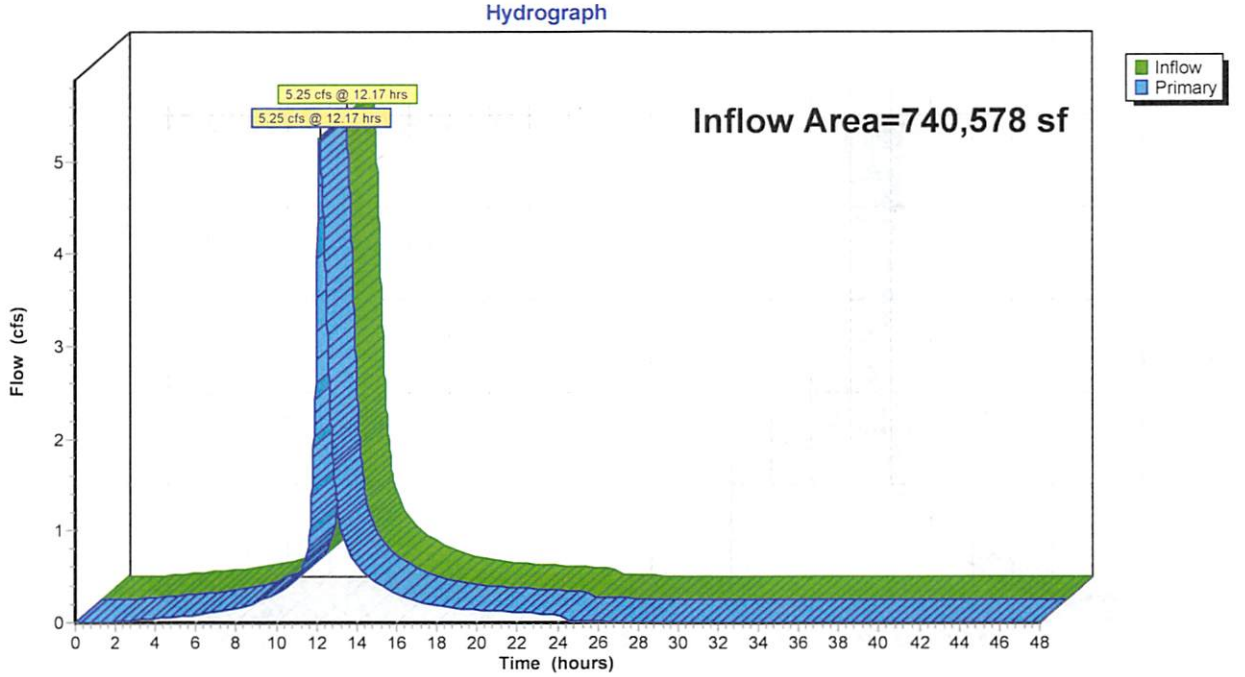
Link E-3: Existing DOT Drainage Area

Hydrograph

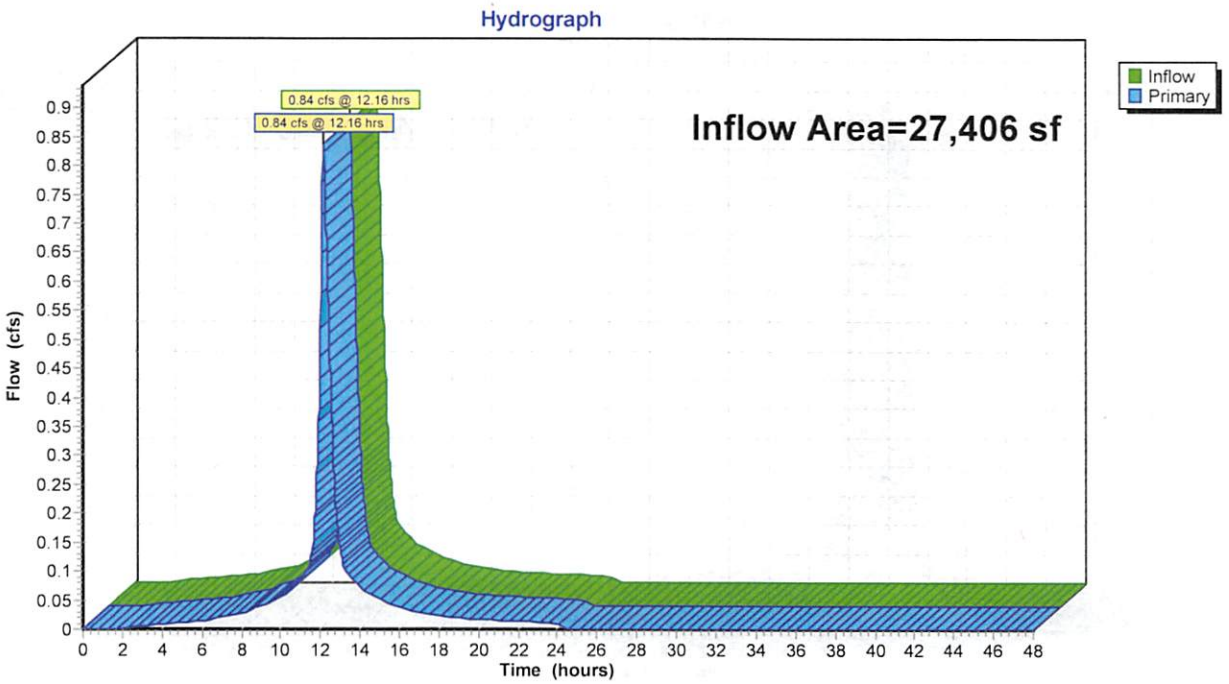


Link P-1: Proposed Site Drainage Area

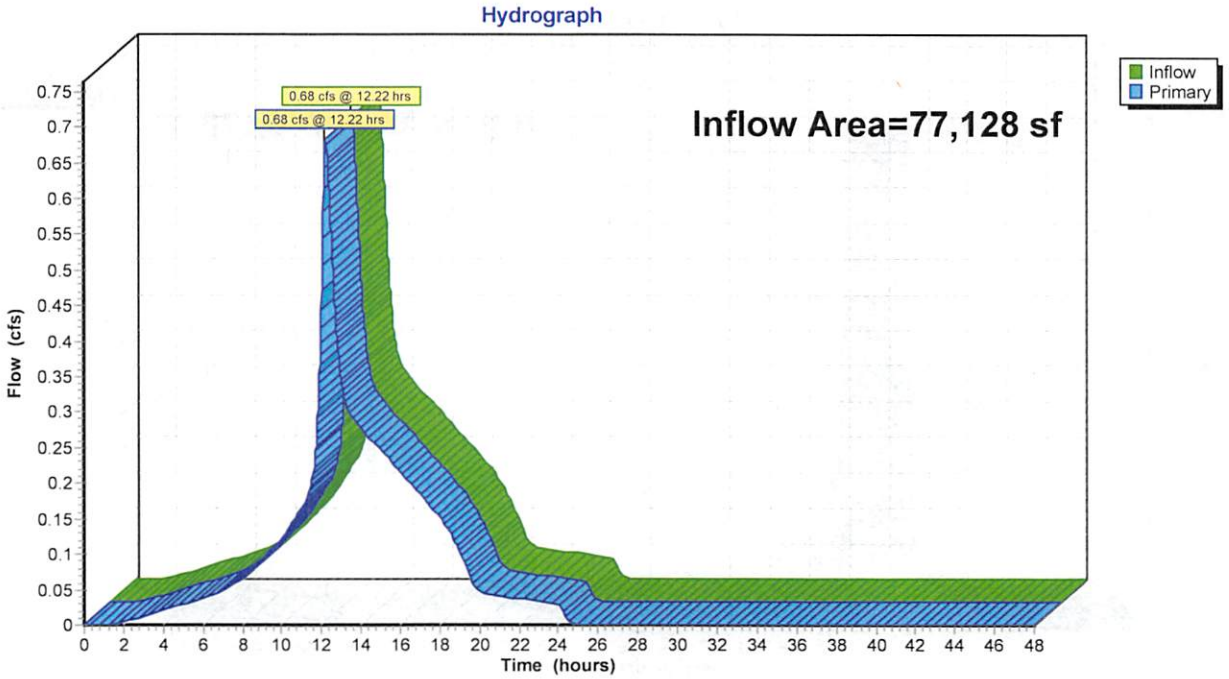
Hydrograph



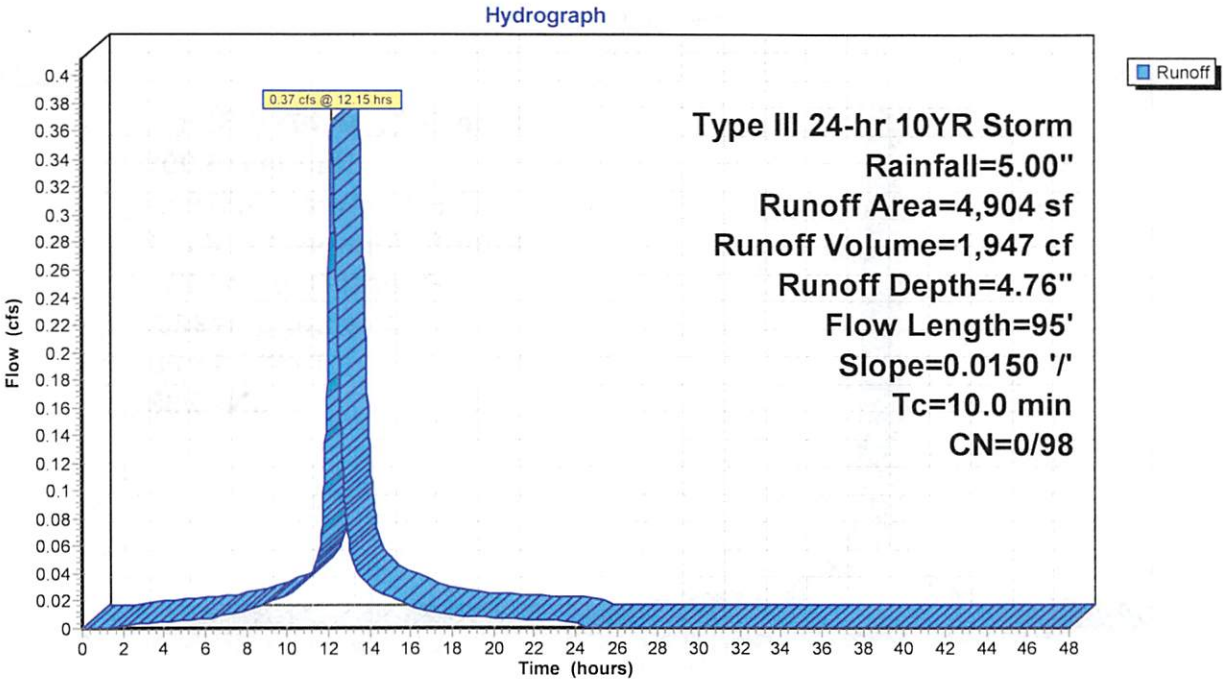
Link P-2: Proposed Municipal Drainage Area



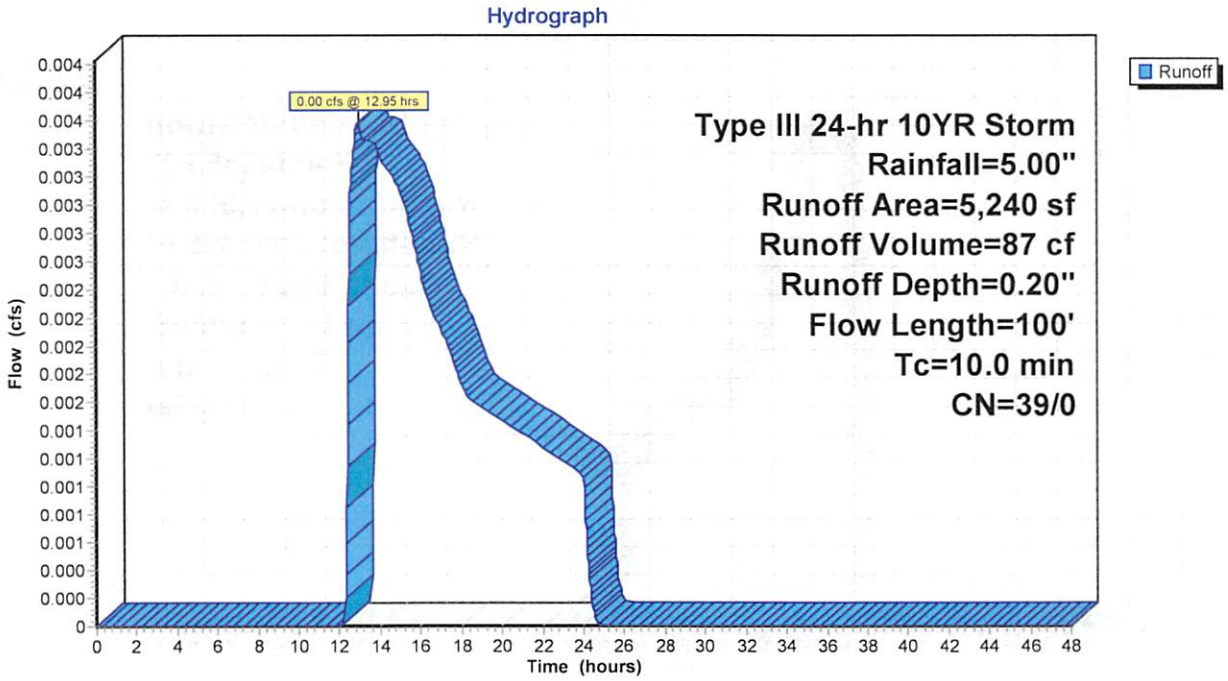
Link P-3: Proposed DOT Drainage Area



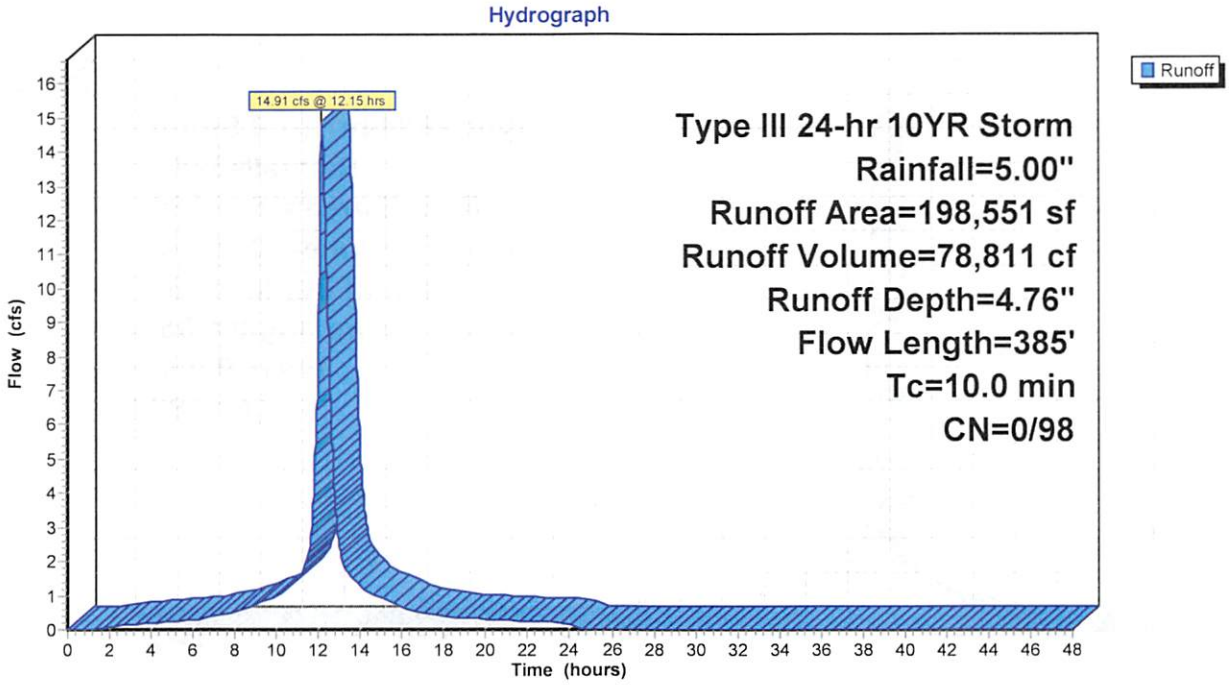
Subcatchment P-1A-M: Fast Food Bioretention Impervious Area



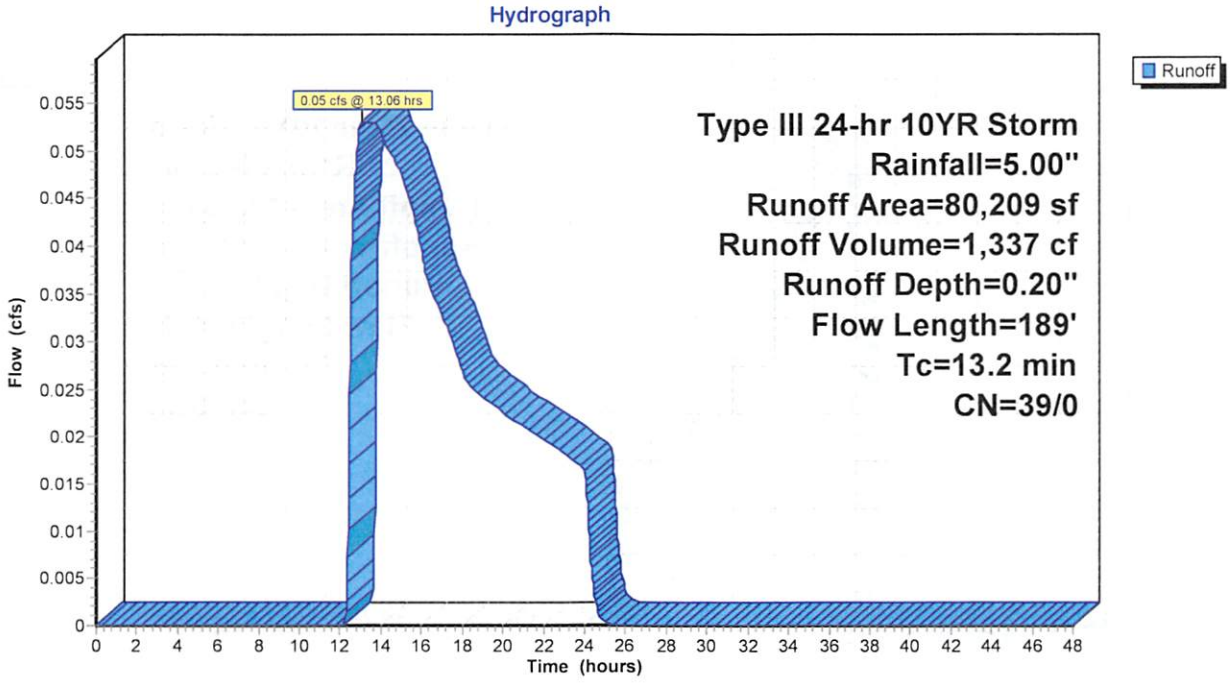
Subcatchment P-1A-P: Fast Food Bioretention Pervious Area



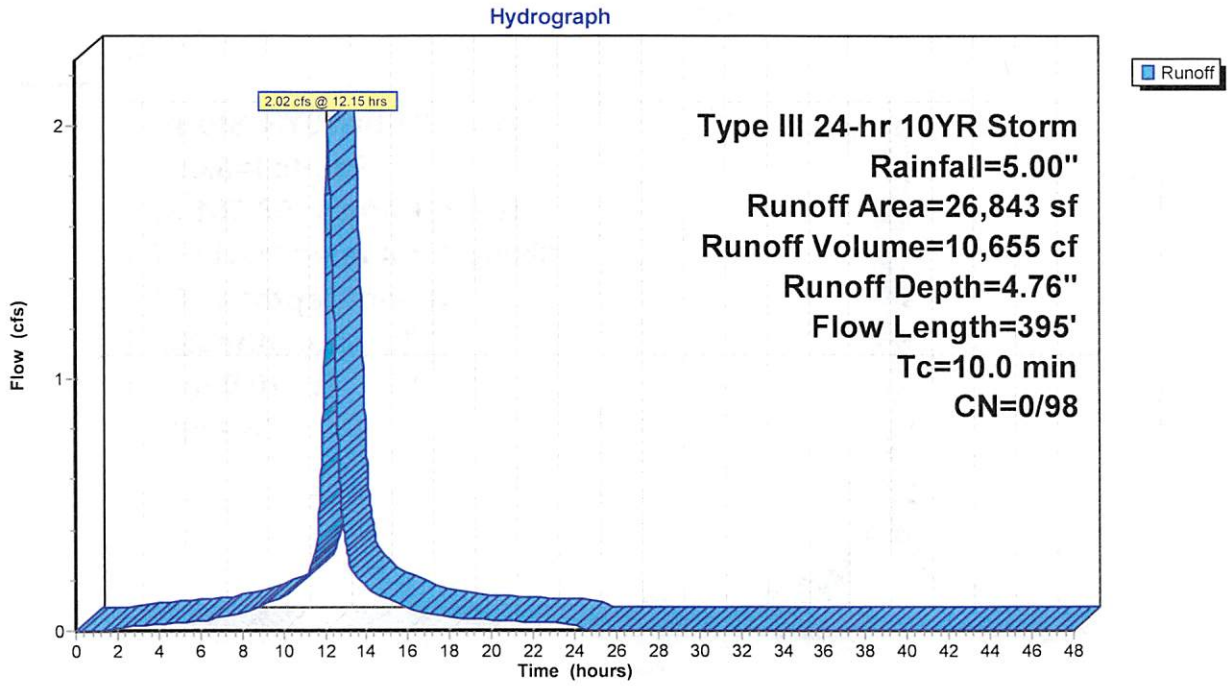
Subcatchment P-1B-M: Primary Basin Impervious Area



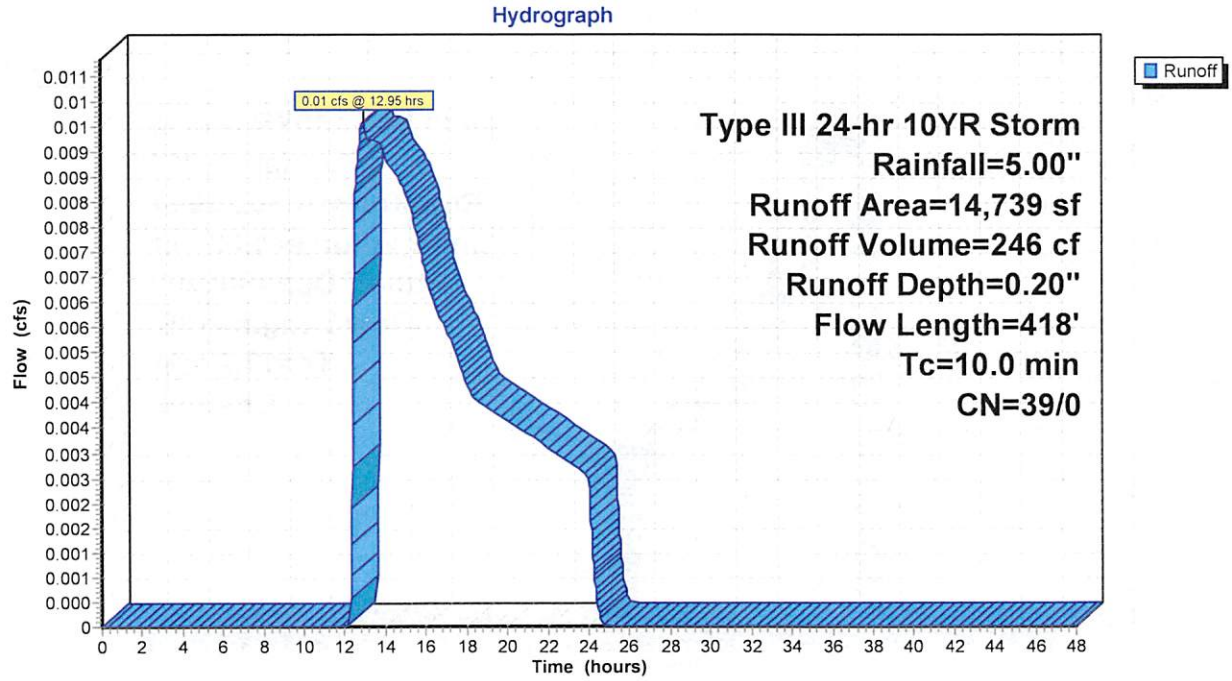
Subcatchment P-1B-P: Primary Basin Pervious Area



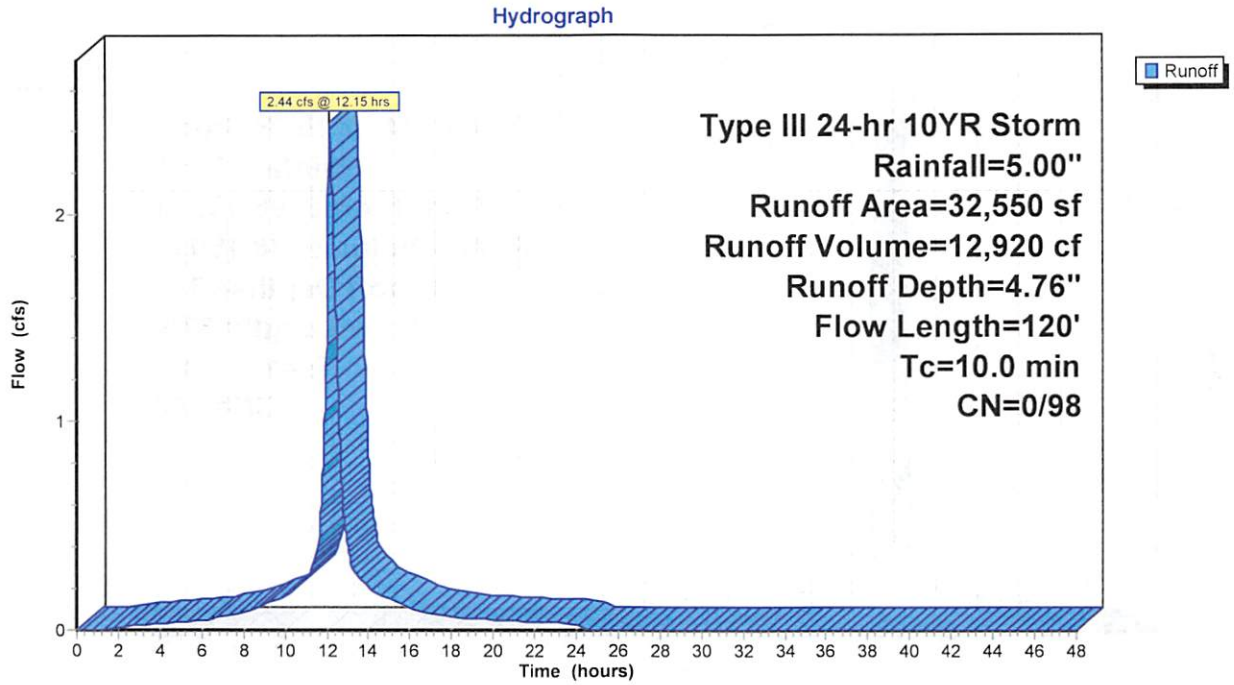
Subcatchment P-1C-M: McDonalds Basin Impervious Area



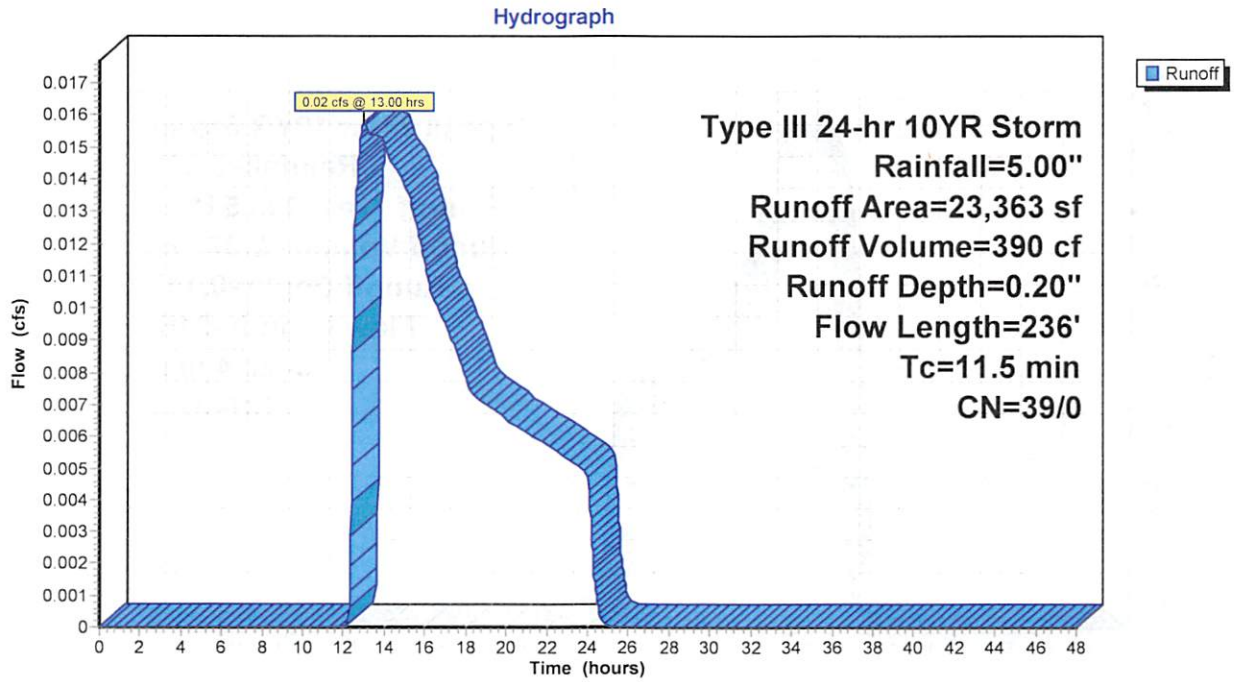
Subcatchment P-1C-P: McDonalds Basin Pervious Area



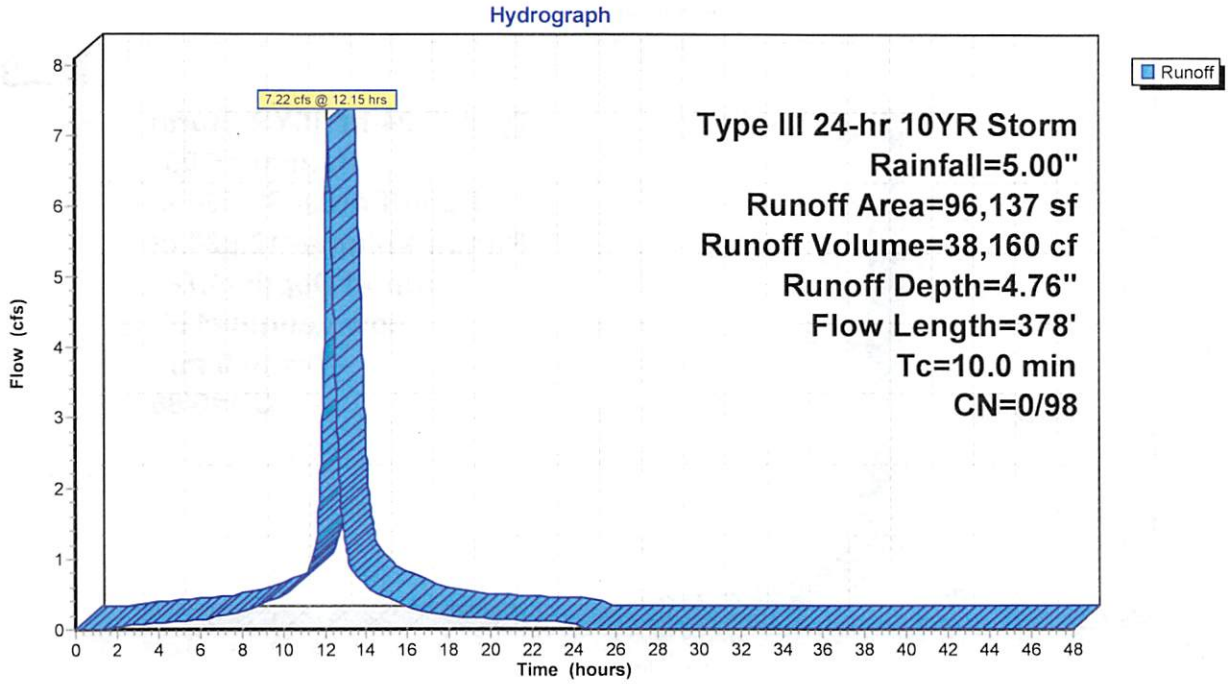
Subcatchment P-1D-M: Access Road Bioretention Impervious Area



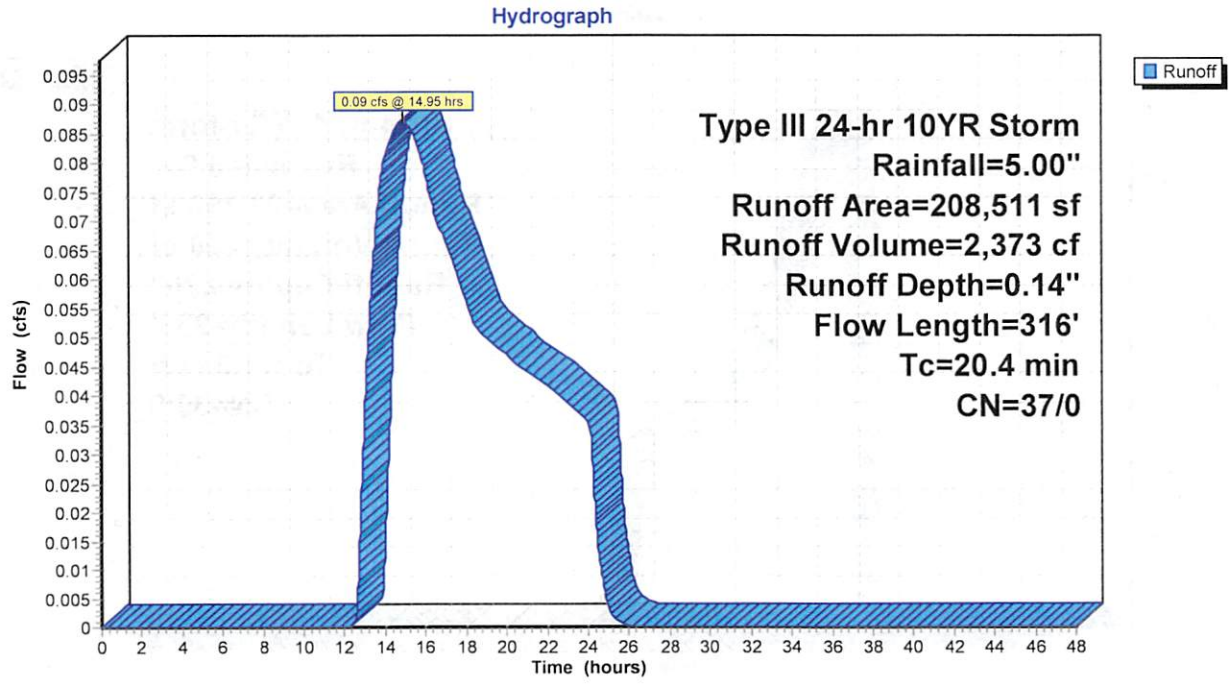
Subcatchment P-1D-P: Access Road Bioretention Pervious Area



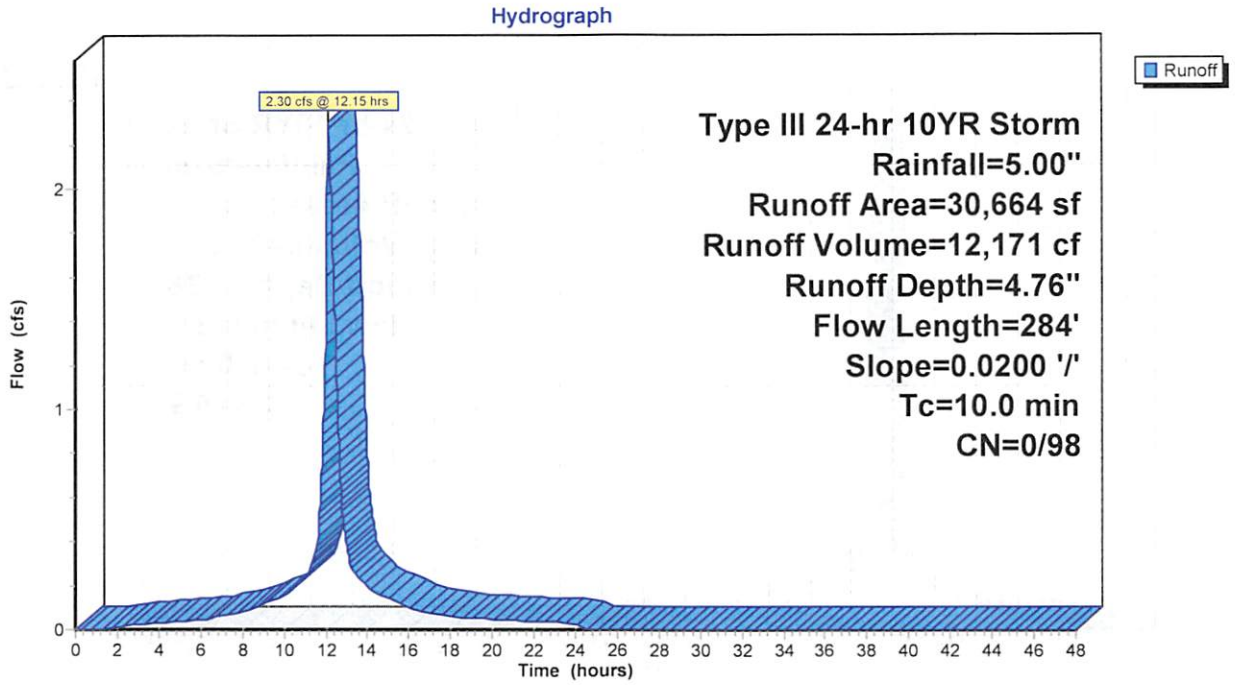
Subcatchment P-1E-M: Undetained Site Impervious Area



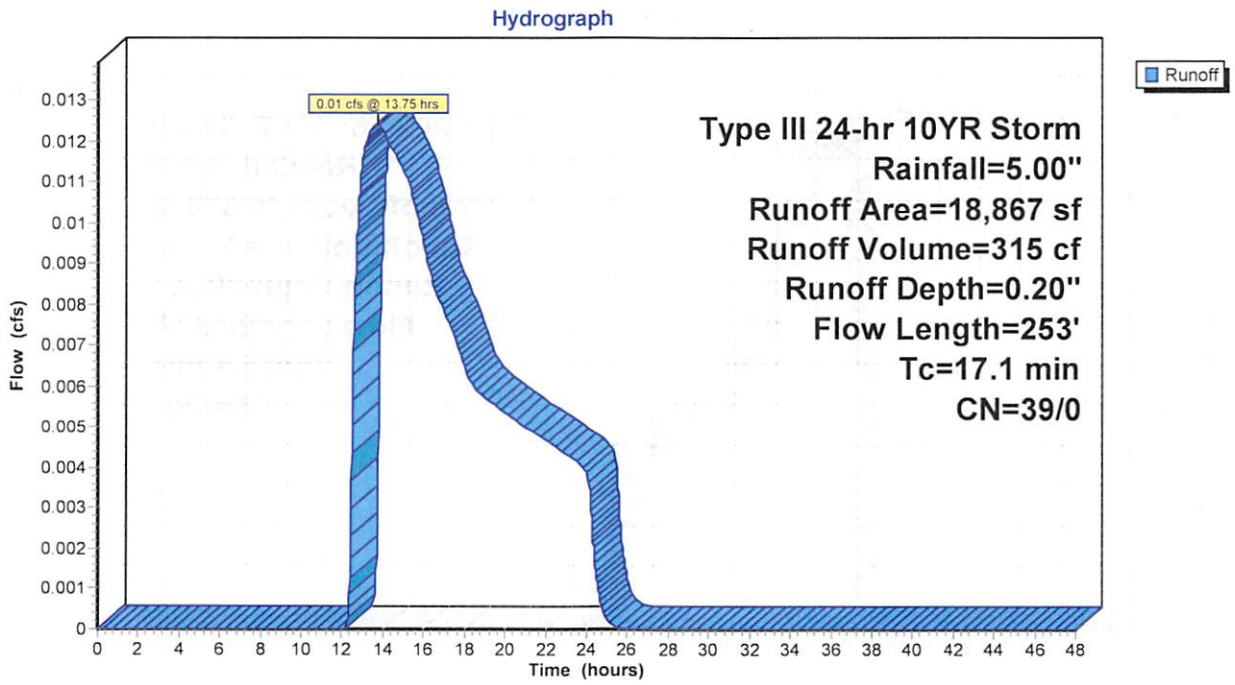
Subcatchment P-1E-P: Undetained Site Pervious Area



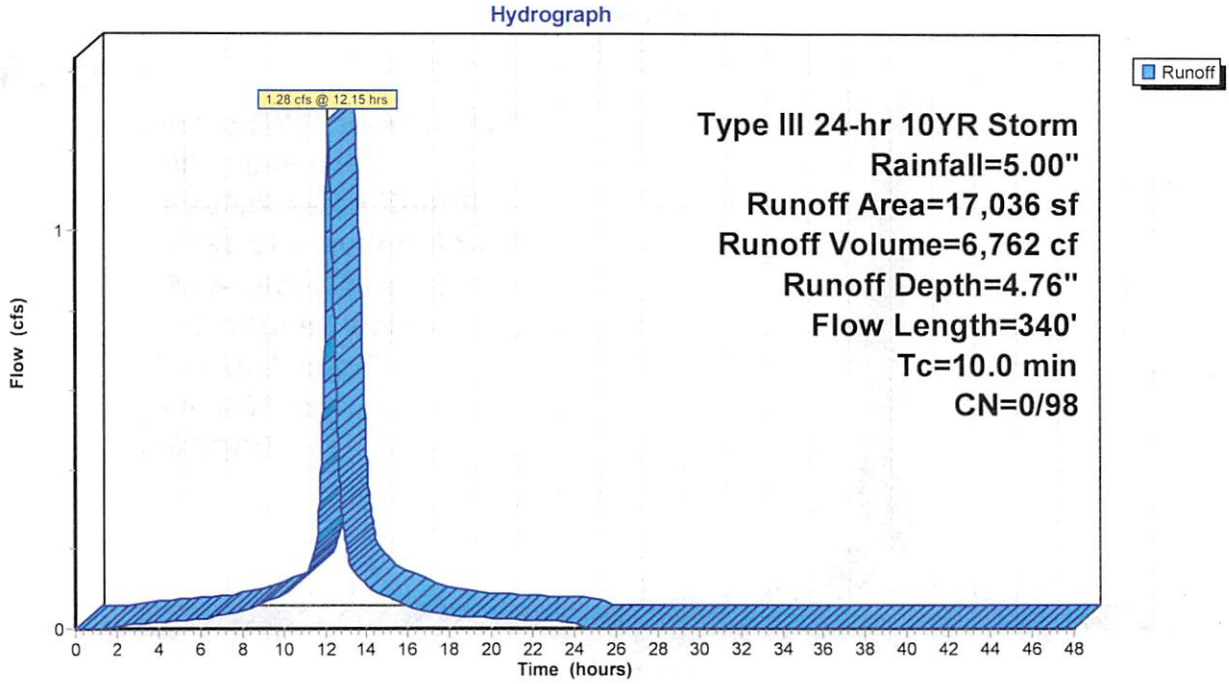
Subcatchment P-1F-M: Municipal Basin Impervious Area



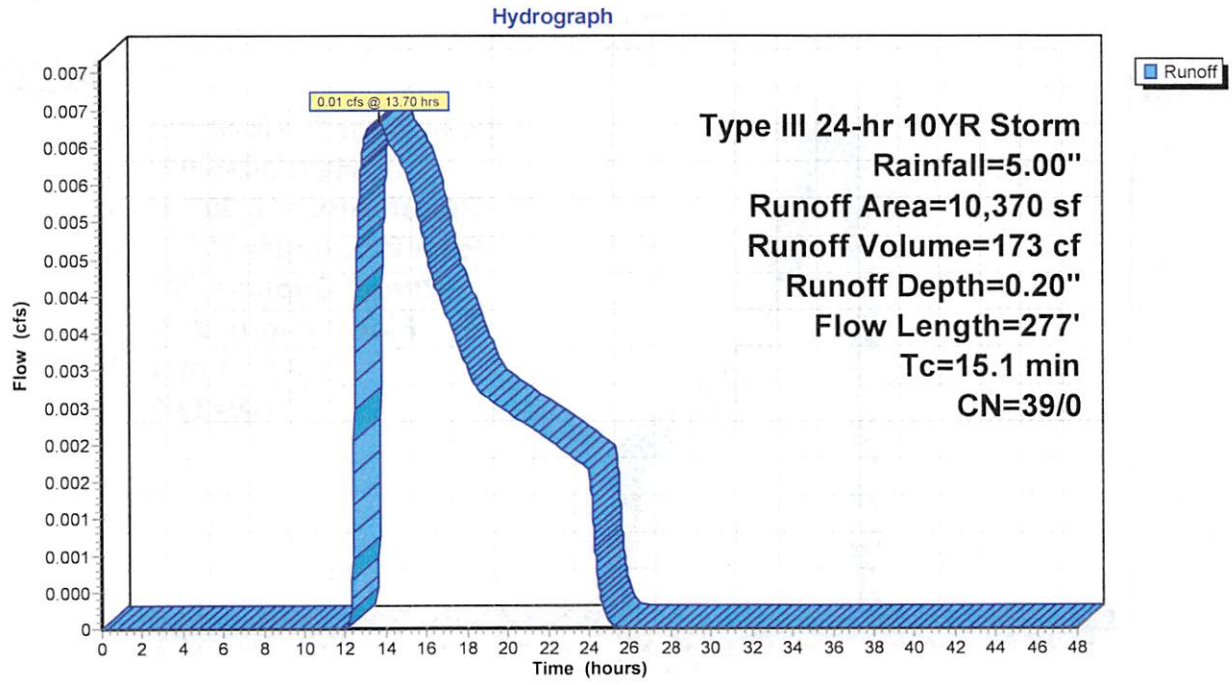
Subcatchment P-1F-P: Municipal Basin Pervious Area



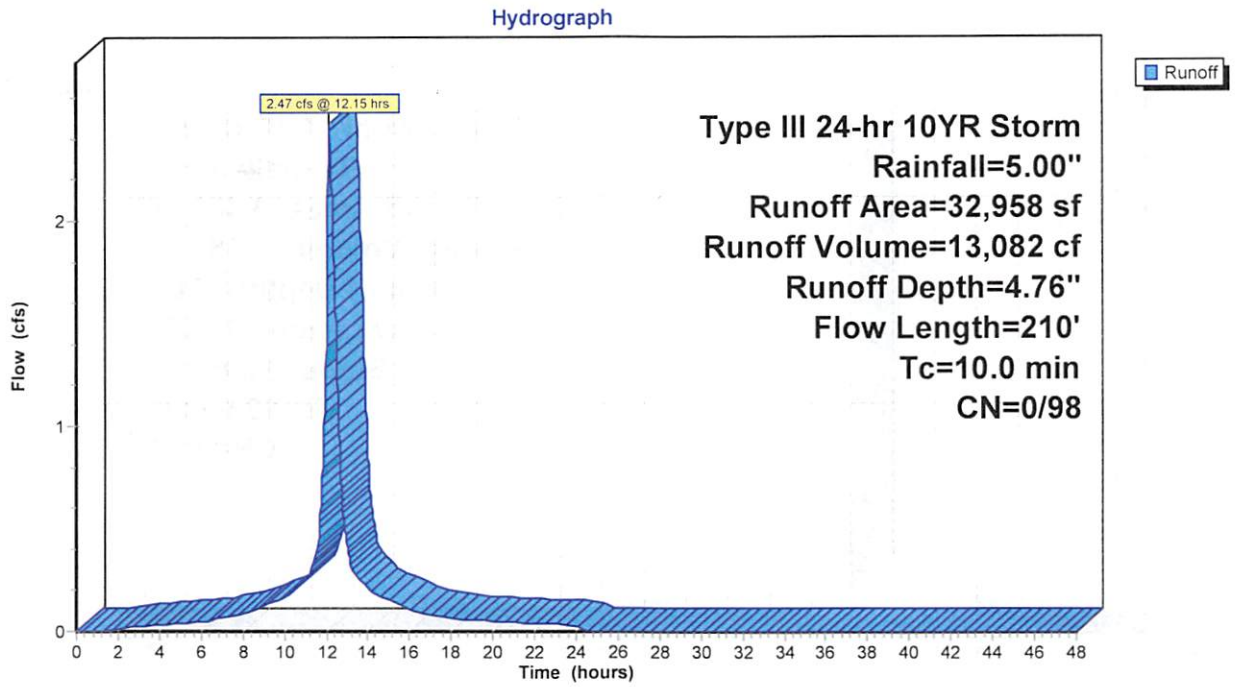
Subcatchment P-2-M: Municipal Impervious Area



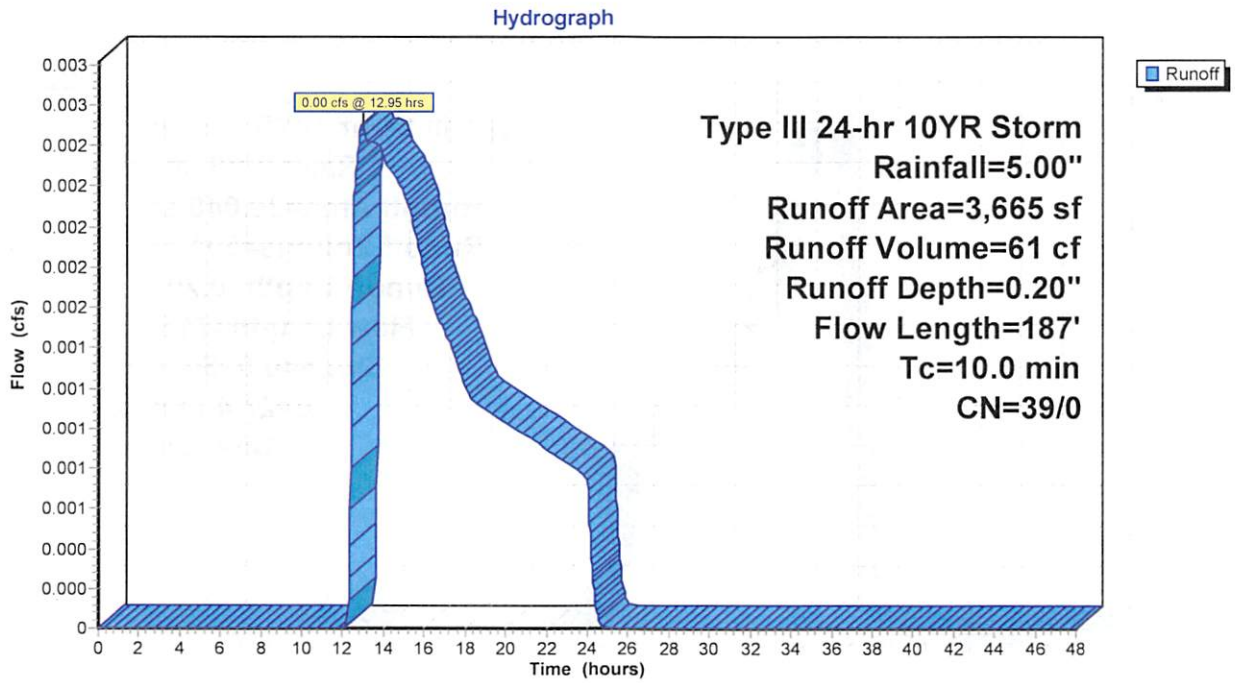
Subcatchment P-2-P: Municipal Pervious Area



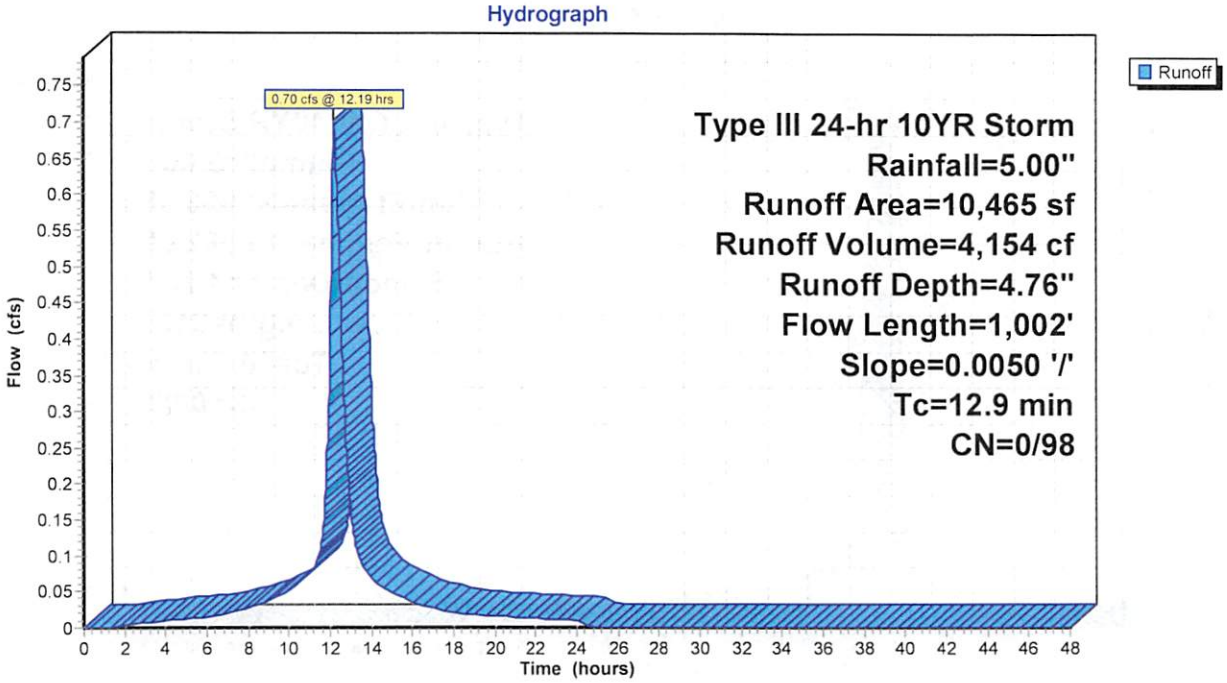
Subcatchment P-3A-M: Wawa Basin Impervious Area



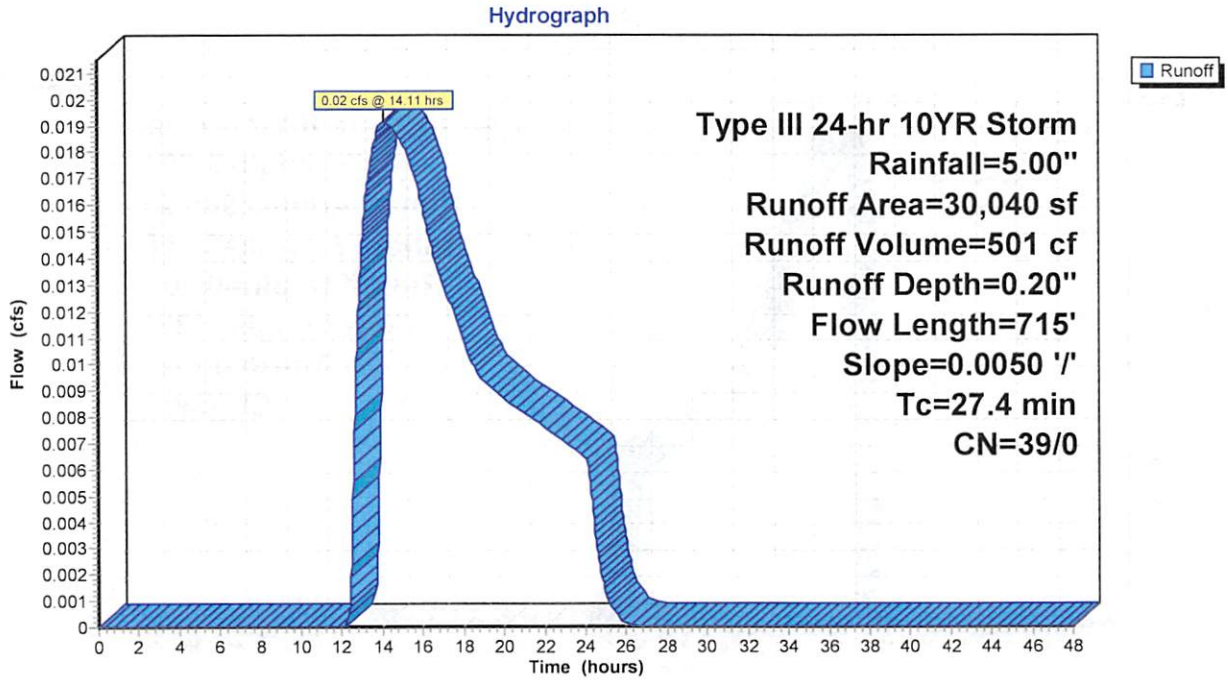
Subcatchment P-3A-P: Wawa Basin Pervious Area



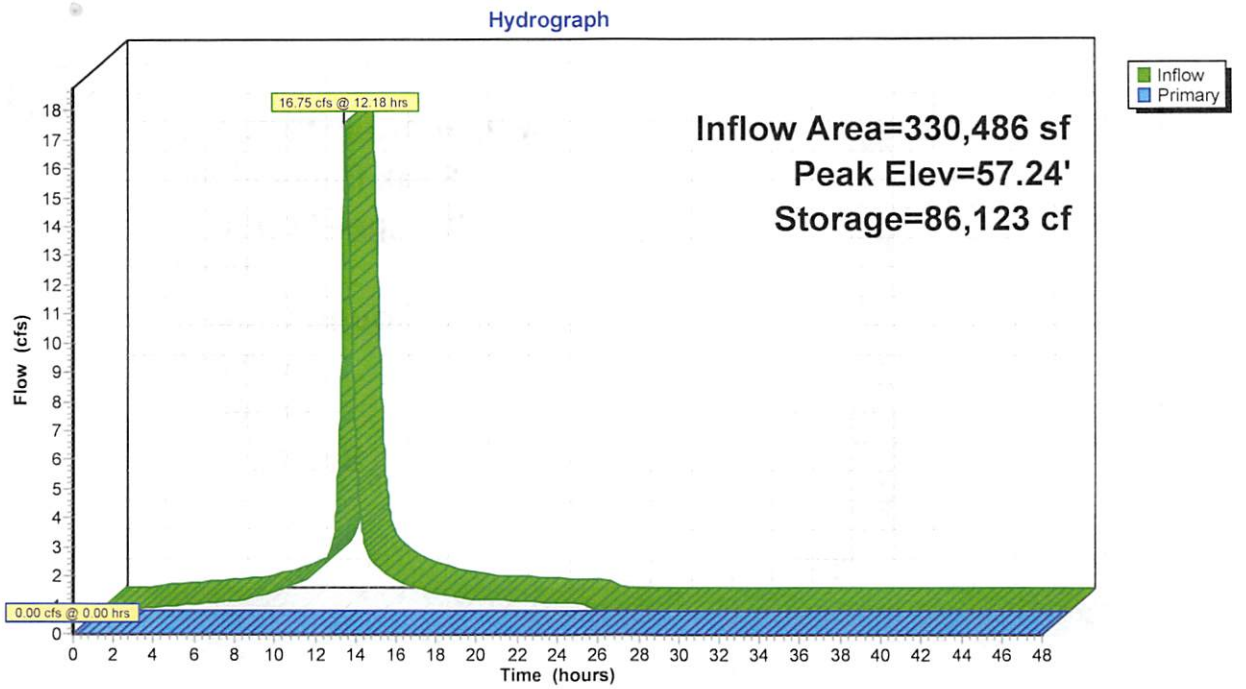
Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area



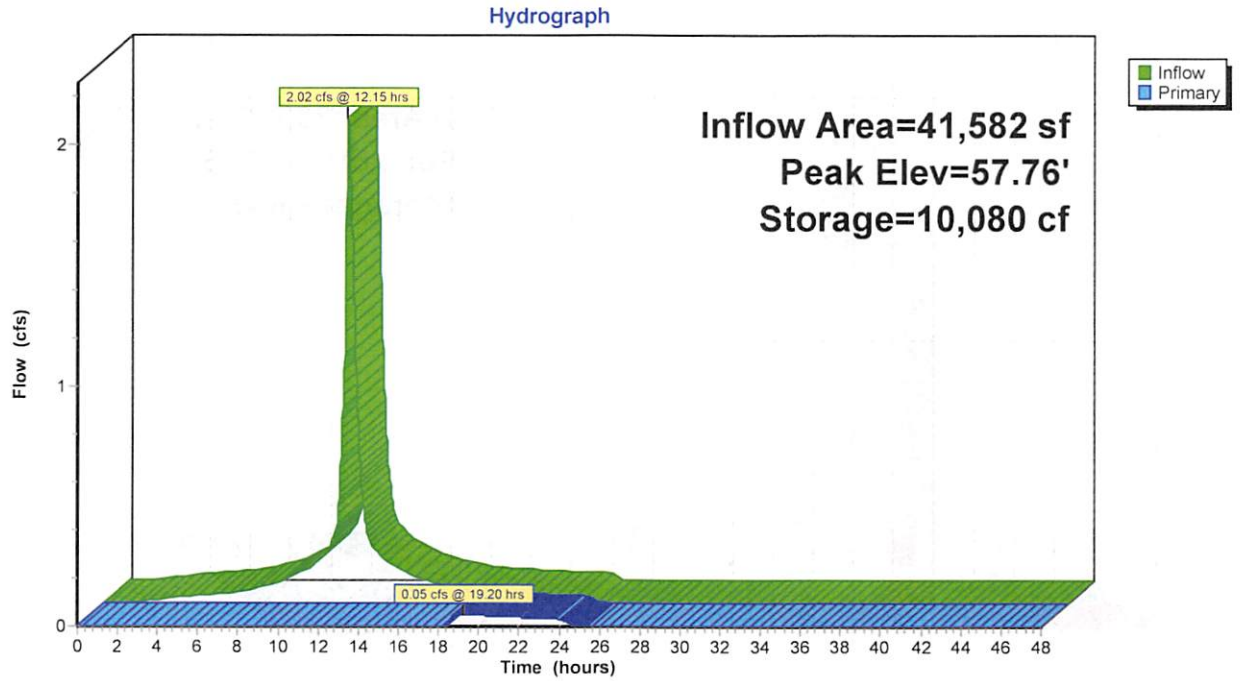
Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area



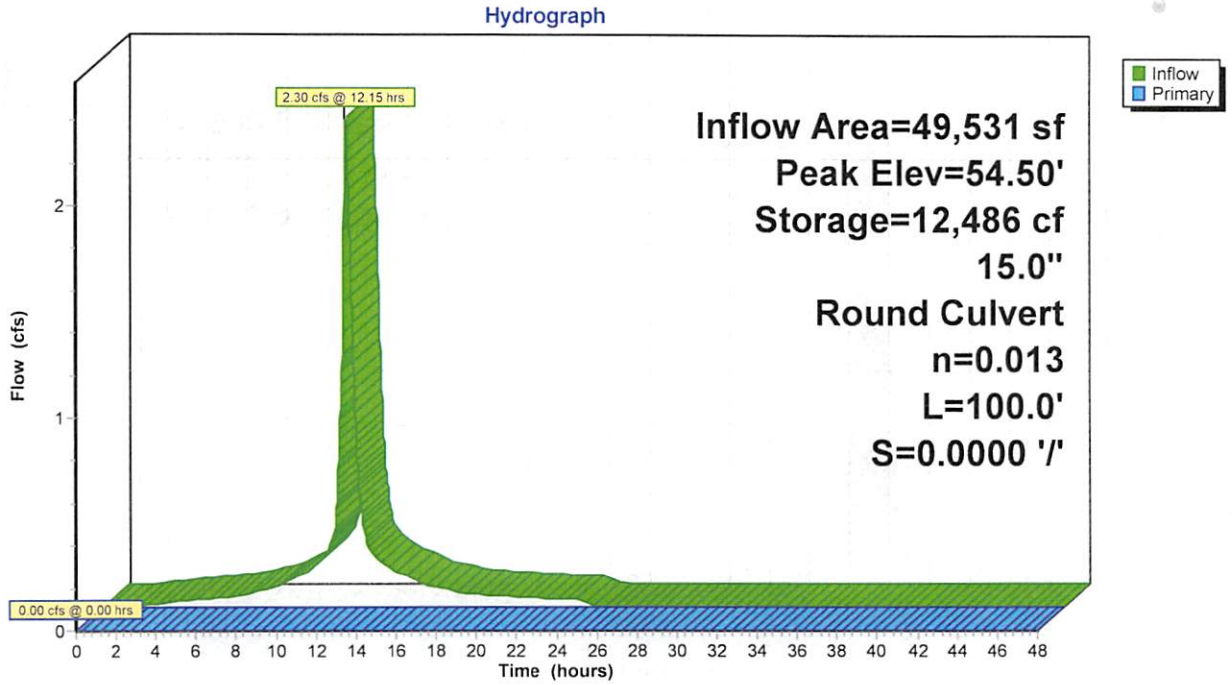
Pond B-1&2: Primary Site Infiltration Basin



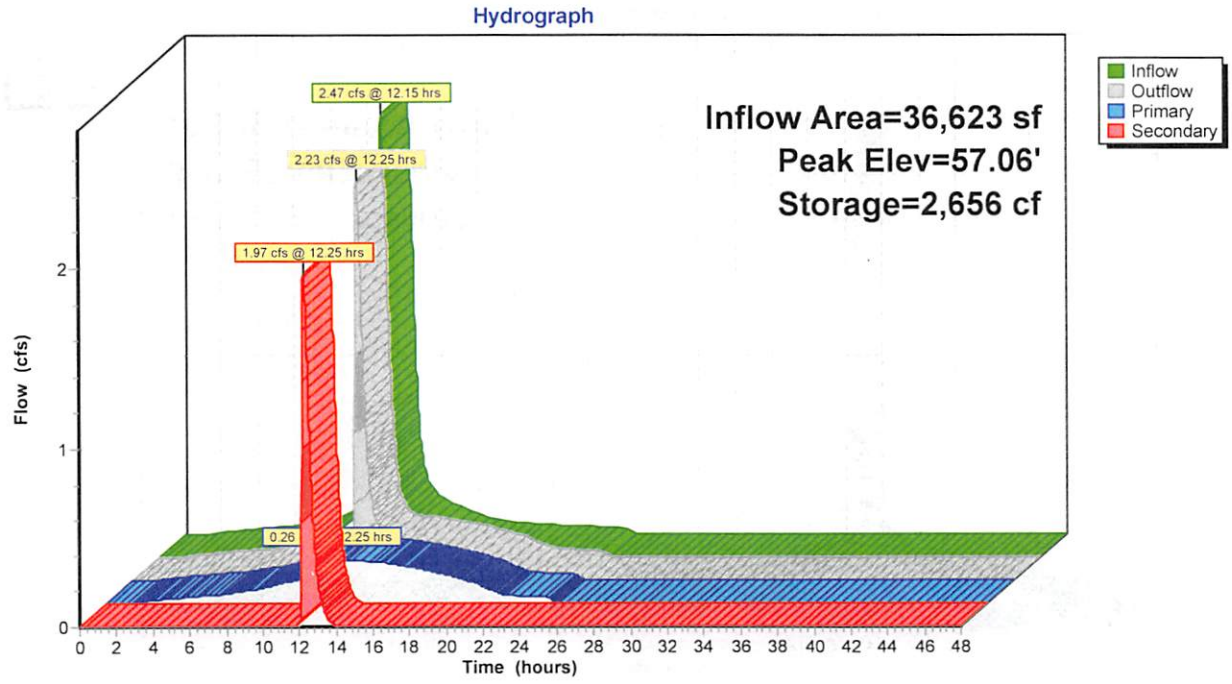
Pond B-3: McDonalds Infiltration Basin



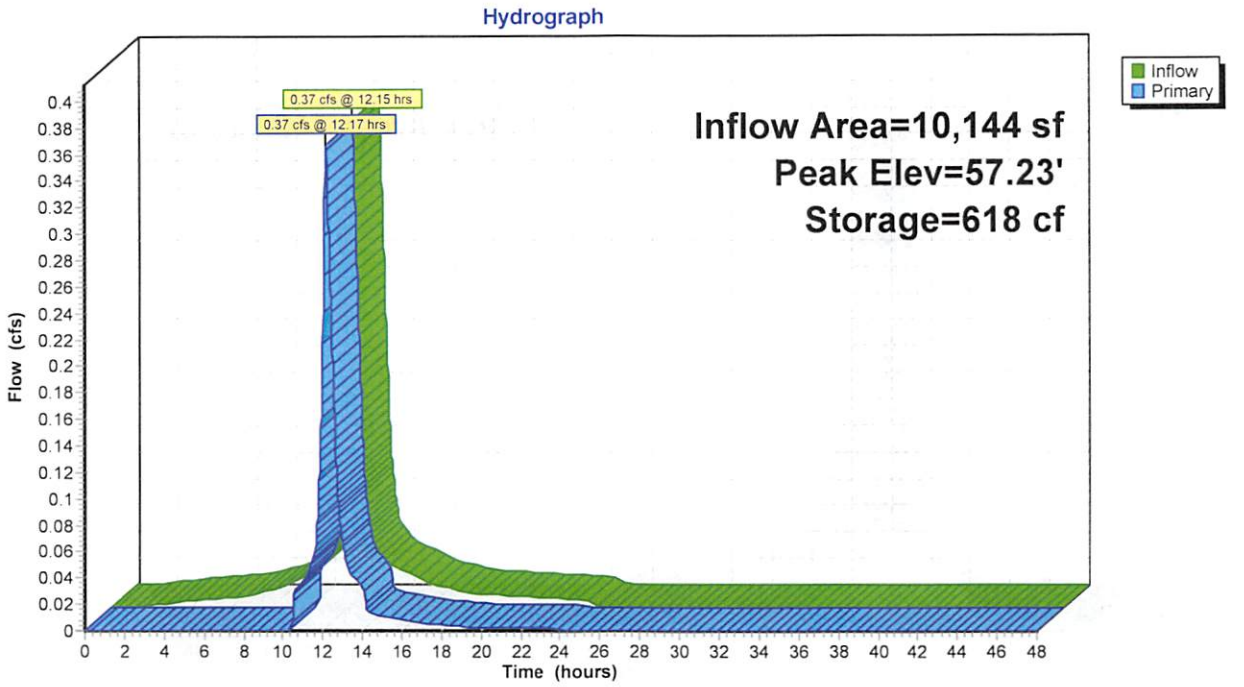
Pond B-4: Municipal Infiltration Basin



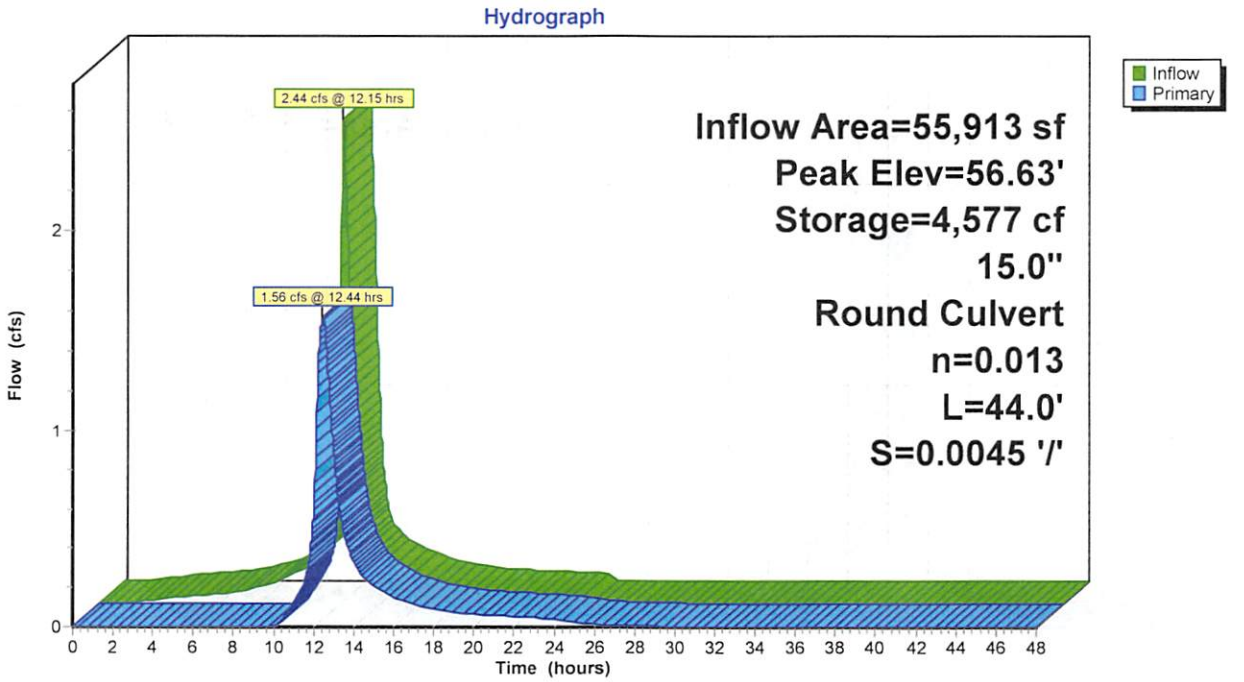
Pond B-5: Wawa Detention Basin



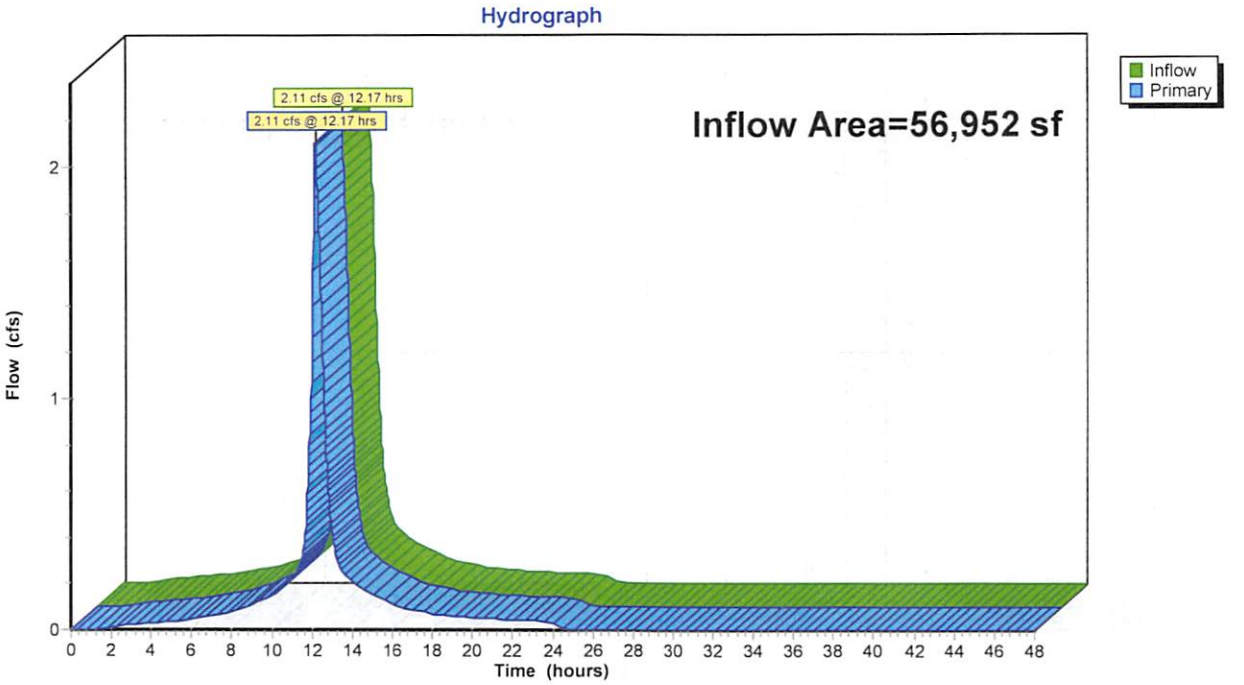
Pond RG-1: Fast Food Bioretention Area



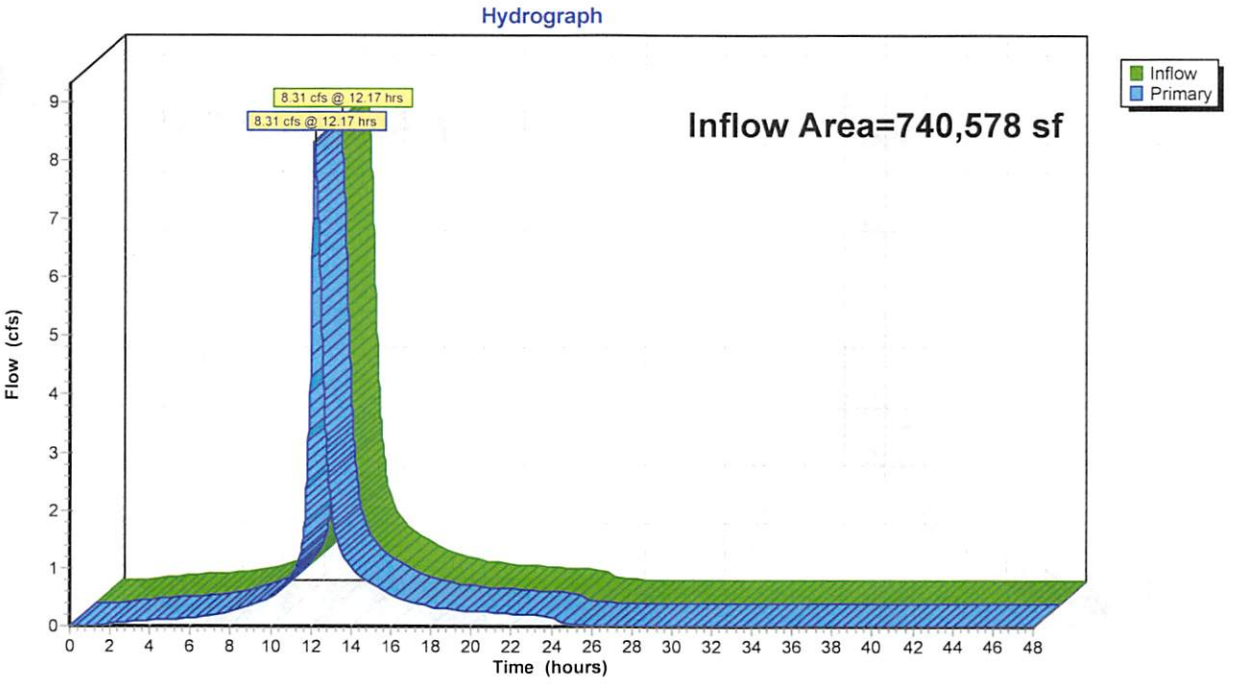
Pond RG-2: Access Road Bioretention Area



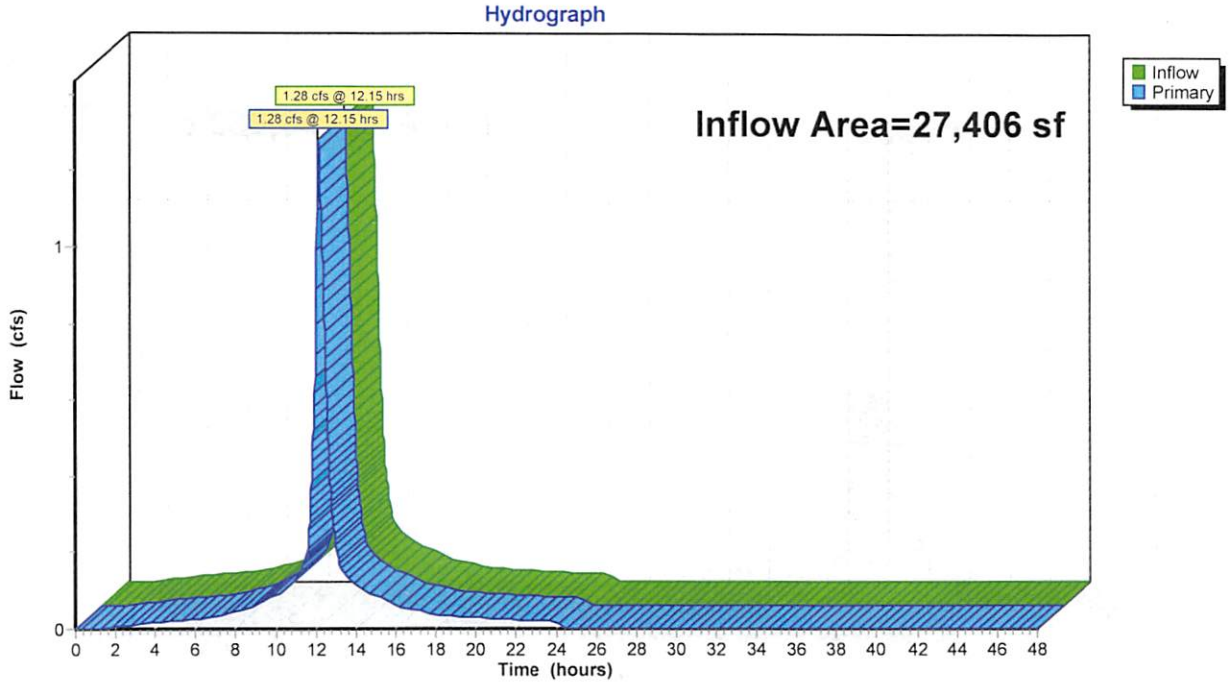
Link E-3: Existing DOT Drainage Area



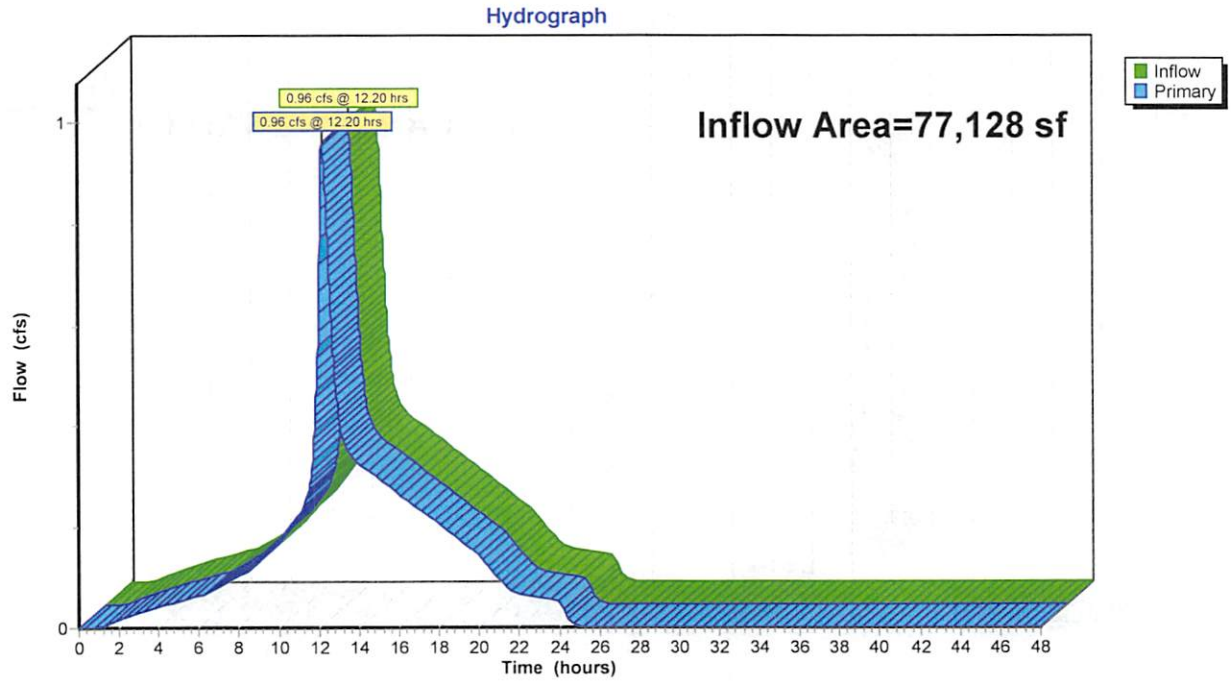
Link P-1: Proposed Site Drainage Area



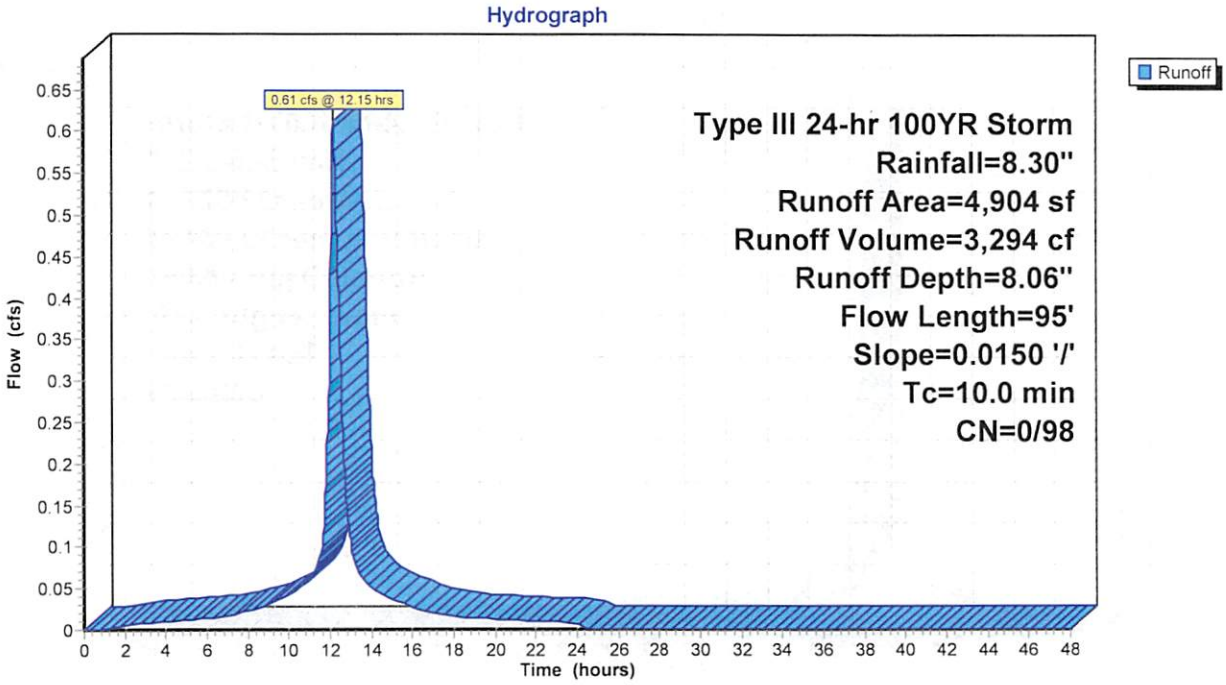
Link P-2: Proposed Municipal Drainage Area



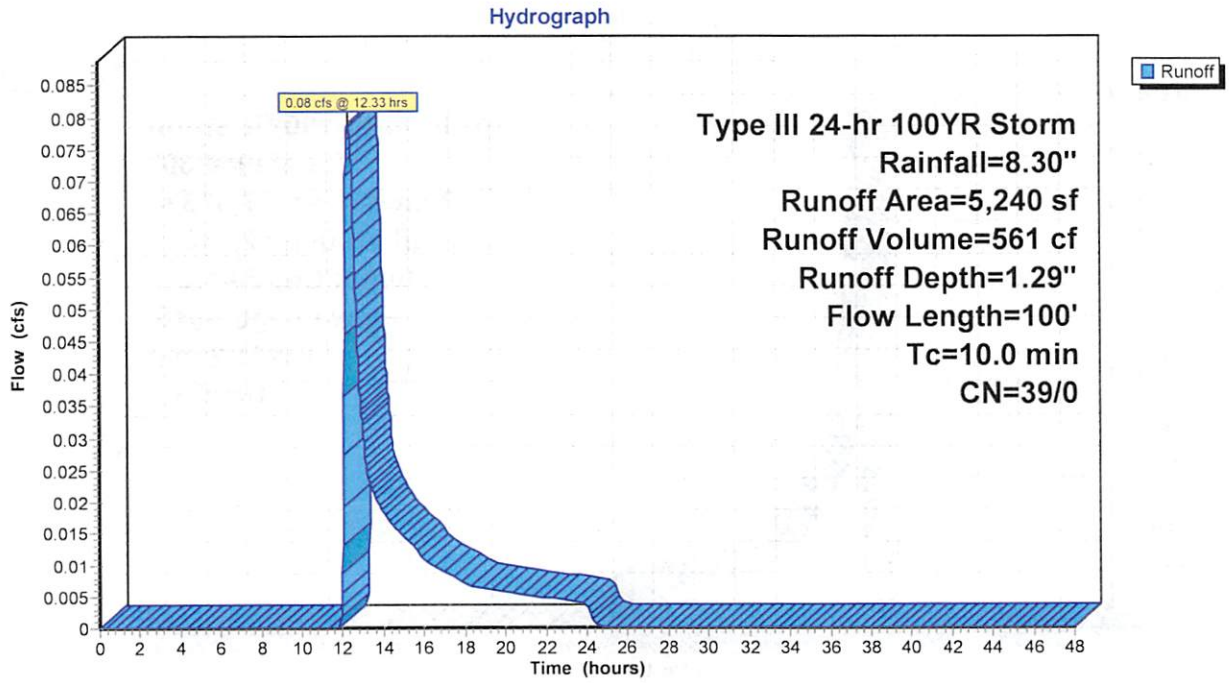
Link P-3: Proposed DOT Drainage Area



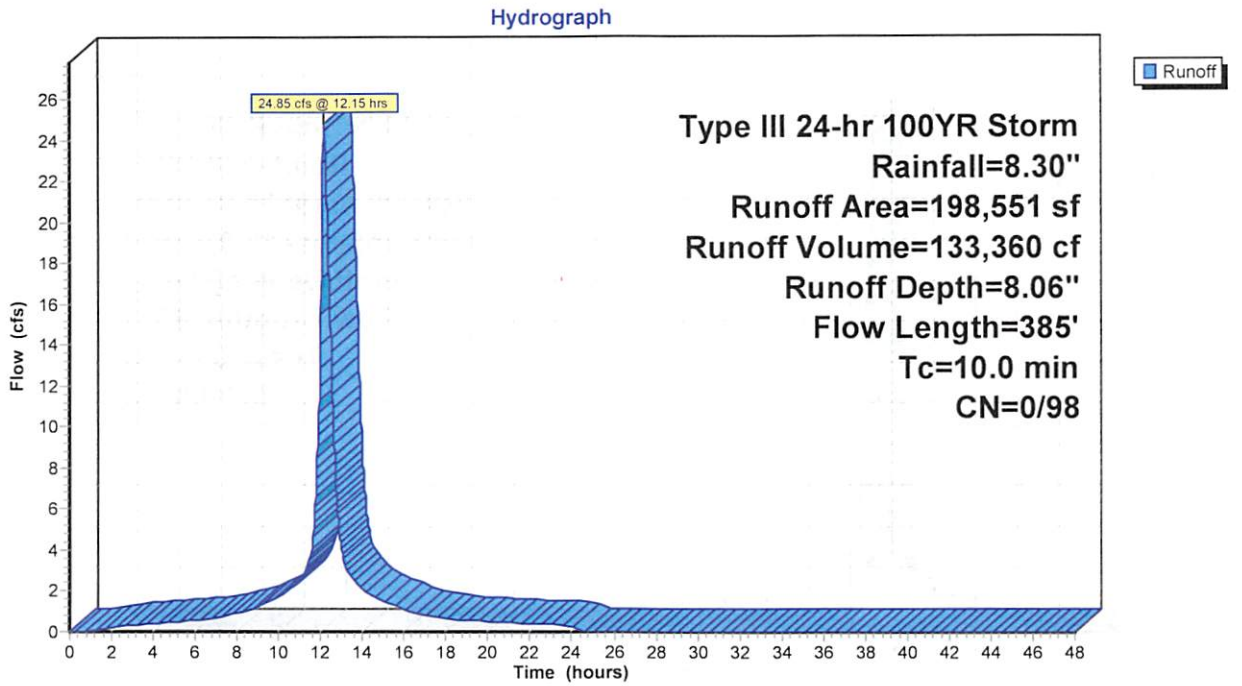
Subcatchment P-1A-M: Fast Food Bioretention Impervious Area



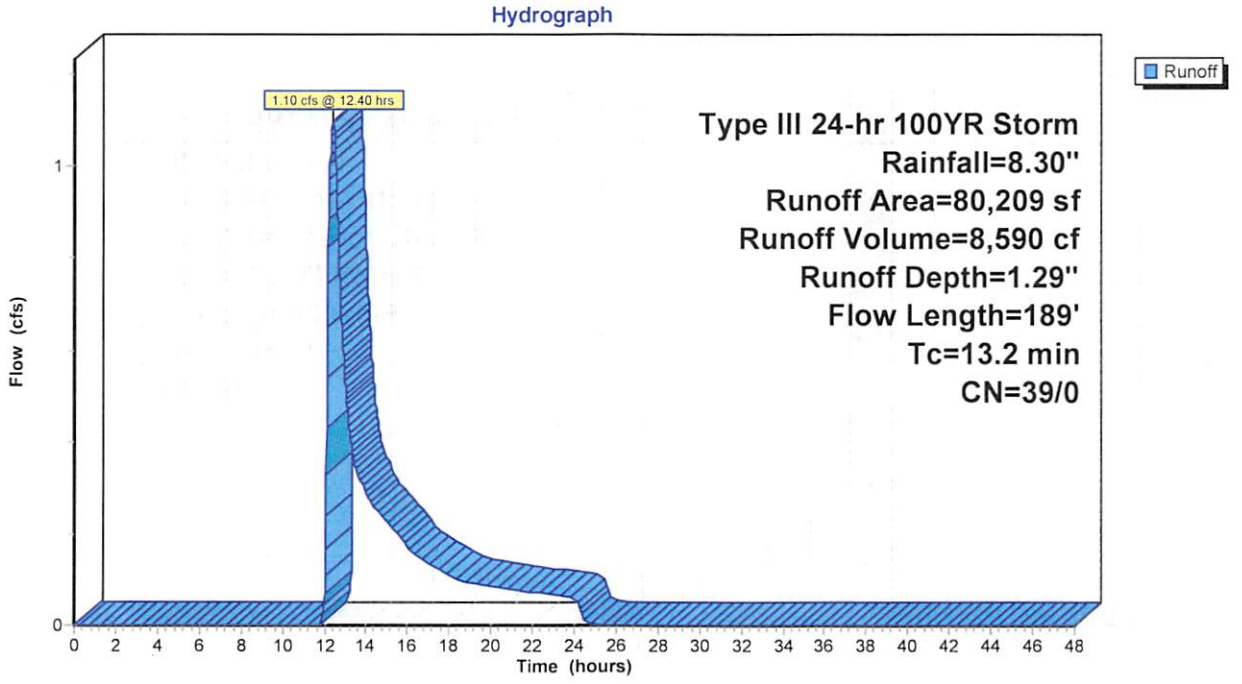
Subcatchment P-1A-P: Fast Food Bioretention Pervious Area



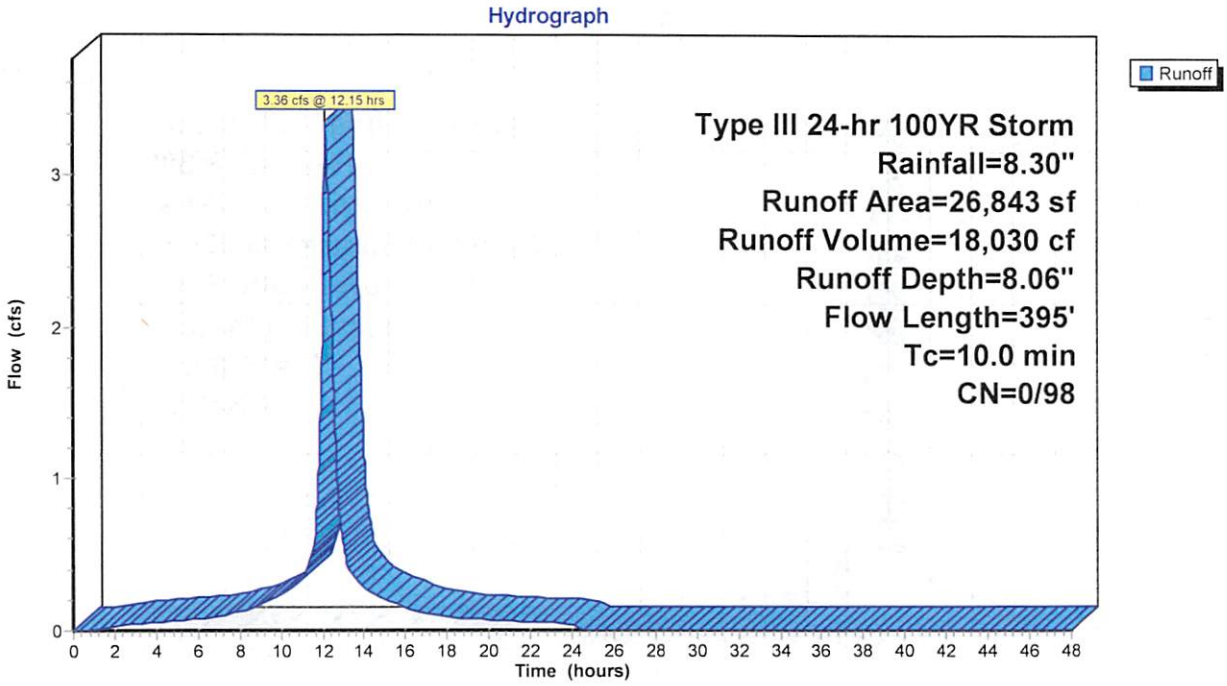
Subcatchment P-1B-M: Primary Basin Impervious Area



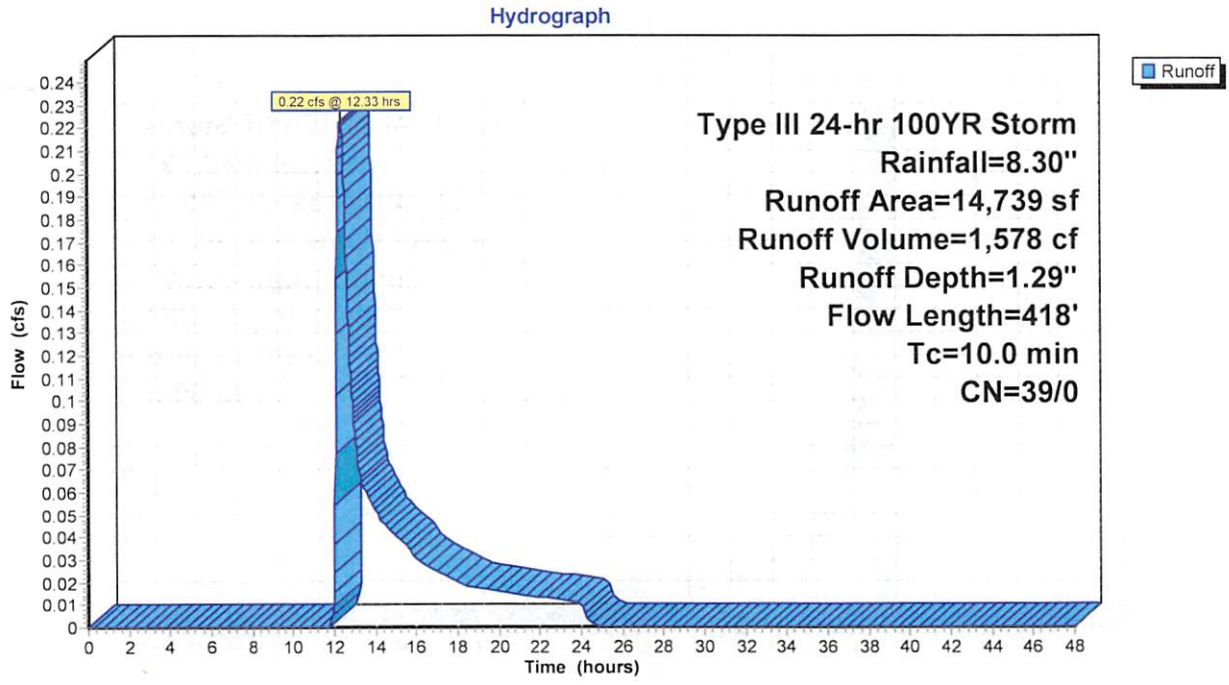
Subcatchment P-1B-P: Primary Basin Pervious Area



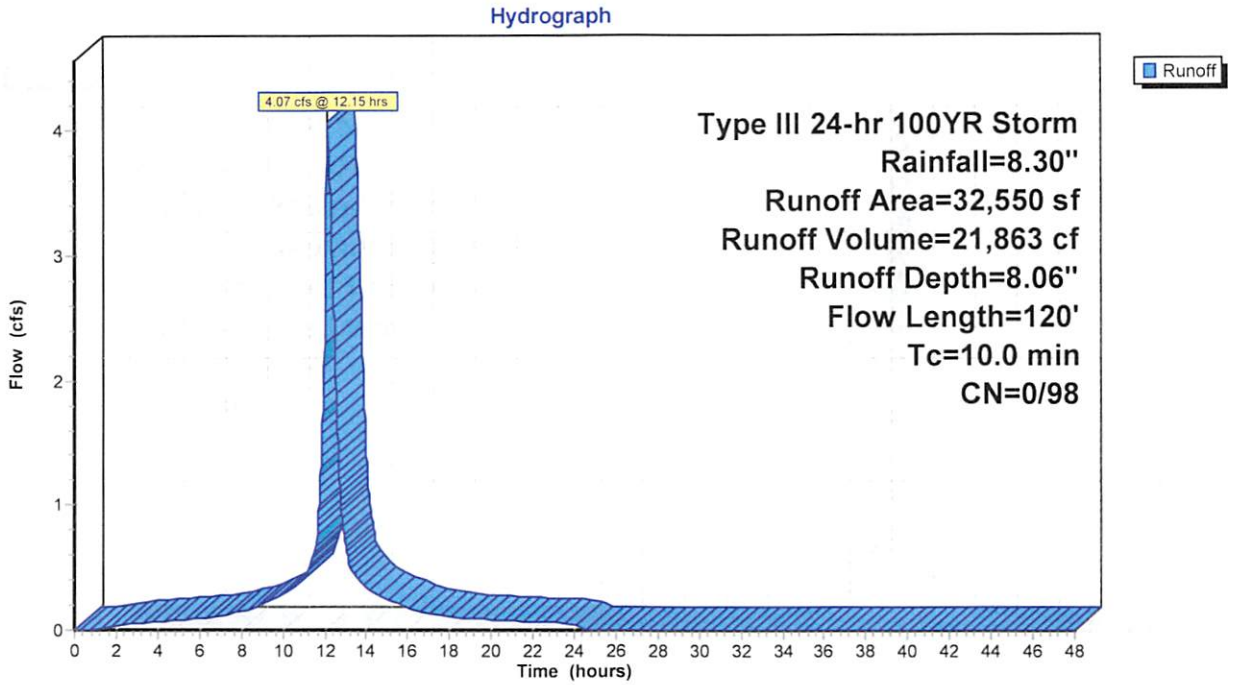
Subcatchment P-1C-M: McDonalds Basin Impervious Area



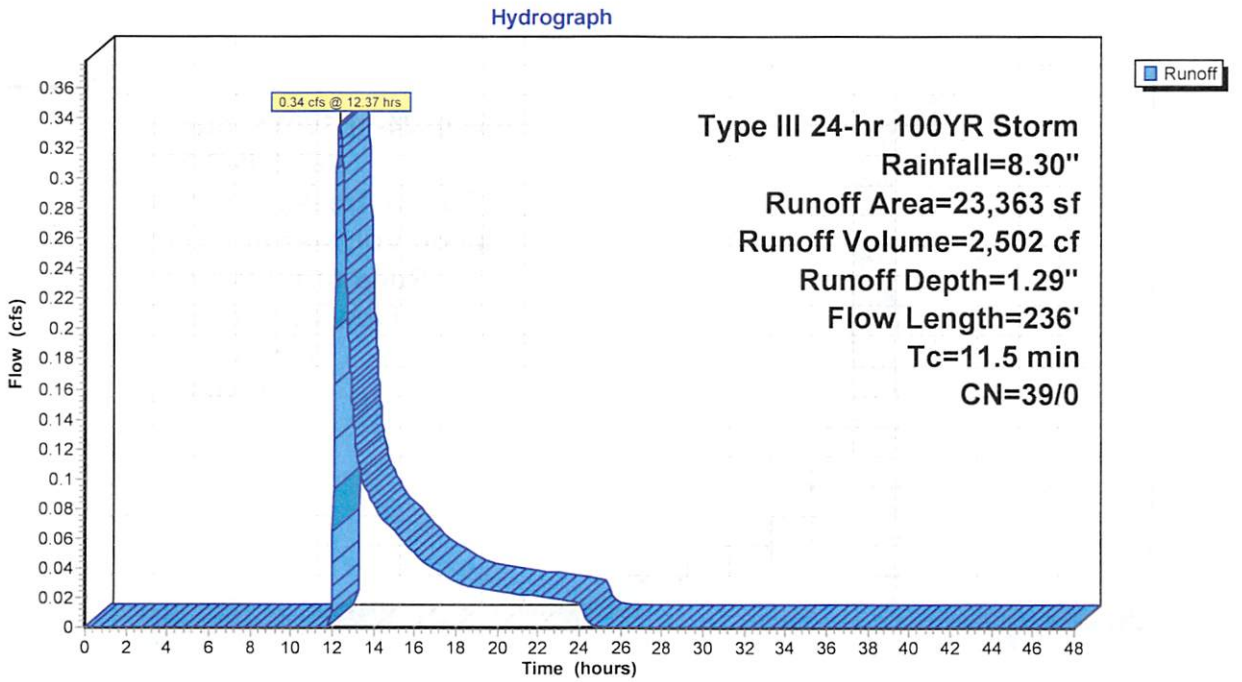
Subcatchment P-1C-P: McDonalds Basin Pervious Area



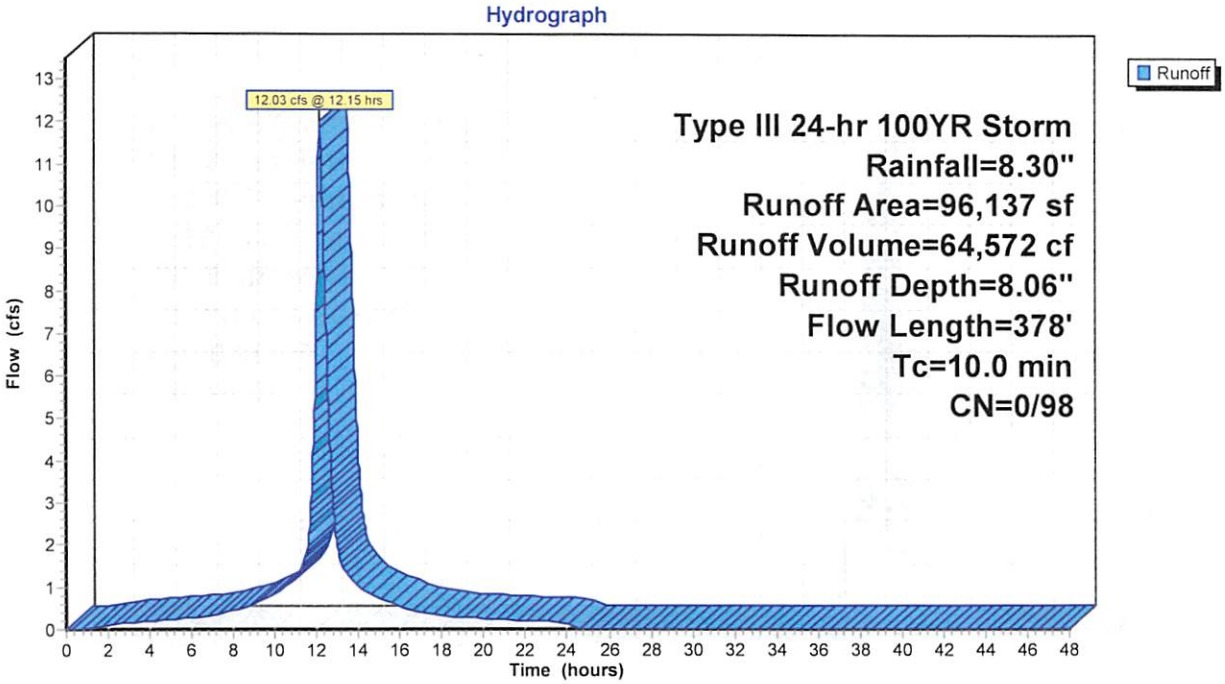
Subcatchment P-1D-M: Access Road Bioretention Impervious Area



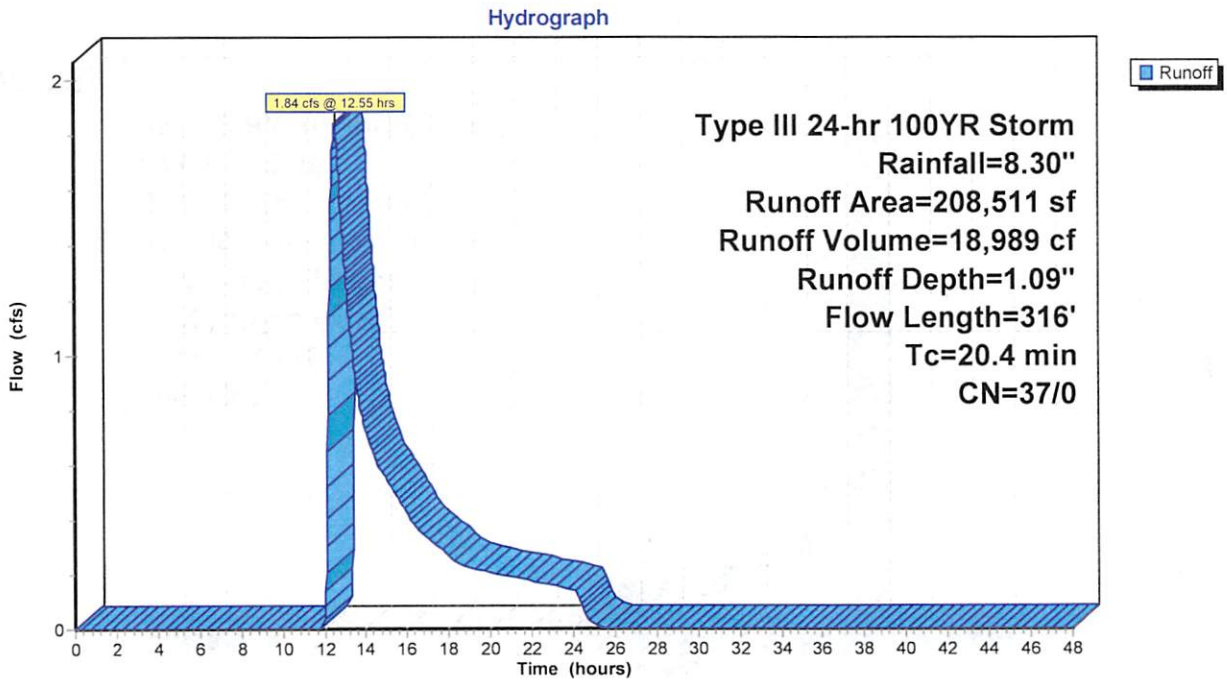
Subcatchment P-1D-P: Access Road Bioretention Pervious Area



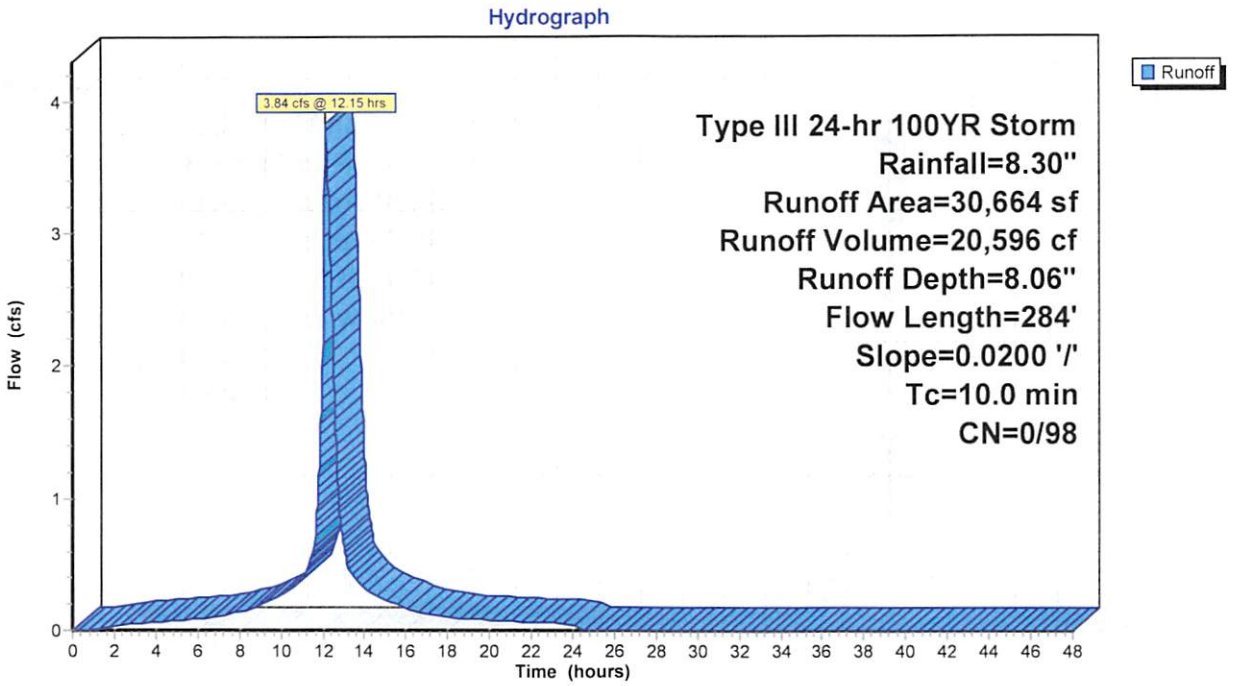
Subcatchment P-1E-M: Undetained Site Impervious Area



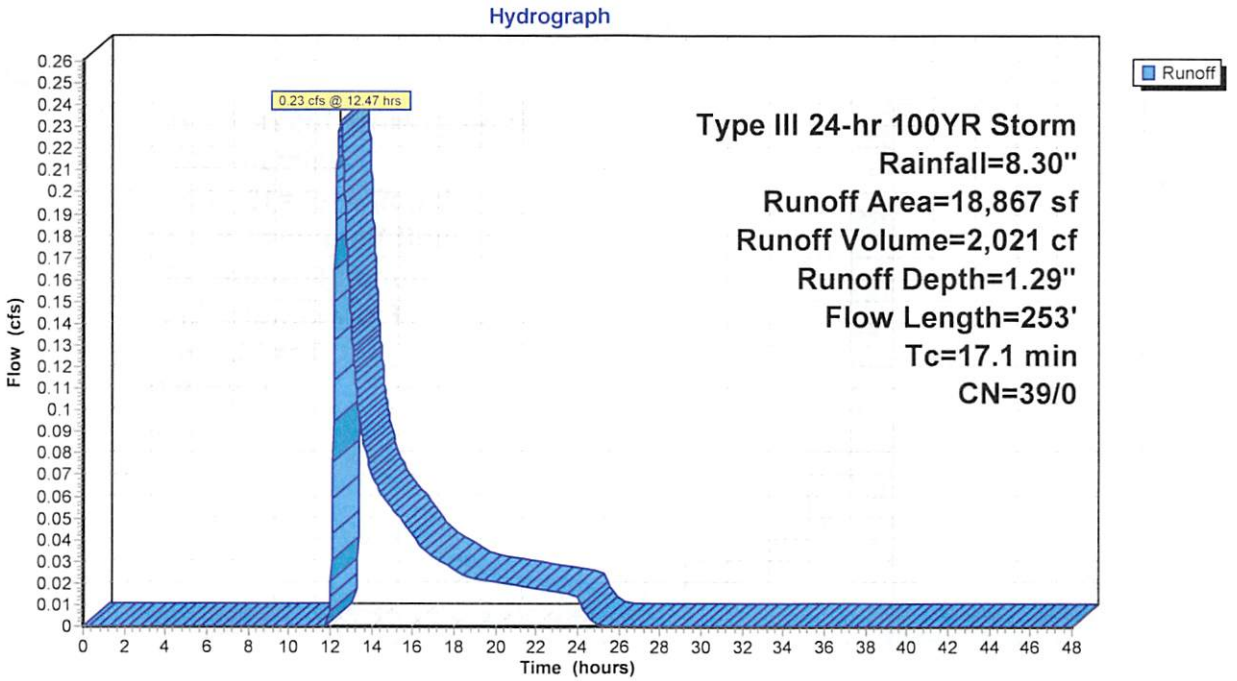
Subcatchment P-1E-P: Undetained Site Pervious Area



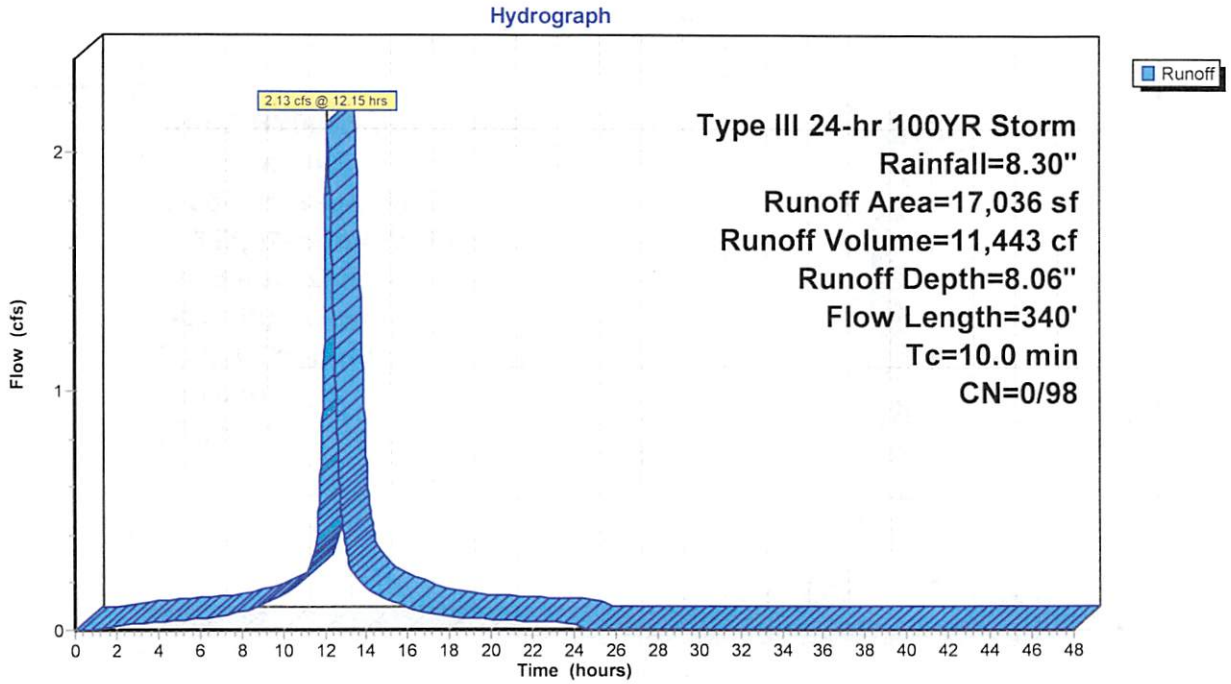
Subcatchment P-1F-M: Municipal Basin Impervious Area



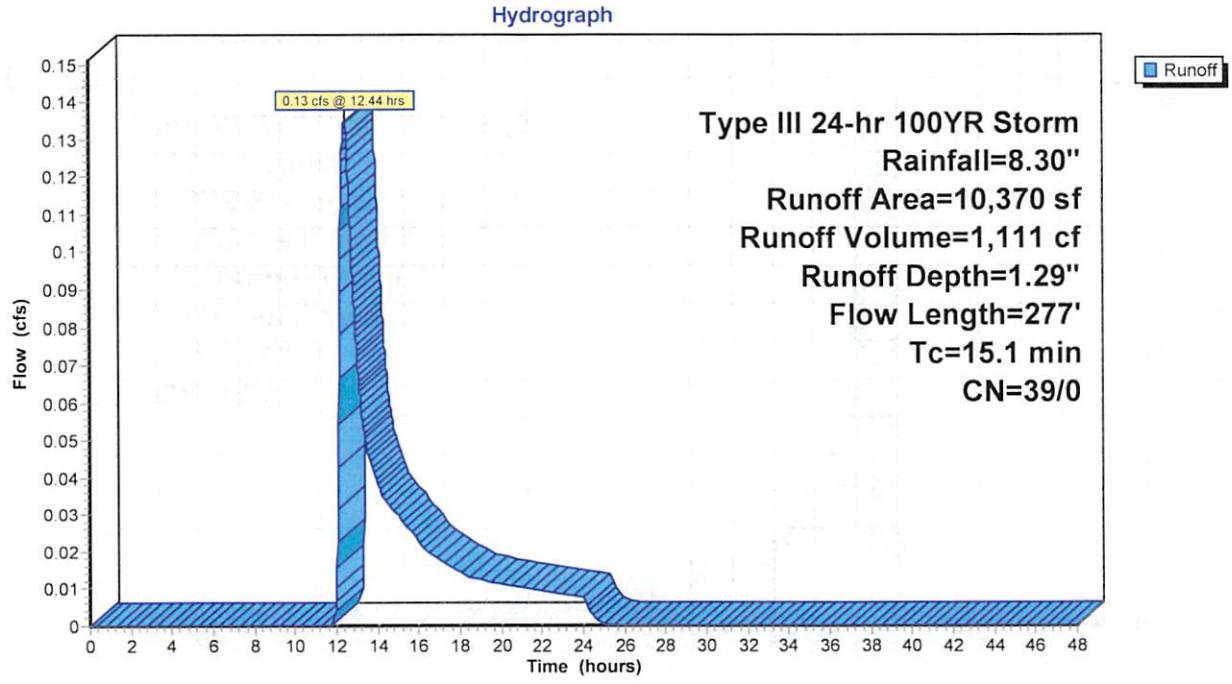
Subcatchment P-1F-P: Municipal Basin Pervious Area



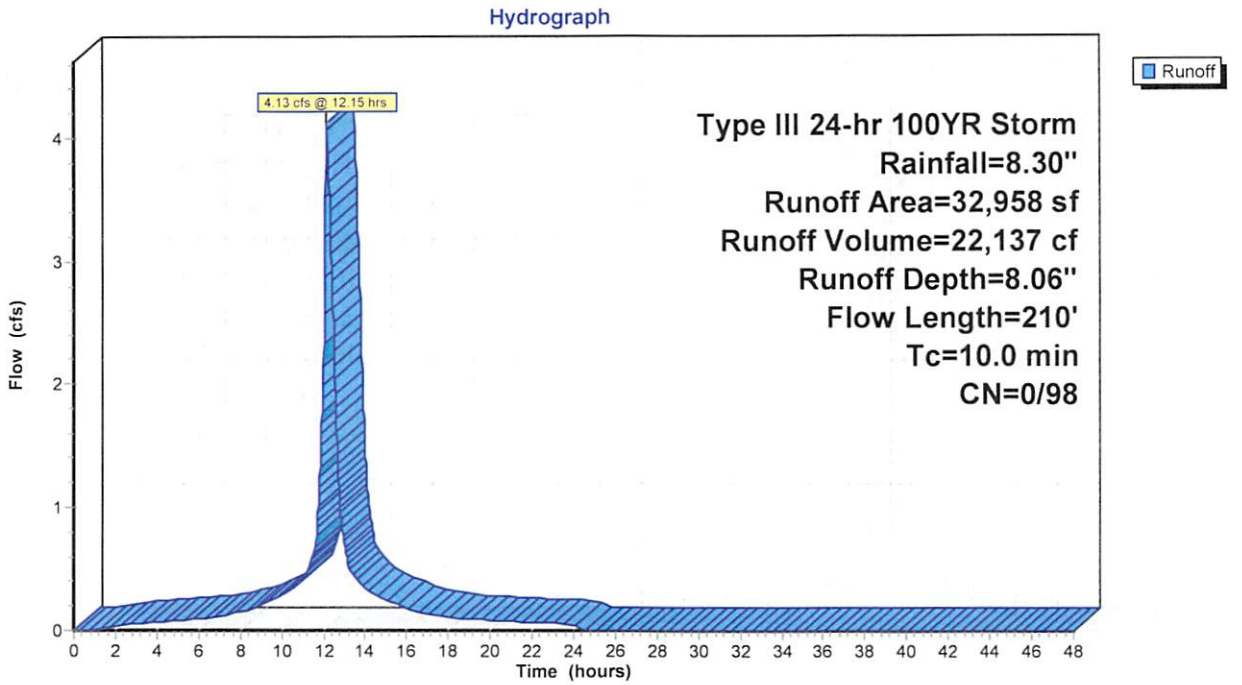
Subcatchment P-2-M: Municipal Impervious Area



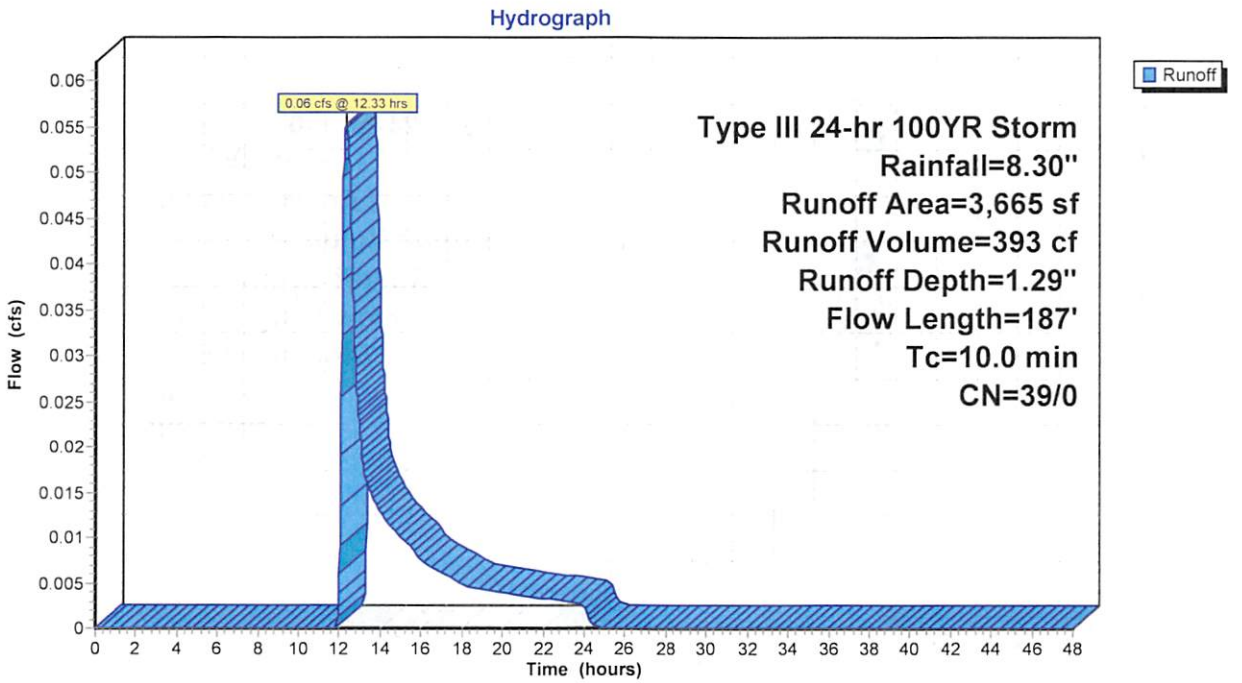
Subcatchment P-2-P: Municipal Pervious Area



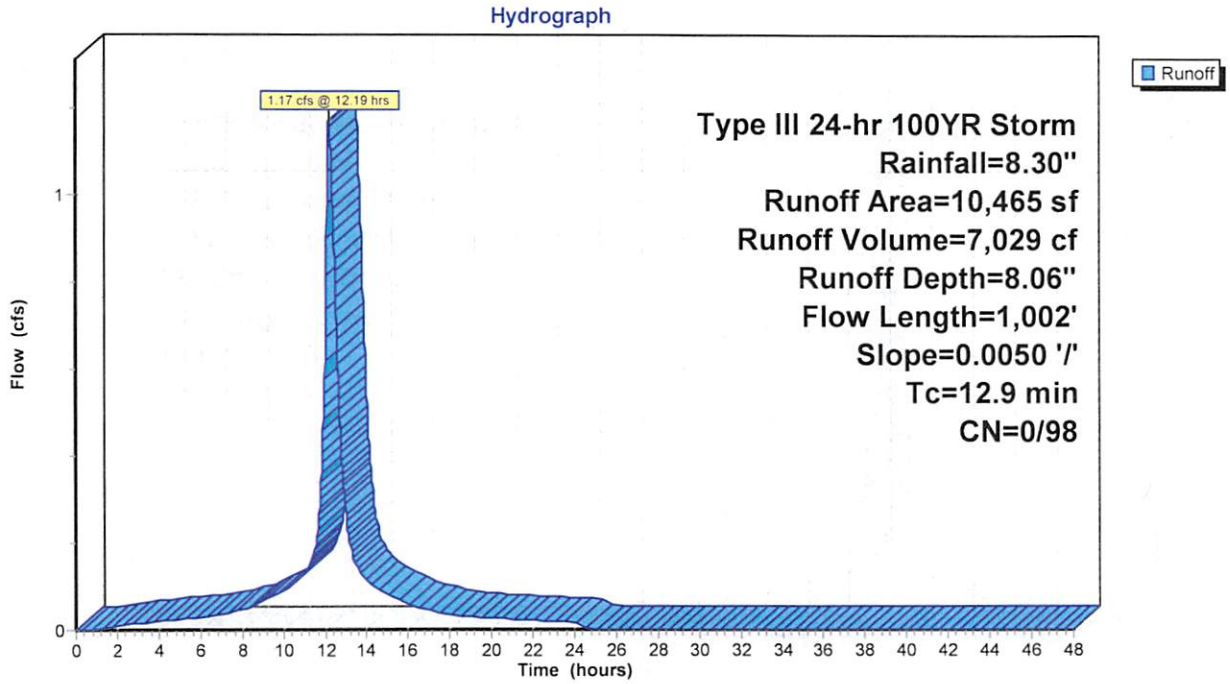
Subcatchment P-3A-M: Wawa Basin Impervious Area



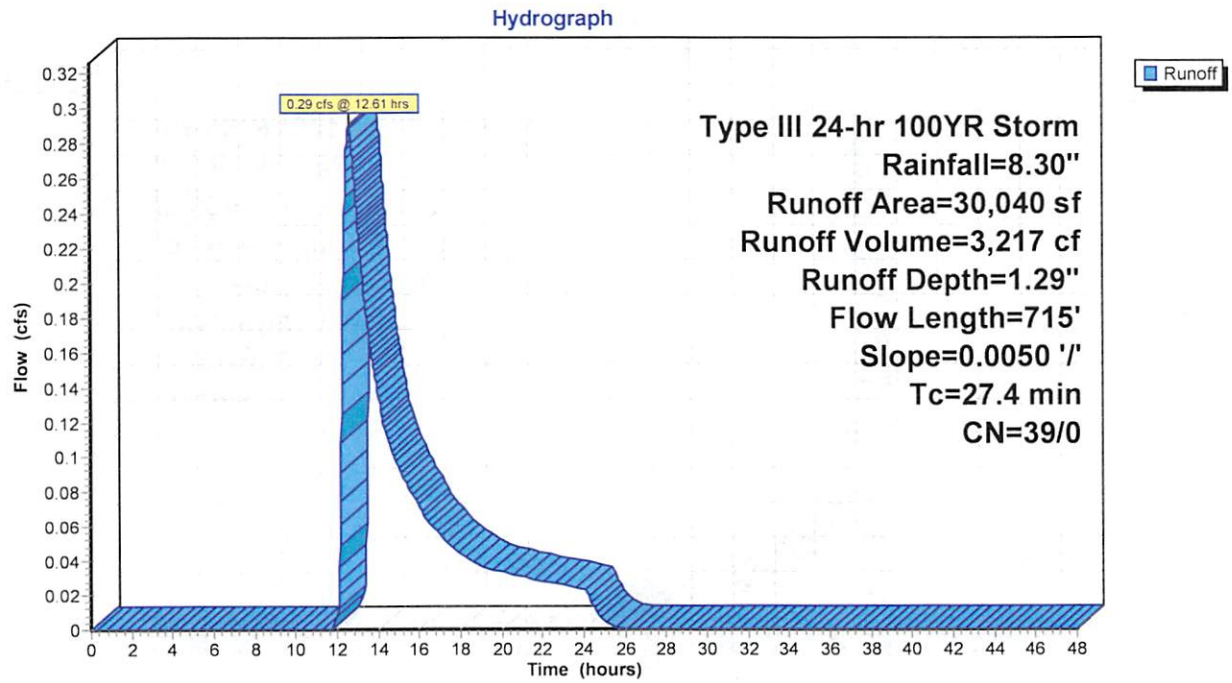
Subcatchment P-3A-P: Wawa Basin Pervious Area



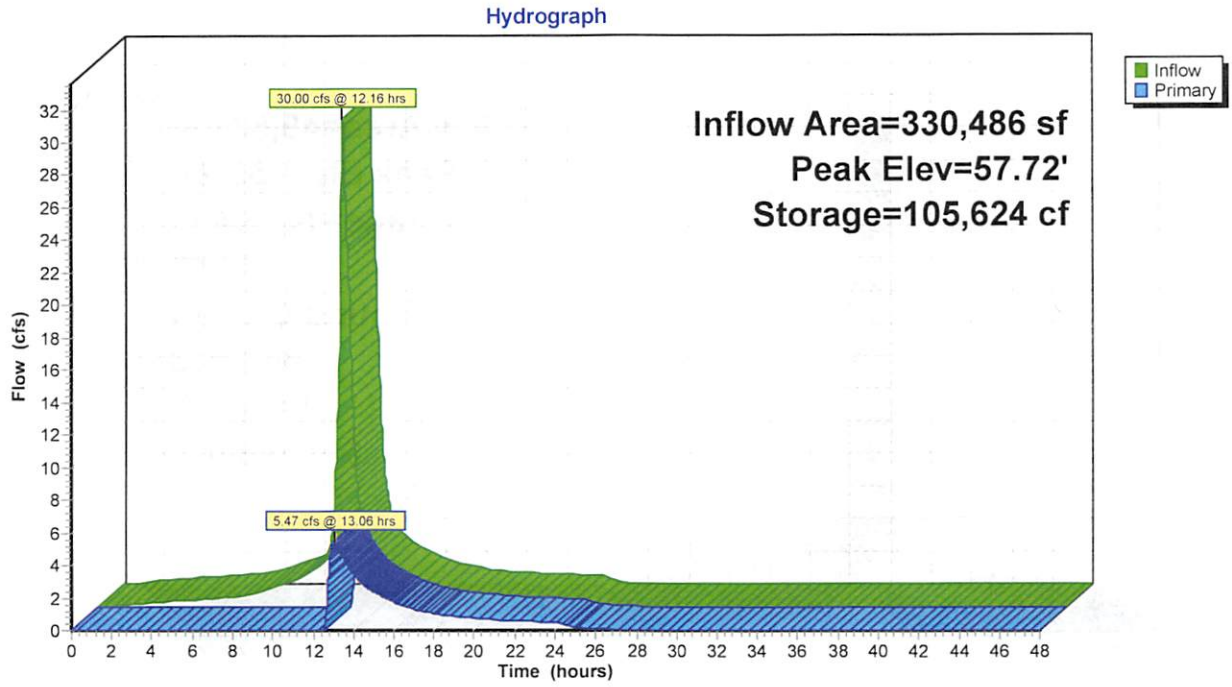
Subcatchment P-3B-M: Proposed Undetained DOT Impervious Area



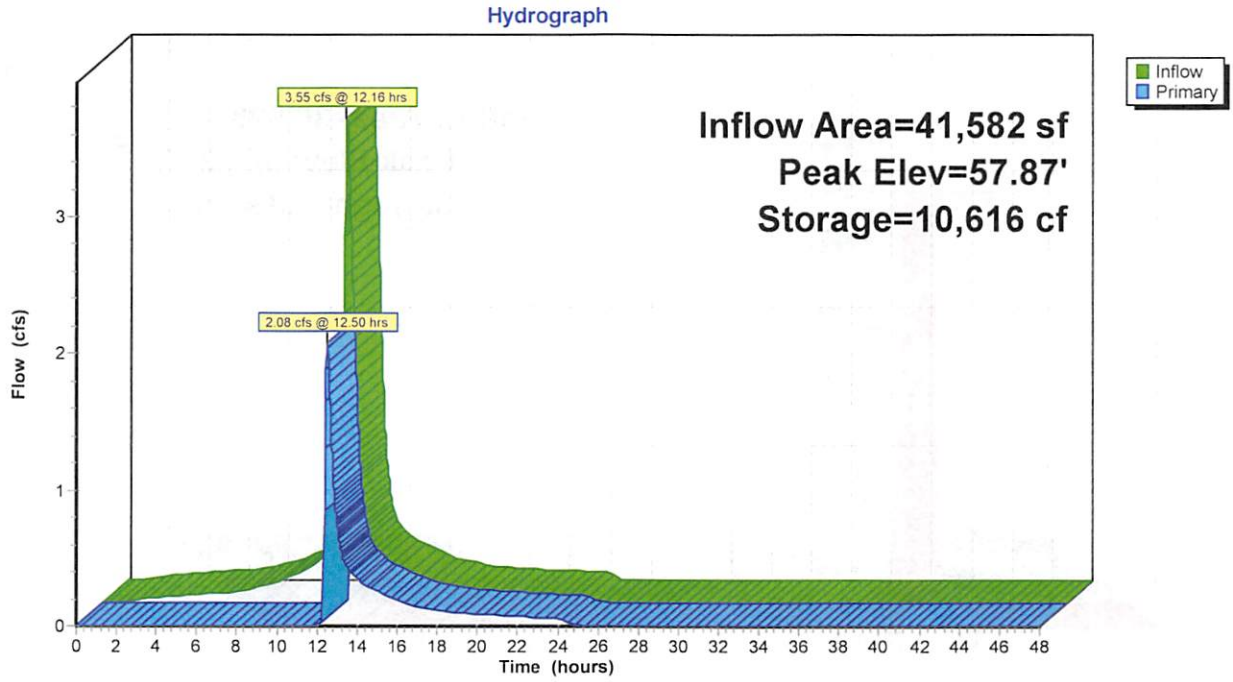
Subcatchment P-3B-P: Proposed Undetained DOT Pervious Area



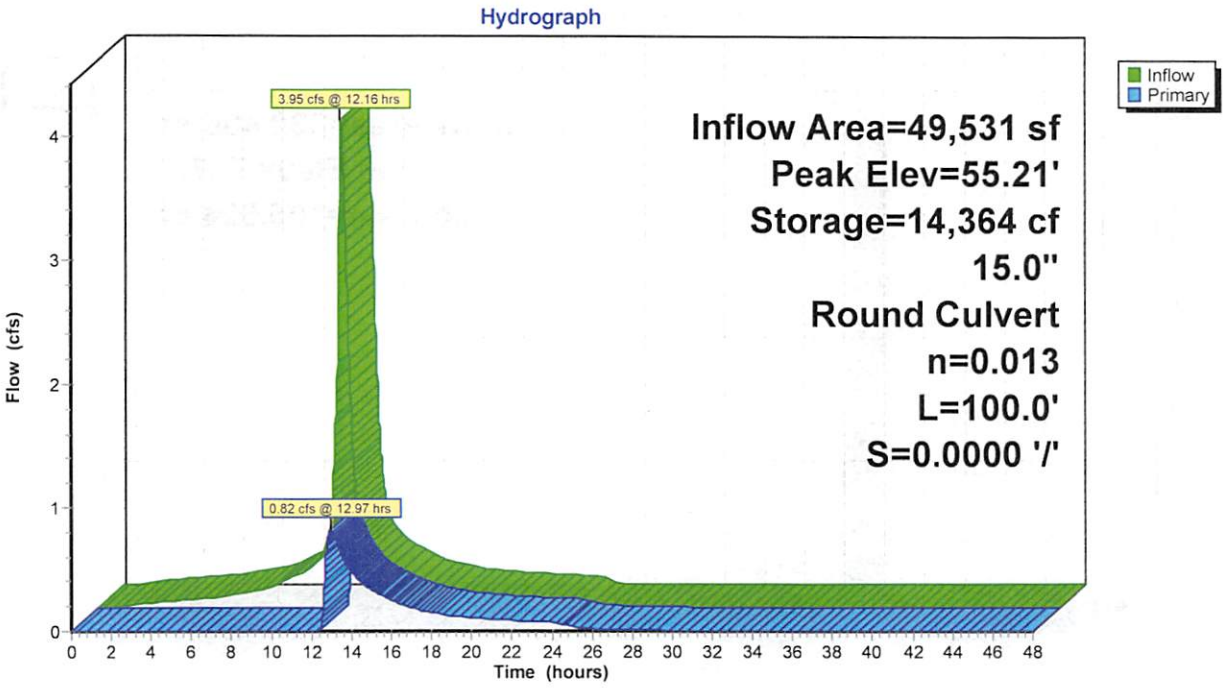
Pond B-1&2: Primary Site Infiltration Basin



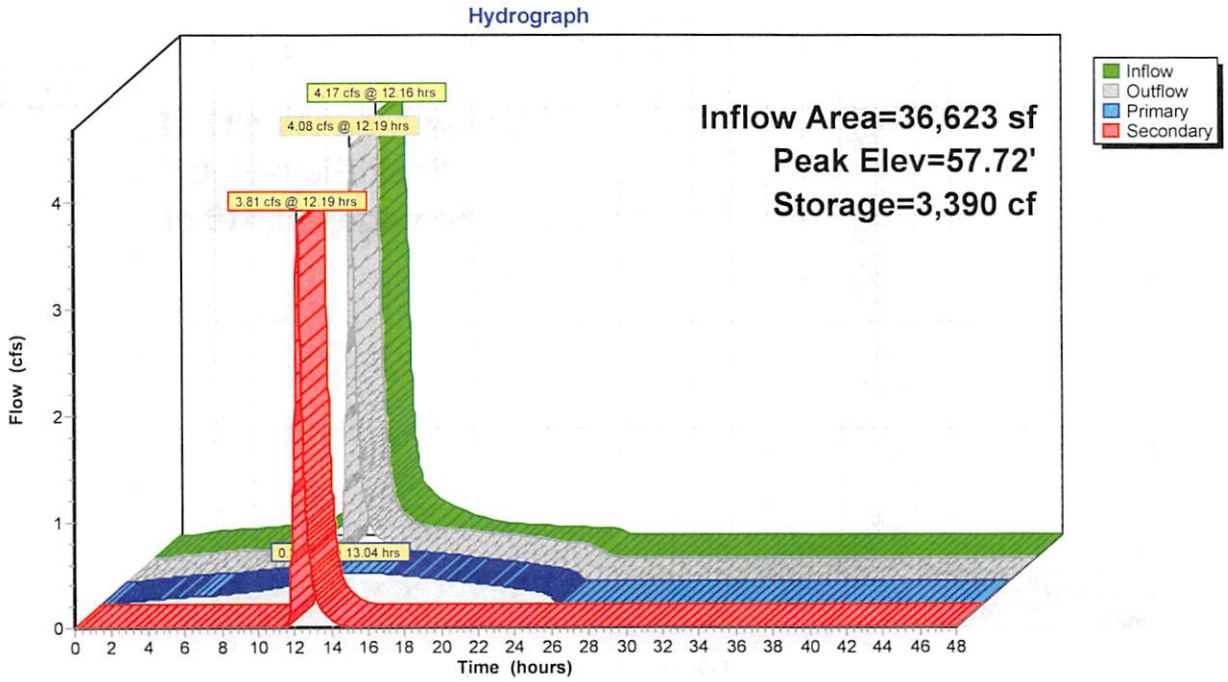
Pond B-3: McDonalds Infiltration Basin



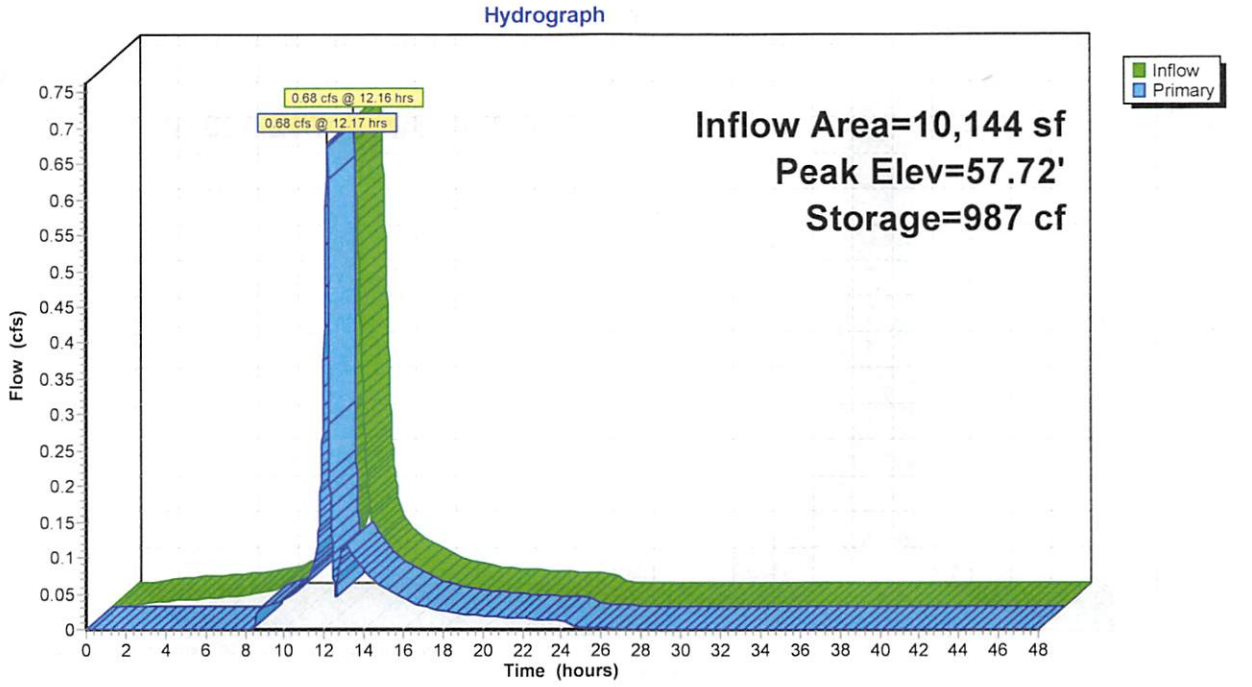
Pond B-4: Municipal Infiltration Basin



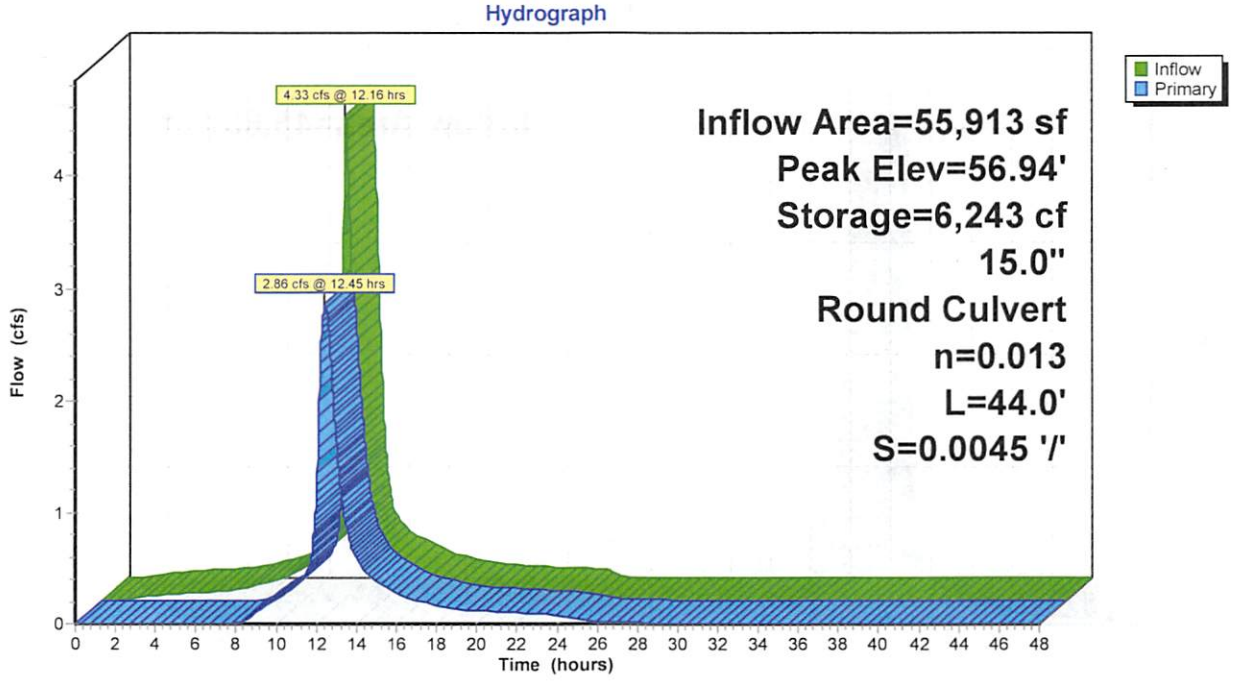
Pond B-5: Wawa Detention Basin



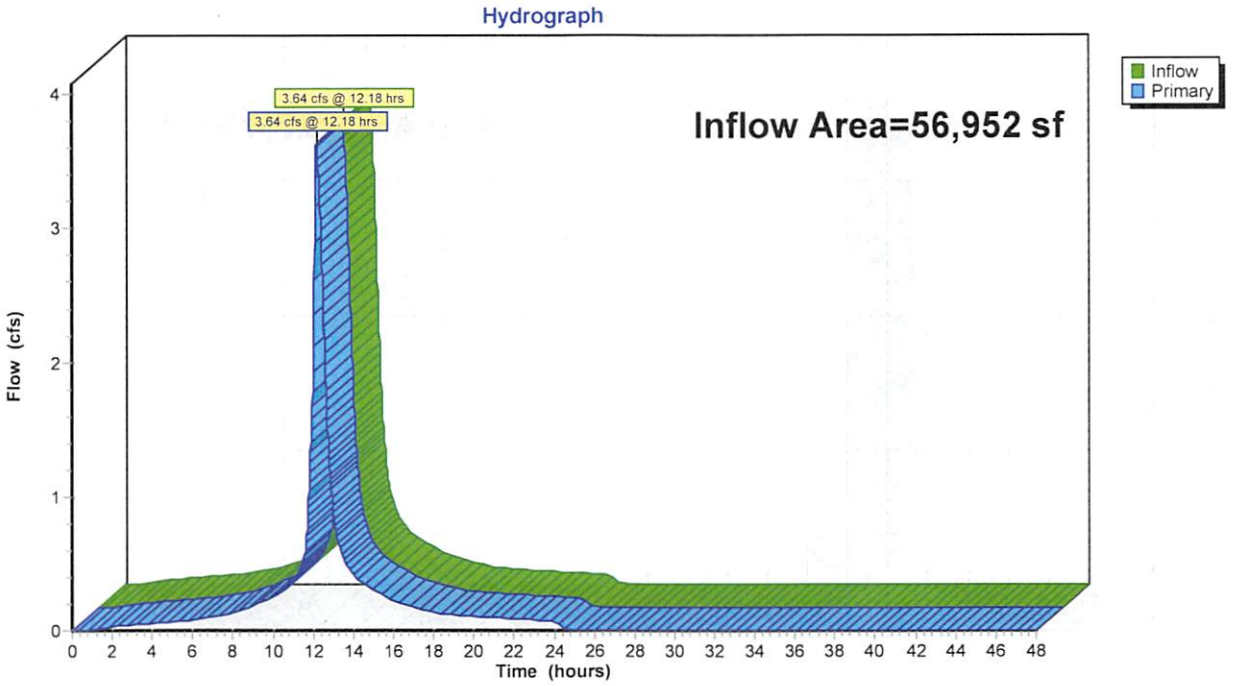
Pond RG-1: Fast Food Bioretention Area



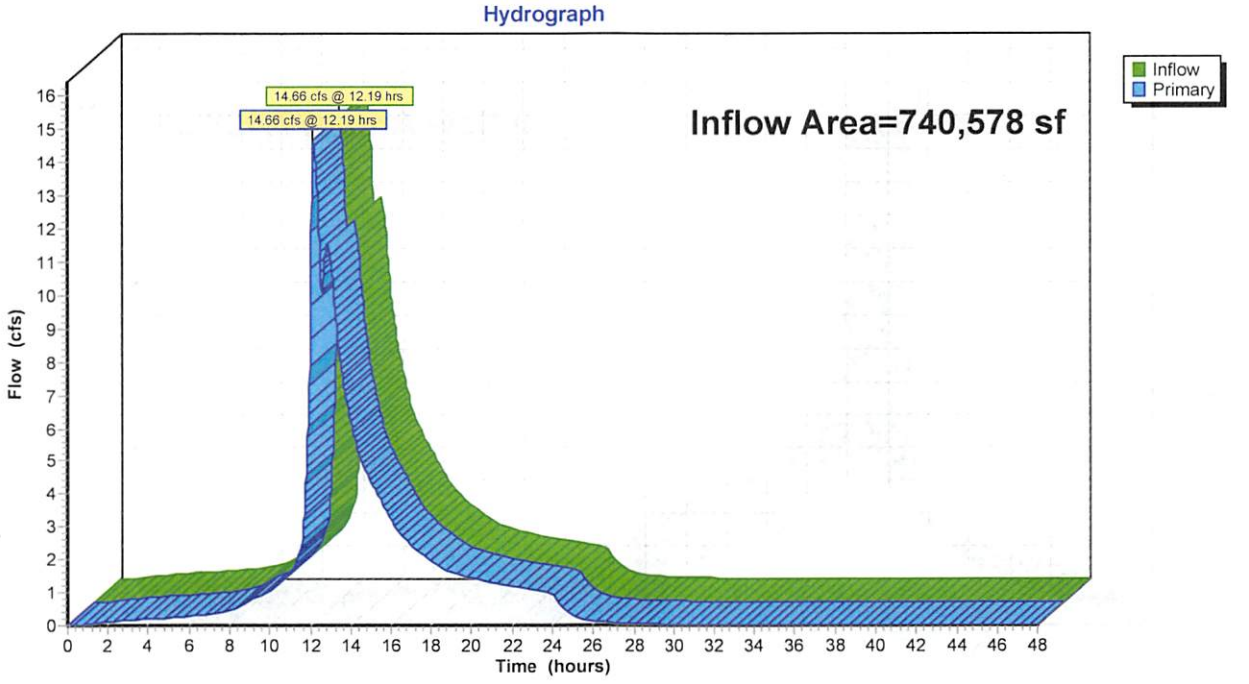
Pond RG-2: Access Road Bioretention Area



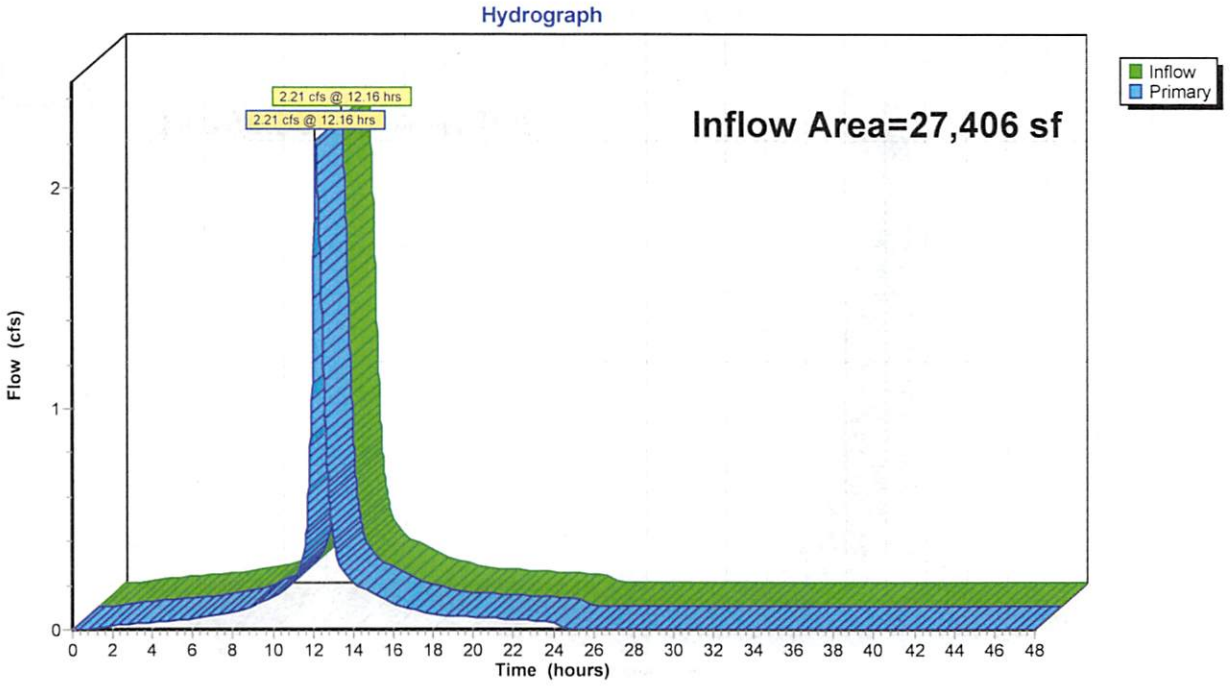
Link E-3: Existing DOT Drainage Area



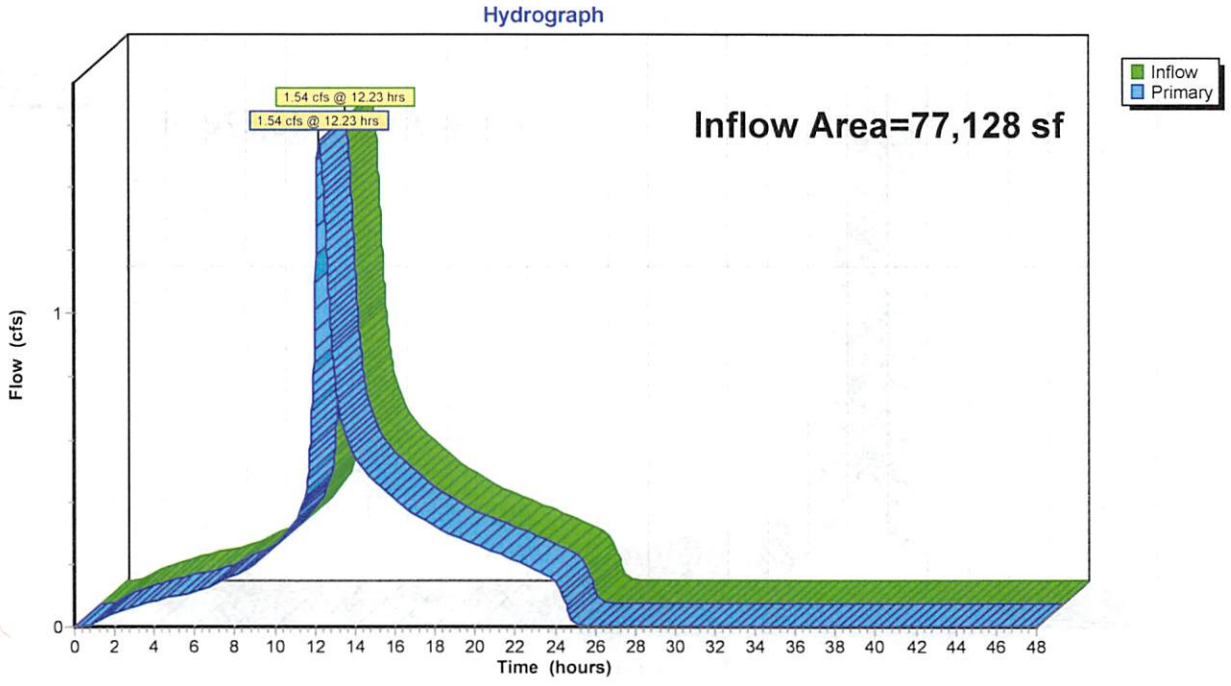
Link P-1: Proposed Site Drainage Area



Link P-2: Proposed Municipal Drainage Area



Link P-3: Proposed DOT Drainage Area



Stage-Discharge for Pond B-1&2: Primary Site Infiltration Basin

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
54.50	0.00	55.17	0.00	55.84	0.00	56.51	0.00	57.18	0.00	57.85	10.83
54.51	0.00	55.18	0.00	55.85	0.00	56.52	0.00	57.19	0.00	57.86	11.30
54.52	0.00	55.19	0.00	55.86	0.00	56.53	0.00	57.20	0.00	57.87	11.78
54.53	0.00	55.20	0.00	55.87	0.00	56.54	0.00	57.21	0.00	57.88	12.26
54.54	0.00	55.21	0.00	55.88	0.00	56.55	0.00	57.22	0.00	57.89	12.74
54.55	0.00	55.22	0.00	55.89	0.00	56.56	0.00	57.23	0.00	57.90	13.24
54.56	0.00	55.23	0.00	55.90	0.00	56.57	0.00	57.24	0.00	57.91	13.74
54.57	0.00	55.24	0.00	55.91	0.00	56.58	0.00	57.25	0.00	57.92	14.24
54.58	0.00	55.25	0.00	55.92	0.00	56.59	0.00	57.26	0.00	57.93	14.75
54.59	0.00	55.26	0.00	55.93	0.00	56.60	0.00	57.27	0.00	57.94	15.27
54.60	0.00	55.27	0.00	55.94	0.00	56.61	0.00	57.28	0.00	57.95	15.79
54.61	0.00	55.28	0.00	55.95	0.00	56.62	0.00	57.29	0.00	57.96	16.32
54.62	0.00	55.29	0.00	55.96	0.00	56.63	0.00	57.30	0.00	57.97	16.86
54.63	0.00	55.30	0.00	55.97	0.00	56.64	0.00	57.31	0.00	57.98	17.40
54.64	0.00	55.31	0.00	55.98	0.00	56.65	0.00	57.32	0.00	57.99	17.95
54.65	0.00	55.32	0.00	55.99	0.00	56.66	0.00	57.33	0.00	58.00	**18.50**
54.66	0.00	55.33	0.00	56.00	0.00	56.67	0.00	57.34	0.00		
54.67	0.00	55.34	0.00	56.01	0.00	56.68	0.00	57.35	0.00		
54.68	0.00	55.35	0.00	56.02	0.00	56.69	0.00	57.36	0.00		
54.69	0.00	55.36	0.00	56.03	0.00	56.70	0.00	57.37	0.00		
54.70	0.00	55.37	0.00	56.04	0.00	56.71	0.00	57.38	0.00		
54.71	0.00	55.38	0.00	56.05	0.00	56.72	0.00	57.39	0.00		
54.72	0.00	55.39	0.00	56.06	0.00	56.73	0.00	57.40	0.00		
54.73	0.00	55.40	0.00	56.07	0.00	56.74	0.00	57.41	0.00		
54.74	0.00	55.41	0.00	56.08	0.00	56.75	0.00	57.42	0.00		
54.75	0.00	55.42	0.00	56.09	0.00	56.76	0.00	57.43	0.00		
54.76	0.00	55.43	0.00	56.10	0.00	56.77	0.00	57.44	0.00		
54.77	0.00	55.44	0.00	56.11	0.00	56.78	0.00	57.45	0.00		
54.78	0.00	55.45	0.00	56.12	0.00	56.79	0.00	57.46	0.00		
54.79	0.00	55.46	0.00	56.13	0.00	56.80	0.00	57.47	0.00		
54.80	0.00	55.47	0.00	56.14	0.00	56.81	0.00	57.48	0.00		
54.81	0.00	55.48	0.00	56.15	0.00	56.82	0.00	57.49	0.00		
54.82	0.00	55.49	0.00	56.16	0.00	56.83	0.00	57.50	0.00		
54.83	0.00	55.50	0.00	56.17	0.00	56.84	0.00	57.51	0.05		
54.84	0.00	55.51	0.00	56.18	0.00	56.85	0.00	57.52	0.15		
54.85	0.00	55.52	0.00	56.19	0.00	56.86	0.00	57.53	0.27		
54.86	0.00	55.53	0.00	56.20	0.00	56.87	0.00	57.54	0.42		
54.87	0.00	55.54	0.00	56.21	0.00	56.88	0.00	57.55	0.58		
54.88	0.00	55.55	0.00	56.22	0.00	56.89	0.00	57.56	0.77		
54.89	0.00	55.56	0.00	56.23	0.00	56.90	0.00	57.57	0.97		
54.90	0.00	55.57	0.00	56.24	0.00	56.91	0.00	57.58	1.18		
54.91	0.00	55.58	0.00	56.25	0.00	56.92	0.00	57.59	1.41		
54.92	0.00	55.59	0.00	56.26	0.00	56.93	0.00	57.60	1.65		
54.93	0.00	55.60	0.00	56.27	0.00	56.94	0.00	57.61	1.91		
54.94	0.00	55.61	0.00	56.28	0.00	56.95	0.00	57.62	2.17		
54.95	0.00	55.62	0.00	56.29	0.00	56.96	0.00	57.63	2.45		
54.96	0.00	55.63	0.00	56.30	0.00	56.97	0.00	57.64	2.74		
54.97	0.00	55.64	0.00	56.31	0.00	56.98	0.00	57.65	3.04		
54.98	0.00	55.65	0.00	56.32	0.00	56.99	0.00	57.66	3.35		
54.99	0.00	55.66	0.00	56.33	0.00	57.00	0.00	57.67	3.67		
55.00	0.00	55.67	0.00	56.34	0.00	57.01	0.00	57.68	4.00		
55.01	0.00	55.68	0.00	56.35	0.00	57.02	0.00	57.69	4.33		
55.02	0.00	55.69	0.00	56.36	0.00	57.03	0.00	57.70	4.68		
55.03	0.00	55.70	0.00	56.37	0.00	57.04	0.00	57.71	5.03		
55.04	0.00	55.71	0.00	56.38	0.00	57.05	0.00	57.72	5.40		
55.05	0.00	55.72	0.00	56.39	0.00	57.06	0.00	57.73	5.77		
55.06	0.00	55.73	0.00	56.40	0.00	57.07	0.00	57.74	6.15		
55.07	0.00	55.74	0.00	56.41	0.00	57.08	0.00	57.75	6.54		
55.08	0.00	55.75	0.00	56.42	0.00	57.09	0.00	57.76	6.94		
55.09	0.00	55.76	0.00	56.43	0.00	57.10	0.00	57.77	7.34		
55.10	0.00	55.77	0.00	56.44	0.00	57.11	0.00	57.78	7.75		
55.11	0.00	55.78	0.00	56.45	0.00	57.12	0.00	57.79	8.17		
55.12	0.00	55.79	0.00	56.46	0.00	57.13	0.00	57.80	8.60		
55.13	0.00	55.80	0.00	56.47	0.00	57.14	0.00	57.81	9.03		
55.14	0.00	55.81	0.00	56.48	0.00	57.15	0.00	57.82	9.47		
55.15	0.00	55.82	0.00	56.49	0.00	57.16	0.00	57.83	9.92		
55.16	0.00	55.83	0.00	56.50	0.00	57.17	0.00	57.84	10.37		

Stage-Area-Storage for Pond B-1&2: Primary Site Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
54.50	21,719	0	55.84	32,668	35,461	57.18	38,891	83,965
54.52	21,824	435	55.86	32,867	36,116	57.20	38,970	84,744
54.54	21,929	873	55.88	33,065	36,776	57.22	39,049	85,524
54.56	22,034	1,313	55.90	33,263	37,439	57.24	39,129	86,306
54.58	22,139	1,754	55.92	33,461	38,106	57.26	39,208	87,089
54.60	22,244	2,198	55.94	33,659	38,777	57.28	39,288	87,874
54.62	22,349	2,644	55.96	33,858	39,453	57.30	39,367	88,661
54.64	22,454	3,092	55.98	34,056	40,132	57.32	39,447	89,449
54.66	22,559	3,542	56.00	34,254	40,815	57.34	39,527	90,239
54.68	22,664	3,994	56.02	34,332	41,501	57.36	39,606	91,030
54.70	22,769	4,449	56.04	34,411	42,188	57.38	39,686	91,823
54.72	22,874	4,905	56.06	34,489	42,877	57.40	39,765	92,617
54.74	22,979	5,364	56.08	34,568	43,568	57.42	39,845	93,413
54.76	23,084	5,824	56.10	34,646	44,260	57.44	39,924	94,211
54.78	23,189	6,287	56.12	34,725	44,953	57.46	40,004	95,010
54.80	23,294	6,752	56.14	34,803	45,649	57.48	40,083	95,811
54.82	23,399	7,219	56.16	34,881	46,346	57.50	40,163	96,614
54.84	23,504	7,688	56.18	34,960	47,044	57.52	40,242	97,418
54.86	23,609	8,159	56.20	35,038	47,744	57.54	40,322	98,223
54.88	23,714	8,632	56.22	35,117	48,446	57.56	40,401	99,031
54.90	23,819	9,108	56.24	35,195	49,149	57.58	40,480	99,839
54.92	23,924	9,585	56.26	35,273	49,853	57.60	40,560	100,650
54.94	24,029	10,065	56.28	35,352	50,560	57.62	40,639	101,462
54.96	24,134	10,546	56.30	35,430	51,267	57.64	40,719	102,275
54.98	24,239	11,030	56.32	35,509	51,977	57.66	40,798	103,091
55.00	24,344	11,516	56.34	35,587	52,688	57.68	40,878	103,907
55.02	24,542	12,005	56.36	35,666	53,400	57.70	40,958	104,726
55.04	24,740	12,497	56.38	35,744	54,114	57.72	41,037	105,546
55.06	24,939	12,994	56.40	35,822	54,830	57.74	41,117	106,367
55.08	25,137	13,495	56.42	35,901	55,547	57.76	41,196	107,190
55.10	25,335	14,000	56.44	35,979	56,266	57.78	41,276	108,015
55.12	25,533	14,508	56.46	36,058	56,986	57.80	41,355	108,841
55.14	25,731	15,021	56.48	36,136	57,708	57.82	41,435	109,669
55.16	25,930	15,538	56.50	36,215	58,432	57.84	41,514	110,499
55.18	26,128	16,058	56.52	36,293	59,157	57.86	41,594	111,330
55.20	26,326	16,583	56.54	36,371	59,884	57.88	41,673	112,162
55.22	26,524	17,111	56.56	36,450	60,612	57.90	41,752	112,997
55.24	26,722	17,644	56.58	36,528	61,342	57.92	41,832	113,832
55.26	26,921	18,180	56.60	36,607	62,073	57.94	41,911	114,670
55.28	27,119	18,721	56.62	36,685	62,806	57.96	41,991	115,509
55.30	27,317	19,265	56.64	36,763	63,540	57.98	42,070	116,350
55.32	27,515	19,813	56.66	36,842	64,276	58.00	42,150	117,192
55.34	27,713	20,366	56.68	36,920	65,014			
55.36	27,912	20,922	56.70	36,999	65,753			
55.38	28,110	21,482	56.72	37,077	66,494			
55.40	28,308	22,046	56.74	37,156	67,236			
55.42	28,506	22,614	56.76	37,234	67,980			
55.44	28,704	23,186	56.78	37,312	68,726			
55.46	28,903	23,762	56.80	37,391	69,473			
55.48	29,101	24,343	56.82	37,469	70,221			
55.50	29,299	24,927	56.84	37,548	70,971			
55.52	29,497	25,514	56.86	37,626	71,723			
55.54	29,695	26,106	56.88	37,704	72,476			
55.56	29,894	26,702	56.90	37,783	73,231			
55.58	30,092	27,302	56.92	37,861	73,988			
55.60	30,290	27,906	56.94	37,940	74,746			
55.62	30,488	28,514	56.96	38,018	75,505			
55.64	30,686	29,125	56.98	38,097	76,267			
55.66	30,885	29,741	57.00	38,175	77,029			
55.68	31,083	30,361	57.02	38,255	77,794			
55.70	31,281	30,985	57.04	38,334	78,559			
55.72	31,479	31,612	57.06	38,414	79,327			
55.74	31,677	32,244	57.08	38,493	80,096			
55.76	31,876	32,879	57.10	38,573	80,867			
55.78	32,074	33,519	57.12	38,652	81,639			
55.80	32,272	34,162	57.14	38,732	82,413			
55.82	32,470	34,810	57.16	38,811	83,188			

Stage-Discharge for Pond B-3: McDonalds Infiltration Basin

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
55.00	0.00	55.67	0.00	56.34	0.00	57.01	0.00	57.68	0.00	58.35	7.20
55.01	0.00	55.68	0.00	56.35	0.00	57.02	0.00	57.69	0.00	58.36	7.22
55.02	0.00	55.69	0.00	56.36	0.00	57.03	0.00	57.70	0.00	58.37	7.24
55.03	0.00	55.70	0.00	56.37	0.00	57.04	0.00	57.71	0.00	58.38	7.26
55.04	0.00	55.71	0.00	56.38	0.00	57.05	0.00	57.72	0.00	58.39	7.28
55.05	0.00	55.72	0.00	56.39	0.00	57.06	0.00	57.73	0.00	58.40	7.30
55.06	0.00	55.73	0.00	56.40	0.00	57.07	0.00	57.74	0.00	58.41	7.32
55.07	0.00	55.74	0.00	56.41	0.00	57.08	0.00	57.75	0.00	58.42	7.34
55.08	0.00	55.75	0.00	56.42	0.00	57.09	0.00	57.76	0.05	58.43	7.36
55.09	0.00	55.76	0.00	56.43	0.00	57.10	0.00	57.77	0.15	58.44	7.38
55.10	0.00	55.77	0.00	56.44	0.00	57.11	0.00	57.78	0.27	58.45	7.40
55.11	0.00	55.78	0.00	56.45	0.00	57.12	0.00	57.79	0.42	58.46	7.42
55.12	0.00	55.79	0.00	56.46	0.00	57.13	0.00	57.80	0.58	58.47	7.44
55.13	0.00	55.80	0.00	56.47	0.00	57.14	0.00	57.81	0.77	58.48	7.47
55.14	0.00	55.81	0.00	56.48	0.00	57.15	0.00	57.82	0.97	58.49	7.49
55.15	0.00	55.82	0.00	56.49	0.00	57.16	0.00	57.83	1.18	58.50	7.51
55.16	0.00	55.83	0.00	56.50	0.00	57.17	0.00	57.84	1.41	58.51	7.53
55.17	0.00	55.84	0.00	56.51	0.00	57.18	0.00	57.85	1.65	58.52	7.55
55.18	0.00	55.85	0.00	56.52	0.00	57.19	0.00	57.86	1.91	58.53	7.57
55.19	0.00	55.86	0.00	56.53	0.00	57.20	0.00	57.87	2.17	58.54	7.59
55.20	0.00	55.87	0.00	56.54	0.00	57.21	0.00	57.88	2.45	58.55	7.61
55.21	0.00	55.88	0.00	56.55	0.00	57.22	0.00	57.89	2.74	58.56	7.63
55.22	0.00	55.89	0.00	56.56	0.00	57.23	0.00	57.90	3.04	58.57	7.65
55.23	0.00	55.90	0.00	56.57	0.00	57.24	0.00	57.91	3.35	58.58	7.67
55.24	0.00	55.91	0.00	56.58	0.00	57.25	0.00	57.92	3.67	58.59	7.68
55.25	0.00	55.92	0.00	56.59	0.00	57.26	0.00	57.93	4.00	58.60	7.70
55.26	0.00	55.93	0.00	56.60	0.00	57.27	0.00	57.94	4.33	58.61	7.72
55.27	0.00	55.94	0.00	56.61	0.00	57.28	0.00	57.95	4.68	58.62	7.74
55.28	0.00	55.95	0.00	56.62	0.00	57.29	0.00	57.96	5.03	58.63	7.76
55.29	0.00	55.96	0.00	56.63	0.00	57.30	0.00	57.97	5.40	58.64	7.78
55.30	0.00	55.97	0.00	56.64	0.00	57.31	0.00	57.98	5.77	58.65	7.80
55.31	0.00	55.98	0.00	56.65	0.00	57.32	0.00	57.99	6.15	58.66	7.82
55.32	0.00	55.99	0.00	56.66	0.00	57.33	0.00	58.00	6.42	58.67	7.84
55.33	0.00	56.00	0.00	56.67	0.00	57.34	0.00	58.01	6.44	58.68	7.86
55.34	0.00	56.01	0.00	56.68	0.00	57.35	0.00	58.02	6.46	58.69	7.88
55.35	0.00	56.02	0.00	56.69	0.00	57.36	0.00	58.03	6.49	58.70	7.90
55.36	0.00	56.03	0.00	56.70	0.00	57.37	0.00	58.04	6.51	58.71	7.92
55.37	0.00	56.04	0.00	56.71	0.00	57.38	0.00	58.05	6.53	58.72	7.94
55.38	0.00	56.05	0.00	56.72	0.00	57.39	0.00	58.06	6.56	58.73	7.96
55.39	0.00	56.06	0.00	56.73	0.00	57.40	0.00	58.07	6.58	58.74	7.98
55.40	0.00	56.07	0.00	56.74	0.00	57.41	0.00	58.08	6.60	58.75	7.99
55.41	0.00	56.08	0.00	56.75	0.00	57.42	0.00	58.09	6.63	58.76	8.01
55.42	0.00	56.09	0.00	56.76	0.00	57.43	0.00	58.10	6.65	58.77	8.03
55.43	0.00	56.10	0.00	56.77	0.00	57.44	0.00	58.11	6.67	58.78	8.05
55.44	0.00	56.11	0.00	56.78	0.00	57.45	0.00	58.12	6.70	58.79	8.07
55.45	0.00	56.12	0.00	56.79	0.00	57.46	0.00	58.13	6.72	58.80	8.09
55.46	0.00	56.13	0.00	56.80	0.00	57.47	0.00	58.14	6.74	58.81	8.11
55.47	0.00	56.14	0.00	56.81	0.00	57.48	0.00	58.15	6.76	58.82	8.13
55.48	0.00	56.15	0.00	56.82	0.00	57.49	0.00	58.16	6.78	58.83	8.14
55.49	0.00	56.16	0.00	56.83	0.00	57.50	0.00	58.17	6.81	58.84	8.16
55.50	0.00	56.17	0.00	56.84	0.00	57.51	0.00	58.18	6.83	58.85	8.18
55.51	0.00	56.18	0.00	56.85	0.00	57.52	0.00	58.19	6.85	58.86	8.20
55.52	0.00	56.19	0.00	56.86	0.00	57.53	0.00	58.20	6.87	58.87	8.22
55.53	0.00	56.20	0.00	56.87	0.00	57.54	0.00	58.21	6.90	58.88	8.24
55.54	0.00	56.21	0.00	56.88	0.00	57.55	0.00	58.22	6.92	58.89	8.25
55.55	0.00	56.22	0.00	56.89	0.00	57.56	0.00	58.23	6.94	58.90	8.27
55.56	0.00	56.23	0.00	56.90	0.00	57.57	0.00	58.24	6.96	58.91	8.29
55.57	0.00	56.24	0.00	56.91	0.00	57.58	0.00	58.25	6.98	58.92	8.31
55.58	0.00	56.25	0.00	56.92	0.00	57.59	0.00	58.26	7.00	58.93	8.33
55.59	0.00	56.26	0.00	56.93	0.00	57.60	0.00	58.27	7.03	58.94	8.35
55.60	0.00	56.27	0.00	56.94	0.00	57.61	0.00	58.28	7.05	58.95	8.36
55.61	0.00	56.28	0.00	56.95	0.00	57.62	0.00	58.29	7.07	58.96	8.38
55.62	0.00	56.29	0.00	56.96	0.00	57.63	0.00	58.30	7.09	58.97	8.40
55.63	0.00	56.30	0.00	56.97	0.00	57.64	0.00	58.31	7.11	58.98	8.42
55.64	0.00	56.31	0.00	56.98	0.00	57.65	0.00	58.32	7.13	58.99	8.44
55.65	0.00	56.32	0.00	56.99	0.00	57.66	0.00	58.33	7.15	59.00	8.45
55.66	0.00	56.33	0.00	57.00	0.00	57.67	0.00	58.34	7.18		

Stage-Area-Storage for Pond B-3: McDonalds Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.00	2,481	0	56.34	3,582	4,040	57.68	4,880	9,688
55.02	2,496	50	56.36	3,600	4,112	57.70	4,901	9,785
55.04	2,511	100	56.38	3,618	4,184	57.72	4,922	9,884
55.06	2,526	150	56.40	3,636	4,256	57.74	4,943	9,982
55.08	2,541	201	56.42	3,654	4,329	57.76	4,964	10,081
55.10	2,556	252	56.44	3,672	4,403	57.78	4,985	10,181
55.12	2,571	303	56.46	3,690	4,476	57.80	5,006	10,281
55.14	2,587	355	56.48	3,708	4,550	57.82	5,027	10,381
55.16	2,602	407	56.50	3,727	4,625	57.84	5,048	10,482
55.18	2,617	459	56.52	3,745	4,699	57.86	5,069	10,583
55.20	2,633	511	56.54	3,763	4,774	57.88	5,090	10,684
55.22	2,648	564	56.56	3,782	4,850	57.90	5,112	10,787
55.24	2,663	617	56.58	3,800	4,926	57.92	5,133	10,889
55.26	2,679	671	56.60	3,818	5,002	57.94	5,155	10,992
55.28	2,695	724	56.62	3,837	5,078	57.96	5,176	11,095
55.30	2,710	778	56.64	3,855	5,155	57.98	5,197	11,199
55.32	2,726	833	56.66	3,874	5,233	58.00	5,219	11,303
55.34	2,741	887	56.68	3,893	5,310	58.02	5,241	11,408
55.36	2,757	942	56.70	3,911	5,388	58.04	5,262	11,513
55.38	2,773	998	56.72	3,930	5,467	58.06	5,284	11,618
55.40	2,789	1,053	56.74	3,949	5,546	58.08	5,305	11,724
55.42	2,805	1,109	56.76	3,968	5,625	58.10	5,327	11,830
55.44	2,820	1,166	56.78	3,987	5,704	58.12	5,349	11,937
55.46	2,836	1,222	56.80	4,005	5,784	58.14	5,371	12,044
55.48	2,852	1,279	56.82	4,024	5,864	58.16	5,393	12,152
55.50	2,868	1,336	56.84	4,043	5,945	58.18	5,414	12,260
55.52	2,885	1,394	56.86	4,062	6,026	58.20	5,436	12,369
55.54	2,901	1,452	56.88	4,082	6,108	58.22	5,458	12,477
55.56	2,917	1,510	56.90	4,101	6,189	58.24	5,480	12,587
55.58	2,933	1,568	56.92	4,120	6,272	58.26	5,502	12,697
55.60	2,949	1,627	56.94	4,139	6,354	58.28	5,525	12,807
55.62	2,966	1,686	56.96	4,158	6,437	58.30	5,547	12,918
55.64	2,982	1,746	56.98	4,178	6,521	58.32	5,569	13,029
55.66	2,998	1,805	57.00	4,197	6,604	58.34	5,591	13,140
55.68	3,015	1,866	57.02	4,216	6,688	58.36	5,613	13,252
55.70	3,031	1,926	57.04	4,236	6,773	58.38	5,636	13,365
55.72	3,048	1,987	57.06	4,255	6,858	58.40	5,658	13,478
55.74	3,064	2,048	57.08	4,275	6,943	58.42	5,681	13,591
55.76	3,081	2,109	57.10	4,294	7,029	58.44	5,703	13,705
55.78	3,098	2,171	57.12	4,314	7,115	58.46	5,725	13,819
55.80	3,114	2,233	57.14	4,333	7,201	58.48	5,748	13,934
55.82	3,131	2,296	57.16	4,353	7,288	58.50	5,771	14,049
55.84	3,148	2,359	57.18	4,373	7,376	58.52	5,793	14,165
55.86	3,165	2,422	57.20	4,392	7,463	58.54	5,816	14,281
55.88	3,182	2,485	57.22	4,412	7,551	58.56	5,839	14,398
55.90	3,199	2,549	57.24	4,432	7,640	58.58	5,861	14,515
55.92	3,216	2,613	57.26	4,452	7,729	58.60	5,884	14,632
55.94	3,233	2,678	57.28	4,472	7,818	58.62	5,907	14,750
55.96	3,250	2,742	57.30	4,492	7,907	58.64	5,930	14,868
55.98	3,267	2,808	57.32	4,512	7,997	58.66	5,953	14,987
56.00	3,284	2,873	57.34	4,532	8,088	58.68	5,976	15,106
56.02	3,301	2,939	57.36	4,552	8,179	58.70	5,999	15,226
56.04	3,318	3,005	57.38	4,572	8,270	58.72	6,022	15,346
56.06	3,336	3,072	57.40	4,592	8,362	58.74	6,045	15,467
56.08	3,353	3,139	57.42	4,613	8,454	58.76	6,068	15,588
56.10	3,370	3,206	57.44	4,633	8,546	58.78	6,092	15,710
56.12	3,388	3,273	57.46	4,653	8,639	58.80	6,115	15,832
56.14	3,405	3,341	57.48	4,674	8,732	58.82	6,138	15,954
56.16	3,423	3,410	57.50	4,694	8,826	58.84	6,162	16,077
56.18	3,440	3,478	57.52	4,715	8,920	58.86	6,185	16,201
56.20	3,458	3,547	57.54	4,735	9,015	58.88	6,208	16,325
56.22	3,475	3,617	57.56	4,756	9,109	58.90	6,232	16,449
56.24	3,493	3,686	57.58	4,776	9,205	58.92	6,255	16,574
56.26	3,511	3,756	57.60	4,797	9,300	58.94	6,279	16,699
56.28	3,528	3,827	57.62	4,818	9,397	58.96	6,303	16,825
56.30	3,546	3,897	57.64	4,838	9,493	58.98	6,326	16,952
56.32	3,564	3,969	57.66	4,859	9,590	59.00	6,350	17,078

Stage-Discharge for Pond B-4: Municipal Infiltration Basin

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
51.55	0.00	52.22	0.00	52.89	0.00	53.56	0.00	54.23	0.00	54.90	0.23	55.57	1.86
51.56	0.00	52.23	0.00	52.90	0.00	53.57	0.00	54.24	0.00	54.91	0.24	55.58	1.89
51.57	0.00	52.24	0.00	52.91	0.00	53.58	0.00	54.25	0.00	54.92	0.25	55.59	1.93
51.58	0.00	52.25	0.00	52.92	0.00	53.59	0.00	54.26	0.00	54.93	0.27	55.60	1.96
51.59	0.00	52.26	0.00	52.93	0.00	53.60	0.00	54.27	0.00	54.94	0.28	55.61	1.99
51.60	0.00	52.27	0.00	52.94	0.00	53.61	0.00	54.28	0.00	54.95	0.30	55.62	2.02
51.61	0.00	52.28	0.00	52.95	0.00	53.62	0.00	54.29	0.00	54.96	0.31	55.63	2.05
51.62	0.00	52.29	0.00	52.96	0.00	53.63	0.00	54.30	0.00	54.97	0.33	55.64	2.08
51.63	0.00	52.30	0.00	52.97	0.00	53.64	0.00	54.31	0.00	54.98	0.35	55.65	2.12
51.64	0.00	52.31	0.00	52.98	0.00	53.65	0.00	54.32	0.00	54.99	0.36	55.66	2.15
51.65	0.00	52.32	0.00	52.99	0.00	53.66	0.00	54.33	0.00	55.00	0.38	55.67	2.18
51.66	0.00	52.33	0.00	53.00	0.00	53.67	0.00	54.34	0.00	55.01	0.40	55.68	2.21
51.67	0.00	52.34	0.00	53.01	0.00	53.68	0.00	54.35	0.00	55.02	0.41	55.69	2.24
51.68	0.00	52.35	0.00	53.02	0.00	53.69	0.00	54.36	0.00	55.03	0.43	55.70	2.28
51.69	0.00	52.36	0.00	53.03	0.00	53.70	0.00	54.37	0.00	55.04	0.45	55.71	2.31
51.70	0.00	52.37	0.00	53.04	0.00	53.71	0.00	54.38	0.00	55.05	0.47	55.72	2.34
51.71	0.00	52.38	0.00	53.05	0.00	53.72	0.00	54.39	0.00	55.06	0.49	55.73	2.37
51.72	0.00	52.39	0.00	53.06	0.00	53.73	0.00	54.40	0.00	55.07	0.51	55.74	2.40
51.73	0.00	52.40	0.00	53.07	0.00	53.74	0.00	54.41	0.00	55.08	0.53	55.75	2.43
51.74	0.00	52.41	0.00	53.08	0.00	53.75	0.00	54.42	0.00	55.09	0.55		
51.75	0.00	52.42	0.00	53.09	0.00	53.76	0.00	54.43	0.00	55.10	0.57		
51.76	0.00	52.43	0.00	53.10	0.00	53.77	0.00	54.44	0.00	55.11	0.59		
51.77	0.00	52.44	0.00	53.11	0.00	53.78	0.00	54.45	0.00	55.12	0.61		
51.78	0.00	52.45	0.00	53.12	0.00	53.79	0.00	54.46	0.00	55.13	0.64		
51.79	0.00	52.46	0.00	53.13	0.00	53.80	0.00	54.47	0.00	55.14	0.66		
51.80	0.00	52.47	0.00	53.14	0.00	53.81	0.00	54.48	0.00	55.15	0.68		
51.81	0.00	52.48	0.00	53.15	0.00	53.82	0.00	54.49	0.00	55.16	0.70		
51.82	0.00	52.49	0.00	53.16	0.00	53.83	0.00	54.50	0.00	55.17	0.73		
51.83	0.00	52.50	0.00	53.17	0.00	53.84	0.00	54.51	0.00	55.18	0.75		
51.84	0.00	52.51	0.00	53.18	0.00	53.85	0.00	54.52	0.00	55.19	0.77		
51.85	0.00	52.52	0.00	53.19	0.00	53.86	0.00	54.53	0.00	55.20	0.80		
51.86	0.00	52.53	0.00	53.20	0.00	53.87	0.00	54.54	0.00	55.21	0.82		
51.87	0.00	52.54	0.00	53.21	0.00	53.88	0.00	54.55	0.00	55.22	0.85		
51.88	0.00	52.55	0.00	53.22	0.00	53.89	0.00	54.56	0.00	55.23	0.87		
51.89	0.00	52.56	0.00	53.23	0.00	53.90	0.00	54.57	0.00	55.24	0.90		
51.90	0.00	52.57	0.00	53.24	0.00	53.91	0.00	54.58	0.00	55.25	0.92		
51.91	0.00	52.58	0.00	53.25	0.00	53.92	0.00	54.59	0.01	55.26	0.95		
51.92	0.00	52.59	0.00	53.26	0.00	53.93	0.00	54.60	0.01	55.27	0.98		
51.93	0.00	52.60	0.00	53.27	0.00	53.94	0.00	54.61	0.01	55.28	1.00		
51.94	0.00	52.61	0.00	53.28	0.00	53.95	0.00	54.62	0.01	55.29	1.03		
51.95	0.00	52.62	0.00	53.29	0.00	53.96	0.00	54.63	0.01	55.30	1.06		
51.96	0.00	52.63	0.00	53.30	0.00	53.97	0.00	54.64	0.02	55.31	1.08		
51.97	0.00	52.64	0.00	53.31	0.00	53.98	0.00	54.65	0.02	55.32	1.11		
51.98	0.00	52.65	0.00	53.32	0.00	53.99	0.00	54.66	0.02	55.33	1.14		
51.99	0.00	52.66	0.00	53.33	0.00	54.00	0.00	54.67	0.03	55.34	1.17		
52.00	0.00	52.67	0.00	53.34	0.00	54.01	0.00	54.68	0.03	55.35	1.20		
52.01	0.00	52.68	0.00	53.35	0.00	54.02	0.00	54.69	0.04	55.36	1.22		
52.02	0.00	52.69	0.00	53.36	0.00	54.03	0.00	54.70	0.04	55.37	1.25		
52.03	0.00	52.70	0.00	53.37	0.00	54.04	0.00	54.71	0.05	55.38	1.28		
52.04	0.00	52.71	0.00	53.38	0.00	54.05	0.00	54.72	0.05	55.39	1.31		
52.05	0.00	52.72	0.00	53.39	0.00	54.06	0.00	54.73	0.06	55.40	1.34		
52.06	0.00	52.73	0.00	53.40	0.00	54.07	0.00	54.74	0.07	55.41	1.37		
52.07	0.00	52.74	0.00	53.41	0.00	54.08	0.00	54.75	0.07	55.42	1.40		
52.08	0.00	52.75	0.00	53.42	0.00	54.09	0.00	54.76	0.08	55.43	1.43		
52.09	0.00	52.76	0.00	53.43	0.00	54.10	0.00	54.77	0.09	55.44	1.46		
52.10	0.00	52.77	0.00	53.44	0.00	54.11	0.00	54.78	0.10	55.45	1.49		
52.11	0.00	52.78	0.00	53.45	0.00	54.12	0.00	54.79	0.10	55.46	1.52		
52.12	0.00	52.79	0.00	53.46	0.00	54.13	0.00	54.80	0.11	55.47	1.55		
52.13	0.00	52.80	0.00	53.47	0.00	54.14	0.00	54.81	0.12	55.48	1.58		
52.14	0.00	52.81	0.00	53.48	0.00	54.15	0.00	54.82	0.13	55.49	1.61		
52.15	0.00	52.82	0.00	53.49	0.00	54.16	0.00	54.83	0.14	55.50	1.64		
52.16	0.00	52.83	0.00	53.50	0.00	54.17	0.00	54.84	0.15	55.51	1.67		
52.17	0.00	52.84	0.00	53.51	0.00	54.18	0.00	54.85	0.16	55.52	1.70		
52.18	0.00	52.85	0.00	53.52	0.00	54.19	0.00	54.86	0.18	55.53	1.74		
52.19	0.00	52.86	0.00	53.53	0.00	54.20	0.00	54.87	0.19	55.54	1.77		
52.20	0.00	52.87	0.00	53.54	0.00	54.21	0.00	54.88	0.20	55.55	1.80		
52.21	0.00	52.88	0.00	53.55	0.00	54.22	0.00	54.89	0.21	55.56	1.83		

Stage-Area-Storage for Pond B-4: Municipal Infiltration Basin

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
51.55	0	52.89	5,438	54.23	11,950	55.57	14,601
51.57	49	52.91	5,546	54.25	12,008	55.59	14,601
51.59	94	52.93	5,654	54.27	12,062	55.61	14,601
51.61	137	52.95	5,762	54.29	12,109	55.63	14,601
51.63	178	52.97	5,870	54.31	12,144	55.65	14,601
51.65	218	52.99	5,978	54.33	12,176	55.67	14,601
51.67	256	53.01	6,086	54.35	12,209	55.69	14,601
51.69	293	53.03	6,195	54.37	12,242	55.71	14,601
51.71	329	53.05	6,303	54.39	12,277	55.73	14,601
51.73	364	53.07	6,411	54.41	12,313	55.75	14,601
51.75	397	53.09	6,520	54.43	12,350		
51.77	430	53.11	6,628	54.45	12,388		
51.79	462	53.13	6,736	54.47	12,428		
51.81	497	53.15	6,844	54.49	12,469		
51.83	544	53.17	6,952	54.51	12,512		
51.85	598	53.19	7,060	54.53	12,557		
51.87	656	53.21	7,168	54.55	12,606		
51.89	717	53.23	7,276	54.57	12,659		
51.91	782	53.25	7,383	54.59	12,712		
51.93	850	53.27	7,490	54.61	12,766		
51.95	920	53.29	7,598	54.63	12,819		
51.97	992	53.31	7,705	54.65	12,872		
51.99	1,067	53.33	7,811	54.67	12,925		
52.01	1,143	53.35	7,918	54.69	12,978		
52.03	1,221	53.37	8,024	54.71	13,032		
52.05	1,300	53.39	8,130	54.73	13,085		
52.07	1,382	53.41	8,235	54.75	13,138		
52.09	1,464	53.43	8,341	54.77	13,191		
52.11	1,548	53.45	8,446	54.79	13,244		
52.13	1,634	53.47	8,550	54.81	13,298		
52.15	1,720	53.49	8,654	54.83	13,351		
52.17	1,808	53.51	8,758	54.85	13,404		
52.19	1,897	53.53	8,861	54.87	13,457		
52.21	1,987	53.55	8,964	54.89	13,510		
52.23	2,078	53.57	9,067	54.91	13,564		
52.25	2,170	53.59	9,169	54.93	13,617		
52.27	2,263	53.61	9,270	54.95	13,670		
52.29	2,357	53.63	9,371	54.97	13,723		
52.31	2,451	53.65	9,471	54.99	13,776		
52.33	2,547	53.67	9,571	55.01	13,830		
52.35	2,643	53.69	9,670	55.03	13,883		
52.37	2,740	53.71	9,768	55.05	13,936		
52.39	2,838	53.73	9,866	55.07	13,989		
52.41	2,936	53.75	9,963	55.09	14,042		
52.43	3,035	53.77	10,059	55.11	14,096		
52.45	3,135	53.79	10,155	55.13	14,149		
52.47	3,235	53.81	10,249	55.15	14,202		
52.49	3,336	53.83	10,343	55.17	14,255		
52.51	3,437	53.85	10,436	55.19	14,308		
52.53	3,539	53.87	10,528	55.21	14,362		
52.55	3,642	53.89	10,619	55.23	14,415		
52.57	3,745	53.91	10,709	55.25	14,468		
52.59	3,848	53.93	10,798	55.27	14,521		
52.61	3,952	53.95	10,886	55.29	**14,574**		
52.63	4,056	53.97	10,972	55.31	**14,601**		
52.65	4,160	53.99	11,058	55.33	14,601		
52.67	4,265	54.01	11,142	55.35	14,601		
52.69	4,371	54.03	11,224	55.37	14,601		
52.71	4,476	54.05	11,306	55.39	14,601		
52.73	4,582	54.07	11,385	55.41	14,601		
52.75	4,688	54.09	11,463	55.43	14,601		
52.77	4,795	54.11	11,539	55.45	14,601		
52.79	4,901	54.13	11,614	55.47	14,601		
52.81	5,008	54.15	11,686	55.49	14,601		
52.83	5,116	54.17	11,756	55.51	14,601		
52.85	5,223	54.19	11,824	55.53	14,601		
52.87	5,330	54.21	11,889	55.55	14,601		

Stage-Discharge for Pond B-5: Wawa Detention Basin

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
55.00	0.00	0.00	0.00
55.02	0.00	0.00	0.00
55.04	0.00	0.00	0.00
55.06	0.00	0.00	0.00
55.08	0.01	0.01	0.00
55.10	0.01	0.01	0.00
55.12	0.02	0.02	0.00
55.14	0.02	0.02	0.00
55.16	0.03	0.03	0.00
55.18	0.04	0.04	0.00
55.20	0.04	0.04	0.00
55.22	0.05	0.05	0.00
55.24	0.06	0.06	0.00
55.26	0.06	0.06	0.00
55.28	0.07	0.07	0.00
55.30	0.07	0.07	0.00
55.32	0.08	0.08	0.00
55.34	0.08	0.08	0.00
55.36	0.08	0.08	0.00
55.38	0.09	0.09	0.00
55.40	0.09	0.09	0.00
55.42	0.10	0.10	0.00
55.44	0.10	0.10	0.00
55.46	0.11	0.11	0.00
55.48	0.11	0.11	0.00
55.50	0.11	0.11	0.00
55.52	0.12	0.12	0.00
55.54	0.12	0.12	0.00
55.56	0.12	0.12	0.00
55.58	0.13	0.13	0.00
55.60	0.13	0.13	0.00
55.62	0.13	0.13	0.00
55.64	0.13	0.13	0.00
55.66	0.14	0.14	0.00
55.68	0.14	0.14	0.00
55.70	0.14	0.14	0.00
55.72	0.14	0.14	0.00
55.74	0.15	0.15	0.00
55.76	0.15	0.15	0.00
55.78	0.15	0.15	0.00
55.80	0.15	0.15	0.00
55.82	0.16	0.16	0.00
55.84	0.16	0.16	0.00
55.86	0.16	0.16	0.00
55.88	0.16	0.16	0.00
55.90	0.16	0.16	0.00
55.92	0.17	0.17	0.00
55.94	0.17	0.17	0.00
55.96	0.17	0.17	0.00
55.98	0.17	0.17	0.00
56.00	0.17	0.17	0.00
56.02	0.18	0.18	0.00
56.04	0.18	0.18	0.00
56.06	0.18	0.18	0.00
56.08	0.18	0.18	0.00
56.10	0.18	0.18	0.00
56.12	0.19	0.19	0.00
56.14	0.19	0.19	0.00
56.16	0.19	0.19	0.00
56.18	0.19	0.19	0.00
56.20	0.19	0.19	0.00
56.22	0.20	0.20	0.00
56.24	0.20	0.20	0.00
56.26	0.20	0.20	0.00
56.28	0.20	0.20	0.00
56.30	0.20	0.20	0.00
56.32	0.20	0.20	0.00
56.34	0.21	0.21	0.00
56.36	0.21	0.21	0.00
56.38	0.21	0.21	0.00
56.40	0.21	0.21	0.00
56.42	0.21	0.21	0.00
56.44	0.21	0.21	0.00
56.46	0.22	0.22	0.00
56.48	0.22	0.22	0.00
56.50	0.22	0.22	0.00
56.52	0.22	0.22	0.00
56.54	0.22	0.22	0.00
56.56	0.22	0.22	0.00
56.58	0.23	0.23	0.00
56.60	0.23	0.23	0.00
56.62	0.23	0.23	0.00
56.64	0.23	0.23	0.00
56.66	0.23	0.23	0.00
56.68	0.23	0.23	0.00
56.70	0.23	0.23	0.00
56.72	0.24	0.24	0.00
56.74	0.24	0.24	0.00
56.76	0.25	0.24	0.01
56.78	0.30	0.24	0.06
56.80	0.37	0.24	0.13
56.82	0.45	0.24	0.21
56.84	0.55	0.24	0.30
56.86	0.65	0.25	0.41
56.88	0.77	0.25	0.52
56.90	0.90	0.25	0.65
56.92	1.04	0.25	0.79
56.94	1.18	0.25	0.93
56.96	1.33	0.25	1.08
56.98	1.50	0.25	1.24
57.00	1.67	0.26	1.41
57.02	1.85	0.26	1.59
57.04	2.04	0.26	1.78
57.06	2.24	0.26	1.98
57.08	2.44	0.26	2.18
57.10	2.66	0.26	2.39
57.12	2.88	0.26	2.61
57.14	3.10	0.26	2.84
57.16	3.34	0.27	3.07
57.18	3.59	0.27	3.32
57.20	3.84	0.27	3.57
57.22	4.11	0.27	3.84
57.24	4.38	0.27	4.11
57.26	4.65	0.27	4.38
57.28	4.94	0.27	4.67
57.30	5.24	0.28	4.96
57.32	5.54	0.28	5.26
57.34	5.85	0.28	5.57
57.36	6.17	0.28	5.89
57.38	6.51	0.28	6.23
57.40	6.85	0.28	6.57
57.42	7.21	0.28	6.93
57.44	7.57	0.28	7.29
57.46	7.95	0.29	7.66
57.48	8.33	0.29	8.04
57.50	8.69	0.29	8.40
57.52	8.77	0.29	8.48
57.54	8.84	0.29	8.55
57.56	8.92	0.29	8.62
57.58	8.98	0.29	8.69
57.60	9.04	0.29	8.75
57.62	9.09	0.29	8.80
57.64	9.13	0.30	8.84
57.66	9.17	0.30	8.87
57.68	9.19	0.30	8.89
57.70	9.19	0.30	8.89
57.72	9.17	0.30	8.87
57.74	9.10	0.30	8.80
57.76	9.00	0.30	8.69
57.78	9.06	0.30	8.76
57.80	9.13	0.31	8.82
57.82	9.19	0.31	8.88
57.84	9.26	0.31	8.95
57.86	9.32	0.31	9.01
57.88	9.38	0.31	9.07
57.90	9.45	0.31	9.14
57.92	9.51	0.31	9.20
57.94	9.57	0.31	9.26
57.96	9.63	0.31	9.32
57.98	9.69	0.32	9.38
58.00	9.76	0.32	9.44

Stage-Area-Storage for Pond B-5: Wawa Detention Basin

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
55.00	0	55.67	394	56.34	1,441	57.01	2,579	57.68	3,370
55.01	0	55.68	407	56.35	1,458	57.02	2,594	57.69	3,375
55.02	0	55.69	420	56.36	1,475	57.03	2,610	57.70	3,379
55.03	0	55.70	433	56.37	1,493	57.04	2,626	57.71	3,384
55.04	0	55.71	446	56.38	1,510	57.05	2,641	57.72	3,388
55.05	1	55.72	460	56.39	1,527	57.06	2,657	57.73	3,392
55.06	1	55.73	473	56.40	1,544	57.07	2,672	57.74	3,396
55.07	2	55.74	487	56.41	1,562	57.08	2,688	57.75	3,400
55.08	2	55.75	500	56.42	1,579	57.09	2,703	57.76	3,403
55.09	3	55.76	514	56.43	1,596	57.10	2,718	57.77	3,407
55.10	4	55.77	528	56.44	1,614	57.11	2,733	57.78	3,410
55.11	5	55.78	542	56.45	1,631	57.12	2,748	57.79	3,413
55.12	6	55.79	556	56.46	1,649	57.13	2,763	57.80	3,415
55.13	7	55.80	570	56.47	1,666	57.14	2,778	57.81	3,418
55.14	9	55.81	585	56.48	1,683	57.15	2,793	57.82	3,420
55.15	10	55.82	599	56.49	1,701	57.16	2,808	57.83	3,422
55.16	12	55.83	614	56.50	1,718	57.17	2,822	57.84	3,424
55.17	14	55.84	628	56.51	1,735	57.18	2,837	57.85	3,426
55.18	16	55.85	643	56.52	1,753	57.19	2,851	57.86	3,428
55.19	18	55.86	658	56.53	1,770	57.20	2,866	57.87	3,429
55.20	21	55.87	673	56.54	1,788	57.21	2,880	57.88	3,430
55.21	23	55.88	688	56.55	1,805	57.22	2,894	57.89	3,431
55.22	26	55.89	703	56.56	1,822	57.23	2,908	57.90	3,432
55.23	29	55.90	718	56.57	1,840	57.24	2,922	57.91	3,433
55.24	33	55.91	733	56.58	1,857	57.25	2,936	57.92	3,434
55.25	36	55.92	748	56.59	1,874	57.26	2,949	57.93	3,435
55.26	40	55.93	764	56.60	1,892	57.27	2,963	57.94	3,435
55.27	44	55.94	779	56.61	1,909	57.28	2,977	57.95	3,435
55.28	48	55.95	795	56.62	1,926	57.29	2,990	57.96	3,436
55.29	52	55.96	810	56.63	1,944	57.30	3,003	57.97	3,436
55.30	57	55.97	826	56.64	1,961	57.31	3,016	57.98	3,436
55.31	61	55.98	842	56.65	1,978	57.32	3,029	57.99	3,436
55.32	66	55.99	858	56.66	1,995	57.33	3,042	58.00	**3,436**
55.33	72	56.00	873	56.67	2,013	57.34	3,055		
55.34	77	56.01	889	56.68	2,030	57.35	3,067		
55.35	83	56.02	905	56.69	2,047	57.36	3,080		
55.36	89	56.03	921	56.70	2,064	57.37	3,092		
55.37	95	56.04	937	56.71	2,081	57.38	3,104		
55.38	102	56.05	954	56.72	2,098	57.39	3,116		
55.39	108	56.06	970	56.73	2,116	57.40	3,128		
55.40	115	56.07	986	56.74	2,133	57.41	3,140		
55.41	122	56.08	1,002	56.75	2,150	57.42	3,151		
55.42	130	56.09	1,019	56.76	2,167	57.43	3,163		
55.43	138	56.10	1,035	56.77	2,184	57.44	3,174		
55.44	146	56.11	1,052	56.78	2,201	57.45	3,185		
55.45	154	56.12	1,068	56.79	2,217	57.46	3,196		
55.46	163	56.13	1,085	56.80	2,234	57.47	3,206		
55.47	171	56.14	1,101	56.81	2,251	57.48	3,217		
55.48	180	56.15	1,118	56.82	2,268	57.49	3,227		
55.49	190	56.16	1,135	56.83	2,285	57.50	3,237		
55.50	199	56.17	1,151	56.84	2,301	57.51	3,246		
55.51	209	56.18	1,168	56.85	2,318	57.52	3,256		
55.52	220	56.19	1,185	56.86	2,335	57.53	3,265		
55.53	230	56.20	1,202	56.87	2,351	57.54	3,274		
55.54	241	56.21	1,219	56.88	2,368	57.55	3,282		
55.55	251	56.22	1,236	56.89	2,384	57.56	3,290		
55.56	262	56.23	1,253	56.90	2,401	57.57	3,298		
55.57	273	56.24	1,269	56.91	2,417	57.58	3,306		
55.58	285	56.25	1,286	56.92	2,434	57.59	3,314		
55.59	296	56.26	1,304	56.93	2,450	57.60	3,321		
55.60	308	56.27	1,321	56.94	2,466	57.61	3,328		
55.61	320	56.28	1,338	56.95	2,483	57.62	3,335		
55.62	332	56.29	1,355	56.96	2,499	57.63	3,341		
55.63	344	56.30	1,372	56.97	2,515	57.64	3,347		
55.64	356	56.31	1,389	56.98	2,531	57.65	3,353		
55.65	369	56.32	1,406	56.99	2,547	57.66	3,359		
55.66	381	56.33	1,423	57.00	2,563	57.67	3,364		

Stage-Discharge for Pond RG-1: Fast Food Bioretention Area

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
56.00	0.00	56.67	0.00	57.34	5.27
56.01	0.00	56.68	0.00	57.35	5.29
56.02	0.00	56.69	0.00	57.36	5.30
56.03	0.00	56.70	0.00	57.37	5.32
56.04	0.00	56.71	0.00	57.38	5.34
56.05	0.00	56.72	0.00	57.39	5.35
56.06	0.00	56.73	0.00	57.40	5.37
56.07	0.00	56.74	0.00	57.41	5.38
56.08	0.00	56.75	0.00	57.42	5.40
56.09	0.00	56.76	0.05	57.43	5.42
56.10	0.00	56.77	0.15	57.44	5.43
56.11	0.00	56.78	0.27	57.45	5.45
56.12	0.00	56.79	0.42	57.46	5.46
56.13	0.00	56.80	0.58	57.47	5.48
56.14	0.00	56.81	0.77	57.48	5.49
56.15	0.00	56.82	0.97	57.49	5.51
56.16	0.00	56.83	1.18	57.50	5.53
56.17	0.00	56.84	1.41	57.51	5.54
56.18	0.00	56.85	1.65	57.52	5.56
56.19	0.00	56.86	1.91	57.53	5.57
56.20	0.00	56.87	2.17	57.54	5.59
56.21	0.00	56.88	2.45	57.55	5.60
56.22	0.00	56.89	2.74	57.56	5.62
56.23	0.00	56.90	3.04	57.57	5.63
56.24	0.00	56.91	3.35	57.58	5.65
56.25	0.00	56.92	3.67	57.59	5.66
56.26	0.00	56.93	4.00	57.60	5.68
56.27	0.00	56.94	4.33	57.61	5.69
56.28	0.00	56.95	4.59	57.62	5.71
56.29	0.00	56.96	4.61	57.63	5.72
56.30	0.00	56.97	4.63	57.64	5.74
56.31	0.00	56.98	4.65	57.65	5.75
56.32	0.00	56.99	4.67	57.66	5.77
56.33	0.00	57.00	4.69	57.67	5.78
56.34	0.00	57.01	4.70	57.68	5.80
56.35	0.00	57.02	4.72	57.69	5.81
56.36	0.00	57.03	4.74	57.70	5.83
56.37	0.00	57.04	4.76	57.71	5.84
56.38	0.00	57.05	4.78	57.72	5.86
56.39	0.00	57.06	4.79	57.73	5.87
56.40	0.00	57.07	4.81	57.74	5.89
56.41	0.00	57.08	4.83	57.75	5.90
56.42	0.00	57.09	4.85	57.76	5.91
56.43	0.00	57.10	4.86	57.77	5.93
56.44	0.00	57.11	4.88	57.78	5.94
56.45	0.00	57.12	4.90	57.79	5.96
56.46	0.00	57.13	4.92	57.80	5.97
56.47	0.00	57.14	4.93	57.81	5.99
56.48	0.00	57.15	4.95	57.82	6.00
56.49	0.00	57.16	4.97	57.83	6.02
56.50	0.00	57.17	4.99	57.84	6.03
56.51	0.00	57.18	5.00	57.85	6.04
56.52	0.00	57.19	5.02	57.86	6.05
56.53	0.00	57.20	5.04	57.87	6.06
56.54	0.00	57.21	5.06	57.88	6.07
56.55	0.00	57.22	5.07	57.89	6.09
56.56	0.00	57.23	5.09	57.90	6.10
56.57	0.00	57.24	5.11	57.91	6.11
56.58	0.00	57.25	5.12	57.92	6.12
56.59	0.00	57.26	5.14	57.93	6.13
56.60	0.00	57.27	5.16	57.94	6.14
56.61	0.00	57.28	5.17	57.95	6.16
56.62	0.00	57.29	5.19	57.96	6.17
56.63	0.00	57.30	5.21	57.97	6.18
56.64	0.00	57.31	5.22	57.98	6.19
56.65	0.00	57.32	5.24	57.99	6.20
56.66	0.00	57.33	5.25	58.00	6.21

Stage-Area-Storage for Pond RG-1: Fast Food Bioretention Area

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.00	354	0	56.67	509	287	57.34	707	690
56.01	356	4	56.68	511	293	57.35	711	698
56.02	358	7	56.69	514	298	57.36	714	705
56.03	360	11	56.70	516	303	57.37	718	712
56.04	362	14	56.71	519	308	57.38	721	719
56.05	365	18	56.72	521	313	57.39	725	726
56.06	367	22	56.73	524	318	57.40	728	733
56.07	369	25	56.74	526	324	57.41	732	741
56.08	371	29	56.75	529	329	57.42	735	748
56.09	373	33	56.76	531	334	57.43	739	755
56.10	375	36	56.77	534	340	57.44	742	763
56.11	377	40	56.78	537	345	57.45	746	770
56.12	380	44	56.79	539	350	57.46	749	778
56.13	382	48	56.80	542	356	57.47	753	785
56.14	384	52	56.81	544	361	57.48	756	793
56.15	386	55	56.82	547	367	57.49	760	800
56.16	388	59	56.83	550	372	57.50	764	808
56.17	391	63	56.84	552	378	57.51	767	816
56.18	393	67	56.85	555	383	57.52	771	823
56.19	395	71	56.86	558	389	57.53	774	831
56.20	397	75	56.87	560	394	57.54	778	839
56.21	399	79	56.88	563	400	57.55	782	847
56.22	402	83	56.89	565	405	57.56	785	855
56.23	404	87	56.90	568	411	57.57	789	862
56.24	406	91	56.91	571	417	57.58	792	870
56.25	408	95	56.92	573	423	57.59	796	878
56.26	411	99	56.93	576	428	57.60	800	886
56.27	413	103	56.94	579	434	57.61	803	894
56.28	415	108	56.95	581	440	57.62	807	902
56.29	417	112	56.96	584	446	57.63	811	910
56.30	420	116	56.97	587	452	57.64	814	919
56.31	422	120	56.98	590	457	57.65	818	927
56.32	424	124	56.99	592	463	57.66	822	935
56.33	427	129	57.00	595	469	57.67	826	943
56.34	429	133	57.01	598	475	57.68	829	951
56.35	431	137	57.02	601	481	57.69	833	960
56.36	434	142	57.03	605	487	57.70	837	968
56.37	436	146	57.04	608	493	57.71	841	976
56.38	438	150	57.05	611	499	57.72	844	985
56.39	441	155	57.06	614	506	57.73	848	993
56.40	443	159	57.07	617	512	57.74	852	1,002
56.41	445	163	57.08	621	518	57.75	856	1,010
56.42	448	168	57.09	624	524	57.76	859	1,019
56.43	450	172	57.10	627	530	57.77	863	1,028
56.44	452	177	57.11	630	537	57.78	867	1,036
56.45	455	181	57.12	634	543	57.79	871	1,045
56.46	457	186	57.13	637	549	57.80	875	1,054
56.47	460	191	57.14	640	556	57.81	879	1,062
56.48	462	195	57.15	643	562	57.82	882	1,071
56.49	464	200	57.16	647	569	57.83	886	1,080
56.50	467	205	57.17	650	575	57.84	890	1,089
56.51	469	209	57.18	653	582	57.85	894	1,098
56.52	472	214	57.19	657	588	57.86	898	1,107
56.53	474	219	57.20	660	595	57.87	902	1,116
56.54	476	223	57.21	663	601	57.88	906	1,125
56.55	479	228	57.22	667	608	57.89	910	1,134
56.56	481	233	57.23	670	615	57.90	913	1,143
56.57	484	238	57.24	673	621	57.91	917	1,152
56.58	486	243	57.25	677	628	57.92	921	1,161
56.59	489	248	57.26	680	635	57.93	925	1,171
56.60	491	252	57.27	683	642	57.94	929	1,180
56.61	494	257	57.28	687	649	57.95	933	1,189
56.62	496	262	57.29	690	655	57.96	937	1,199
56.63	499	267	57.30	694	662	57.97	941	1,208
56.64	501	272	57.31	697	669	57.98	945	1,217
56.65	504	277	57.32	700	676	57.99	949	1,227
56.66	506	282	57.33	704	683	58.00	953	1,236

Stage-Discharge for Pond RG-2: Access Road Bioretention Area

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
55.00	0.00	55.67	0.00	56.34	0.62	57.01	3.15
55.01	0.00	55.68	0.00	56.35	0.65	57.02	3.19
55.02	0.00	55.69	0.00	56.36	0.68	57.03	3.23
55.03	0.00	55.70	0.00	56.37	0.70	57.04	3.28
55.04	0.00	55.71	0.00	56.38	0.73	57.05	3.32
55.05	0.00	55.72	0.00	56.39	0.76	57.06	3.36
55.06	0.00	55.73	0.00	56.40	0.79	57.07	3.41
55.07	0.00	55.74	0.00	56.41	0.82	57.08	3.45
55.08	0.00	55.75	0.00	56.42	0.85	57.09	3.49
55.09	0.00	55.76	0.00	56.43	0.88	57.10	3.53
55.10	0.00	55.77	0.00	56.44	0.91	57.11	3.57
55.11	0.00	55.78	0.00	56.45	0.94	57.12	3.62
55.12	0.00	55.79	0.00	56.46	0.98	57.13	3.66
55.13	0.00	55.80	0.00	56.47	1.01	57.14	3.70
55.14	0.00	55.81	0.00	56.48	1.04	57.15	3.74
55.15	0.00	55.82	0.00	56.49	1.07		
55.16	0.00	55.83	0.00	56.50	1.11		
55.17	0.00	55.84	0.00	56.51	1.14		
55.18	0.00	55.85	0.00	56.52	1.18		
55.19	0.00	55.86	0.00	56.53	1.21		
55.20	0.00	55.87	0.00	56.54	1.25		
55.21	0.00	55.88	0.00	56.55	1.28		
55.22	0.00	55.89	0.00	56.56	1.32		
55.23	0.00	55.90	0.00	56.57	1.35		
55.24	0.00	55.91	0.00	56.58	1.39		
55.25	0.00	55.92	0.00	56.59	1.43		
55.26	0.00	55.93	0.00	56.60	1.46		
55.27	0.00	55.94	0.00	56.61	1.50		
55.28	0.00	55.95	0.01	56.62	1.54		
55.29	0.00	55.96	0.01	56.63	1.57		
55.30	0.00	55.97	0.01	56.64	1.61		
55.31	0.00	55.98	0.02	56.65	1.65		
55.32	0.00	55.99	0.02	56.66	1.69		
55.33	0.00	56.00	0.03	56.67	1.73		
55.34	0.00	56.01	0.04	56.68	1.77		
55.35	0.00	56.02	0.05	56.69	1.81		
55.36	0.00	56.03	0.05	56.70	1.85		
55.37	0.00	56.04	0.06	56.71	1.89		
55.38	0.00	56.05	0.07	56.72	1.93		
55.39	0.00	56.06	0.08	56.73	1.97		
55.40	0.00	56.07	0.09	56.74	2.01		
55.41	0.00	56.08	0.11	56.75	2.05		
55.42	0.00	56.09	0.12	56.76	2.09		
55.43	0.00	56.10	0.13	56.77	2.13		
55.44	0.00	56.11	0.14	56.78	2.17		
55.45	0.00	56.12	0.16	56.79	2.21		
55.46	0.00	56.13	0.17	56.80	2.25		
55.47	0.00	56.14	0.19	56.81	2.30		
55.48	0.00	56.15	0.21	56.82	2.34		
55.49	0.00	56.16	0.22	56.83	2.38		
55.50	0.00	56.17	0.24	56.84	2.42		
55.51	0.00	56.18	0.26	56.85	2.46		
55.52	0.00	56.19	0.28	56.86	2.51		
55.53	0.00	56.20	0.30	56.87	2.55		
55.54	0.00	56.21	0.32	56.88	2.59		
55.55	0.00	56.22	0.34	56.89	2.63		
55.56	0.00	56.23	0.36	56.90	2.68		
55.57	0.00	56.24	0.38	56.91	2.72		
55.58	0.00	56.25	0.40	56.92	2.76		
55.59	0.00	56.26	0.42	56.93	2.80		
55.60	0.00	56.27	0.45	56.94	2.85		
55.61	0.00	56.28	0.47	56.95	2.89		
55.62	0.00	56.29	0.49	56.96	2.93		
55.63	0.00	56.30	0.52	56.97	2.98		
55.64	0.00	56.31	0.54	56.98	3.02		
55.65	0.00	56.32	0.57	56.99	3.06		
55.66	0.00	56.33	0.60	57.00	3.11		

Stage-Area-Storage for Pond RG-2: Access Road Bioretention Area

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.00	1,200	0	55.67	2,407	1,185	56.34	4,007	3,315	57.01	5,950	6,579
55.01	1,215	12	55.68	2,429	1,209	56.35	4,033	3,355	57.02	5,950	6,579
55.02	1,230	24	55.69	2,450	1,234	56.36	4,060	3,396	57.03	5,950	6,579
55.03	1,245	37	55.70	2,471	1,258	56.37	4,087	3,436	57.04	5,950	6,579
55.04	1,260	49	55.71	2,493	1,283	56.38	4,114	3,477	57.05	5,950	6,579
55.05	1,276	62	55.72	2,514	1,308	56.39	4,140	3,519	57.06	5,950	6,579
55.06	1,291	75	55.73	2,536	1,334	56.40	4,167	3,560	57.07	5,950	6,579
55.07	1,307	88	55.74	2,558	1,359	56.41	4,195	3,602	57.08	5,950	6,579
55.08	1,322	101	55.75	2,579	1,385	56.42	4,222	3,644	57.09	5,950	6,579
55.09	1,338	114	55.76	2,601	1,411	56.43	4,249	3,686	57.10	5,950	6,579
55.10	1,354	128	55.77	2,623	1,437	56.44	4,276	3,729	57.11	5,950	6,579
55.11	1,370	141	55.78	2,645	1,463	56.45	4,304	3,772	57.12	5,950	6,579
55.12	1,386	155	55.79	2,668	1,490	56.46	4,332	3,815	57.13	5,950	6,579
55.13	1,402	169	55.80	2,690	1,516	56.47	4,359	3,858	57.14	5,950	6,579
55.14	1,418	183	55.81	2,712	1,543	56.48	4,387	3,902	57.15	5,950	6,579
55.15	1,434	197	55.82	2,735	1,571	56.49	4,415	3,946			
55.16	1,451	212	55.83	2,757	1,598	56.50	4,443	3,990			
55.17	1,467	226	55.84	2,780	1,626	56.51	4,471	4,035			
55.18	1,483	241	55.85	2,803	1,654	56.52	4,499	4,080			
55.19	1,500	256	55.86	2,825	1,682	56.53	4,527	4,125			
55.20	1,517	271	55.87	2,848	1,710	56.54	4,555	4,170			
55.21	1,534	286	55.88	2,871	1,739	56.55	4,583	4,216			
55.22	1,551	302	55.89	2,895	1,768	56.56	4,612	4,262			
55.23	1,568	317	55.90	2,918	1,797	56.57	4,640	4,308			
55.24	1,585	333	55.91	2,941	1,826	56.58	4,669	4,355			
55.25	1,602	349	55.92	2,964	1,856	56.59	4,698	4,402			
55.26	1,619	365	55.93	2,988	1,885	56.60	4,726	4,449			
55.27	1,636	381	55.94	3,012	1,915	56.61	4,755	4,496			
55.28	1,654	398	55.95	3,035	1,946	56.62	4,784	4,544			
55.29	1,672	414	55.96	3,059	1,976	56.63	4,813	4,592			
55.30	1,689	431	55.97	3,083	2,007	56.64	4,843	4,640			
55.31	1,707	448	55.98	3,107	2,038	56.65	4,872	4,689			
55.32	1,725	465	55.99	3,131	2,069	56.66	4,901	4,738			
55.33	1,743	483	56.00	3,155	2,100	56.67	4,930	4,787			
55.34	1,761	500	56.01	3,179	2,132	56.68	4,960	4,836			
55.35	1,779	518	56.02	3,202	2,164	56.69	4,990	4,886			
55.36	1,797	536	56.03	3,226	2,196	56.70	5,019	4,936			
55.37	1,815	554	56.04	3,250	2,228	56.71	5,049	4,986			
55.38	1,834	572	56.05	3,274	2,261	56.72	5,079	5,037			
55.39	1,852	591	56.06	3,298	2,294	56.73	5,109	5,088			
55.40	1,871	609	56.07	3,322	2,327	56.74	5,139	5,139			
55.41	1,889	628	56.08	3,346	2,360	56.75	5,169	5,191			
55.42	1,908	647	56.09	3,371	2,394	56.76	5,199	5,243			
55.43	1,927	666	56.10	3,395	2,428	56.77	5,229	5,295			
55.44	1,946	686	56.11	3,419	2,462	56.78	5,260	5,347			
55.45	1,965	705	56.12	3,444	2,496	56.79	5,290	5,400			
55.46	1,984	725	56.13	3,469	2,531	56.80	5,321	5,453			
55.47	2,003	745	56.14	3,493	2,565	56.81	5,351	5,506			
55.48	2,023	765	56.15	3,518	2,600	56.82	5,382	5,560			
55.49	2,042	785	56.16	3,543	2,636	56.83	5,413	5,614			
55.50	2,062	806	56.17	3,568	2,671	56.84	5,444	5,668			
55.51	2,081	826	56.18	3,593	2,707	56.85	5,475	5,723			
55.52	2,101	847	56.19	3,618	2,743	56.86	5,506	5,778			
55.53	2,121	868	56.20	3,644	2,780	56.87	5,537	5,833			
55.54	2,141	890	56.21	3,669	2,816	56.88	5,568	5,889			
55.55	2,161	911	56.22	3,694	2,853	56.89	5,600	5,944			
55.56	2,181	933	56.23	3,720	2,890	56.90	5,631	6,001			
55.57	2,201	955	56.24	3,746	2,927	56.91	5,662	6,057			
55.58	2,221	977	56.25	3,771	2,965	56.92	5,694	6,114			
55.59	2,241	999	56.26	3,797	3,003	56.93	5,726	6,171			
55.60	2,262	1,022	56.27	3,823	3,041	56.94	5,758	6,228			
55.61	2,282	1,045	56.28	3,849	3,079	56.95	5,789	6,286			
55.62	2,303	1,067	56.29	3,875	3,118	56.96	5,821	6,344			
55.63	2,324	1,091	56.30	3,901	3,157	56.97	5,853	6,402			
55.64	2,344	1,114	56.31	3,927	3,196	56.98	5,885	6,461			
55.65	2,365	1,138	56.32	3,954	3,235	56.99	5,918	6,520			
55.66	2,386	1,161	56.33	3,980	3,275	57.00	5,950	6,579			

Hydrograph for Pond B-1&2: Primary Site Infiltration Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	54.50	0.00	0.00	0.00
0.40	0.00	0	54.50	0.00	0.00	0.00
0.80	0.03	4	54.50	0.02	0.02	0.00
1.20	0.11	21	54.50	0.10	0.10	0.00
1.60	0.17	35	54.50	0.16	0.16	0.00
2.00	0.21	45	54.50	0.21	0.21	0.00
2.40	0.25	53	54.50	0.24	0.24	0.00
2.80	0.29	61	54.50	0.29	0.29	0.00
3.20	0.33	70	54.50	0.32	0.32	0.00
3.60	0.36	78	54.50	0.36	0.36	0.00
4.00	0.40	85	54.50	0.39	0.39	0.00
4.40	0.43	92	54.50	0.43	0.43	0.00
4.80	0.46	99	54.50	0.46	0.46	0.00
5.20	0.49	105	54.50	0.49	0.49	0.00
5.60	0.52	111	54.51	0.52	0.52	0.00
6.00	0.55	117	54.51	0.54	0.54	0.00
6.40	0.60	127	54.51	0.59	0.59	0.00
6.80	0.67	142	54.51	0.66	0.66	0.00
7.20	0.75	159	54.51	0.74	0.74	0.00
7.60	0.83	176	54.51	0.82	0.82	0.00
8.00	0.91	193	54.51	0.90	0.90	0.00
8.40	1.03	216	54.51	1.01	1.01	0.00
8.80	1.20	357	54.52	1.02	1.02	0.00
9.20	1.37	737	54.53	1.03	1.03	0.00
9.60	1.55	1,350	54.56	1.05	1.05	0.00
10.00	1.73	2,186	54.60	1.07	1.07	0.00
10.40	1.99	3,272	54.65	1.11	1.11	0.00
10.80	2.34	4,762	54.71	1.15	1.15	0.00
11.20	2.80	6,716	54.80	1.21	1.21	0.00
11.60	4.09	9,749	54.93	1.30	1.30	0.00
12.00	16.12	20,240	55.34	1.67	1.67	0.00
12.40	21.52	53,606	56.37	2.67	2.67	0.00
12.80	7.76	69,322	56.80	3.03	3.03	0.00
13.20	3.94	**72,738**	**56.89**	**3.11**	**3.11**	0.00
13.60	3.05	**73,167**	**56.90**	**3.12**	**3.12**	0.00
14.00	2.58	72,729	56.89	3.11	3.11	0.00
14.40	2.22	71,699	56.86	3.08	3.08	0.00
14.80	1.99	70,310	56.83	3.05	3.05	0.00
15.20	1.77	68,646	56.78	3.02	3.02	0.00
15.60	1.50	66,690	56.73	2.97	2.97	0.00
16.00	1.29	64,449	56.67	2.92	2.92	0.00
16.40	1.13	62,011	56.60	2.86	2.86	0.00
16.80	1.03	59,482	56.53	2.81	2.81	0.00
17.20	0.94	56,904	56.46	2.75	2.75	0.00
17.60	0.85	54,285	56.39	2.69	2.69	0.00
18.00	0.77	51,628	56.31	2.63	2.63	0.00
18.40	0.71	48,945	56.24	2.56	2.56	0.00
18.80	0.67	46,290	56.16	2.50	2.50	0.00
19.20	0.65	43,683	56.09	2.44	2.44	0.00
19.60	0.62	41,126	56.01	2.38	2.38	0.00
20.00	0.60	38,628	55.94	2.30	2.30	0.00
20.40	0.57	36,209	55.87	2.22	2.22	0.00
20.80	0.55	33,874	55.80	2.15	2.15	0.00
21.20	0.53	31,621	55.72	2.07	2.07	0.00
21.60	0.51	29,447	55.65	2.00	2.00	0.00
22.00	0.49	27,351	55.58	1.92	1.92	0.00
22.40	0.47	25,328	55.52	1.85	1.85	0.00
22.80	0.45	23,376	55.45	1.79	1.79	0.00
23.20	0.43	21,493	55.38	1.72	1.72	0.00
23.60	0.41	19,675	55.32	1.65	1.65	0.00
24.00	0.39	17,920	55.25	1.59	1.59	0.00
24.40	0.08	16,006	55.18	1.52	1.52	0.00
24.80	0.01	13,912	55.10	1.45	1.45	0.00
25.20	0.00	11,887	55.02	1.37	1.37	0.00
25.60	0.00	9,958	54.94	1.31	1.31	0.00
26.00	0.00	8,111	54.86	1.25	1.25	0.00
26.40	0.00	6,343	54.78	1.20	1.20	0.00
26.80	0.00	4,652	54.71	1.15	1.15	0.00
27.20	0.00	3,033	54.64	1.10	1.10	0.00
27.60	0.00	1,485	54.57	1.05	1.05	0.00
28.00	0.00	81	54.50	0.38	0.38	0.00
28.40	0.00	0	54.50	0.00	0.00	0.00
28.80	0.00	0	54.50	0.00	0.00	0.00
29.20	0.00	0	54.50	0.00	0.00	0.00
29.60	0.00	0	54.50	0.00	0.00	0.00
30.00	0.00	0	54.50	0.00	0.00	0.00
30.40	0.00	0	54.50	0.00	0.00	0.00
30.80	0.00	0	54.50	0.00	0.00	0.00
31.20	0.00	0	54.50	0.00	0.00	0.00
31.60	0.00	0	54.50	0.00	0.00	0.00
32.00	0.00	0	54.50	0.00	0.00	0.00
32.40	0.00	0	54.50	0.00	0.00	0.00
32.80	0.00	0	54.50	0.00	0.00	0.00
33.20	0.00	0	54.50	0.00	0.00	0.00
33.60	0.00	0	54.50	0.00	0.00	0.00
34.00	0.00	0	54.50	0.00	0.00	0.00
34.40	0.00	0	54.50	0.00	0.00	0.00
34.80	0.00	0	54.50	0.00	0.00	0.00
35.20	0.00	0	54.50	0.00	0.00	0.00
35.60	0.00	0	54.50	0.00	0.00	0.00
36.00	0.00	0	54.50	0.00	0.00	0.00
36.40	0.00	0	54.50	0.00	0.00	0.00
36.80	0.00	0	54.50	0.00	0.00	0.00
37.20	0.00	0	54.50	0.00	0.00	0.00
37.60	0.00	0	54.50	0.00	0.00	0.00
38.00	0.00	0	54.50	0.00	0.00	0.00
38.40	0.00	0	54.50	0.00	0.00	0.00
38.80	0.00	0	54.50	0.00	0.00	0.00
39.20	0.00	0	54.50	0.00	0.00	0.00
39.60	0.00	0	54.50	0.00	0.00	0.00
40.00	0.00	0	54.50	0.00	0.00	0.00
40.40	0.00	0	54.50	0.00	0.00	0.00
40.80	0.00	0	54.50	0.00	0.00	0.00
41.20	0.00	0	54.50	0.00	0.00	0.00
41.60	0.00	0	54.50	0.00	0.00	0.00
42.00	0.00	0	54.50	0.00	0.00	0.00
42.40	0.00	0	54.50	0.00	0.00	0.00
42.80	0.00	0	54.50	0.00	0.00	0.00
43.20	0.00	0	54.50	0.00	0.00	0.00
43.60	0.00	0	54.50	0.00	0.00	0.00
44.00	0.00	0	54.50	0.00	0.00	0.00
44.40	0.00	0	54.50	0.00	0.00	0.00
44.80	0.00	0	54.50	0.00	0.00	0.00
45.20	0.00	0	54.50	0.00	0.00	0.00
45.60	0.00	0	54.50	0.00	0.00	0.00
46.00	0.00	0	54.50	0.00	0.00	0.00
46.40	0.00	0	54.50	0.00	0.00	0.00
46.80	0.00	0	54.50	0.00	0.00	0.00
47.20	0.00	0	54.50	0.00	0.00	0.00
47.60	0.00	0	54.50	0.00	0.00	0.00
48.00	0.00	0	54.50	0.00	0.00	0.00

Hydrograph for Pond B-3: McDonalds Infiltration Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	55.00	0.00	0.00	0.00
0.40	0.00	0	55.00	0.00	0.00	0.00
0.80	0.00	1	55.00	0.00	0.00	0.00
1.20	0.01	3	55.00	0.01	0.01	0.00
1.60	0.02	5	55.00	0.02	0.02	0.00
2.00	0.03	6	55.00	0.03	0.03	0.00
2.40	0.03	7	55.00	0.03	0.03	0.00
2.80	0.04	8	55.00	0.04	0.04	0.00
3.20	0.04	9	55.00	0.04	0.04	0.00
3.60	0.05	10	55.00	0.05	0.05	0.00
4.00	0.05	11	55.00	0.05	0.05	0.00
4.40	0.06	12	55.00	0.06	0.06	0.00
4.80	0.06	13	55.01	0.06	0.06	0.00
5.20	0.07	14	55.01	0.07	0.07	0.00
5.60	0.07	15	55.01	0.07	0.07	0.00
6.00	0.07	16	55.01	0.07	0.07	0.00
6.40	0.08	17	55.01	0.08	0.08	0.00
6.80	0.09	19	55.01	0.09	0.09	0.00
7.20	0.10	21	55.01	0.10	0.10	0.00
7.60	0.11	24	55.01	0.11	0.11	0.00
8.00	0.12	28	55.01	0.12	0.12	0.00
8.40	0.14	48	55.02	0.12	0.12	0.00
8.80	0.16	95	55.04	0.12	0.12	0.00
9.20	0.19	173	55.07	0.12	0.12	0.00
9.60	0.21	281	55.11	0.12	0.12	0.00
10.00	0.23	417	55.16	0.13	0.13	0.00
10.40	0.27	585	55.23	0.14	0.14	0.00
10.80	0.32	806	55.31	0.14	0.14	0.00
11.20	0.38	1,086	55.41	0.15	0.15	0.00
11.60	0.55	1,510	55.56	0.17	0.17	0.00
12.00	1.92	2,788	55.97	0.21	0.21	0.00
12.40	2.53	6,714	57.03	0.34	0.34	0.00
12.80	0.93	8,514	57.43	0.40	0.40	0.00
13.20	0.50	8,894	57.51	0.41	0.41	0.00
13.60	0.39	8,933	57.52	0.41	0.41	0.00
14.00	0.34	8,869	57.51	0.41	0.41	0.00
14.40	0.29	8,733	57.48	0.40	0.40	0.00
14.80	0.26	8,555	57.44	0.40	0.40	0.00
15.20	0.24	8,345	57.40	0.39	0.39	0.00
15.60	0.21	8,105	57.34	0.38	0.38	0.00
16.00	0.18	7,837	57.28	0.38	0.38	0.00
16.40	0.16	7,543	57.22	0.37	0.37	0.00
16.80	0.15	7,240	57.15	0.36	0.36	0.00
17.20	0.13	6,933	57.08	0.35	0.35	0.00
17.60	0.12	6,622	57.00	0.34	0.34	0.00
18.00	0.11	6,308	56.93	0.33	0.33	0.00
18.40	0.10	5,992	56.85	0.32	0.32	0.00
18.80	0.10	5,682	56.77	0.31	0.31	0.00
19.20	0.09	5,380	56.70	0.30	0.30	0.00
19.60	0.09	5,088	56.62	0.29	0.29	0.00
20.00	0.08	4,803	56.55	0.28	0.28	0.00
20.40	0.08	4,527	56.47	0.27	0.27	0.00
20.80	0.08	4,259	56.40	0.26	0.26	0.00
21.20	0.08	3,999	56.33	0.25	0.25	0.00
21.60	0.07	3,748	56.26	0.24	0.24	0.00
22.00	0.07	3,505	56.19	0.24	0.24	0.00
22.40	0.07	3,269	56.12	0.23	0.23	0.00
22.80	0.06	3,041	56.05	0.22	0.22	0.00
23.20	0.06	2,819	55.98	0.21	0.21	0.00
23.60	0.06	2,605	55.92	0.21	0.21	0.00
24.00	0.06	2,396	55.85	0.20	0.20	0.00
24.40	0.01	2,161	55.78	0.19	0.19	0.00
24.80	0.00	1,898	55.69	0.18	0.18	0.00
25.20	0.00	1,643	55.61	0.17	0.17	0.00
25.60	0.00	1,401	55.52	0.16	0.16	0.00
26.00	0.00	1,170	55.44	0.16	0.16	0.00
26.40	0.00	951	55.36	0.15	0.15	0.00
26.80	0.00	742	55.29	0.14	0.14	0.00
27.20	0.00	544	55.21	0.13	0.13	0.00
27.60	0.00	355	55.14	0.13	0.13	0.00
28.00	0.00	176	55.07	0.12	0.12	0.00
28.40	0.00	12	55.00	0.05	0.05	0.00
28.80	0.00	0	55.00	0.00	0.00	0.00
29.20	0.00	0	55.00	0.00	0.00	0.00
29.60	0.00	0	55.00	0.00	0.00	0.00
30.00	0.00	0	55.00	0.00	0.00	0.00
30.40	0.00	0	55.00	0.00	0.00	0.00
30.80	0.00	0	55.00	0.00	0.00	0.00
31.20	0.00	0	55.00	0.00	0.00	0.00
31.60	0.00	0	55.00	0.00	0.00	0.00
32.00	0.00	0	55.00	0.00	0.00	0.00
32.40	0.00	0	55.00	0.00	0.00	0.00
32.80	0.00	0	55.00	0.00	0.00	0.00
33.20	0.00	0	55.00	0.00	0.00	0.00
33.60	0.00	0	55.00	0.00	0.00	0.00
34.00	0.00	0	55.00	0.00	0.00	0.00
34.40	0.00	0	55.00	0.00	0.00	0.00
34.80	0.00	0	55.00	0.00	0.00	0.00
35.20	0.00	0	55.00	0.00	0.00	0.00
35.60	0.00	0	55.00	0.00	0.00	0.00
36.00	0.00	0	55.00	0.00	0.00	0.00
36.40	0.00	0	55.00	0.00	0.00	0.00
36.80	0.00	0	55.00	0.00	0.00	0.00
37.20	0.00	0	55.00	0.00	0.00	0.00
37.60	0.00	0	55.00	0.00	0.00	0.00
38.00	0.00	0	55.00	0.00	0.00	0.00
38.40	0.00	0	55.00	0.00	0.00	0.00
38.80	0.00	0	55.00	0.00	0.00	0.00
39.20	0.00	0	55.00	0.00	0.00	0.00
39.60	0.00	0	55.00	0.00	0.00	0.00
40.00	0.00	0	55.00	0.00	0.00	0.00
40.40	0.00	0	55.00	0.00	0.00	0.00
40.80	0.00	0	55.00	0.00	0.00	0.00
41.20	0.00	0	55.00	0.00	0.00	0.00
41.60	0.00	0	55.00	0.00	0.00	0.00
42.00	0.00	0	55.00	0.00	0.00	0.00
42.40	0.00	0	55.00	0.00	0.00	0.00
42.80	0.00	0	55.00	0.00	0.00	0.00
43.20	0.00	0	55.00	0.00	0.00	0.00
43.60	0.00	0	55.00	0.00	0.00	0.00
44.00	0.00	0	55.00	0.00	0.00	0.00
44.40	0.00	0	55.00	0.00	0.00	0.00
44.80	0.00	0	55.00	0.00	0.00	0.00
45.20	0.00	0	55.00	0.00	0.00	0.00
45.60	0.00	0	55.00	0.00	0.00	0.00
46.00	0.00	0	55.00	0.00	0.00	0.00
46.40	0.00	0	55.00	0.00	0.00	0.00
46.80	0.00	0	55.00	0.00	0.00	0.00
47.20	0.00	0	55.00	0.00	0.00	0.00
47.60	0.00	0	55.00	0.00	0.00	0.00
48.00	0.00	0	55.00	0.00	0.00	0.00

Hydrograph for Pond B-4: Municipal Infiltration Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	51.55	0.00	0.00	0.00
0.40	0.00	0	51.55	0.00	0.00	0.00
0.80	0.00	0	51.55	0.00	0.00	0.00
1.20	0.02	1	51.55	0.02	0.02	0.00
1.60	0.03	2	51.55	0.03	0.03	0.00
2.00	0.03	2	51.55	0.03	0.03	0.00
2.40	0.04	3	51.55	0.04	0.04	0.00
2.80	0.04	3	51.55	0.04	0.04	0.00
3.20	0.05	4	51.55	0.05	0.05	0.00
3.60	0.06	4	51.55	0.06	0.06	0.00
4.00	0.06	5	51.55	0.06	0.06	0.00
4.40	0.07	5	51.55	0.07	0.07	0.00
4.80	0.07	5	51.55	0.07	0.07	0.00
5.20	0.08	6	51.55	0.08	0.08	0.00
5.60	0.08	6	51.55	0.08	0.08	0.00
6.00	0.08	6	51.55	0.08	0.08	0.00
6.40	0.09	7	51.55	0.09	0.09	0.00
6.80	0.10	8	51.55	0.10	0.10	0.00
7.20	0.12	8	51.55	0.12	0.12	0.00
7.60	0.13	9	51.55	0.13	0.13	0.00
8.00	0.14	10	51.55	0.14	0.14	0.00
8.40	0.16	11	51.55	0.16	0.16	0.00
8.80	0.18	13	51.56	0.18	0.18	0.00
9.20	0.21	15	51.56	0.21	0.21	0.00
9.60	0.24	17	51.56	0.24	0.24	0.00
10.00	0.27	19	51.56	0.27	0.27	0.00
10.40	0.31	22	51.56	0.30	0.30	0.00
10.80	0.36	26	51.56	0.35	0.35	0.00
11.20	0.43	79	51.58	0.36	0.36	0.00
11.60	0.63	290	51.69	0.40	0.40	0.00
12.00	2.17	1,385	52.07	0.55	0.55	0.00
12.40	2.87	5,190	52.84	0.89	0.89	0.00
12.80	1.11	6,499	53.09	1.01	1.01	0.00
13.20	0.60	6,219	53.03	0.98	0.98	0.00
13.60	0.47	5,596	52.92	0.93	0.93	0.00
14.00	0.40	4,922	52.79	0.87	0.87	0.00
14.40	0.34	4,241	52.67	0.81	0.81	0.00
14.80	0.31	3,584	52.54	0.75	0.75	0.00
15.20	0.28	2,961	52.42	0.70	0.70	0.00
15.60	0.24	2,370	52.29	0.64	0.64	0.00
16.00	0.21	1,809	52.17	0.59	0.59	0.00
16.40	0.19	1,280	52.04	0.54	0.54	0.00
16.80	0.17	799	51.92	0.49	0.49	0.00
17.20	0.16	379	51.74	0.42	0.42	0.00
17.60	0.14	46	51.57	0.36	0.36	0.00
18.00	0.13	9	51.55	0.13	0.13	0.00
18.40	0.12	9	51.55	0.12	0.12	0.00
18.80	0.11	8	51.55	0.11	0.11	0.00
19.20	0.11	8	51.55	0.11	0.11	0.00
19.60	0.10	8	51.55	0.10	0.10	0.00
20.00	0.10	7	51.55	0.10	0.10	0.00
20.40	0.10	7	51.55	0.10	0.10	0.00
20.80	0.09	7	51.55	0.09	0.09	0.00
21.20	0.09	7	51.55	0.09	0.09	0.00
21.60	0.09	6	51.55	0.09	0.09	0.00
22.00	0.08	6	51.55	0.08	0.08	0.00
22.40	0.08	6	51.55	0.08	0.08	0.00
22.80	0.08	6	51.55	0.08	0.08	0.00
23.20	0.07	5	51.55	0.07	0.07	0.00
23.60	0.07	5	51.55	0.07	0.07	0.00
24.00	0.07	5	51.55	0.07	0.07	0.00
24.40	0.02	1	51.55	0.02	0.02	0.00
24.80	0.00	0	51.55	0.00	0.00	0.00
25.20	0.00	0	51.55	0.00	0.00	0.00
25.60	0.00	0	51.55	0.00	0.00	0.00
26.00	0.00	0	51.55	0.00	0.00	0.00
26.40	0.00	0	51.55	0.00	0.00	0.00
26.80	0.00	0	51.55	0.00	0.00	0.00
27.20	0.00	0	51.55	0.00	0.00	0.00
27.60	0.00	0	51.55	0.00	0.00	0.00
28.00	0.00	0	51.55	0.00	0.00	0.00
28.40	0.00	0	51.55	0.00	0.00	0.00
28.80	0.00	0	51.55	0.00	0.00	0.00
29.20	0.00	0	51.55	0.00	0.00	0.00
29.60	0.00	0	51.55	0.00	0.00	0.00
30.00	0.00	0	51.55	0.00	0.00	0.00
30.40	0.00	0	51.55	0.00	0.00	0.00
30.80	0.00	0	51.55	0.00	0.00	0.00
31.20	0.00	0	51.55	0.00	0.00	0.00
31.60	0.00	0	51.55	0.00	0.00	0.00
32.00	0.00	0	51.55	0.00	0.00	0.00
32.40	0.00	0	51.55	0.00	0.00	0.00
32.80	0.00	0	51.55	0.00	0.00	0.00
33.20	0.00	0	51.55	0.00	0.00	0.00
33.60	0.00	0	51.55	0.00	0.00	0.00
34.00	0.00	0	51.55	0.00	0.00	0.00
34.40	0.00	0	51.55	0.00	0.00	0.00
34.80	0.00	0	51.55	0.00	0.00	0.00
35.20	0.00	0	51.55	0.00	0.00	0.00
35.60	0.00	0	51.55	0.00	0.00	0.00
36.00	0.00	0	51.55	0.00	0.00	0.00
36.40	0.00	0	51.55	0.00	0.00	0.00
36.80	0.00	0	51.55	0.00	0.00	0.00
37.20	0.00	0	51.55	0.00	0.00	0.00
37.60	0.00	0	51.55	0.00	0.00	0.00
38.00	0.00	0	51.55	0.00	0.00	0.00
38.40	0.00	0	51.55	0.00	0.00	0.00
38.80	0.00	0	51.55	0.00	0.00	0.00
39.20	0.00	0	51.55	0.00	0.00	0.00
39.60	0.00	0	51.55	0.00	0.00	0.00
40.00	0.00	0	51.55	0.00	0.00	0.00
40.40	0.00	0	51.55	0.00	0.00	0.00
40.80	0.00	0	51.55	0.00	0.00	0.00
41.20	0.00	0	51.55	0.00	0.00	0.00
41.60	0.00	0	51.55	0.00	0.00	0.00
42.00	0.00	0	51.55	0.00	0.00	0.00
42.40	0.00	0	51.55	0.00	0.00	0.00
42.80	0.00	0	51.55	0.00	0.00	0.00
43.20	0.00	0	51.55	0.00	0.00	0.00
43.60	0.00	0	51.55	0.00	0.00	0.00
44.00	0.00	0	51.55	0.00	0.00	0.00
44.40	0.00	0	51.55	0.00	0.00	0.00
44.80	0.00	0	51.55	0.00	0.00	0.00
45.20	0.00	0	51.55	0.00	0.00	0.00
45.60	0.00	0	51.55	0.00	0.00	0.00
46.00	0.00	0	51.55	0.00	0.00	0.00
46.40	0.00	0	51.55	0.00	0.00	0.00
46.80	0.00	0	51.55	0.00	0.00	0.00
47.20	0.00	0	51.55	0.00	0.00	0.00
47.60	0.00	0	51.55	0.00	0.00	0.00
48.00	0.00	0	51.55	0.00	0.00	0.00

Hydrograph for Pond B-5: Wawa Detention Basin

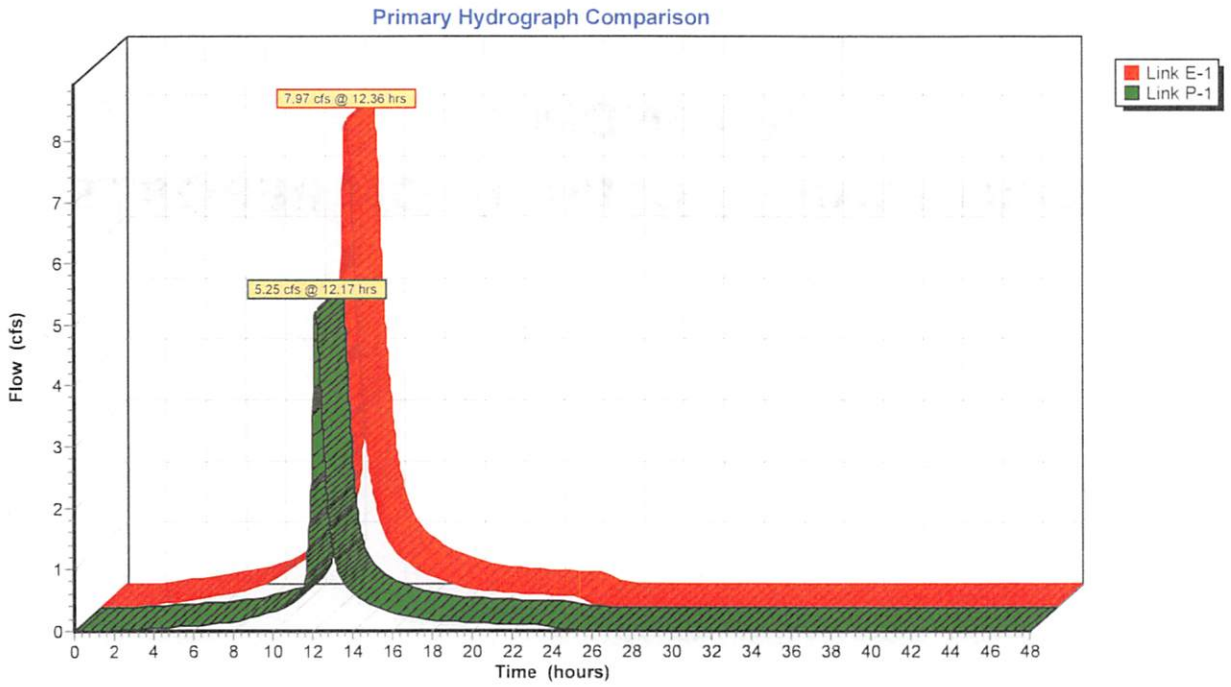
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.00	0.00	0.00	0.00
0.40	0.00	0	55.00	0.00	0.00	0.00
0.80	0.00	1	55.05	0.00	0.00	0.00
1.20	0.02	4	55.11	0.01	0.01	0.00
1.60	0.03	9	55.14	0.02	0.02	0.00
2.00	0.04	14	55.17	0.03	0.03	0.00
2.40	0.04	18	55.19	0.04	0.04	0.00
2.80	0.05	22	55.21	0.04	0.04	0.00
3.20	0.05	28	55.22	0.05	0.05	0.00
3.60	0.06	33	55.24	0.06	0.06	0.00
4.00	0.07	39	55.26	0.06	0.06	0.00
4.40	0.07	45	55.27	0.07	0.07	0.00
4.80	0.08	52	55.29	0.07	0.07	0.00
5.20	0.08	60	55.31	0.08	0.08	0.00
5.60	0.09	71	55.33	0.08	0.08	0.00
6.00	0.09	85	55.35	0.08	0.08	0.00
6.40	0.10	99	55.38	0.09	0.09	0.00
6.80	0.11	119	55.41	0.09	0.09	0.00
7.20	0.12	147	55.44	0.10	0.10	0.00
7.60	0.14	182	55.48	0.11	0.11	0.00
8.00	0.15	224	55.52	0.12	0.12	0.00
8.40	0.17	279	55.57	0.13	0.13	0.00
8.80	0.20	358	55.64	0.13	0.13	0.00
9.20	0.23	465	55.72	0.14	0.14	0.00
9.60	0.26	599	55.82	0.16	0.16	0.00
10.00	0.29	759	55.93	0.17	0.17	0.00
10.40	0.33	950	56.05	0.18	0.18	0.00
10.80	0.39	1,199	56.20	0.19	0.19	0.00
11.20	0.47	1,516	56.38	0.21	0.21	0.00
11.60	0.68	2,003	56.66	0.23	0.23	0.00
12.00	**2.33**	**2,616**	**57.03**	**1.98**	**0.26**	**1.72**
12.40	**2.90**	**2,777**	**57.14**	**3.09**	**0.26**	**2.83**
12.80	1.03	2,475	56.95	1.17	0.25	0.92
13.20	0.54	2,406	56.90	0.54	0.25	0.29
13.60	0.43	2,411	56.91	0.43	0.25	0.18
14.00	0.36	2,390	56.89	0.39	0.25	0.14
14.40	0.31	2,344	56.87	0.35	0.25	0.10
14.80	0.28	2,284	56.83	0.33	0.24	0.08
15.20	0.25	2,218	56.79	0.30	0.24	0.06
15.60	0.22	2,165	56.76	0.25	0.24	0.01
16.00	0.19	2,117	56.73	0.24	0.24	0.00
16.40	0.17	2,035	56.68	0.23	0.23	0.00
16.80	0.15	1,934	56.62	0.23	0.23	0.00
17.20	0.14	1,821	56.56	0.22	0.22	0.00
17.60	0.13	1,696	56.49	0.22	0.22	0.00
18.00	0.11	1,560	56.41	0.21	0.21	0.00
18.40	0.10	1,418	56.33	0.20	0.20	0.00
18.80	0.10	1,276	56.24	0.20	0.20	0.00
19.20	0.10	1,139	56.16	0.19	0.19	0.00
19.60	0.09	1,007	56.08	0.18	0.18	0.00
20.00	0.09	880	56.00	0.17	0.17	0.00
20.40	0.09	758	55.93	0.17	0.17	0.00
20.80	0.08	644	55.85	0.16	0.16	0.00
21.20	0.08	537	55.78	0.15	0.15	0.00
21.60	0.08	438	55.70	0.14	0.14	0.00
22.00	0.07	348	55.63	0.13	0.13	0.00
22.40	0.07	266	55.56	0.12	0.12	0.00
22.80	0.07	194	55.49	0.11	0.11	0.00
23.20	0.06	135	55.43	0.10	0.10	0.00
23.60	0.06	93	55.37	0.09	0.09	0.00
24.00	0.06	64	55.32	0.08	0.08	0.00
24.40	0.01	19	55.19	0.04	0.04	0.00
24.80	0.00	0	55.04	0.00	0.00	0.00
25.20	0.00	0	55.00	0.00	0.00	0.00
25.60	0.00	0	55.00	0.00	0.00	0.00
26.00	0.00	0	55.00	0.00	0.00	0.00
26.40	0.00	0	55.00	0.00	0.00	0.00
26.80	0.00	0	55.00	0.00	0.00	0.00
27.20	0.00	0	55.00	0.00	0.00	0.00
27.60	0.00	0	55.00	0.00	0.00	0.00
28.00	0.00	0	55.00	0.00	0.00	0.00
28.40	0.00	0	55.00	0.00	0.00	0.00
28.80	0.00	0	55.00	0.00	0.00	0.00
29.20	0.00	0	55.00	0.00	0.00	0.00
29.60	0.00	0	55.00	0.00	0.00	0.00
30.00	0.00	0	55.00	0.00	0.00	0.00
30.40	0.00	0	55.00	0.00	0.00	0.00
30.80	0.00	0	55.00	0.00	0.00	0.00
31.20	0.00	0	55.00	0.00	0.00	0.00
31.60	0.00	0	55.00	0.00	0.00	0.00
32.00	0.00	0	55.00	0.00	0.00	0.00
32.40	0.00	0	55.00	0.00	0.00	0.00
32.80	0.00	0	55.00	0.00	0.00	0.00
33.20	0.00	0	55.00	0.00	0.00	0.00
33.60	0.00	0	55.00	0.00	0.00	0.00
34.00	0.00	0	55.00	0.00	0.00	0.00
34.40	0.00	0	55.00	0.00	0.00	0.00
34.80	0.00	0	55.00	0.00	0.00	0.00
35.20	0.00	0	55.00	0.00	0.00	0.00
35.60	0.00	0	55.00	0.00	0.00	0.00
36.00	0.00	0	55.00	0.00	0.00	0.00
36.40	0.00	0	55.00	0.00	0.00	0.00
36.80	0.00	0	55.00	0.00	0.00	0.00
37.20	0.00	0	55.00	0.00	0.00	0.00
37.60	0.00	0	55.00	0.00	0.00	0.00
38.00	0.00	0	55.00	0.00	0.00	0.00
38.40	0.00	0	55.00	0.00	0.00	0.00
38.80	0.00	0	55.00	0.00	0.00	0.00
39.20	0.00	0	55.00	0.00	0.00	0.00
39.60	0.00	0	55.00	0.00	0.00	0.00
40.00	0.00	0	55.00	0.00	0.00	0.00
40.40	0.00	0	55.00	0.00	0.00	0.00
40.80	0.00	0	55.00	0.00	0.00	0.00
41.20	0.00	0	55.00	0.00	0.00	0.00
41.60	0.00	0	55.00	0.00	0.00	0.00
42.00	0.00	0	55.00	0.00	0.00	0.00
42.40	0.00	0	55.00	0.00	0.00	0.00
42.80	0.00	0	55.00	0.00	0.00	0.00
43.20	0.00	0	55.00	0.00	0.00	0.00
43.60	0.00	0	55.00	0.00	0.00	0.00
44.00	0.00	0	55.00	0.00	0.00	0.00
44.40	0.00	0	55.00	0.00	0.00	0.00
44.80	0.00	0	55.00	0.00	0.00	0.00
45.20	0.00	0	55.00	0.00	0.00	0.00
45.60	0.00	0	55.00	0.00	0.00	0.00
46.00	0.00	0	55.00	0.00	0.00	0.00
46.40	0.00	0	55.00	0.00	0.00	0.00
46.80	0.00	0	55.00	0.00	0.00	0.00
47.20	0.00	0	55.00	0.00	0.00	0.00
47.60	0.00	0	55.00	0.00	0.00	0.00
48.00	0.00	0	55.00	0.00	0.00	0.00

Hydrograph for Pond RG-1: Fast Food Bioretention Area

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	56.00	0.00	0.00	0.00
0.40	0.00	0	56.00	0.00	0.00	0.00
0.80	0.00	0	56.00	0.00	0.00	0.00
1.20	0.00	1	56.00	0.00	0.00	0.00
1.60	0.00	1	56.00	0.00	0.00	0.00
2.00	0.01	1	56.00	0.01	0.01	0.00
2.40	0.01	1	56.00	0.01	0.01	0.00
2.80	0.01	2	56.00	0.01	0.01	0.00
3.20	0.01	2	56.00	0.01	0.01	0.00
3.60	0.01	2	56.01	0.01	0.01	0.00
4.00	0.01	2	56.01	0.01	0.01	0.00
4.40	0.01	2	56.01	0.01	0.01	0.00
4.80	0.01	2	56.01	0.01	0.01	0.00
5.20	0.01	3	56.01	0.01	0.01	0.00
5.60	0.01	3	56.01	0.01	0.01	0.00
6.00	0.01	3	56.01	0.01	0.01	0.00
6.40	0.01	3	56.01	0.01	0.01	0.00
6.80	0.02	4	56.01	0.02	0.02	0.00
7.20	0.02	5	56.01	0.02	0.02	0.00
7.60	0.02	9	56.03	0.02	0.02	0.00
8.00	0.02	16	56.04	0.02	0.02	0.00
8.40	0.03	25	56.07	0.02	0.02	0.00
8.80	0.03	39	56.11	0.02	0.02	0.00
9.20	0.03	59	56.16	0.02	0.02	0.00
9.60	0.04	83	56.22	0.02	0.02	0.00
10.00	0.04	113	56.29	0.02	0.02	0.00
10.40	0.05	148	56.37	0.02	0.02	0.00
10.80	0.06	192	56.47	0.02	0.02	0.00
11.20	0.07	247	56.59	0.03	0.03	0.00
11.60	0.10	328	56.75	0.03	0.03	0.00
12.00	**0.35**	346	56.78	**0.34**	0.03	**0.31**
12.40	**0.50**	352	56.79	**0.51**	0.03	**0.48**
12.80	0.19	356	56.80	0.12	0.03	0.09
13.20	0.10	406	**56.89**	0.09	**0.03**	0.06
13.60	0.08	413	**56.90**	0.08	**0.03**	0.05
14.00	0.07	406	56.89	0.08	0.03	0.05
14.40	0.06	391	56.86	0.07	0.03	0.04
14.80	0.06	370	56.83	0.07	0.03	0.04
15.20	0.05	346	56.78	0.07	0.03	0.04
15.60	0.04	331	56.75	0.04	0.03	0.02
16.00	0.04	331	56.75	0.04	0.03	0.01
16.40	0.03	330	56.75	0.03	0.03	0.01
16.80	0.03	330	56.75	0.03	0.03	0.00
17.20	0.03	329	56.75	0.03	0.03	0.00
17.60	0.03	328	56.75	0.03	0.03	0.00
18.00	0.02	322	56.74	0.03	0.03	0.00
18.40	0.02	314	56.72	0.03	0.03	0.00
18.80	0.02	305	56.70	0.03	0.03	0.00
19.20	0.02	294	56.68	0.03	0.03	0.00
19.60	0.02	284	56.66	0.03	0.03	0.00
20.00	0.02	272	56.64	0.03	0.03	0.00
20.40	0.02	260	56.62	0.03	0.03	0.00
20.80	0.02	248	56.59	0.03	0.03	0.00
21.20	0.02	236	56.57	0.03	0.03	0.00
21.60	0.02	223	56.54	0.02	0.02	0.00
22.00	0.02	210	56.51	0.02	0.02	0.00
22.40	0.01	197	56.48	0.02	0.02	0.00
22.80	0.01	184	56.45	0.02	0.02	0.00
23.20	0.01	170	56.43	0.02	0.02	0.00
23.60	0.01	157	56.39	0.02	0.02	0.00
24.00	0.01	143	56.36	0.02	0.02	0.00
24.40	0.00	122	56.31	0.02	0.02	0.00
24.80	0.00	94	56.25	0.02	0.02	0.00
25.20	0.00	66	56.18	0.02	0.02	0.00
25.60	0.00	39	56.11	0.02	0.02	0.00
26.00	0.00	14	56.04	0.02	0.02	0.00
26.40	0.00	0	56.00	0.00	0.00	0.00
26.80	0.00	0	56.00	0.00	0.00	0.00
27.20	0.00	0	56.00	0.00	0.00	0.00
27.60	0.00	0	56.00	0.00	0.00	0.00
28.00	0.00	0	56.00	0.00	0.00	0.00
28.40	0.00	0	56.00	0.00	0.00	0.00
28.80	0.00	0	56.00	0.00	0.00	0.00
29.20	0.00	0	56.00	0.00	0.00	0.00
29.60	0.00	0	56.00	0.00	0.00	0.00
30.00	0.00	0	56.00	0.00	0.00	0.00
30.40	0.00	0	56.00	0.00	0.00	0.00
30.80	0.00	0	56.00	0.00	0.00	0.00
31.20	0.00	0	56.00	0.00	0.00	0.00
31.60	0.00	0	56.00	0.00	0.00	0.00
32.00	0.00	0	56.00	0.00	0.00	0.00
32.40	0.00	0	56.00	0.00	0.00	0.00
32.80	0.00	0	56.00	0.00	0.00	0.00
33.20	0.00	0	56.00	0.00	0.00	0.00
33.60	0.00	0	56.00	0.00	0.00	0.00
34.00	0.00	0	56.00	0.00	0.00	0.00
34.40	0.00	0	56.00	0.00	0.00	0.00
34.80	0.00	0	56.00	0.00	0.00	0.00
35.20	0.00	0	56.00	0.00	0.00	0.00
35.60	0.00	0	56.00	0.00	0.00	0.00
36.00	0.00	0	56.00	0.00	0.00	0.00
36.40	0.00	0	56.00	0.00	0.00	0.00
36.80	0.00	0	56.00	0.00	0.00	0.00
37.20	0.00	0	56.00	0.00	0.00	0.00
37.60	0.00	0	56.00	0.00	0.00	0.00
38.00	0.00	0	56.00	0.00	0.00	0.00
38.40	0.00	0	56.00	0.00	0.00	0.00
38.80	0.00	0	56.00	0.00	0.00	0.00
39.20	0.00	0	56.00	0.00	0.00	0.00
39.60	0.00	0	56.00	0.00	0.00	0.00
40.00	0.00	0	56.00	0.00	0.00	0.00
40.40	0.00	0	56.00	0.00	0.00	0.00
40.80	0.00	0	56.00	0.00	0.00	0.00
41.20	0.00	0	56.00	0.00	0.00	0.00
41.60	0.00	0	56.00	0.00	0.00	0.00
42.00	0.00	0	56.00	0.00	0.00	0.00
42.40	0.00	0	56.00	0.00	0.00	0.00
42.80	0.00	0	56.00	0.00	0.00	0.00
43.20	0.00	0	56.00	0.00	0.00	0.00
43.60	0.00	0	56.00	0.00	0.00	0.00
44.00	0.00	0	56.00	0.00	0.00	0.00
44.40	0.00	0	56.00	0.00	0.00	0.00
44.80	0.00	0	56.00	0.00	0.00	0.00
45.20	0.00	0	56.00	0.00	0.00	0.00
45.60	0.00	0	56.00	0.00	0.00	0.00
46.00	0.00	0	56.00	0.00	0.00	0.00
46.40	0.00	0	56.00	0.00	0.00	0.00
46.80	0.00	0	56.00	0.00	0.00	0.00
47.20	0.00	0	56.00	0.00	0.00	0.00
47.60	0.00	0	56.00	0.00	0.00	0.00
48.00	0.00	0	56.00	0.00	0.00	0.00

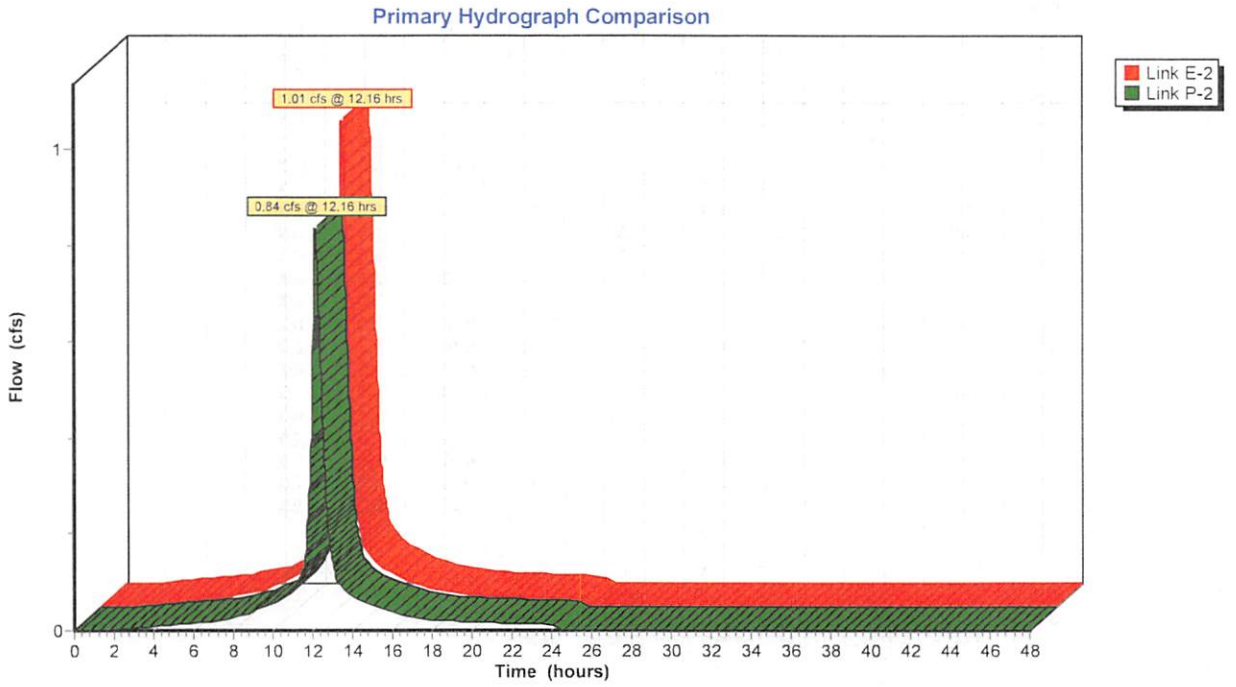
Hydrograph for Pond RG-2: Access Road Bioretention Area

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	55.00	0.00	0.00	0.00
0.40	0.00	0	55.00	0.00	0.00	0.00
0.80	0.00	1	55.00	0.00	0.00	0.00
1.20	0.02	3	55.00	0.02	0.02	0.00
1.60	0.03	6	55.00	0.03	0.03	0.00
2.00	0.03	7	55.01	0.03	0.03	0.00
2.40	0.04	8	55.01	0.04	0.04	0.00
2.80	0.05	10	55.01	0.05	0.05	0.00
3.20	0.05	11	55.01	0.05	0.05	0.00
3.60	0.06	12	55.01	0.06	0.06	0.00
4.00	0.07	18	55.01	0.06	0.06	0.00
4.40	0.07	29	55.02	0.06	0.06	0.00
4.80	0.08	43	55.04	0.06	0.06	0.00
5.20	0.08	60	55.05	0.07	0.07	0.00
5.60	0.09	78	55.06	0.07	0.07	0.00
6.00	0.09	97	55.08	0.08	0.08	0.00
6.40	0.10	119	55.09	0.08	0.08	0.00
6.80	0.11	149	55.12	0.09	0.09	0.00
7.20	0.12	187	55.14	0.09	0.09	0.00
7.60	0.14	232	55.17	0.10	0.10	0.00
8.00	0.15	282	55.21	0.11	0.11	0.00
8.40	0.17	340	55.24	0.12	0.12	0.00
8.80	0.20	417	55.29	0.14	0.14	0.00
9.20	0.23	513	55.35	0.15	0.15	0.00
9.60	0.25	627	55.41	0.17	0.17	0.00
10.00	0.28	754	55.47	0.19	0.19	0.00
10.40	0.33	901	55.55	0.21	0.21	0.00
10.80	0.38	1,089	55.63	0.24	0.24	0.00
11.20	0.46	1,324	55.73	0.27	0.27	0.00
11.60	0.67	1,700	55.87	0.31	0.31	0.00
12.00	2.33	2,904	56.23	0.87	0.50	0.36
12.40	3.14	**5,209**	**56.75**	**2.92**	**0.85**	**2.06**
12.80	1.18	**4,341**	**56.58**	**2.11**	**0.73**	**1.38**
13.20	0.64	3,285	56.33	1.17	0.57	0.60
13.60	0.50	2,747	56.19	0.75	0.48	0.28
14.00	0.43	2,472	56.11	0.58	0.43	0.15
14.40	0.37	2,292	56.06	0.48	0.39	0.08
14.80	0.34	2,161	56.02	0.42	0.37	0.04
15.20	0.30	2,052	55.98	0.38	0.35	0.02
15.60	0.27	1,940	55.95	0.35	0.34	0.01
16.00	0.23	1,811	55.91	0.33	0.33	0.00
16.40	0.20	1,662	55.85	0.31	0.31	0.00
16.80	0.19	1,509	55.80	0.29	0.29	0.00
17.20	0.17	1,359	55.74	0.27	0.27	0.00
17.60	0.16	1,214	55.68	0.25	0.25	0.00
18.00	0.14	1,073	55.62	0.24	0.24	0.00
18.40	0.13	939	55.56	0.22	0.22	0.00
18.80	0.12	819	55.51	0.20	0.20	0.00
19.20	0.12	716	55.46	0.18	0.18	0.00
19.60	0.11	627	55.41	0.17	0.17	0.00
20.00	0.11	551	55.37	0.16	0.16	0.00
20.40	0.10	484	55.33	0.15	0.15	0.00
20.80	0.10	427	55.30	0.14	0.14	0.00
21.20	0.10	377	55.27	0.13	0.13	0.00
21.60	0.09	335	55.24	0.12	0.12	0.00
22.00	0.09	297	55.22	0.11	0.11	0.00
22.40	0.09	263	55.19	0.11	0.11	0.00
22.80	0.08	233	55.17	0.10	0.10	0.00
23.20	0.08	206	55.16	0.10	0.10	0.00
23.60	0.08	180	55.14	0.09	0.09	0.00
24.00	0.07	157	55.12	0.09	0.09	0.00
24.40	0.01	97	55.08	0.08	0.08	0.00
24.80	0.00	9	55.01	0.04	0.04	0.00
25.20	0.00	0	55.00	0.00	0.00	0.00
25.60	0.00	0	55.00	0.00	0.00	0.00
26.00	0.00	0	55.00	0.00	0.00	0.00
26.40	0.00	0	55.00	0.00	0.00	0.00
26.80	0.00	0	55.00	0.00	0.00	0.00
27.20	0.00	0	55.00	0.00	0.00	0.00
27.60	0.00	0	55.00	0.00	0.00	0.00
28.00	0.00	0	55.00	0.00	0.00	0.00
28.40	0.00	0	55.00	0.00	0.00	0.00
28.80	0.00	0	55.00	0.00	0.00	0.00
29.20	0.00	0	55.00	0.00	0.00	0.00
29.60	0.00	0	55.00	0.00	0.00	0.00
30.00	0.00	0	55.00	0.00	0.00	0.00
30.40	0.00	0	55.00	0.00	0.00	0.00
30.80	0.00	0	55.00	0.00	0.00	0.00
31.20	0.00	0	55.00	0.00	0.00	0.00
31.60	0.00	0	55.00	0.00	0.00	0.00
32.00	0.00	0	55.00	0.00	0.00	0.00
32.40	0.00	0	55.00	0.00	0.00	0.00
32.80	0.00	0	55.00	0.00	0.00	0.00
33.20	0.00	0	55.00	0.00	0.00	0.00
33.60	0.00	0	55.00	0.00	0.00	0.00
34.00	0.00	0	55.00	0.00	0.00	0.00
34.40	0.00	0	55.00	0.00	0.00	0.00
34.80	0.00	0	55.00	0.00	0.00	0.00
35.20	0.00	0	55.00	0.00	0.00	0.00
35.60	0.00	0	55.00	0.00	0.00	0.00
36.00	0.00	0	55.00	0.00	0.00	0.00
36.40	0.00	0	55.00	0.00	0.00	0.00
36.80	0.00	0	55.00	0.00	0.00	0.00
37.20	0.00	0	55.00	0.00	0.00	0.00
37.60	0.00	0	55.00	0.00	0.00	0.00
38.00	0.00	0	55.00	0.00	0.00	0.00
38.40	0.00	0	55.00	0.00	0.00	0.00
38.80	0.00	0	55.00	0.00	0.00	0.00
39.20	0.00	0	55.00	0.00	0.00	0.00
39.60	0.00	0	55.00	0.00	0.00	0.00
40.00	0.00	0	55.00	0.00	0.00	0.00
40.40	0.00	0	55.00	0.00	0.00	0.00
40.80	0.00	0	55.00	0.00	0.00	0.00
41.20	0.00	0	55.00	0.00	0.00	0.00
41.60	0.00	0	55.00	0.00	0.00	0.00
42.00	0.00	0	55.00	0.00	0.00	0.00
42.40	0.00	0	55.00	0.00	0.00	0.00
42.80	0.00	0	55.00	0.00	0.00	0.00
43.20	0.00	0	55.00	0.00	0.00	0.00
43.60	0.00	0	55.00	0.00	0.00	0.00
44.00	0.00	0	55.00	0.00	0.00	0.00
44.40	0.00	0	55.00	0.00	0.00	0.00
44.80	0.00	0	55.00	0.00	0.00	0.00
45.20	0.00	0	55.00	0.00	0.00	0.00
45.60	0.00	0	55.00	0.00	0.00	0.00
46.00	0.00	0	55.00	0.00	0.00	0.00
46.40	0.00	0	55.00	0.00	0.00	0.00
46.80	0.00	0	55.00	0.00	0.00	0.00
47.20	0.00	0	55.00	0.00	0.00	0.00
47.60	0.00	0	55.00	0.00	0.00	0.00
48.00	0.00	0	55.00	0.00	0.00	0.00


Primary Hydrograph Comparison
Link E-1
Link P-1
7.97 cfs @ 12.36 hrs
5.25 cfs @ 12.17 hrs
Flow (cfs)
0
1
2
3
4
5
6
7
8
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

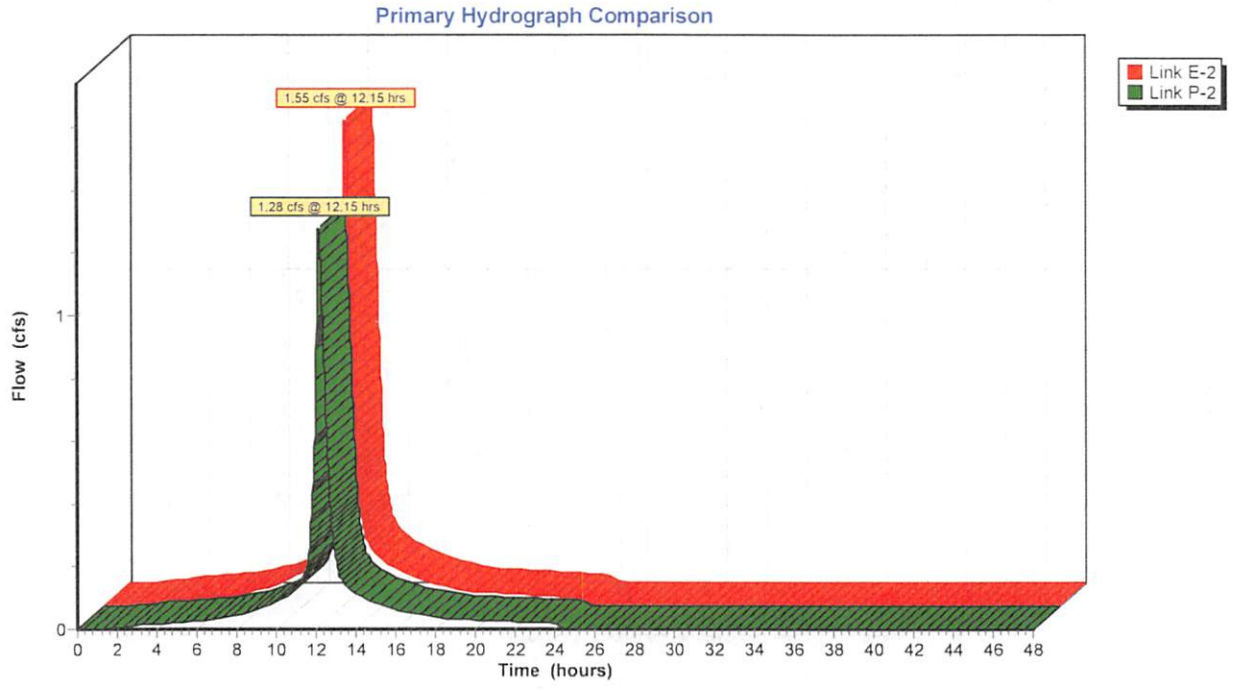
Primary Hydrograph Comparison

Time (hours)	Link E-1 (cfs)	Link P-1 (cfs)	Time (hours)	Link E-1 (cfs)	Link P-1 (cfs)	Time (hours)	Link E-1 (cfs)	Link P-1 (cfs)	Time (hours)	Link E-1 (cfs)	Link P-1 (cfs)
0.00	0.00	0.00	13.40	2.67	0.88	26.80	0.00	0.00	40.20	0.00	0.00
0.20	0.00	0.00	13.60	2.15	0.77	27.00	0.00	0.00	40.40	0.00	0.00
0.40	0.00	0.00	13.80	1.76	0.69	27.20	0.00	0.00	40.60	0.00	0.00
0.60	0.00	0.00	14.00	1.48	0.62	27.40	0.00	0.00	40.80	0.00	0.00
0.80	0.00	0.00	14.20	1.28	0.56	27.60	0.00	0.00	41.00	0.00	0.00
1.00	0.00	0.00	14.40	1.13	0.52	27.80	0.00	0.00	41.20	0.00	0.00
1.20	0.00	0.00	14.60	1.03	0.49	28.00	0.00	0.00	41.40	0.00	0.00
1.40	0.00	0.00	14.80	0.93	0.46	28.20	0.00	0.00	41.60	0.00	0.00
1.60	0.00	0.00	15.00	0.87	0.43	28.40	0.00	0.00	41.80	0.00	0.00
1.80	0.01	0.01	15.20	0.81	0.40	28.60	0.00	0.00	42.00	0.00	0.00
2.00	0.01	0.01	15.40	0.76	0.38	28.80	0.00	0.00	42.20	0.00	0.00
2.20	0.02	0.01	15.60	0.72	0.35	29.00	0.00	0.00	42.40	0.00	0.00
2.40	0.03	0.02	15.80	0.67	0.33	29.20	0.00	0.00	42.60	0.00	0.00
2.60	0.04	0.02	16.00	0.63	0.31	29.40	0.00	0.00	42.80	0.00	0.00
2.80	0.05	0.03	16.20	0.58	0.29	29.60	0.00	0.00	43.00	0.00	0.00
3.00	0.06	0.03	16.40	0.55	0.27	29.80	0.00	0.00	43.20	0.00	0.00
3.20	0.07	0.03	16.60	0.51	0.26	30.00	0.00	0.00	43.40	0.00	0.00
3.40	0.08	0.04	16.80	0.49	0.25	30.20	0.00	0.00	43.60	0.00	0.00
3.60	0.09	0.04	17.00	0.46	0.23	30.40	0.00	0.00	43.80	0.00	0.00
3.80	0.10	0.04	17.20	0.44	0.22	30.60	0.00	0.00	44.00	0.00	0.00
4.00	0.11	0.05	17.40	0.42	0.21	30.80	0.00	0.00	44.20	0.00	0.00
4.20	0.12	0.05	17.60	0.40	0.20	31.00	0.00	0.00	44.40	0.00	0.00
4.40	0.12	0.06	17.80	0.38	0.19	31.20	0.00	0.00	44.60	0.00	0.00
4.60	0.13	0.06	18.00	0.36	0.18	31.40	0.00	0.00	44.80	0.00	0.00
4.80	0.14	0.06	18.20	0.34	0.17	31.60	0.00	0.00	45.00	0.00	0.00
5.00	0.15	0.07	18.40	0.33	0.17	31.80	0.00	0.00	45.20	0.00	0.00
5.20	0.16	0.07	18.60	0.31	0.16	32.00	0.00	0.00	45.40	0.00	0.00
5.40	0.17	0.07	18.80	0.30	0.16	32.20	0.00	0.00	45.60	0.00	0.00
5.60	0.18	0.08	19.00	0.30	0.15	32.40	0.00	0.00	45.80	0.00	0.00
5.80	0.19	0.08	19.20	0.29	0.15	32.60	0.00	0.00	46.00	0.00	0.00
6.00	0.20	0.08	19.40	0.28	0.15	32.80	0.00	0.00	46.20	0.00	0.00
6.20	0.21	0.09	19.60	0.28	0.14	33.00	0.00	0.00	46.40	0.00	0.00
6.40	0.22	0.09	19.80	0.27	0.14	33.20	0.00	0.00	46.60	0.00	0.00
6.60	0.23	0.10	20.00	0.26	0.14	33.40	0.00	0.00	46.80	0.00	0.00
6.80	0.25	0.11	20.20	0.26	0.13	33.60	0.00	0.00	47.00	0.00	0.00
7.00	0.26	0.11	20.40	0.25	0.13	33.80	0.00	0.00	47.20	0.00	0.00
7.20	0.28	0.12	20.60	0.25	0.13	34.00	0.00	0.00	47.40	0.00	0.00
7.40	0.30	0.13	20.80	0.24	0.13	34.20	0.00	0.00	47.60	0.00	0.00
7.60	0.32	0.14	21.00	0.24	0.12	34.40	0.00	0.00	47.80	0.00	0.00
7.80	0.34	0.15	21.20	0.23	0.12	34.60	0.00	0.00	48.00	0.00	0.00
8.00	0.36	0.15	21.40	0.23	0.12	34.80	0.00	0.00			
8.20	0.38	0.16	21.60	0.22	0.12	35.00	0.00	0.00			
8.40	0.40	0.18	21.80	0.22	0.11	35.20	0.00	0.00			
8.60	0.43	0.19	22.00	0.22	0.11	35.40	0.00	0.00			
8.80	0.47	0.21	22.20	0.21	0.11	35.60	0.00	0.00			
9.00	0.51	0.23	22.40	0.21	0.11	35.80	0.00	0.00			
9.20	0.55	0.24	22.60	0.20	0.11	36.00	0.00	0.00			
9.40	0.59	0.26	22.80	0.20	0.10	36.20	0.00	0.00			
9.60	0.63	0.28	23.00	0.19	0.10	36.40	0.00	0.00			
9.80	0.68	0.30	23.20	0.19	0.10	36.60	0.00	0.00			
10.00	0.72	0.31	23.40	0.19	0.10	36.80	0.00	0.00			
10.20	0.77	0.33	23.60	0.18	0.09	37.00	0.00	0.00			
10.40	0.82	0.36	23.80	0.18	0.09	37.20	0.00	0.00			
10.60	0.89	0.40	24.00	0.17	0.09	37.40	0.00	0.00			
10.80	0.96	0.43	24.20	0.16	0.06	37.60	0.00	0.00			
11.00	1.05	0.47	24.40	0.11	0.03	37.80	0.00	0.00			
11.20	1.14	0.52	24.60	0.07	0.02	38.00	0.00	0.00			
11.40	1.28	0.62	24.80	0.05	0.02	38.20	0.00	0.00			
11.60	1.49	0.77	25.00	0.03	0.02	38.40	0.00	0.00			
11.80	2.01	1.47	25.20	0.02	0.01	38.60	0.00	0.00			
12.00	3.38	**2.85**	25.40	0.01	0.01	38.80	0.00	0.00			
12.20	**6.52**	**5.18**	25.60	0.01	0.01	39.00	0.00	0.00			
12.40	**7.95**	4.15	25.80	0.00	0.00	39.20	0.00	0.00			
12.60	7.00	2.85	26.00	0.00	0.00	39.40	0.00	0.00			
12.80	5.51	1.89	26.20	0.00	0.00	39.60	0.00	0.00			
13.00	4.28	1.37	26.40	0.00	0.00	39.80	0.00	0.00			
13.20	3.36	1.05	26.60	0.00	0.00	40.00	0.00	0.00			


Primary Hydrograph Comparison
1.01 cfs @ 12.16 hrs
0.84 cfs @ 12.16 hrs
Link E-2
Link P-2
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

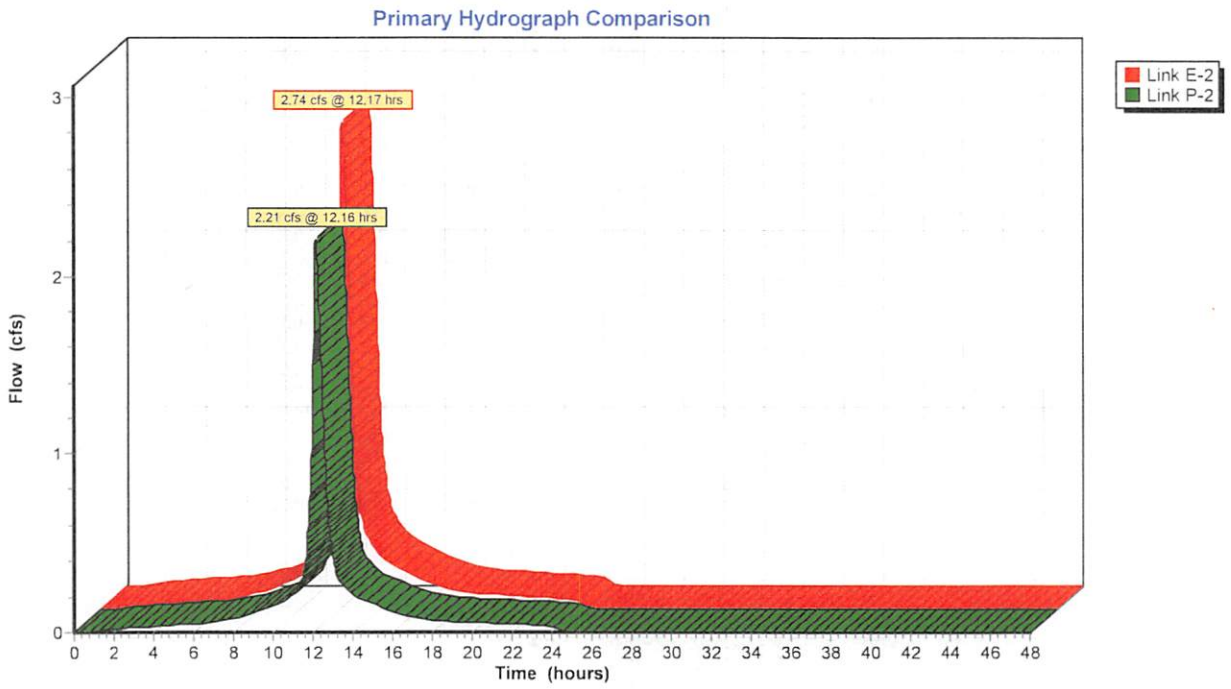
Primary Hydrograph Comparison

Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)
0.00	0.00	0.00	13.40	0.11	0.09	26.80	0.00	0.00	40.20	0.00	0.00
0.20	0.00	0.00	13.60	0.10	0.08	27.00	0.00	0.00	40.40	0.00	0.00
0.40	0.00	0.00	13.80	0.09	0.08	27.20	0.00	0.00	40.60	0.00	0.00
0.60	0.00	0.00	14.00	0.09	0.07	27.40	0.00	0.00	40.80	0.00	0.00
0.80	0.00	0.00	14.20	0.08	0.07	27.60	0.00	0.00	41.00	0.00	0.00
1.00	0.00	0.00	14.40	0.07	0.06	27.80	0.00	0.00	41.20	0.00	0.00
1.20	0.00	0.00	14.60	0.07	0.06	28.00	0.00	0.00	41.40	0.00	0.00
1.40	0.00	0.00	14.80	0.07	0.06	28.20	0.00	0.00	41.60	0.00	0.00
1.60	0.00	0.00	15.00	0.06	0.05	28.40	0.00	0.00	41.80	0.00	0.00
1.80	0.00	0.00	15.20	0.06	0.05	28.60	0.00	0.00	42.00	0.00	0.00
2.00	0.00	0.00	15.40	0.06	0.05	28.80	0.00	0.00	42.20	0.00	0.00
2.20	0.00	0.00	15.60	0.05	0.04	29.00	0.00	0.00	42.40	0.00	0.00
2.40	0.00	0.00	15.80	0.05	0.04	29.20	0.00	0.00	42.60	0.00	0.00
2.60	0.00	0.00	16.00	0.05	0.04	29.40	0.00	0.00	42.80	0.00	0.00
2.80	0.01	0.00	16.20	0.04	0.03	29.60	0.00	0.00	43.00	0.00	0.00
3.00	0.01	0.01	16.40	0.04	0.03	29.80	0.00	0.00	43.20	0.00	0.00
3.20	0.01	0.01	16.60	0.04	0.03	30.00	0.00	0.00	43.40	0.00	0.00
3.40	0.01	0.01	16.80	0.04	0.03	30.20	0.00	0.00	43.60	0.00	0.00
3.60	0.01	0.01	17.00	0.03	0.03	30.40	0.00	0.00	43.80	0.00	0.00
3.80	0.01	0.01	17.20	0.03	0.03	30.60	0.00	0.00	44.00	0.00	0.00
4.00	0.01	0.01	17.40	0.03	0.03	30.80	0.00	0.00	44.20	0.00	0.00
4.20	0.01	0.01	17.60	0.03	0.02	31.00	0.00	0.00	44.40	0.00	0.00
4.40	0.01	0.01	17.80	0.03	0.02	31.20	0.00	0.00	44.60	0.00	0.00
4.60	0.01	0.01	18.00	0.03	0.02	31.40	0.00	0.00	44.80	0.00	0.00
4.80	0.01	0.01	18.20	0.03	0.02	31.60	0.00	0.00	45.00	0.00	0.00
5.00	0.01	0.01	18.40	0.02	0.02	31.80	0.00	0.00	45.20	0.00	0.00
5.20	0.01	0.01	18.60	0.02	0.02	32.00	0.00	0.00	45.40	0.00	0.00
5.40	0.02	0.01	18.80	0.02	0.02	32.20	0.00	0.00	45.60	0.00	0.00
5.60	0.02	0.01	19.00	0.02	0.02	32.40	0.00	0.00	45.80	0.00	0.00
5.80	0.02	0.01	19.20	0.02	0.02	32.60	0.00	0.00	46.00	0.00	0.00
6.00	0.02	0.01	19.40	0.02	0.02	32.80	0.00	0.00	46.20	0.00	0.00
6.20	0.02	0.02	19.60	0.02	0.02	33.00	0.00	0.00	46.40	0.00	0.00
6.40	0.02	0.02	19.80	0.02	0.02	33.20	0.00	0.00	46.60	0.00	0.00
6.60	0.02	0.02	20.00	0.02	0.02	33.40	0.00	0.00	46.80	0.00	0.00
6.80	0.02	0.02	20.20	0.02	0.02	33.60	0.00	0.00	47.00	0.00	0.00
7.00	0.02	0.02	20.40	0.02	0.02	33.80	0.00	0.00	47.20	0.00	0.00
7.20	0.03	0.02	20.60	0.02	0.02	34.00	0.00	0.00	47.40	0.00	0.00
7.40	0.03	0.02	20.80	0.02	0.02	34.20	0.00	0.00	47.60	0.00	0.00
7.60	0.03	0.02	21.00	0.02	0.02	34.40	0.00	0.00	47.80	0.00	0.00
7.80	0.03	0.03	21.20	0.02	0.02	34.60	0.00	0.00	48.00	0.00	0.00
8.00	0.03	0.03	21.40	0.02	0.02	34.80	0.00	0.00			
8.20	0.03	0.03	21.60	0.02	0.01	35.00	0.00	0.00			
8.40	0.04	0.03	21.80	0.02	0.01	35.20	0.00	0.00			
8.60	0.04	0.03	22.00	0.02	0.01	35.40	0.00	0.00			
8.80	0.04	0.04	22.20	0.02	0.01	35.60	0.00	0.00			
9.00	0.05	0.04	22.40	0.02	0.01	35.80	0.00	0.00			
9.20	0.05	0.04	22.60	0.02	0.01	36.00	0.00	0.00			
9.40	0.06	0.05	22.80	0.02	0.01	36.20	0.00	0.00			
9.60	0.06	0.05	23.00	0.02	0.01	36.40	0.00	0.00			
9.80	0.06	0.05	23.20	0.02	0.01	36.60	0.00	0.00			
10.00	0.07	0.06	23.40	0.02	0.01	36.80	0.00	0.00			
10.20	0.07	0.06	23.60	0.01	0.01	37.00	0.00	0.00			
10.40	0.08	0.06	23.80	0.01	0.01	37.20	0.00	0.00			
10.60	0.09	0.07	24.00	0.01	0.01	37.40	0.00	0.00			
10.80	0.09	0.08	24.20	0.01	0.01	37.60	0.00	0.00			
11.00	0.10	0.08	24.40	0.00	0.00	37.80	0.00	0.00			
11.20	0.11	0.09	24.60	0.00	0.00	38.00	0.00	0.00			
11.40	0.13	0.11	24.80	0.00	0.00	38.20	0.00	0.00			
11.60	0.16	0.14	25.00	0.00	0.00	38.40	0.00	0.00			
11.80	0.30	0.25	25.20	0.00	0.00	38.60	0.00	0.00			
12.00	**0.57**	**0.47**	25.40	0.00	0.00	38.80	0.00	0.00			
12.20	**0.98**	**0.81**	25.60	0.00	0.00	39.00	0.00	0.00			
12.40	0.70	0.58	25.80	0.00	0.00	39.20	0.00	0.00			
12.60	0.42	0.35	26.00	0.00	0.00	39.40	0.00	0.00			
12.80	0.25	0.21	26.20	0.00	0.00	39.60	0.00	0.00			
13.00	0.17	0.14	26.40	0.00	0.00	39.80	0.00	0.00			
13.20	0.13	0.11	26.60	0.00	0.00	40.00	0.00	0.00			


Primary Hydrograph Comparison
Link E-2
Link P-2
1.55 cfs @ 12.15 hrs
1.28 cfs @ 12.15 hrs
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Primary Hydrograph Comparison

Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)
0.00	0.00	0.00	13.40	0.19	0.15	26.80	0.00	0.00	40.20	0.00	0.00
0.20	0.00	0.00	13.60	0.17	0.14	27.00	0.00	0.00	40.40	0.00	0.00
0.40	0.00	0.00	13.80	0.16	0.12	27.20	0.00	0.00	40.60	0.00	0.00
0.60	0.00	0.00	14.00	0.15	0.12	27.40	0.00	0.00	40.80	0.00	0.00
0.80	0.00	0.00	14.20	0.14	0.11	27.60	0.00	0.00	41.00	0.00	0.00
1.00	0.00	0.00	14.40	0.13	0.10	27.80	0.00	0.00	41.20	0.00	0.00
1.20	0.00	0.00	14.60	0.12	0.10	28.00	0.00	0.00	41.40	0.00	0.00
1.40	0.00	0.00	14.80	0.12	0.09	28.20	0.00	0.00	41.60	0.00	0.00
1.60	0.01	0.00	15.00	0.11	0.09	28.40	0.00	0.00	41.80	0.00	0.00
1.80	0.01	0.01	15.20	0.11	0.08	28.60	0.00	0.00	42.00	0.00	0.00
2.00	0.01	0.01	15.40	0.10	0.08	28.80	0.00	0.00	42.20	0.00	0.00
2.20	0.01	0.01	15.60	0.09	0.07	29.00	0.00	0.00	42.40	0.00	0.00
2.40	0.01	0.01	15.80	0.09	0.07	29.20	0.00	0.00	42.60	0.00	0.00
2.60	0.01	0.01	16.00	0.08	0.06	29.40	0.00	0.00	42.80	0.00	0.00
2.80	0.01	0.01	16.20	0.08	0.06	29.60	0.00	0.00	43.00	0.00	0.00
3.00	0.01	0.01	16.40	0.07	0.05	29.80	0.00	0.00	43.20	0.00	0.00
3.20	0.02	0.01	16.60	0.07	0.05	30.00	0.00	0.00	43.40	0.00	0.00
3.40	0.02	0.01	16.80	0.07	0.05	30.20	0.00	0.00	43.60	0.00	0.00
3.60	0.02	0.02	17.00	0.06	0.05	30.40	0.00	0.00	43.80	0.00	0.00
3.80	0.02	0.02	17.20	0.06	0.05	30.60	0.00	0.00	44.00	0.00	0.00
4.00	0.02	0.02	17.40	0.06	0.04	30.80	0.00	0.00	44.20	0.00	0.00
4.20	0.02	0.02	17.60	0.06	0.04	31.00	0.00	0.00	44.40	0.00	0.00
4.40	0.02	0.02	17.80	0.05	0.04	31.20	0.00	0.00	44.60	0.00	0.00
4.60	0.02	0.02	18.00	0.05	0.04	31.40	0.00	0.00	44.80	0.00	0.00
4.80	0.02	0.02	18.20	0.05	0.04	31.60	0.00	0.00	45.00	0.00	0.00
5.00	0.03	0.02	18.40	0.05	0.03	31.80	0.00	0.00	45.20	0.00	0.00
5.20	0.03	0.02	18.60	0.04	0.03	32.00	0.00	0.00	45.40	0.00	0.00
5.40	0.03	0.02	18.80	0.04	0.03	32.20	0.00	0.00	45.60	0.00	0.00
5.60	0.03	0.02	19.00	0.04	0.03	32.40	0.00	0.00	45.80	0.00	0.00
5.80	0.03	0.02	19.20	0.04	0.03	32.60	0.00	0.00	46.00	0.00	0.00
6.00	0.03	0.03	19.40	0.04	0.03	32.80	0.00	0.00	46.20	0.00	0.00
6.20	0.03	0.03	19.60	0.04	0.03	33.00	0.00	0.00	46.40	0.00	0.00
6.40	0.03	0.03	19.80	0.04	0.03	33.20	0.00	0.00	46.60	0.00	0.00
6.60	0.04	0.03	20.00	0.04	0.03	33.40	0.00	0.00	46.80	0.00	0.00
6.80	0.04	0.03	20.20	0.04	0.03	33.60	0.00	0.00	47.00	0.00	0.00
7.00	0.04	0.03	20.40	0.04	0.03	33.80	0.00	0.00	47.20	0.00	0.00
7.20	0.04	0.04	20.60	0.04	0.03	34.00	0.00	0.00	47.40	0.00	0.00
7.40	0.05	0.04	20.80	0.04	0.03	34.20	0.00	0.00	47.60	0.00	0.00
7.60	0.05	0.04	21.00	0.04	0.03	34.40	0.00	0.00	47.80	0.00	0.00
7.80	0.05	0.04	21.20	0.04	0.03	34.60	0.00	0.00	48.00	0.00	0.00
8.00	0.05	0.04	21.40	0.03	0.03	34.80	0.00	0.00			
8.20	0.06	0.05	21.60	0.03	0.03	35.00	0.00	0.00			
8.40	0.06	0.05	21.80	0.03	0.02	35.20	0.00	0.00			
8.60	0.07	0.06	22.00	0.03	0.02	35.40	0.00	0.00			
8.80	0.07	0.06	22.20	0.03	0.02	35.60	0.00	0.00			
9.00	0.08	0.06	22.40	0.03	0.02	35.80	0.00	0.00			
9.20	0.08	0.07	22.60	0.03	0.02	36.00	0.00	0.00			
9.40	0.09	0.07	22.80	0.03	0.02	36.20	0.00	0.00			
9.60	0.09	0.08	23.00	0.03	0.02	36.40	0.00	0.00			
9.80	0.10	0.08	23.20	0.03	0.02	36.60	0.00	0.00			
10.00	0.11	0.09	23.40	0.03	0.02	36.80	0.00	0.00			
10.20	0.11	0.09	23.60	0.03	0.02	37.00	0.00	0.00			
10.40	0.12	0.10	23.80	0.03	0.02	37.20	0.00	0.00			
10.60	0.13	0.11	24.00	0.03	0.02	37.40	0.00	0.00			
10.80	0.14	0.12	24.20	0.01	0.01	37.60	0.00	0.00			
11.00	0.16	0.13	24.40	0.01	0.00	37.80	0.00	0.00			
11.20	0.17	0.14	24.60	0.00	0.00	38.00	0.00	0.00			
11.40	0.21	0.17	24.80	0.00	0.00	38.20	0.00	0.00			
11.60	0.25	0.21	25.00	0.00	0.00	38.40	0.00	0.00			
11.80	0.47	0.39	25.20	0.00	0.00	38.60	0.00	0.00			
12.00	**0.87**	**0.72**	25.40	0.00	0.00	38.80	0.00	0.00			
12.20	**1.50**	**1.23**	25.60	0.00	0.00	39.00	0.00	0.00			
12.40	1.07	0.88	25.80	0.00	0.00	39.20	0.00	0.00			
12.60	0.66	0.54	26.00	0.00	0.00	39.40	0.00	0.00			
12.80	0.39	0.32	26.20	0.00	0.00	39.60	0.00	0.00			
13.00	0.28	0.22	26.40	0.00	0.00	39.80	0.00	0.00			
13.20	0.21	0.17	26.60	0.00	0.00	40.00	0.00	0.00			


Primary Hydrograph Comparison
Link E-2
Link P-2
2.74 cfs @ 12.17 hrs
2.21 cfs @ 12.16 hrs
Flow (cfs)
Time (hours)
0
1
2
3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Primary Hydrograph Comparison

Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)	Time (hours)	Link E-2 (cfs)	Link P-2 (cfs)
0.00	0.00	0.00	13.40	0.41	0.28	26.80	0.00	0.00	40.20	0.00	0.00
0.20	0.00	0.00	13.60	0.37	0.26	27.00	0.00	0.00	40.40	0.00	0.00
0.40	0.00	0.00	13.80	0.34	0.24	27.20	0.00	0.00	40.60	0.00	0.00
0.60	0.00	0.00	14.00	0.31	0.22	27.40	0.00	0.00	40.80	0.00	0.00
0.80	0.00	0.00	14.20	0.29	0.20	27.60	0.00	0.00	41.00	0.00	0.00
1.00	0.01	0.01	14.40	0.27	0.19	27.80	0.00	0.00	41.20	0.00	0.00
1.20	0.01	0.01	14.60	0.26	0.18	28.00	0.00	0.00	41.40	0.00	0.00
1.40	0.01	0.01	14.80	0.24	0.17	28.20	0.00	0.00	41.60	0.00	0.00
1.60	0.02	0.01	15.00	0.23	0.16	28.40	0.00	0.00	41.80	0.00	0.00
1.80	0.02	0.02	15.20	0.22	0.15	28.60	0.00	0.00	42.00	0.00	0.00
2.00	0.02	0.02	15.40	0.21	0.14	28.80	0.00	0.00	42.20	0.00	0.00
2.20	0.02	0.02	15.60	0.20	0.14	29.00	0.00	0.00	42.40	0.00	0.00
2.40	0.03	0.02	15.80	0.18	0.13	29.20	0.00	0.00	42.60	0.00	0.00
2.60	0.03	0.02	16.00	0.17	0.12	29.40	0.00	0.00	42.80	0.00	0.00
2.80	0.03	0.02	16.20	0.16	0.11	29.60	0.00	0.00	43.00	0.00	0.00
3.00	0.03	0.03	16.40	0.15	0.10	29.80	0.00	0.00	43.20	0.00	0.00
3.20	0.03	0.03	16.60	0.14	0.10	30.00	0.00	0.00	43.40	0.00	0.00
3.40	0.04	0.03	16.80	0.14	0.09	30.20	0.00	0.00	43.60	0.00	0.00
3.60	0.04	0.03	17.00	0.13	0.09	30.40	0.00	0.00	43.80	0.00	0.00
3.80	0.04	0.03	17.20	0.13	0.09	30.60	0.00	0.00	44.00	0.00	0.00
4.00	0.04	0.03	17.40	0.12	0.08	30.80	0.00	0.00	44.20	0.00	0.00
4.20	0.04	0.04	17.60	0.11	0.08	31.00	0.00	0.00	44.40	0.00	0.00
4.40	0.04	0.04	17.80	0.11	0.07	31.20	0.00	0.00	44.60	0.00	0.00
4.60	0.05	0.04	18.00	0.10	0.07	31.40	0.00	0.00	44.80	0.00	0.00
4.80	0.05	0.04	18.20	0.10	0.07	31.60	0.00	0.00	45.00	0.00	0.00
5.00	0.05	0.04	18.40	0.09	0.06	31.80	0.00	0.00	45.20	0.00	0.00
5.20	0.05	0.04	18.60	0.09	0.06	32.00	0.00	0.00	45.40	0.00	0.00
5.40	0.05	0.04	18.80	0.09	0.06	32.20	0.00	0.00	45.60	0.00	0.00
5.60	0.05	0.04	19.00	0.09	0.06	32.40	0.00	0.00	45.80	0.00	0.00
5.80	0.06	0.05	19.20	0.09	0.06	32.60	0.00	0.00	46.00	0.00	0.00
6.00	0.06	0.05	19.40	0.09	0.06	32.80	0.00	0.00	46.20	0.00	0.00
6.20	0.06	0.05	19.60	0.08	0.06	33.00	0.00	0.00	46.40	0.00	0.00
6.40	0.06	0.05	19.80	0.08	0.06	33.20	0.00	0.00	46.60	0.00	0.00
6.60	0.07	0.05	20.00	0.08	0.05	33.40	0.00	0.00	46.80	0.00	0.00
6.80	0.07	0.06	20.20	0.08	0.05	33.60	0.00	0.00	47.00	0.00	0.00
7.00	0.07	0.06	20.40	0.08	0.05	33.80	0.00	0.00	47.20	0.00	0.00
7.20	0.08	0.06	20.60	0.08	0.05	34.00	0.00	0.00	47.40	0.00	0.00
7.40	0.08	0.07	20.80	0.07	0.05	34.20	0.00	0.00	47.60	0.00	0.00
7.60	0.09	0.07	21.00	0.07	0.05	34.40	0.00	0.00	47.80	0.00	0.00
7.80	0.09	0.07	21.20	0.07	0.05	34.60	0.00	0.00	48.00	0.00	0.00
8.00	0.09	0.08	21.40	0.07	0.05	34.80	0.00	0.00			
8.20	0.10	0.08	21.60	0.07	0.05	35.00	0.00	0.00			
8.40	0.11	0.09	21.80	0.07	0.05	35.20	0.00	0.00			
8.60	0.12	0.10	22.00	0.07	0.05	35.40	0.00	0.00			
8.80	0.12	0.10	22.20	0.07	0.04	35.60	0.00	0.00			
9.00	0.13	0.11	22.40	0.06	0.04	35.80	0.00	0.00			
9.20	0.14	0.12	22.60	0.06	0.04	36.00	0.00	0.00			
9.40	0.15	0.13	22.80	0.06	0.04	36.20	0.00	0.00			
9.60	0.16	0.13	23.00	0.06	0.04	36.40	0.00	0.00			
9.80	0.17	0.14	23.20	0.06	0.04	36.60	0.00	0.00			
10.00	0.18	0.15	23.40	0.06	0.04	36.80	0.00	0.00			
10.20	0.19	0.16	23.60	0.06	0.04	37.00	0.00	0.00			
10.40	0.21	0.17	23.80	0.05	0.04	37.20	0.00	0.00			
10.60	0.22	0.19	24.00	0.05	0.04	37.40	0.00	0.00			
10.80	0.24	0.20	24.20	0.03	0.02	37.60	0.00	0.00			
11.00	0.26	0.22	24.40	0.01	0.01	37.80	0.00	0.00			
11.20	0.29	0.24	24.60	0.01	0.00	38.00	0.00	0.00			
11.40	0.35	0.29	24.80	0.00	0.00	38.20	0.00	0.00			
11.60	0.43	0.35	25.00	0.00	0.00	38.40	0.00	0.00			
11.80	0.78	0.65	25.20	0.00	0.00	38.60	0.00	0.00			
12.00	**1.47**	**1.21**	25.40	0.00	0.00	38.80	0.00	0.00			
12.20	**2.69**	**2.16**	25.60	0.00	0.00	39.00	0.00	0.00			
12.40	2.08	1.60	25.80	0.00	0.00	39.20	0.00	0.00			
12.60	1.36	1.01	26.00	0.00	0.00	39.40	0.00	0.00			
12.80	0.86	0.61	26.20	0.00	0.00	39.60	0.00	0.00			
13.00	0.62	0.43	26.40	0.00	0.00	39.80	0.00	0.00			
13.20	0.48	0.33	26.60	0.00	0.00	40.00	0.00	0.00			

Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 3.13" for 10YR Storm event
Inflow = 16.75 cfs @ 12.18 hrs, Volume= 86,123 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.24' @ 48.00 hrs Surf.Area= 39,110 sf Storage= 86,123 cf

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

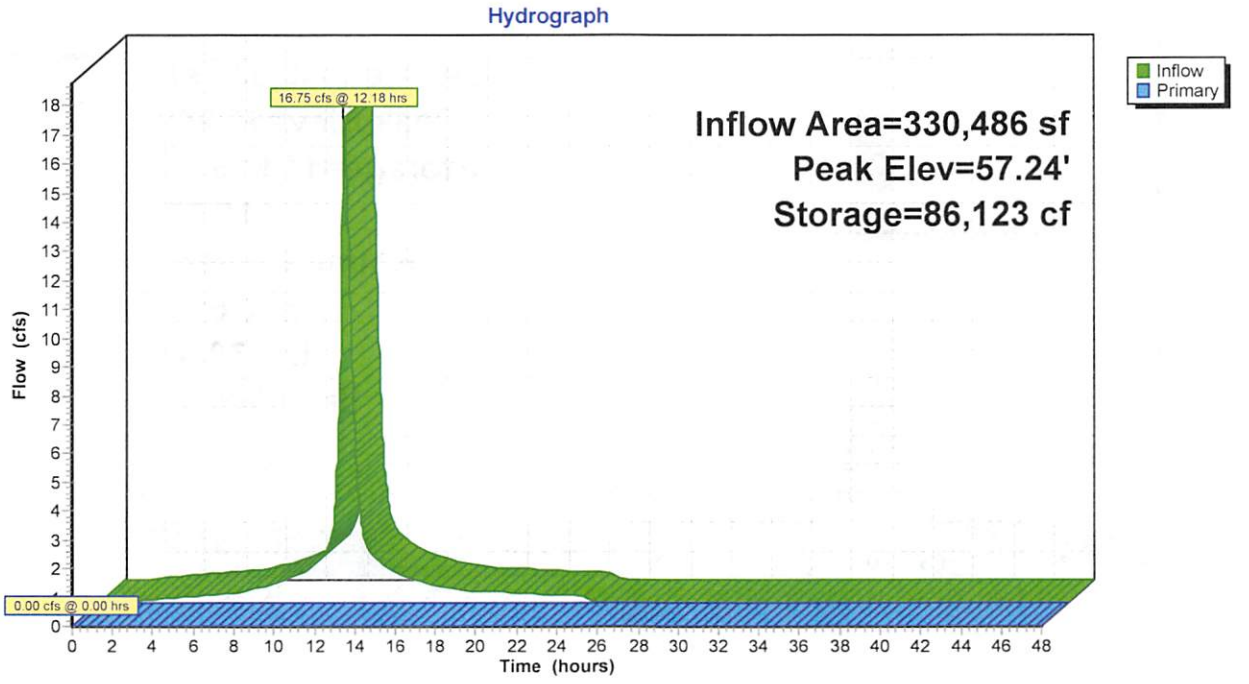
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.50' TW=0.00' (Dynamic Tailwater)
└─**1=Spillway Culvert** (Controls 0.00 cfs)
└─**2=Spillway Grate** (Controls 0.00 cfs)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 3.03" for 10YR Storm event
Inflow = 2.30 cfs @ 12.15 hrs, Volume= 12,486 cf
Outflow = 0.04 cfs @ 21.78 hrs, Volume= 1,447 cf, Atten= 98%, Lag= 577.5 min
Primary = 0.04 cfs @ 21.78 hrs, Volume= 1,447 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 54.25' @ 21.78 hrs Surf.Area= 7,870 sf Storage= 11,616 cf

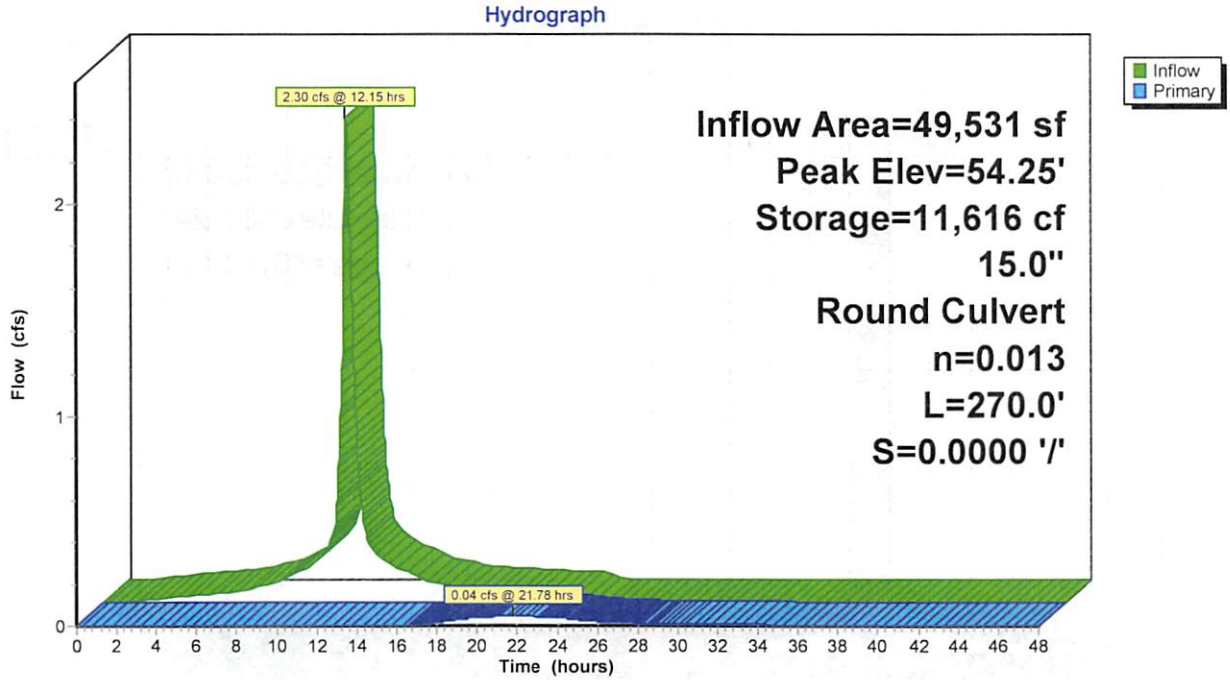
Plug-Flow detention time= 1,064.3 min calculated for 1,447 cf (12% of inflow)
Center-of-Mass det. time= 710.2 min (1,475.0 - 764.7)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	2,758 cf	**48.0'W x 45.0'H x 94.0'L Stone Encasement (30")** x 10 14,100 cf Overall - 6,220 cf Embedded = 7,880 cf x 35.0% Voids
#2	51.55'	2,321 cf	**36.0'W x 39.0'H x 137.0'L Stone Encasement (24")** x 10 13,358 cf Overall - 6,725 cf Embedded = 6,633 cf x 35.0% Voids
#3	51.80'	4,320 cf	**30.0" D x 88.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 6,220 cf Overall - 3.0" Wall Thickness = 4,320 cf
#4	51.80'	4,304 cf	**24.0" D x 137.0'L Perforated HDPE Pipe (24")** x 10 Inside #2 6,725 cf Overall - 3.0" Wall Thickness = 4,304 cf
		13,703 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**15.0" Round Outlet To Site Rear** L= 270.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.04 cfs @ 21.78 hrs HW=54.25' TW=0.00' (Dynamic Tailwater)
↳ **1=Outlet To Site Rear** (Barrel Controls 0.04 cfs @ 0.39 fps)

Pond B-4: Municipal Infiltration Basin



Summary for Pond RG-2: Access Road Bioretention Area

Inflow Area = 55,913 sf, 58.22% Impervious, Inflow Depth = 2.86" for 10YR Storm event
Inflow = 2.44 cfs @ 12.15 hrs, Volume= 13,310 cf
Outflow = 1.56 cfs @ 12.44 hrs, Volume= 11,477 cf, Atten= 36%, Lag= 17.0 min
Primary = 1.56 cfs @ 12.44 hrs, Volume= 11,477 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.63' @ 12.44 hrs Surf.Area= 4,804 sf Storage= 4,577 cf

Plug-Flow detention time= 173.3 min calculated for 11,472 cf (86% of inflow)
Center-of-Mass det. time= 110.3 min (875.9 - 765.6)

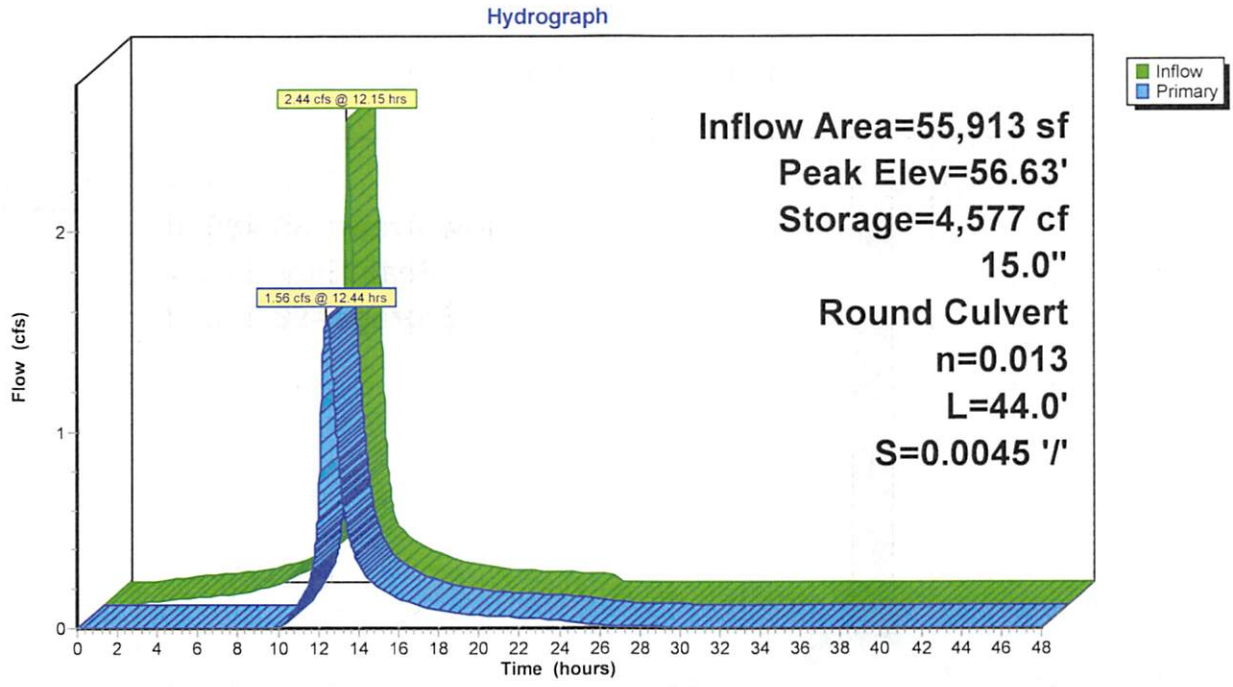
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	6,579 cf	**Swale Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	1,200	750.0	0	0	1,200
56.00	3,155	794.5	2,100	2,100	6,724
57.00	5,950	882.0	4,479	6,579	18,427

Device	Routing	Invert	Outlet Devices
#1	Primary	55.90'	**15.0" Round Outlet Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.90' / 55.70' S= 0.0045 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.56 cfs @ 12.44 hrs HW=56.63' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet Culvert** (Barrel Controls 1.56 cfs @ 3.04 fps)

Pond RG-2: Access Road Bioretention Area



Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 4.10" for 25YR Storm event
Inflow = 21.62 cfs @ 12.16 hrs, Volume= 112,810 cf
Outflow = 0.70 cfs @ 17.66 hrs, Volume= 16,185 cf, Atten= 97%, Lag= 329.5 min
Primary = 0.70 cfs @ 17.66 hrs, Volume= 16,185 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.56' @ 17.66 hrs Surf.Area= 40,387 sf Storage= 98,890 cf

Plug-Flow detention time= 779.5 min calculated for 16,178 cf (14% of inflow)
Center-of-Mass det. time= 458.7 min (1,229.6 - 770.9)

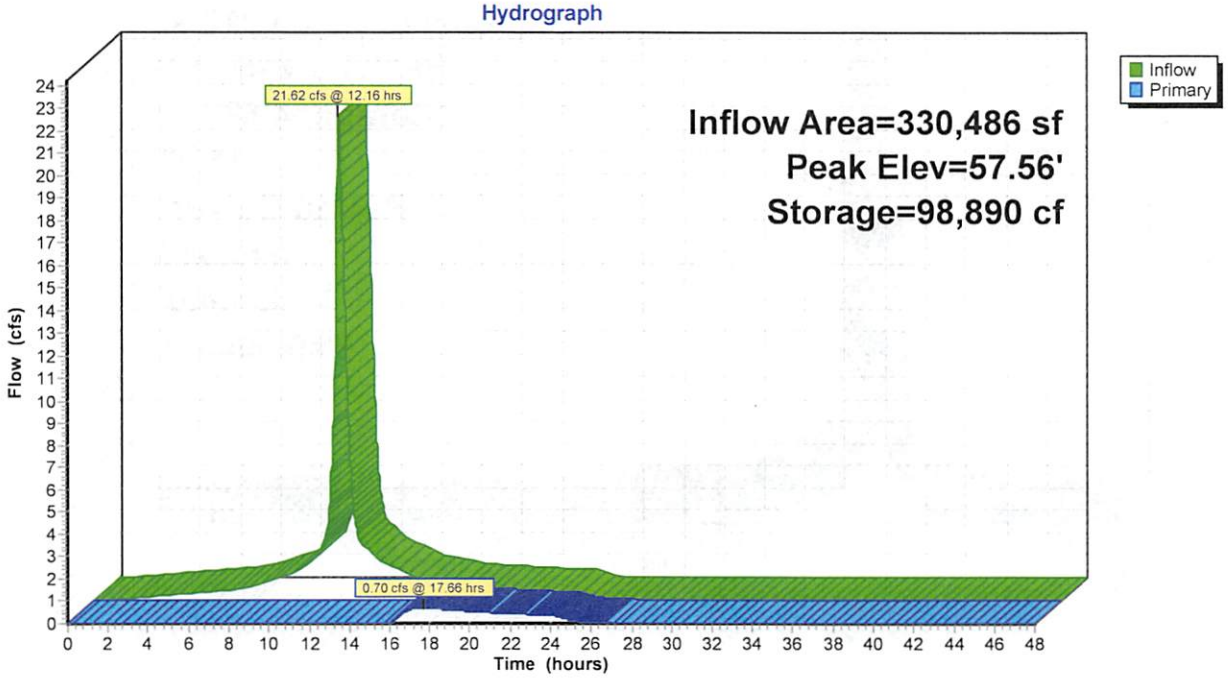
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.70 cfs @ 17.66 hrs HW=57.56' TW=0.00' (Dynamic Tailwater)
└─**1=Spillway Culvert** (Passes 0.70 cfs of 29.35 cfs potential flow)
└─**2=Spillway Grate** (Weir Controls 0.70 cfs @ 0.78 fps)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 3.88" for 25YR Storm event
Inflow = 2.87 cfs @ 12.16 hrs, Volume= 16,027 cf
Outflow = 0.22 cfs @ 14.78 hrs, Volume= 4,986 cf, Atten= 92%, Lag= 157.4 min
Primary = 0.22 cfs @ 14.78 hrs, Volume= 4,986 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 54.47' @ 14.78 hrs Surf.Area= 7,870 sf Storage= 12,150 cf

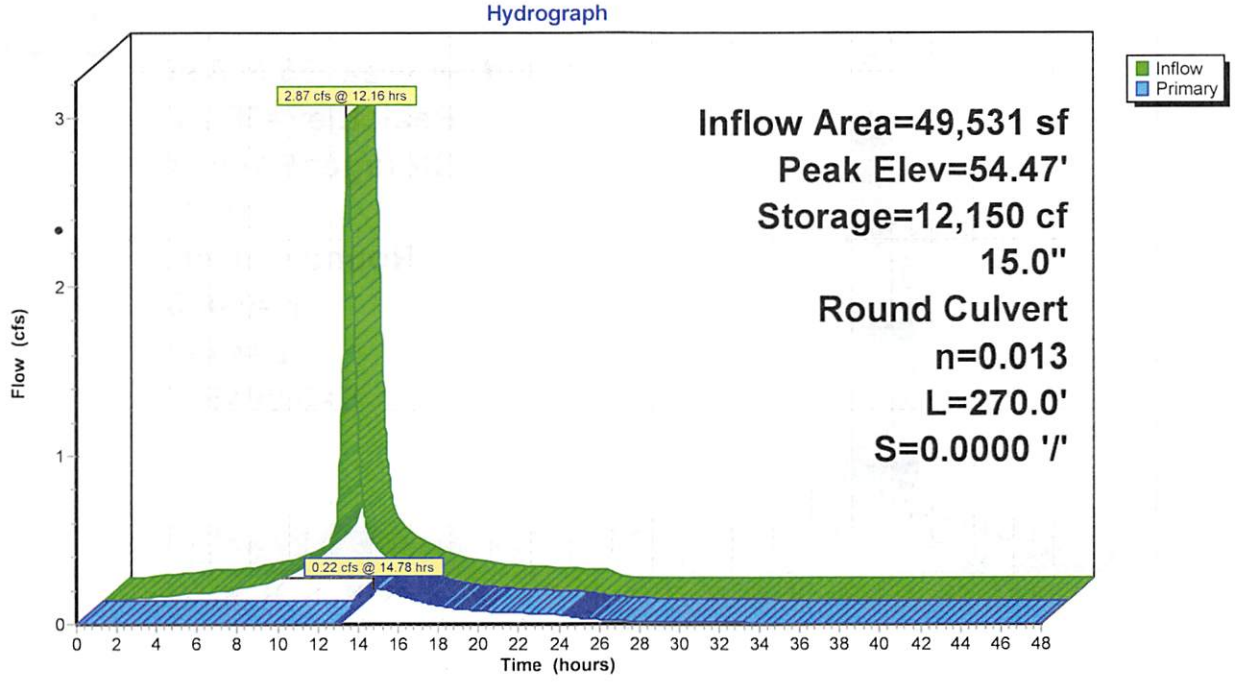
Plug-Flow detention time= 577.7 min calculated for 4,986 cf (31% of inflow)
Center-of-Mass det. time= 378.2 min (1,143.5 - 765.3)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	2,758 cf	**48.0'W x 45.0'H x 94.0'L Stone Encasement (30")** x 10 14,100 cf Overall - 6,220 cf Embedded = 7,880 cf x 35.0% Voids
#2	51.55'	2,321 cf	**36.0'W x 39.0'H x 137.0'L Stone Encasement (24")** x 10 13,358 cf Overall - 6,725 cf Embedded = 6,633 cf x 35.0% Voids
#3	51.80'	4,320 cf	**30.0" D x 88.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 6,220 cf Overall - 3.0" Wall Thickness = 4,320 cf
#4	51.80'	4,304 cf	**24.0" D x 137.0'L Perforated HDPE Pipe (24")** x 10 Inside #2 6,725 cf Overall - 3.0" Wall Thickness = 4,304 cf
		13,703 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**15.0" Round Outlet To Site Rear** L= 270.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.22 cfs @ 14.78 hrs HW=54.47' TW=0.00' (Dynamic Tailwater)
↳ **1=Outlet To Site Rear** (Barrel Controls 0.22 cfs @ 0.76 fps)

Pond B-4: Municipal Infiltration Basin



Summary for Pond RG-2: Access Road Bioretention Area

Inflow Area = 55,913 sf, 58.22% Impervious, Inflow Depth = 3.68" for 25YR Storm event
Inflow = 3.06 cfs @ 12.16 hrs, Volume= 17,153 cf
Outflow = 2.01 cfs @ 12.44 hrs, Volume= 15,319 cf, Atten= 34%, Lag= 17.0 min
Primary = 2.01 cfs @ 12.44 hrs, Volume= 15,319 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.74' @ 12.44 hrs Surf.Area= 5,139 sf Storage= 5,140 cf

Plug-Flow detention time= 151.8 min calculated for 15,319 cf (89% of inflow)
Center-of-Mass det. time= 97.8 min (864.3 - 766.5)

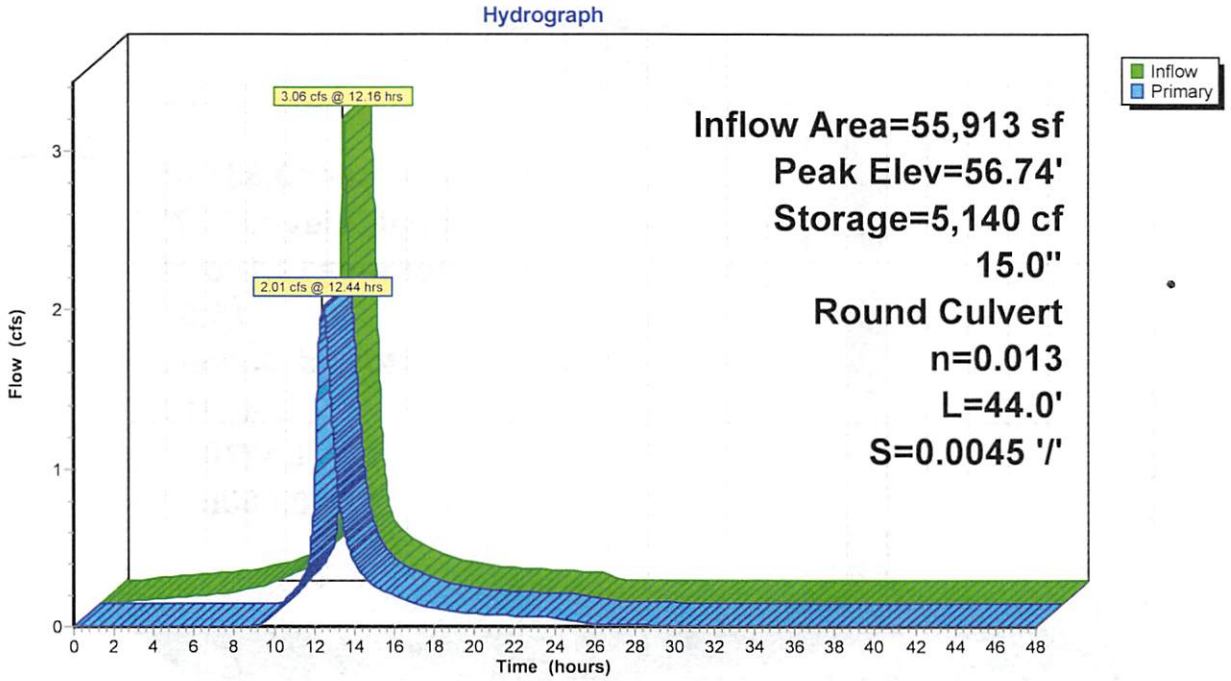
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	6,579 cf	**Swale Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	1,200	750.0	0	0	1,200
56.00	3,155	794.5	2,100	2,100	6,724
57.00	5,950	882.0	4,479	6,579	18,427

Device	Routing	Invert	Outlet Devices
#1	Primary	55.90'	**15.0" Round Outlet Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.90' / 55.70' S= 0.0045 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=2.01 cfs @ 12.44 hrs HW=56.74' TW=0.00' (Dynamic Tailwater)
↑**1=Outlet Culvert** (Barrel Controls 2.01 cfs @ 3.24 fps)

Pond RG-2: Access Road Bioretention Area



Summary for Pond B-1&2: Primary Site Infiltration Basin

Inflow Area = 330,486 sf, 69.68% Impervious, Inflow Depth = 5.91" for 100YR Storm event
Inflow = 30.00 cfs @ 12.16 hrs, Volume= 162,757 cf
Outflow = 5.47 cfs @ 13.06 hrs, Volume= 66,132 cf, Atten= 82%, Lag= 53.5 min
Primary = 5.47 cfs @ 13.06 hrs, Volume= 66,132 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 57.72' @ 13.06 hrs Surf.Area= 41,045 sf Storage= 105,624 cf

Plug-Flow detention time= 369.4 min calculated for 66,104 cf (41% of inflow)
Center-of-Mass det. time= 212.1 min (982.8 - 770.7)

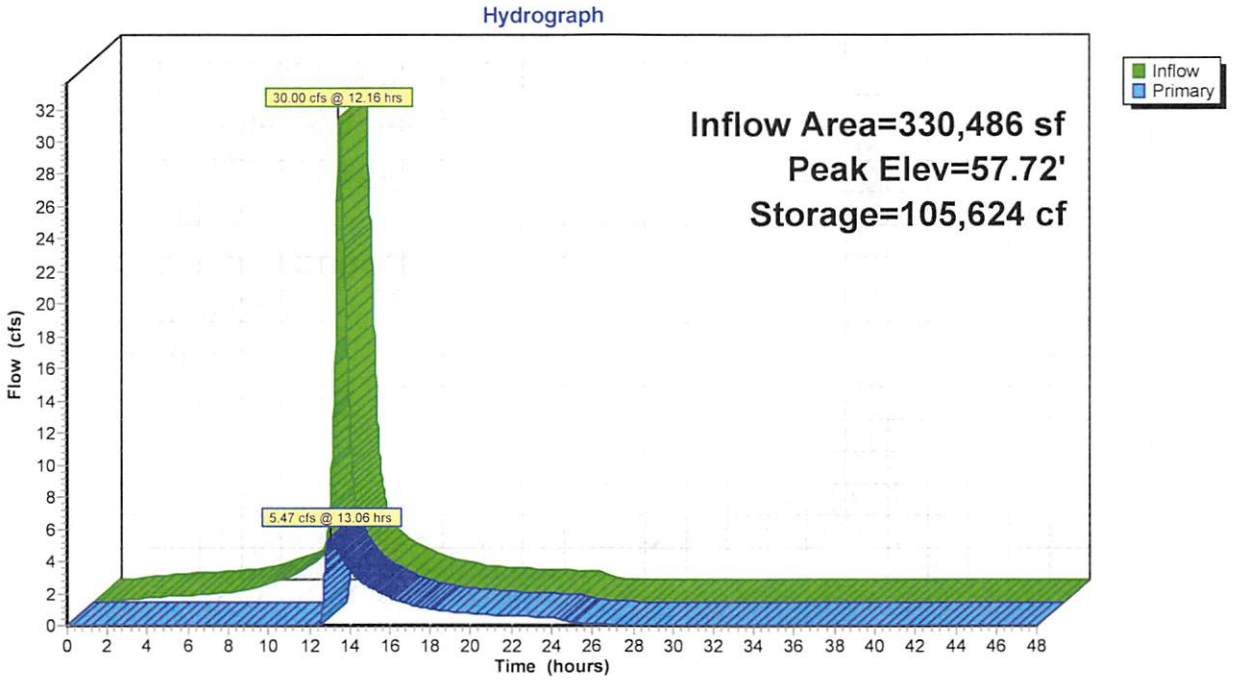
Volume	Invert	Avail.Storage	Storage Description
#1	54.50'	117,192 cf	**Infiltration Basin Area (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.50	21,719	0	0
55.00	24,344	11,516	11,516
56.00	34,254	29,299	40,815
57.00	38,175	36,215	77,029
58.00	42,150	40,163	117,192

Device	Routing	Invert	Outlet Devices
#1	Primary	55.20'	**24.0" Round Spillway Culvert X 2.00** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.20' / 55.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections
#2	Device 1	57.50'	**48.0" x 48.0" Horiz. Spillway Grate X 2.00** C= 0.600 in 48.0" x 48.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=5.47 cfs @ 13.06 hrs HW=57.72' TW=0.00' (Dynamic Tailwater)
↑—**1=Spillway Culvert** (Passes 5.47 cfs of 31.28 cfs potential flow)
↑—**2=Spillway Grate** (Weir Controls 5.47 cfs @ 1.54 fps)

Pond B-1&2: Primary Site Infiltration Basin



Summary for Pond B-4: Municipal Infiltration Basin

Inflow Area = 49,531 sf, 61.91% Impervious, Inflow Depth = 5.48" for 100YR Storm event
Inflow = 3.95 cfs @ 12.16 hrs, Volume= 22,617 cf
Outflow = 1.30 cfs @ 12.73 hrs, Volume= 11,573 cf, Atten= 67%, Lag= 34.0 min
Primary = 1.30 cfs @ 12.73 hrs, Volume= 11,573 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 55.08' @ 12.73 hrs Surf.Area= 7,870 sf Storage= 13,408 cf

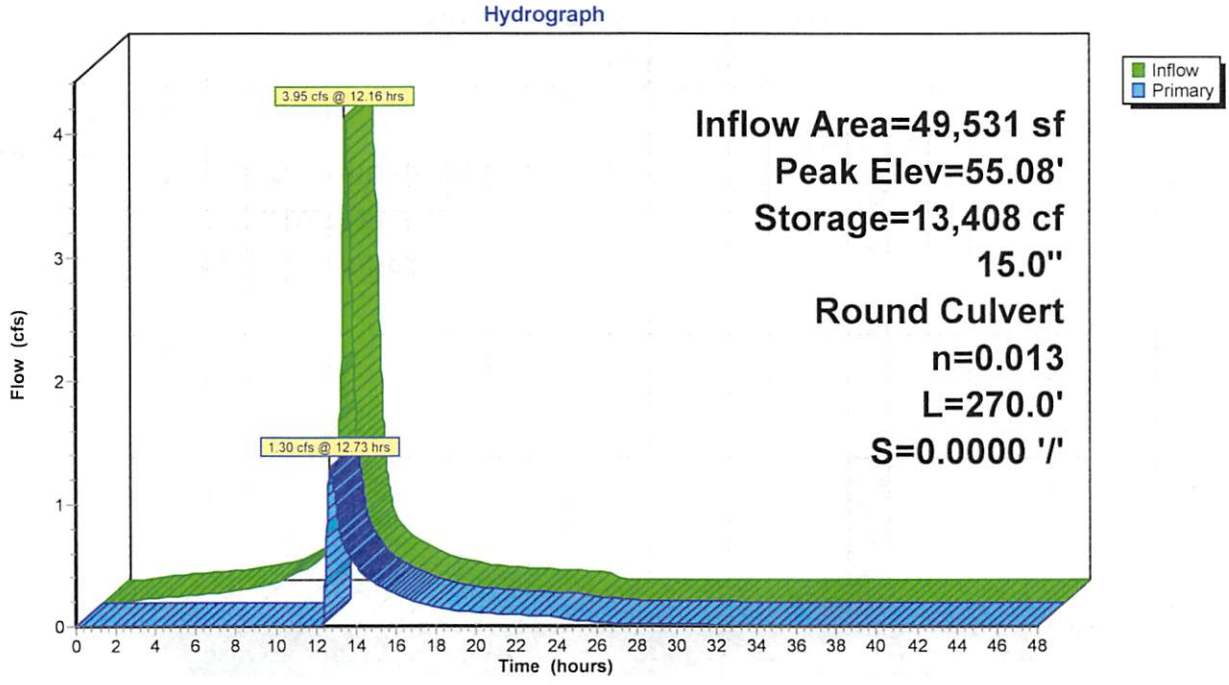
Plug-Flow detention time= 360.4 min calculated for 11,569 cf (51% of inflow)
Center-of-Mass det. time= 223.6 min (990.1 - 766.4)

Volume	Invert	Avail.Storage	Storage Description
#1	51.55'	2,758 cf	**48.0'W x 45.0'H x 94.0'L Stone Encasement (30")** x 10 14,100 cf Overall - 6,220 cf Embedded = 7,880 cf x 35.0% Voids
#2	51.55'	2,321 cf	**36.0'W x 39.0'H x 137.0'L Stone Encasement (24")** x 10 13,358 cf Overall - 6,725 cf Embedded = 6,633 cf x 35.0% Voids
#3	51.80'	4,320 cf	**30.0" D x 88.0'L Perforated HDPE Pipe (30")** x 10 Inside #1 6,220 cf Overall - 3.0" Wall Thickness = 4,320 cf
#4	51.80'	4,304 cf	**24.0" D x 137.0'L Perforated HDPE Pipe (24")** x 10 Inside #2 6,725 cf Overall - 3.0" Wall Thickness = 4,304 cf
		13,703 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**15.0" Round Outlet To Site Rear** L= 270.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.30 cfs @ 12.73 hrs HW=55.08' TW=0.00' (Dynamic Tailwater)
↳**1=Outlet To Site Rear** (Barrel Controls 1.30 cfs @ 1.56 fps)

Pond B-4: Municipal Infiltration Basin



Summary for Pond RG-2: Access Road Bioretention Area

Inflow Area = 55,913 sf, 58.22% Impervious, Inflow Depth = 5.23" for 100YR Storm event
Inflow = 4.33 cfs @ 12.16 hrs, Volume= 24,365 cf
Outflow = 2.86 cfs @ 12.45 hrs, Volume= 22,531 cf, Atten= 34%, Lag= 17.3 min
Primary = 2.86 cfs @ 12.45 hrs, Volume= 22,531 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs / 3
Peak Elev= 56.94' @ 12.45 hrs Surf.Area= 5,765 sf Storage= 6,243 cf

Plug-Flow detention time= 124.1 min calculated for 22,531 cf (92% of inflow)
Center-of-Mass det. time= 82.5 min (850.5 - 767.9)

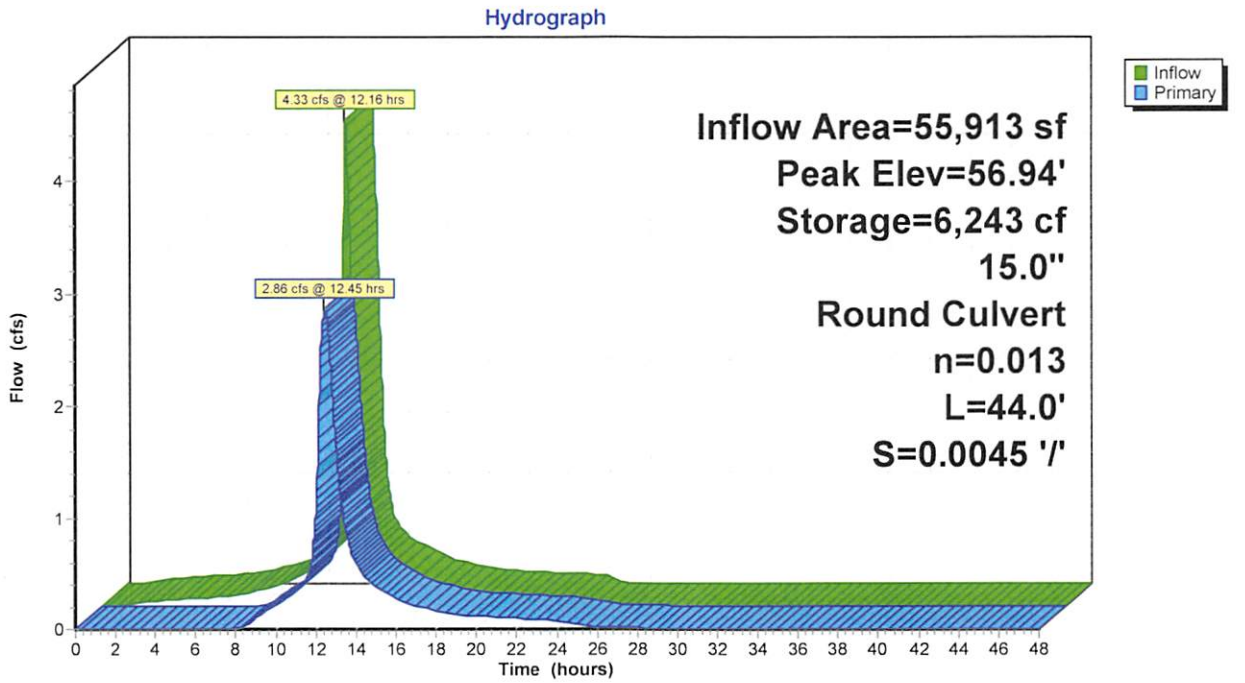
Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	6,579 cf	**Swale Area (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	1,200	750.0	0	0	1,200
56.00	3,155	794.5	2,100	2,100	6,724
57.00	5,950	882.0	4,479	6,579	18,427

Device	Routing	Invert	Outlet Devices
#1	Primary	55.90'	**15.0" Round Outlet Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 55.90' / 55.70' S= 0.0045 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=2.86 cfs @ 12.45 hrs HW=56.94' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet Culvert** (Barrel Controls 2.86 cfs @ 3.54 fps)

Pond RG-2: Access Road Bioretention Area



APPENDIX E

STONEFIELD STORMWATER MANAGEMENT REPORT, DATED DECEMBER 30, 2011, LAST REVISED MARCH 11, 2023 CONVEYANCE SYSTEM CALCULATIONS

Structure **D-101**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	200	0.005	3.70%	0.15	0.01
Impervious	5,203	0.119	96.30%	0.95	0.91
Total Area	5,403	0.124			0.92

Structure **D-102**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,356	0.054	35.55%	0.15	0.05
Impervious	4,272	0.098	64.45%	0.95	0.61
Total Area	6,628	0.152			0.67

Structure **D-103**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	1,723	0.040	15.18%	0.15	0.02
Impervious	9,627	0.221	84.82%	0.95	0.81
Total Area	11,350	0.261			0.83

Structure **D-104** 7,980 SF (R-101)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,989	0.069	19.40%	0.15	0.03
Impervious	12,418	0.285	80.60%	0.95	0.77
Total Area	15,407	0.354			0.79

Structure **D-105**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	1,247	0.029	21.63%	0.15	0.03
Impervious	4,518	0.104	78.37%	0.95	0.74
Total Area	5,765	0.132			0.78

Structure **D-106**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,112	0.094	100.00%	0.95	0.95
Total Area	4,112	0.094			0.95

Structure **D-201**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	1,902	0.044	32.59%	0.15	0.05
Impervious	3,934	0.090	67.41%	0.95	0.64
Total Area	5,836	0.134			0.69

Structure **D-202**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,454	0.056	39.02%	0.15	0.06
Impervious	3,835	0.088	60.98%	0.95	0.58
Total Area	6,289	0.144			0.64

Structure **D-203** 1501 SF (R-201)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	3,706	0.085	36.51%	0.15	0.05
Impervious	6,446	0.148	63.49%	0.95	0.60
Total Area	10,152	0.233			0.66

Structure **D-204** 1444 SF (R-202) & 1262 SF (R-203)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	3,765	0.086	41.46%	0.15	0.06
Impervious	5,315	0.122	58.54%	0.95	0.56
Total Area	9,080	0.208			0.62

Structure **D-205** 7500 SF (R-204)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	12,240	0.281	100.00%	0.95	0.95
Total Area	12,240	0.281			0.95

Structure **D-301**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	3,103	0.071	28.41%	0.15	0.04
Impervious	7,821	0.180	71.59%	0.95	0.68
Total Area	10,924	0.251			0.72

Structure **D-302**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	1,441	0.033	34.97%	0.15	0.05
Impervious	2,680	0.062	65.03%	0.95	0.62
Total Area	4,121	0.095			0.67

Structure **D-303**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	885	0.020	15.13%	0.15	0.02
Impervious	4,965	0.114	84.87%	0.95	0.81
Total Area	5,850	0.134			0.83

Structure **D-304**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	236	0.005	6.83%	0.15	0.01
Impervious	3,220	0.074	93.17%	0.95	0.89
Total Area	3,456	0.079			0.90

Structure **D-305**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	3,262	0.075	100.00%	0.95	0.95
Total Area	3,262	0.075			0.95

Structure **D-306**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	719	0.017	10.96%	0.15	0.02
Impervious	5,842	0.134	89.04%	0.95	0.85
Total Area	6,561	0.151			0.86

Structure **D-307**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	286	0.007	8.12%	0.15	0.01
Impervious	3,235	0.074	91.88%	0.95	0.87
Total Area	3,521	0.081			0.89

Structure **D-308** 7500 SF (R-301)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	12,840	0.295	100.00%	0.95	0.95
Total Area	12,840	0.295			0.95

Structure **D-401**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,545	0.058	17.47%	0.15	0.03
Impervious	12,019	0.276	82.53%	0.95	0.78
Total Area	14,564	0.334			0.81

Structure **D-402**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	945	0.022	12.34%	0.15	0.02
Impervious	6,713	0.154	87.66%	0.95	0.83
Total Area	7,658	0.176			0.85

Structure **D-403**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	111	0.003	1.03%	0.15	0.00
Impervious	10,641	0.244	98.97%	0.95	0.94
Total Area	10,752	0.247			0.94

Structure **D-404** 2533 SF (R-401)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	819	0.019	9.32%	0.15	0.01
Impervious	7,964	0.183	90.68%	0.95	0.86
Total Area	8,783	0.202			0.88

Structure **D-405**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,906	0.113	100.00%	0.95	0.95
Total Area	4,906	0.113			0.95

Structure **D-501** 9943 SF (R-501 & R-502)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	767	0.018	5.00%	0.15	0.01
Impervious	14,711	0.338	95.96%	0.95	0.91
Total Area	15,330	0.355			0.92

Structure **D-502**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,836	0.111	100.00%	0.95	0.95
Total Area	4,836	0.111			0.95

Structure **D-601**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	846	0.019	17.66%	0.15	0.03
Impervious	3,944	0.091	82.34%	0.95	0.78
Total Area	4,790	0.110			0.81

Structure **D-602**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	449	0.010	7.59%	0.15	0.01
Impervious	5,466	0.125	92.41%	0.95	0.88
Total Area	5,915	0.136			0.89

Structure **D-603**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,137	0.049	27.17%	0.15	0.04
Impervious	5,727	0.131	72.83%	0.95	0.69
Total Area	7,864	0.181			0.73

Structure **D-605** 3911 SF (R-601)

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	260	0.006	2.27%	0.15	0.00
Impervious	11,191	0.257	97.73%	0.95	0.93
Total Area	11,451	0.263			0.93

Structure **D-701**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,295	0.053	31.59%	0.15	0.05
Impervious	4,969	0.114	68.41%	0.95	0.65
Total Area	7,264	0.167			0.70

Structure **D-702**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	5,216	0.120	100.00%	0.95	0.95
Total Area	5,216	0.120			0.95

Structure **D-703** RAIN GARDEN

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	5,239	0.120	51.65%	0.15	0.08
Impervious	4,904	0.113	48.35%	0.95	0.46
Total Area	10,143	0.233			0.54

Structure **D-704**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	307	0.007	8.37%	0.15	0.01
Impervious	3,359	0.077	91.63%	0.95	0.87
Total Area	3,666	0.084			0.88

Structure **D-801**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	2,571	0.059	100.00%	0.95	0.95
Total Area	2,571	0.059			0.95

Structure **D-802**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	2,450	0.056	100.00%	0.95	0.95
Total Area	2,450	0.056			0.95

Structure **D-901**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	5,411	0.124	100.00%	0.95	0.95
Total Area	5,411	0.124			0.95

Structure **D-902**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,549	0.104	100.00%	0.95	0.95
Total Area	4,549	0.104			0.95

Structure **D-1001**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	6,190	0.142	100.00%	0.95	0.95
Total Area	6,190	0.142			0.95

Structure **D-1002**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	5,339	0.123	100.00%	0.95	0.95
Total Area	5,339	0.123			0.95

Structure **D-1101**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,003	0.092	100.00%	0.95	0.95
Total Area	4,003	0.092			0.95

Structure **D-1102**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,003	0.092	100.00%	0.95	0.95
Total Area	4,003	0.092			0.95

Structure **D-1103**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	1,592	0.037	100.00%	0.95	0.95
Total Area	1,592	0.037			0.95

Structure **D-1104**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	1,414	0.032	100.00%	0.95	0.95
Total Area	1,414	0.032			0.95

Structure **D-1201**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	1,558	0.036	100.00%	0.95	0.95
Total Area	1,558	0.036			0.95

Structure **D-1202**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	1,558	0.036	100.00%	0.95	0.95
Total Area	1,558	0.036			0.95

Structure **D-1301**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	3,967	0.091	100.00%	0.95	0.95
Total Area	3,967	0.091			0.95

Structure **D-1302**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	6,219	0.143	100.00%	0.95	0.95
Total Area	6,219	0.143			0.95

Structure **D-1303**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	12,534	0.288	61.97%	0.15	0.09
Impervious	7,692	0.177	38.03%	0.95	0.36
Total Area	20,226	0.464			0.45

Structure **D-1304**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	295	0.007	5.08%	0.15	0.01
Impervious	5,513	0.127	94.92%	0.95	0.90
Total Area	5,808	0.133			0.91

Structure **D-1305**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	6,684	0.153	38.55%	0.15	0.06
Impervious	10,653	0.245	61.45%	0.95	0.58
Total Area	17,337	0.398			0.64

Structure **D-1401**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	10,231	0.235	24.32%	0.15	0.04
Impervious	31,842	0.731	75.68%	0.95	0.72
Total Area	42,073	0.966			0.76

Structure **D-1402**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,876	0.066	18.10%	0.15	0.03
Impervious	13,016	0.299	81.90%	0.95	0.78
Total Area	15,891	0.365			0.81

Structure **D-1403**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	9,138	0.210	50.05%	0.15	0.08
Impervious	9,119	0.209	49.95%	0.95	0.47
Total Area	18,257	0.419			0.55

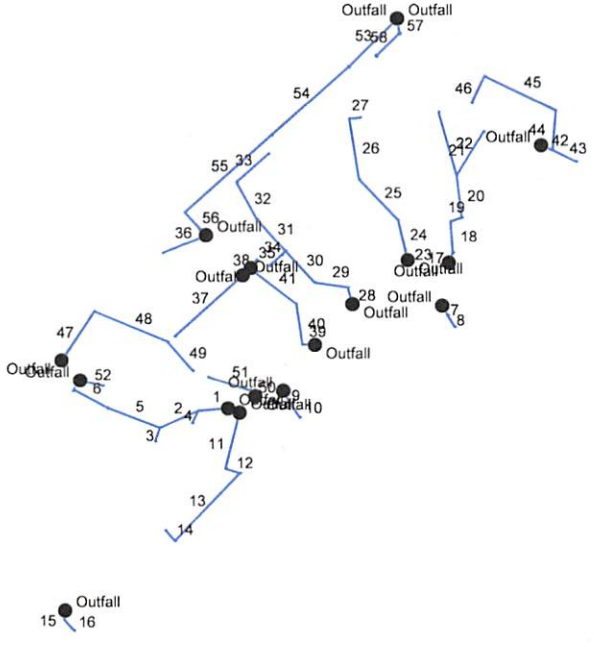
Structure **D-1405**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	2,509	0.058	29.35%	0.15	0.04
Impervious	6,041	0.139	70.65%	0.95	0.67
Total Area	8,550	0.196			0.72

Structure **D-1404**

Cover	Area (SF)	Area (acres)	% of Total	C	Weighted C
Lawns	0	0.000	0.00%	0.15	0.00
Impervious	4,049	0.093	100.00%	0.95	0.95
Total Area	4,049	0.093			0.95

Lawrence MUCD



Project File: Pipe Sizing & Profiles-REV2.stm	Number of lines: 58	Date: 3/11/2013

Report

Line No.	Line ID	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Size (in)	Line Type	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Tc (min)	HGL Dn (ft)	HGL Up (ft)	Drng Area (ac)	Runoff Coeff (C)	Line Length (ft)	Vel Dn (ft/s)
1	D705-D704	54.50	58.50	54.50	54.69	18	Cir	0.35	1.88	6.17	19.2	55.07	55.26	0.08	0.88	55.000	3.05
2	D704-D702	58.50	58.00	54.69	54.97	15	Cir	0.35	1.17	3.84	18.2	55.45	55.52	0.12	0.95	79.000	1.49
3	D702-D701	58.00	58.00	54.97	55.11	15	Cir	0.52	0.76	4.65	10.0	55.65	55.65	0.17	0.70	27.000	1.11
4	D704-D703	58.50	57.00	54.69	54.82	12	Cir	0.50	0.40	2.52	10.0	55.45	55.45	0.00	0.00	26.000	0.62
5	D702-M701	58.00	59.50	54.97	55.39	15	Cir	0.40	0.01	4.08	11.8	55.65	55.65	0.00	0.00	105.000	0.01
6	M701-B701	59.50	58.00	55.39	55.68	15	Cir	0.40	0.01	4.07	10.0	55.65	55.73	0.00	0.00	73.000	0.05
7	D903-D902	54.50	58.00	54.50	54.70	15	Cir	1.00	1.32	6.46	10.2	54.96	55.16	0.10	0.95	20.000	3.22
8	D902-D901	58.00	58.00	54.70	54.96	15	Cir	1.00	0.73	6.46	10.0	55.16	55.30 j	0.12	0.95	26.000	1.77
9	D1003-D1002	54.50	58.00	54.50	54.70	15	Cir	1.00	1.56	6.46	10.3	55.00	55.20	0.12	0.95	20.000	3.40
10	D1002-D1001	58.00	58.00	54.70	55.09	15	Cir	1.00	0.85	6.46	10.0	55.20	55.46 j	0.14	0.95	39.000	1.85
11	D1105-D1104	54.50	58.75	54.50	54.94	15	Cir	0.40	1.41	4.10	12.0	55.01	55.44	0.03	0.95	109.000	3.00
12	D1104-D1103	58.75	58.75	54.94	55.05	15	Cir	0.39	1.25	4.05	11.8	55.66	55.68	0.04	0.95	28.000	1.71
13	D1103-D1102	58.75	58.00	55.05	55.76	15	Cir	0.40	1.07	4.09	10.4	55.77	56.18	0.09	0.95	177.000	1.46
14	D1102-D1101	58.00	58.00	55.76	55.87	15	Cir	0.41	0.54	4.12	10.0	56.39	56.39	0.09	0.95	27.000	0.89
15	D1203-D1202	55.00	57.75	55.00	55.09	15	Cir	0.53	0.48	4.70	10.4	55.28	55.37 j	0.04	0.95	17.000	2.32
16	D1202-D1201	57.75	57.75	55.09	55.23	15	Cir	0.50	0.24	4.57	10.0	55.47	55.48	0.04	0.95	28.000	0.77
17	D107-D106	54.50	58.00	54.50	54.58	18	Cir	0.38	5.08	6.48	13.6	55.50	55.58	0.09	0.95	21.000	4.06
18	D106-D105	58.00	58.00	54.58	54.82	18	Cir	0.40	4.64	6.64	13.3	55.77	55.87	0.13	0.78	60.000	3.09
19	D105-D104	58.00	58.00	54.82	54.93	18	Cir	0.50	4.08	7.43	13.2	56.15	56.17	0.35	0.79	22.000	2.46
20	D104-D103	58.00	58.00	54.93	55.33	18	Cir	0.50	2.55	7.43	12.4	56.33	56.36	0.26	0.83	80.000	1.49
21	D103-D101	58.00	58.00	55.33	55.82	15	Cir	0.51	0.51	4.59	10.0	56.42	56.42	0.12	0.67	97.000	0.45
22	D103-D102	58.00	58.00	55.33	55.95	15	Cir	0.50	0.88	4.57	10.0	56.42	56.47	0.15	0.92	124.000	0.77
23	D206-D205	54.50	58.00	54.50	54.58	18	Cir	0.40	4.32	6.64	12.1	55.38	55.46	0.28	0.95	20.000	4.01

Lawrence MUCD	Number of lines: 58	Date: 3/11/2013

NOTES: ** Critical depth

Report

Line No.	Line ID	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Size (in)	Line Type	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Tc (min)	HGL Dn (ft)	HGL Up (ft)	Drng Area (ac)	Runoff Coeff (C)	Line Length (ft)	Vel Dn (ft/s)	
24	D205-D204	58.00	58.00	54.58	54.82	18	Cir	0.41	2.77	6.70	11.7	55.59	55.63	0.21	0.62	59.000	2.20	
25	D204-D203	58.00	58.00	54.82	55.30	18	Cir	0.45	2.04	7.07	11.0	55.74	55.87	0.23	0.66	106.000	1.80	
26	D203-D202	58.00	58.00	55.30	55.88	15	Cir	0.50	1.13	4.57	10.2	56.03	56.31 j	0.14	0.64	116.000	1.53	
27	D202-D201	58.00	58.00	55.88	55.98	15	Cir	0.50	0.57	4.57	10.0	56.31	56.32	0.13	0.69	20.000	1.55	
28	D309-D308	54.50	58.00	54.50	54.60	18	Cir	0.30	5.56	5.78	13.8	55.68	55.78	0.30	0.95	33.000	3.73	
29	D308-D307	58.00	58.00	54.60	54.79	18	Cir	0.30	4.01	5.77	13.4	56.09	56.16	0.08	0.89	63.000	2.27	
30	D307-D306	58.00	58.00	54.79	55.03	18	Cir	0.30	3.68	5.72	12.7	56.25	56.33	0.15	0.86	81.000	2.10	
31	D306-D303	58.00	58.00	55.03	55.35	18	Cir	0.40	2.13	6.64	11.8	56.45	56.47	0.13	0.83	80.000	1.23	
32	D303-D302	58.00	58.00	55.35	55.67	15	Cir	0.40	1.53	4.08	10.9	56.49	56.52	0.10	0.67	80.000	1.30	
33	D302-D301	58.00	58.00	55.67	55.99	15	Cir	0.40	1.15	4.08	10.0	56.59	56.62	0.25	0.72	80.000	1.19	
34	D306-D305	58.00	58.00	55.03	55.14	18	Cir	1.00	0.89	10.50	11.5	56.45	56.45	0.08	0.95	11.000	0.52	
35	D305-D304	58.00	58.00	55.14	55.44	18	Cir	1.00	0.46	10.50	10.0	56.45	56.45	0.08	0.90	30.000	0.28	
36	M404-D401	58.90	58.00	55.00	55.44	15	Cir	0.51	1.70	4.59	10.0	55.52	55.97	0.33	0.81	87.000	3.50	
37	M402-D402	58.90	58.30	55.00	55.86	15	Cir	0.50	0.97	4.58	10.0	55.39	56.26	0.18	0.85	171.000	2.93	
38	M401-D403	58.75	58.50	55.00	55.19	15	Cir	1.00	1.50	6.46	10.0	55.49	55.68	0.25	0.94	19.000	3.35	
39	D406-D405	54.50	58.00	54.50	54.62	18	Cir	0.50	4.42	7.43	11.1	55.33	55.46	0.11	0.95	24.000	4.41	
40	D405-D404	58.00	58.00	54.62	55.01	18	Cir	0.51	3.80	7.47	10.6	55.89	55.96	0.20	0.88	77.000	2.37	
41	D404-M401	58.00	58.75	55.01	55.75	18	Cir	0.70	2.70	8.82	10.0	56.14	56.38 j	0.00	0.00	105.000	1.89	
42	M1301-D1305	55.80	54.75	51.80	51.92	15	Cir	0.52	4.63	4.66	12.9	52.66	52.92	0.40	0.64	23.000	5.14	
43	D1305-D1304	54.75	54.75	51.92	52.17	15	Cir	0.51	0.75	4.61	10.0	53.37	53.38	0.13	0.91	49.000	0.61	
44	D1305-D1301	54.75	58.50	51.90	52.13	15	Cir	0.30	2.51	3.55	12.2	53.37	53.49	0.09	0.95	76.000	2.05	
45	D1301-D1302	58.50	58.50	52.13	52.57	15	Cir	0.30	2.10	3.52	10.8	53.58	53.72	0.14	0.95	148.000	1.71	
46	D1302-D1303	58.50	58.50	52.57	52.74	15	Cir	0.30	1.32	3.56	10.0	53.80	53.82	0.46	0.45	56.000	1.08	

Lawrence MUCD | Number of lines: 58 | Date: 3/11/2013

NOTES: ** Critical depth

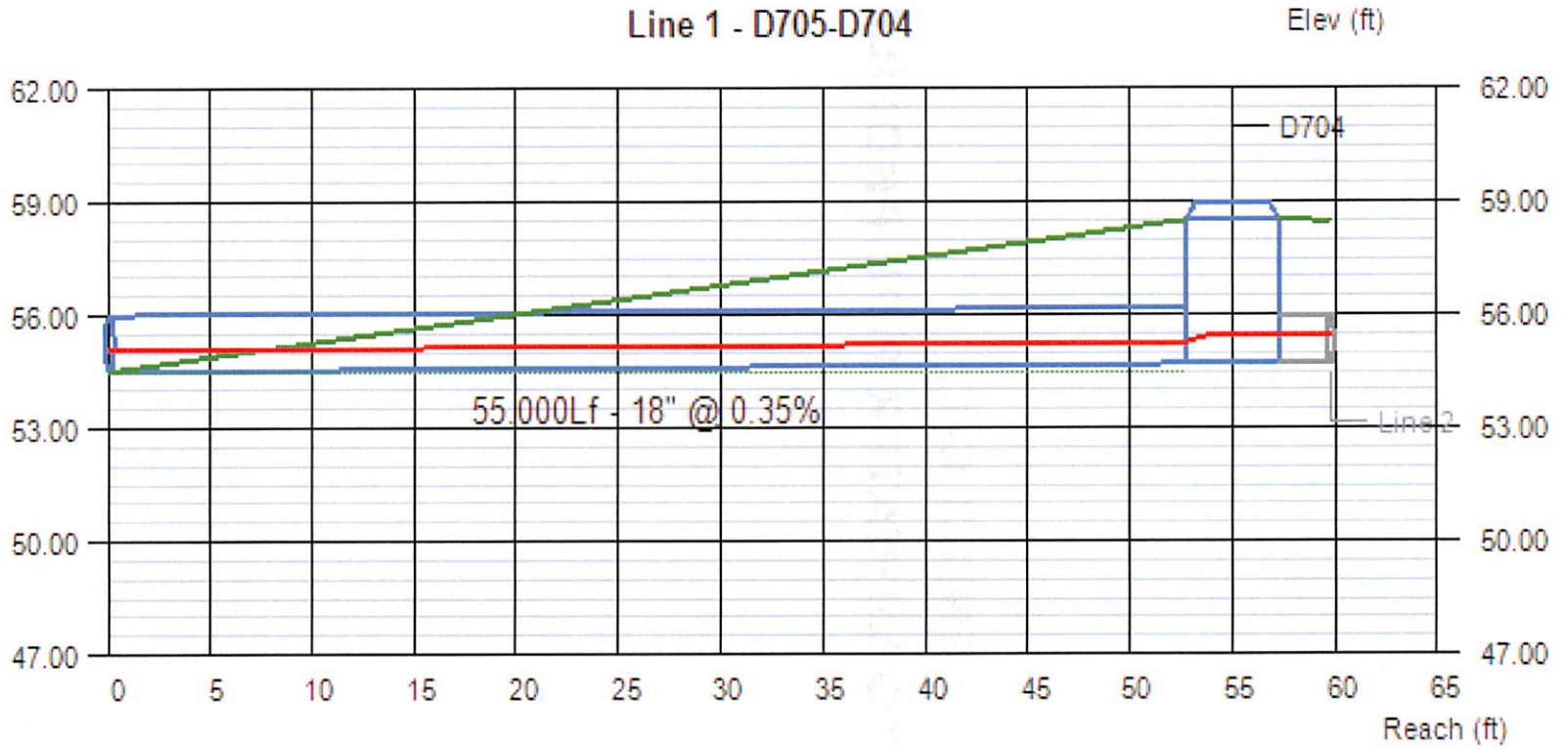
Report

Line No.	Line ID	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Size (in)	Line Type	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Tc (min)	HGL Dn (ft)	HGL Up (ft)	Drng Area (ac)	Runoff Coeff (C)	Line Length (ft)	Vel Dn (ft/s)
47	D604-D603	55.00	58.00	55.00	55.33	15	Cir	0.30	2.05	3.52	12.0	55.69	56.02	0.18	0.73	111.000	2.96
48	D603-D602	58.00	58.30	55.33	55.93	15	Cir	0.40	1.32	4.10	10.8	56.22	56.43	0.14	0.89	149.000	1.41
49	D602-D601	58.30	58.30	55.93	56.23	15	Cir	0.41	0.57	4.11	10.0	56.53	56.59	0.11	0.81	74.000	0.98
50	D503-D502	54.50	58.00	54.50	54.65	15	Cir	1.00	2.74	6.46	10.4	55.16	55.31	0.11	0.95	15.000	4.15
51	D502-D501	58.00	58.50	54.65	55.47	15	Cir	1.00	2.11	6.46	10.0	55.31	56.05 j	0.36	0.92	82.000	3.19
52	D606-D605	58.00	58.50	55.00	55.45	15	Cir	1.00	1.54	6.46	10.0	55.50	55.95 j	0.26	0.93	45.000	3.36
53	EXMH-D1403	58.00	58.50	52.70	53.08	18	Cir	0.30	7.39	5.72	13.8	54.20	54.83	0.42	0.55	128.000	4.18
54	D1403-D1402	58.50	58.50	53.08	53.67	18	Cir	0.30	6.26	5.78	12.9	54.97	55.66	0.37	0.81	195.000	3.54
55	D1402-D1401	58.50	58.50	53.67	54.32	18	Cir	0.30	4.71	5.75	11.6	55.76	56.20	0.97	0.76	217.000	2.67
56	D1401-WQU	58.50	58.50	54.32	54.46	10	Cir	0.31	0.26	1.23	10.0	56.36	56.37	0.00	0.00	44.506	0.48
57	EXMH-D1404	58.00	58.50	52.70	52.90	15	Cir	0.71	1.50	5.46	10.4	53.19	53.39	0.10	0.95	28.000	3.36
58	D1404-D1405	58.50	58.50	52.90	53.14	15	Cir	0.40	0.92	4.08	10.0	53.39	53.53	0.20	0.72	60.000	2.05

Lawrence MUCD | Number of lines: 58 | Date: 3/11/2013

NOTES: ** Critical depth

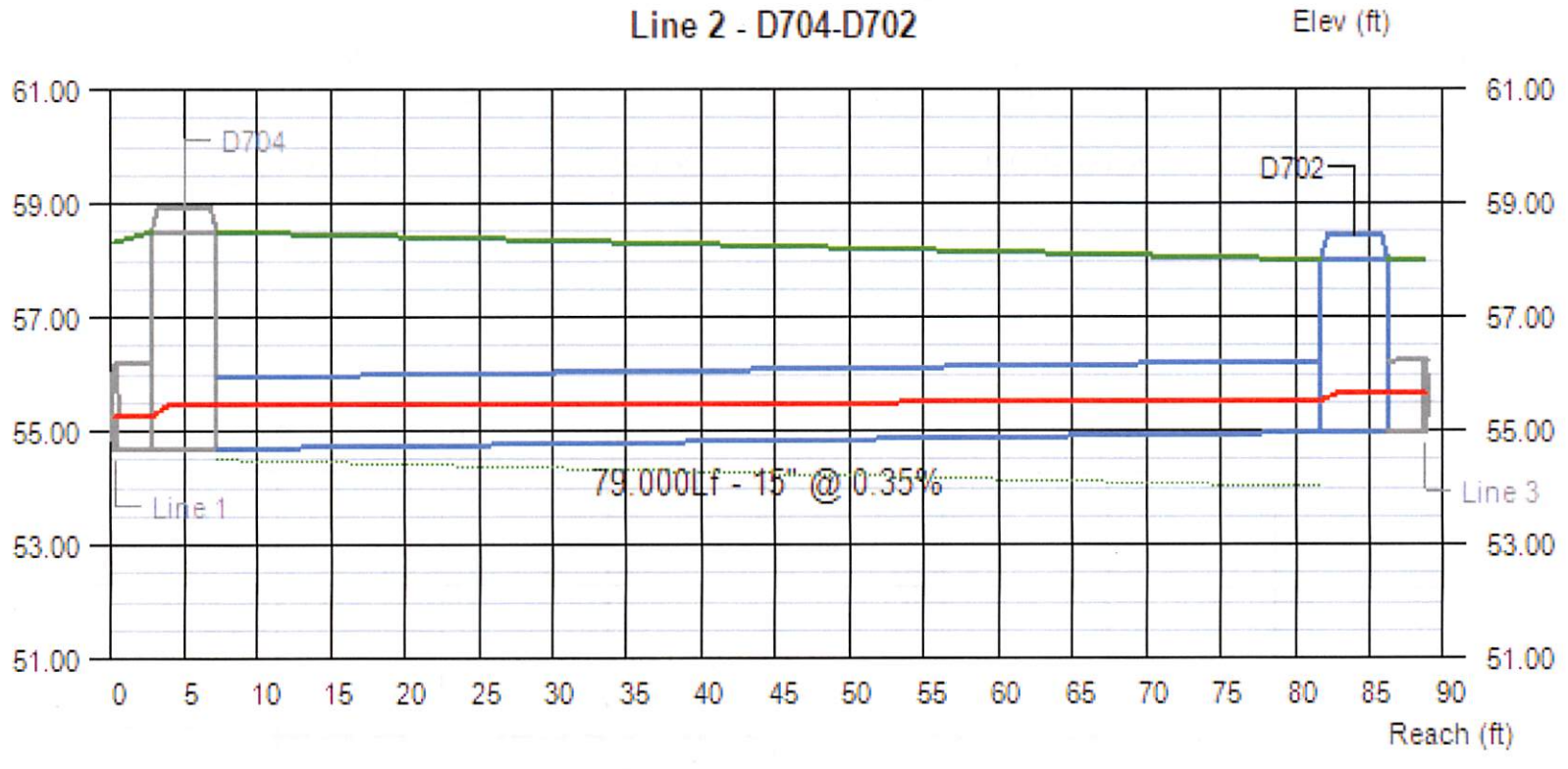
Line Profile (Line 1) - D705-D704



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
1	1.88	54.50	54.69	0.57	0.57	0.76	55.07	55.26	55.45	3.05	3.07	-1.50	2.31

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

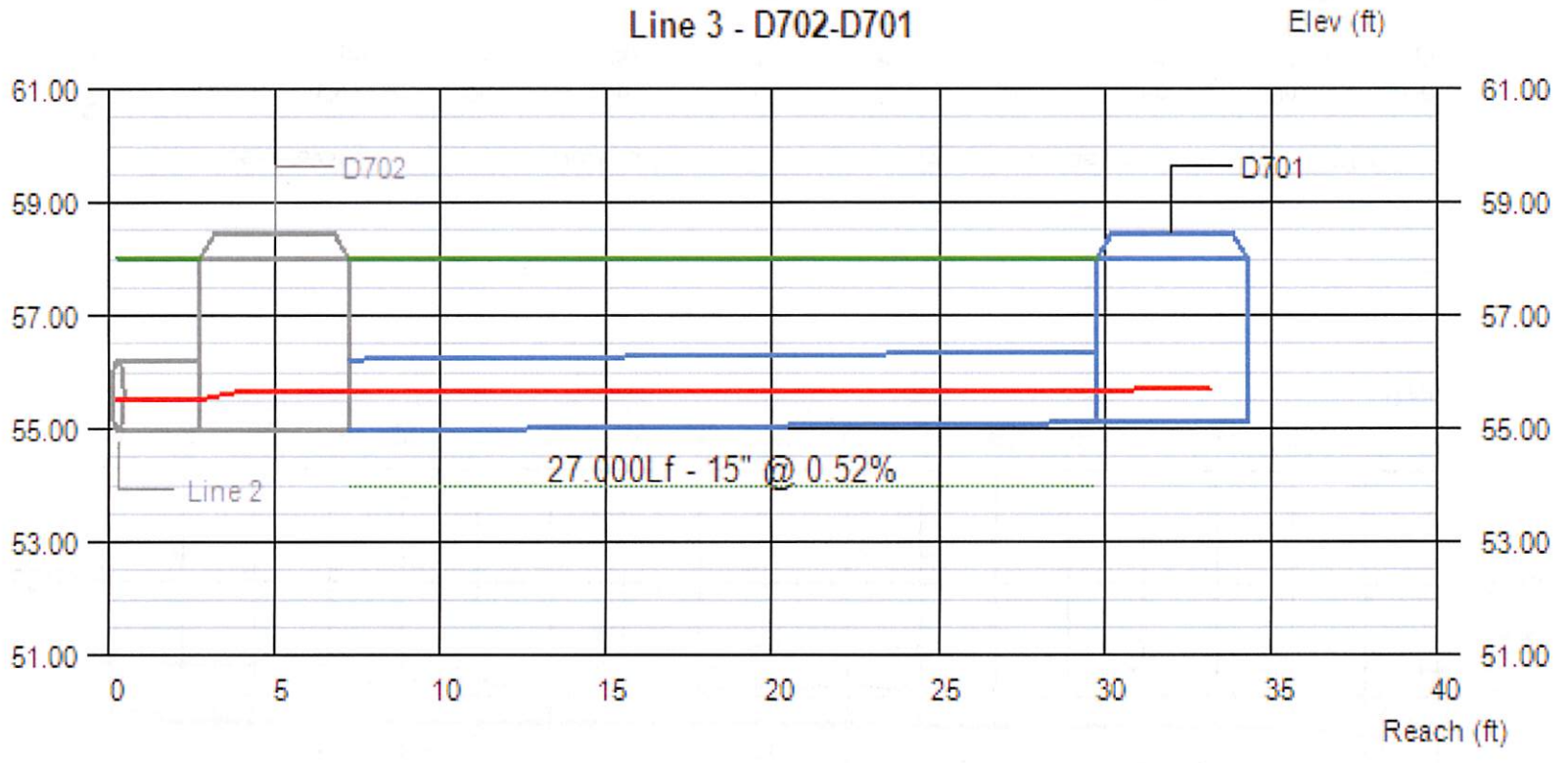
Line Profile (Line 2) - D704-D702



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
2	1.17	54.69	54.97	0.76	0.55	0.68	55.45	55.52	55.65	1.49	2.27	2.56	1.78

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

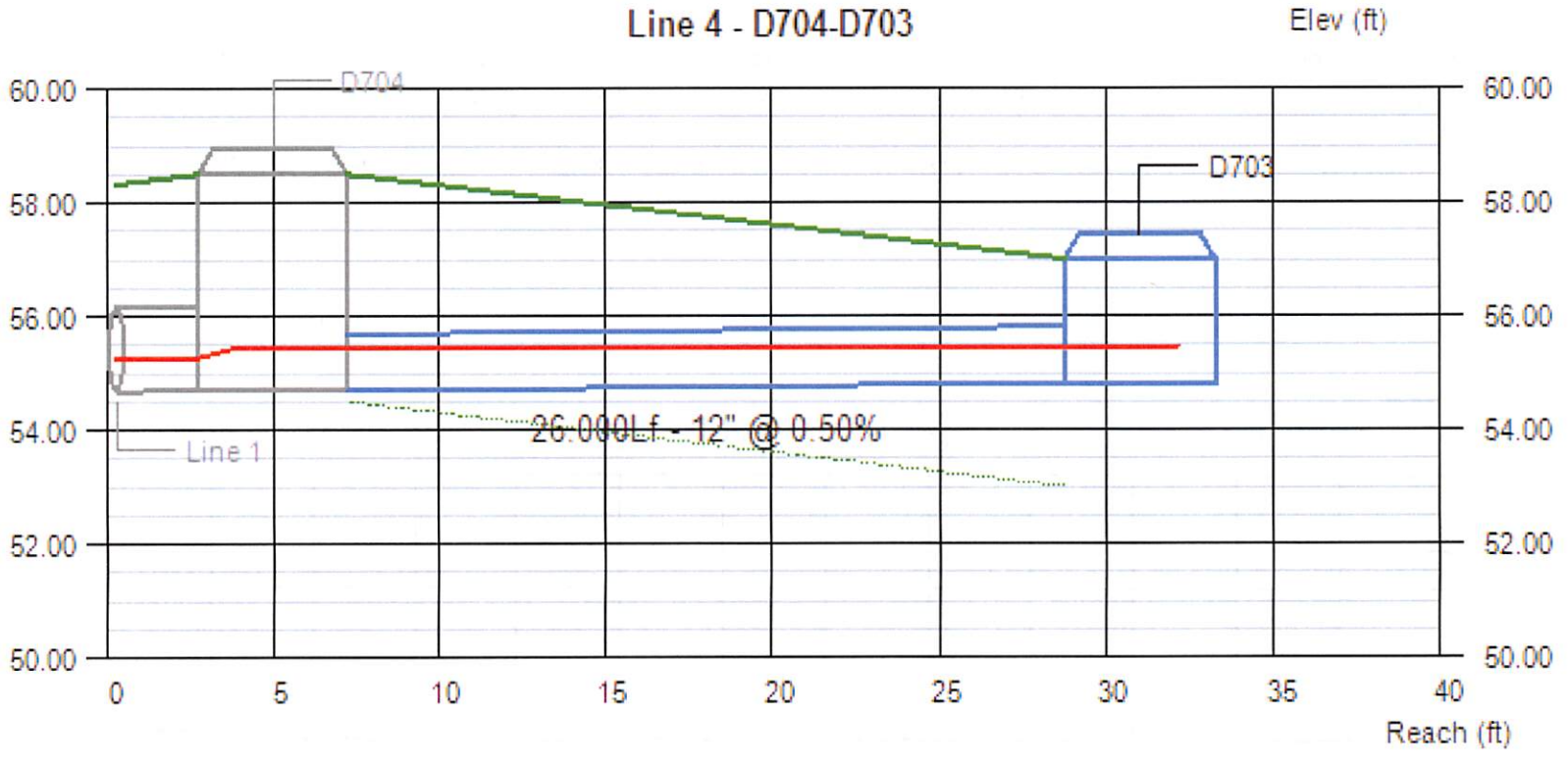
Line Profile (Line 3) - D702-D701



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
3	0.76	54.97	55.11	0.68	0.54	0.58	55.65	55.65	55.69	1.11	1.49	1.78	1.64

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

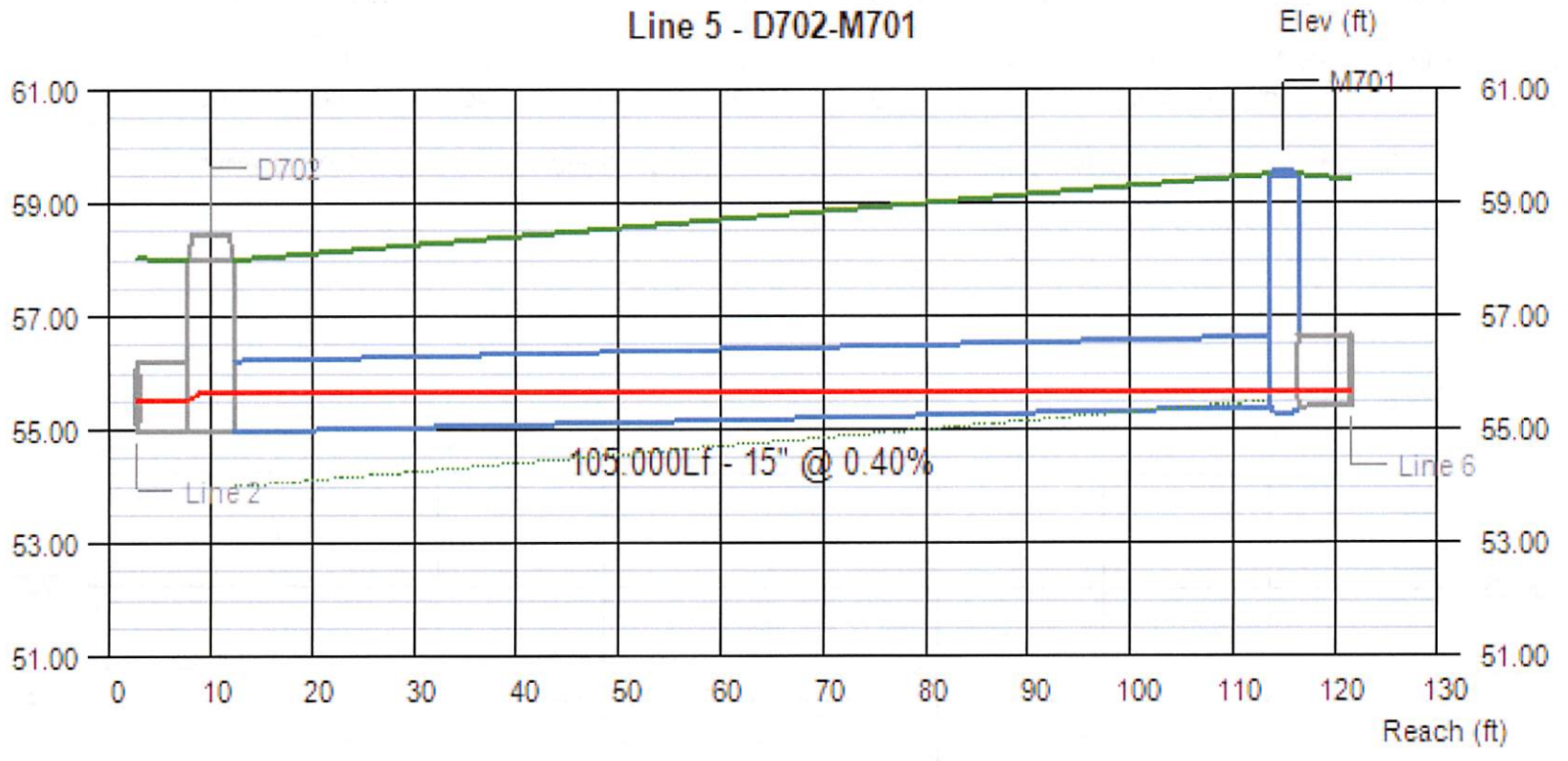
Line Profile (Line 4) - D704-D703



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
4	0.40	54.69	54.82	0.76	0.63	0.64	55.45	55.45	55.46	0.62	0.76	2.81	1.18

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

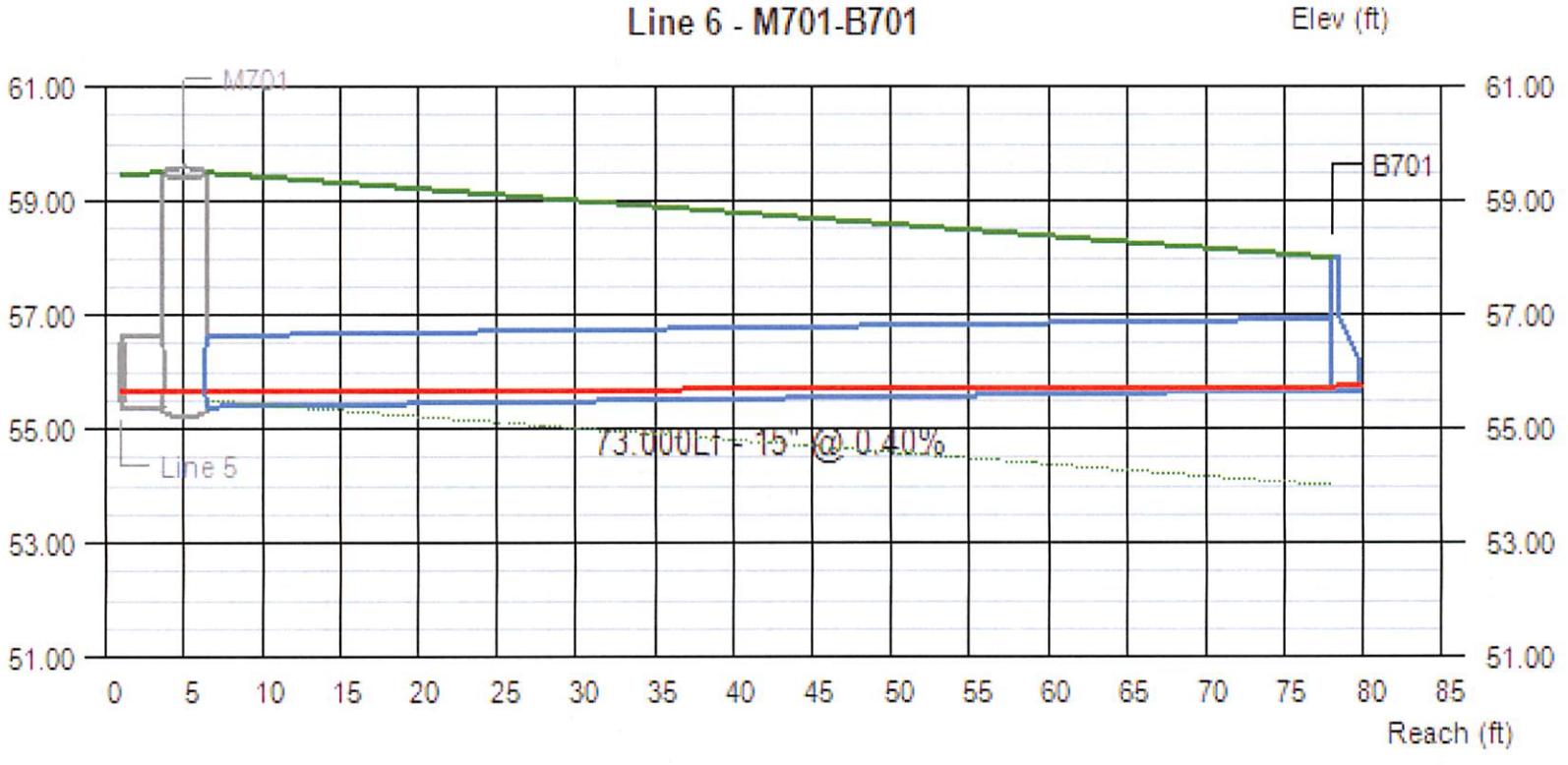
Line Profile (Line 5) - D702-M701



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
5	0.01	54.97	55.39	0.68	0.26	0.26	55.65	55.65	55.65	0.01	0.05	1.78	2.86

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

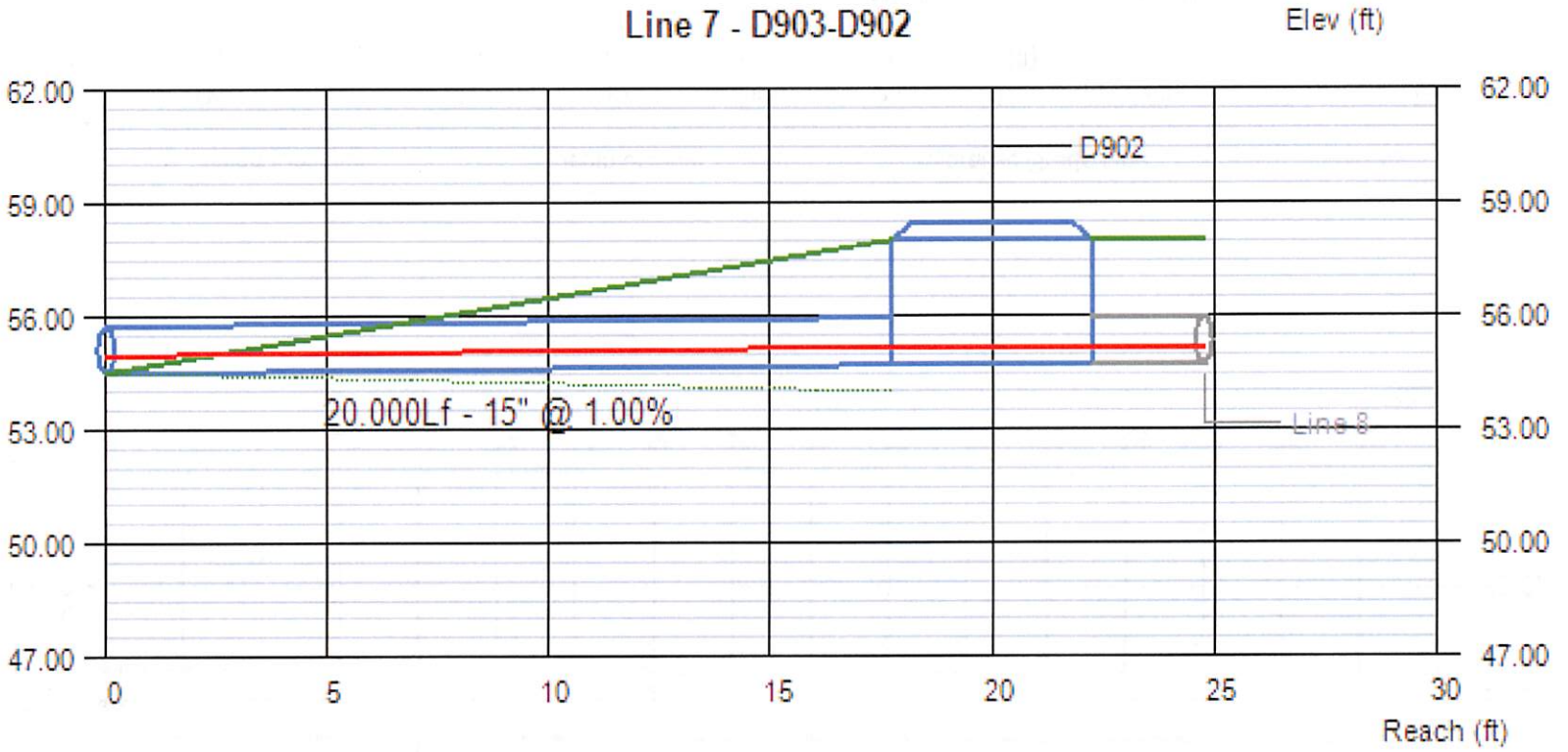
Line Profile (Line 6) - M701-B701



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
6	0.01	55.39	55.68	0.26	0.05	0.06	55.65	55.73	55.74	0.05	0.58	2.86	1.07

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

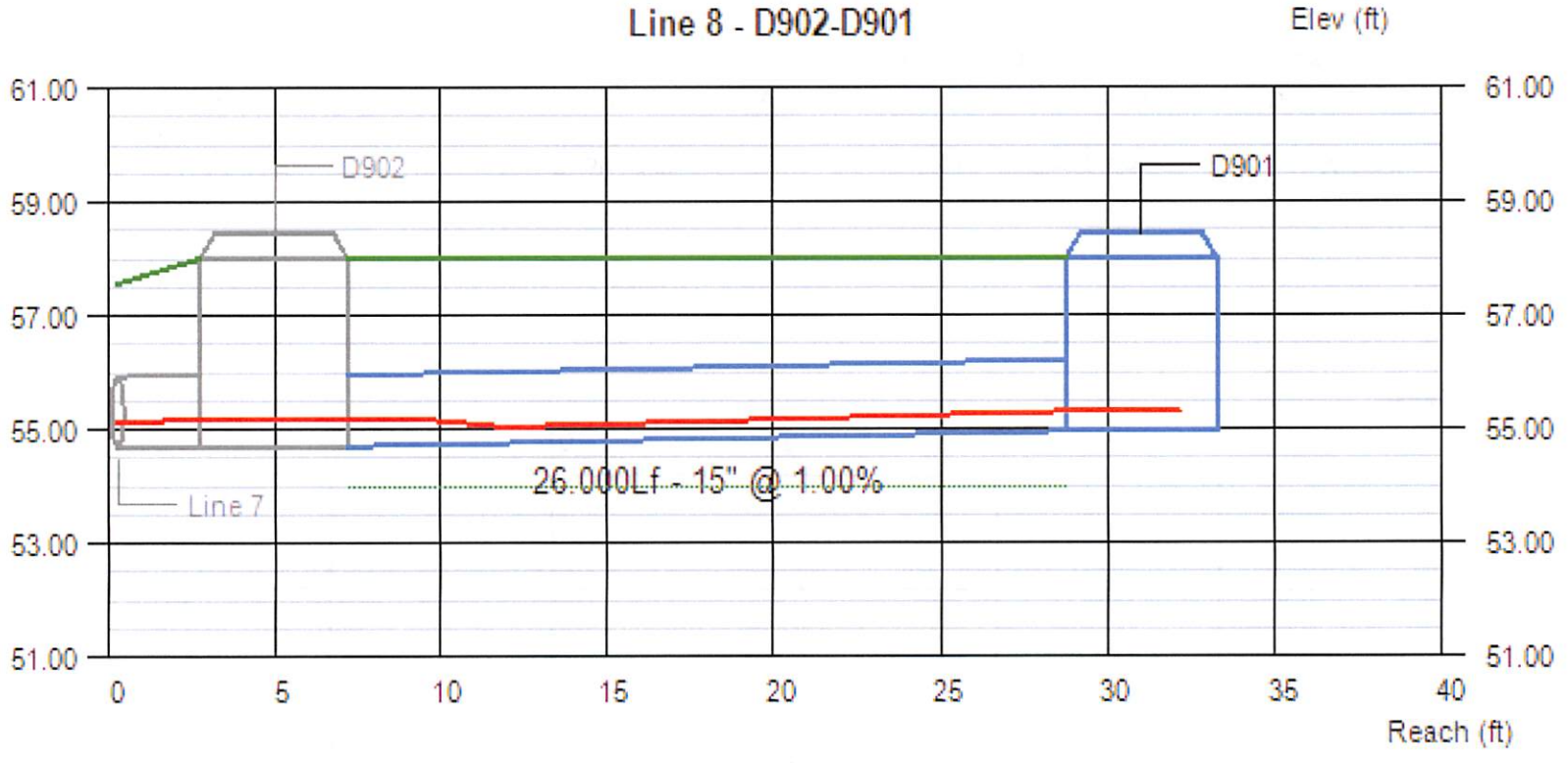
Line Profile (Line 7) - D903-D902



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
7	1.32	54.50	54.70	0.46	0.46	0.46	54.96	55.16	55.16	3.22	3.22	-1.25	2.05

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

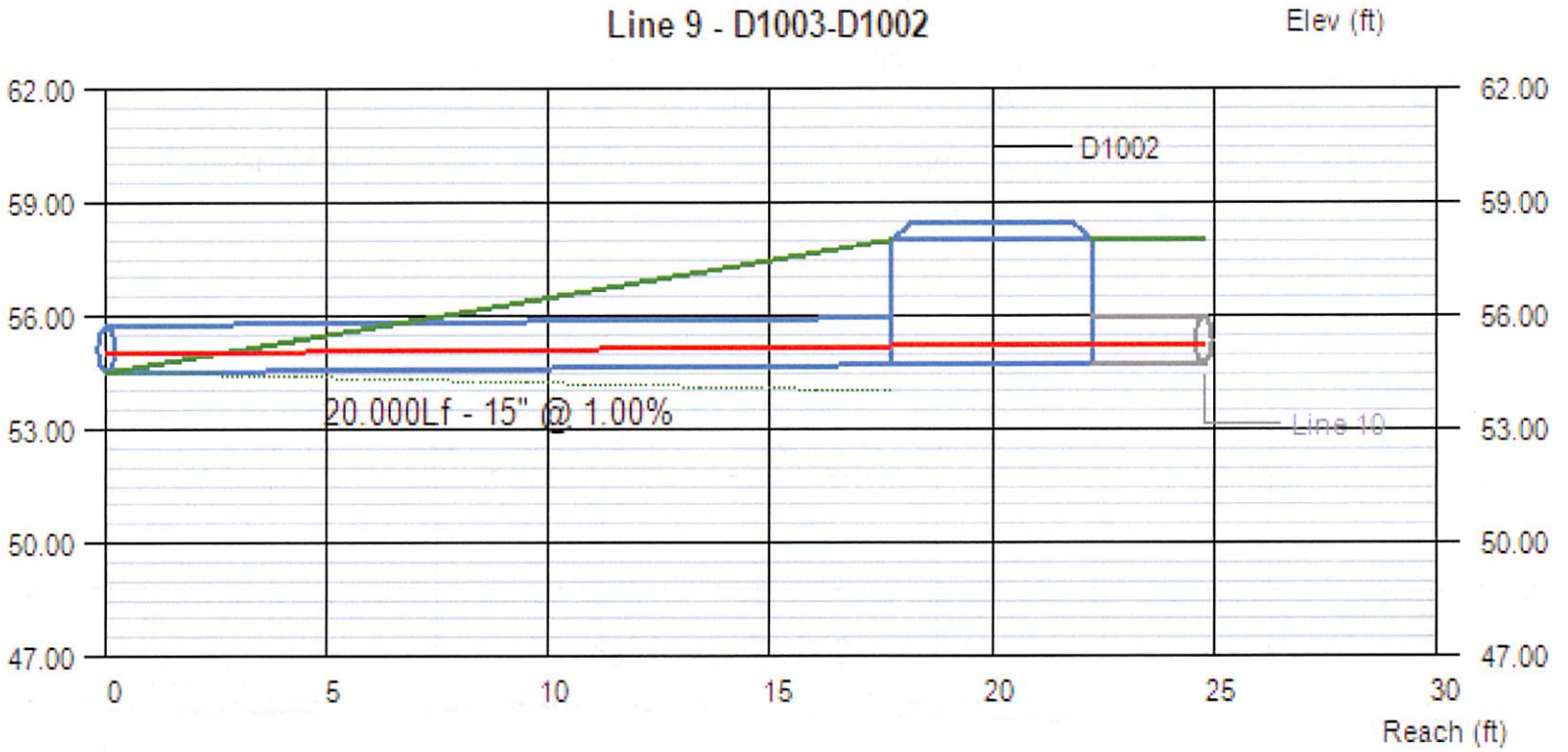
Line Profile (Line 8) - D902-D901



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
8	0.73	54.70	54.96	0.46	0.34	0.34	55.16	55.30 j	55.30	1.77	2.68	2.05	1.79

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

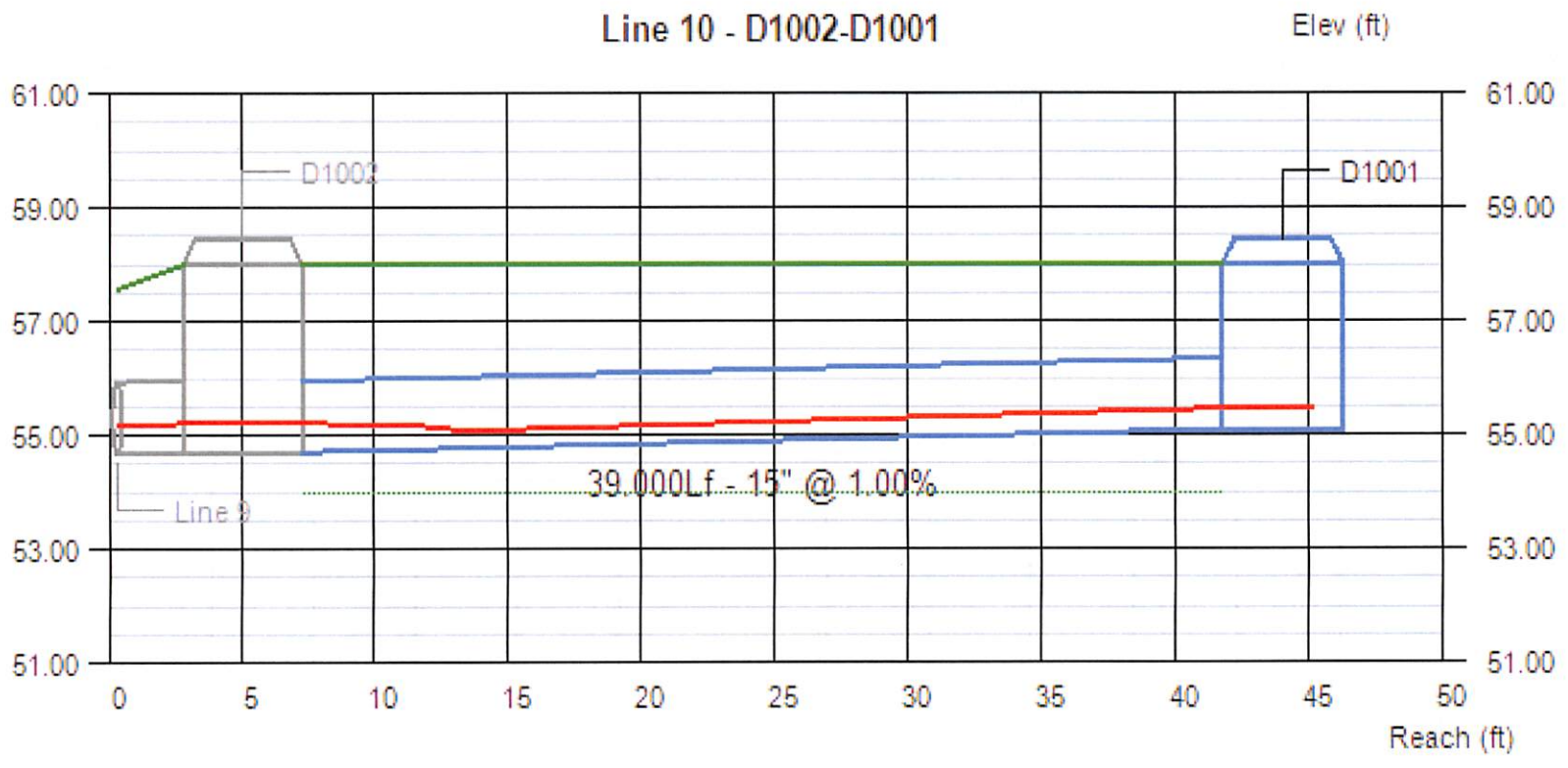
Line Profile (Line 9) - D1003-D1002



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
9	1.56	54.50	54.70	0.50	0.50	0.50	55.00	55.20	55.20	3.40	3.40	-1.25	2.05

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

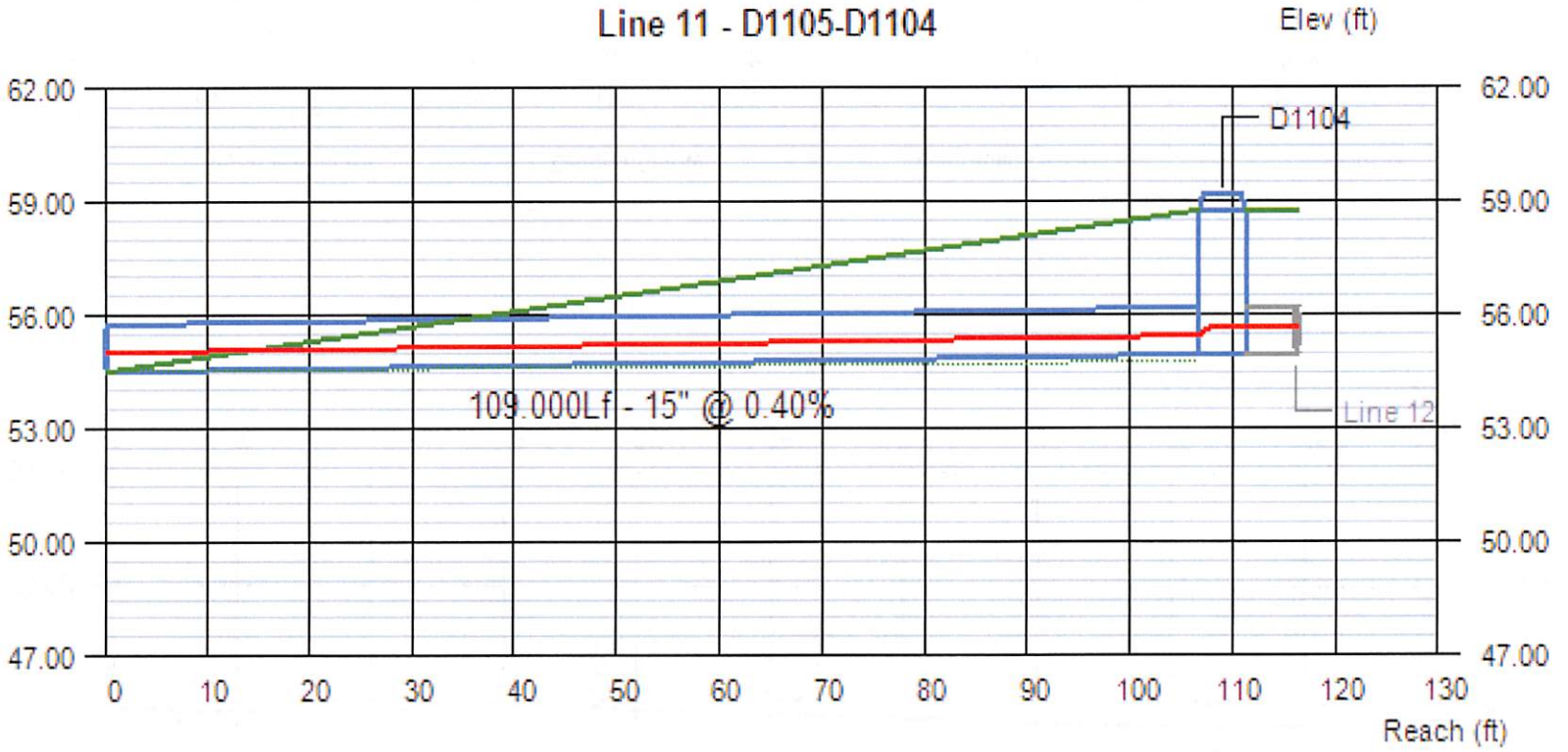
Line Profile (Line 10) - D1002-D1001



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
10	0.85	54.70	55.09	0.50	0.37	0.37	55.20	55.46 j	55.46	1.85	2.80	2.05	1.66

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

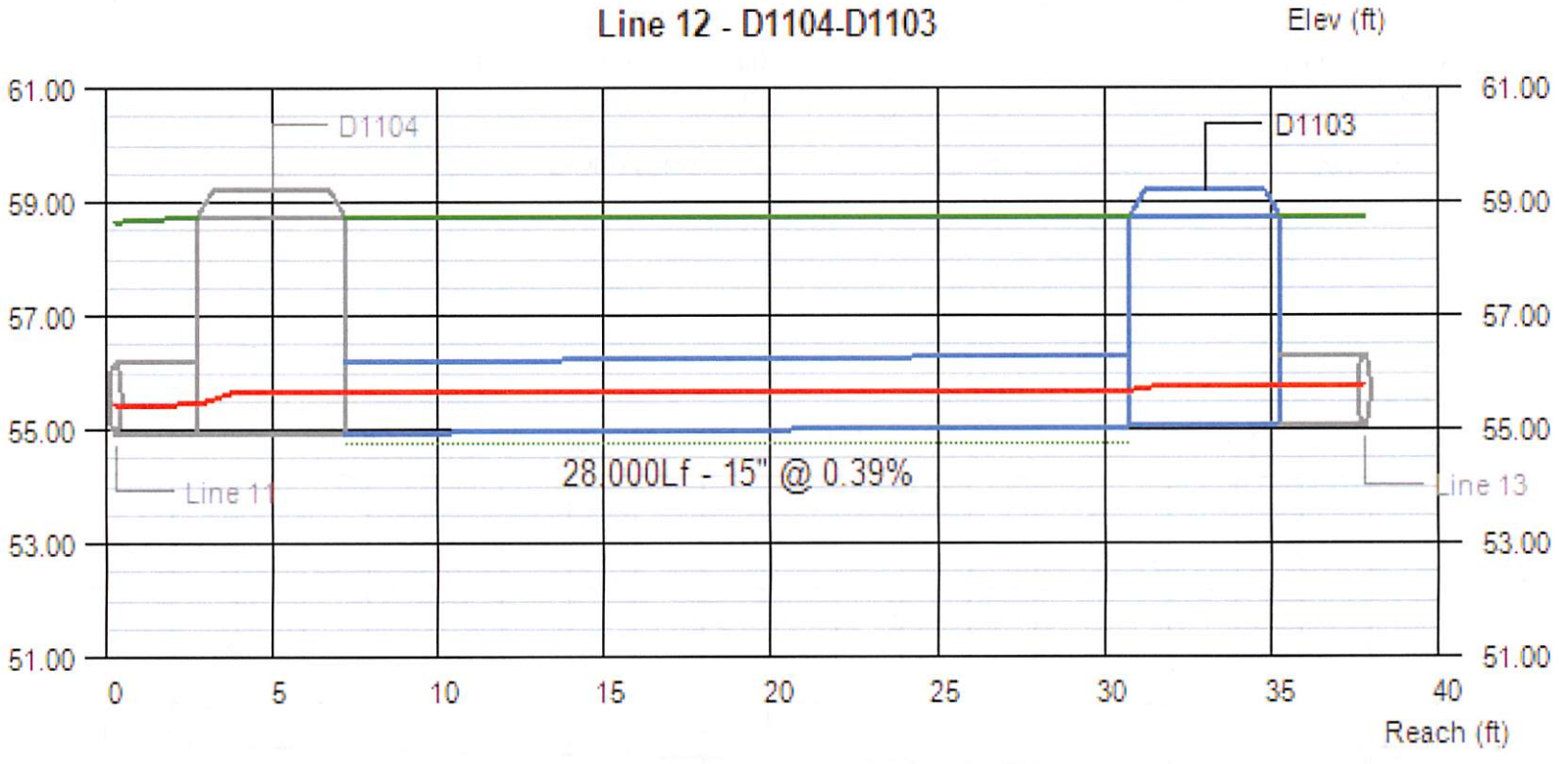
Line Profile (Line 11) - D1105-D1104



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
11	1.41	54.50	54.94	0.51	0.50	0.72	55.01	55.44	55.66	3.00	3.06	-1.25	2.56

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

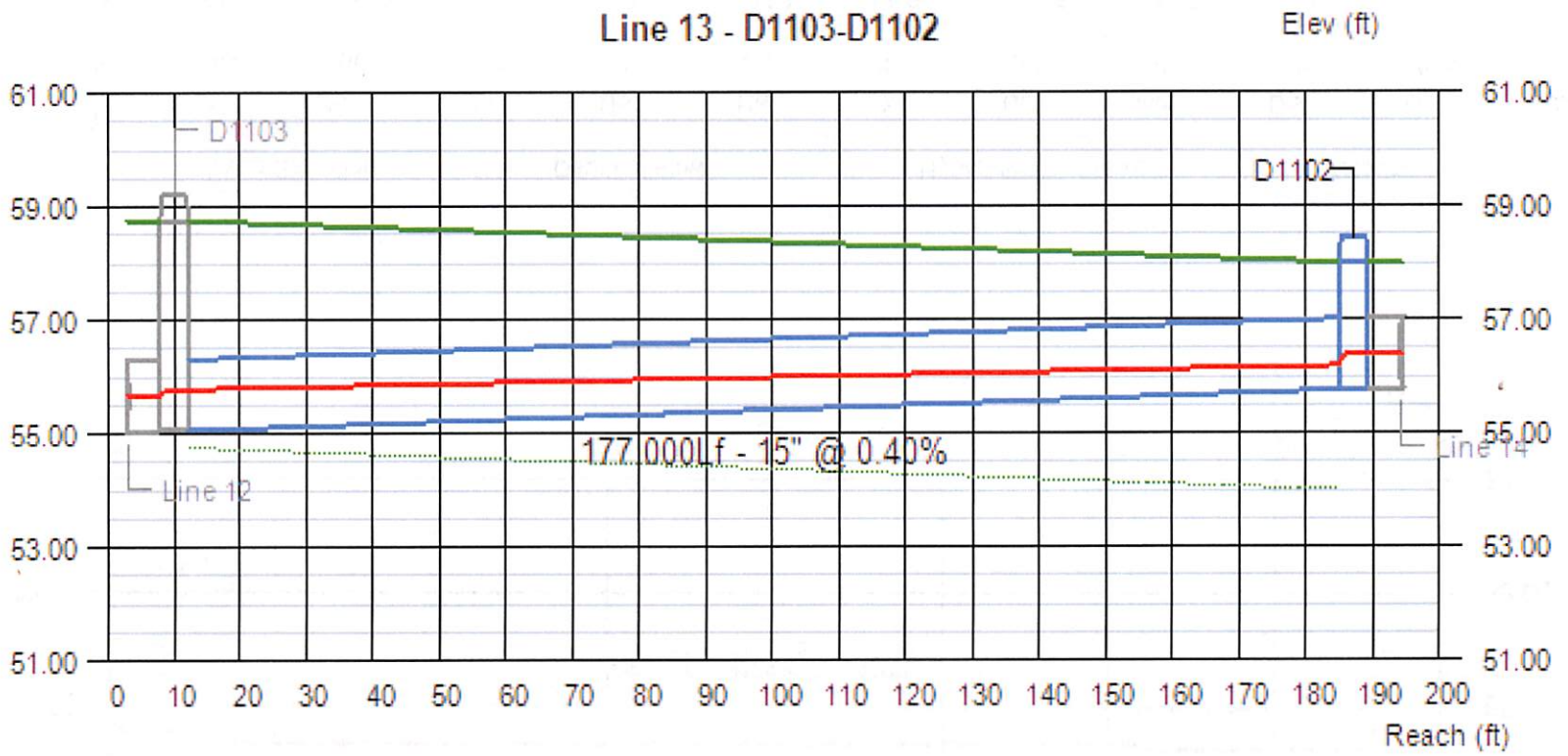
Line Profile (Line 12) - D1104-D1103



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
12	1.25	54.94	55.05	0.72	0.63	0.72	55.66	55.68	55.77	1.71	2.03	2.56	2.45

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

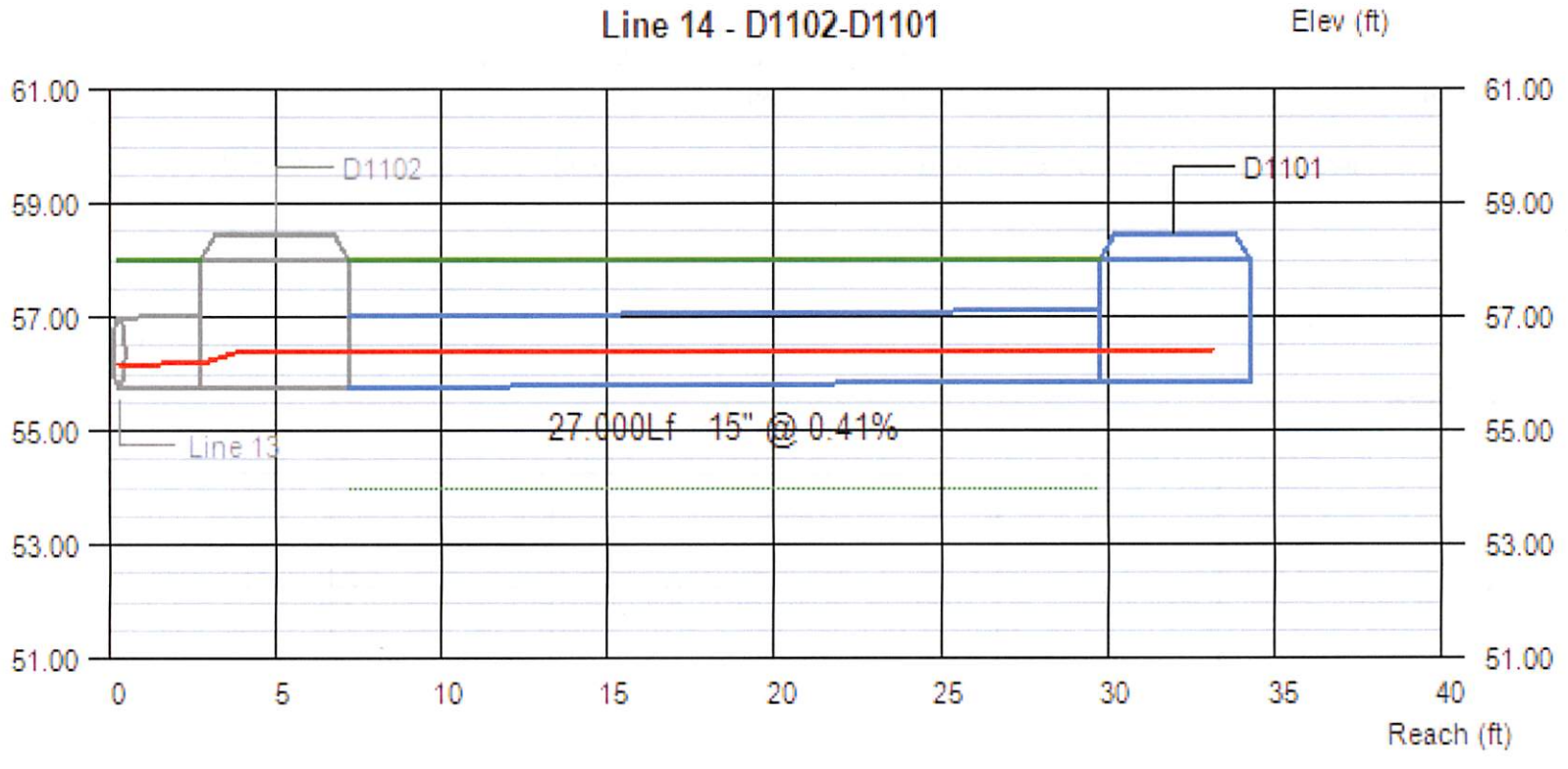
Line Profile (Line 13) - D1103-D1102



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
13	1.07	55.05	55.76	0.72	0.42	0.63	55.77	56.18	56.39	1.46	2.99	2.45	0.99

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

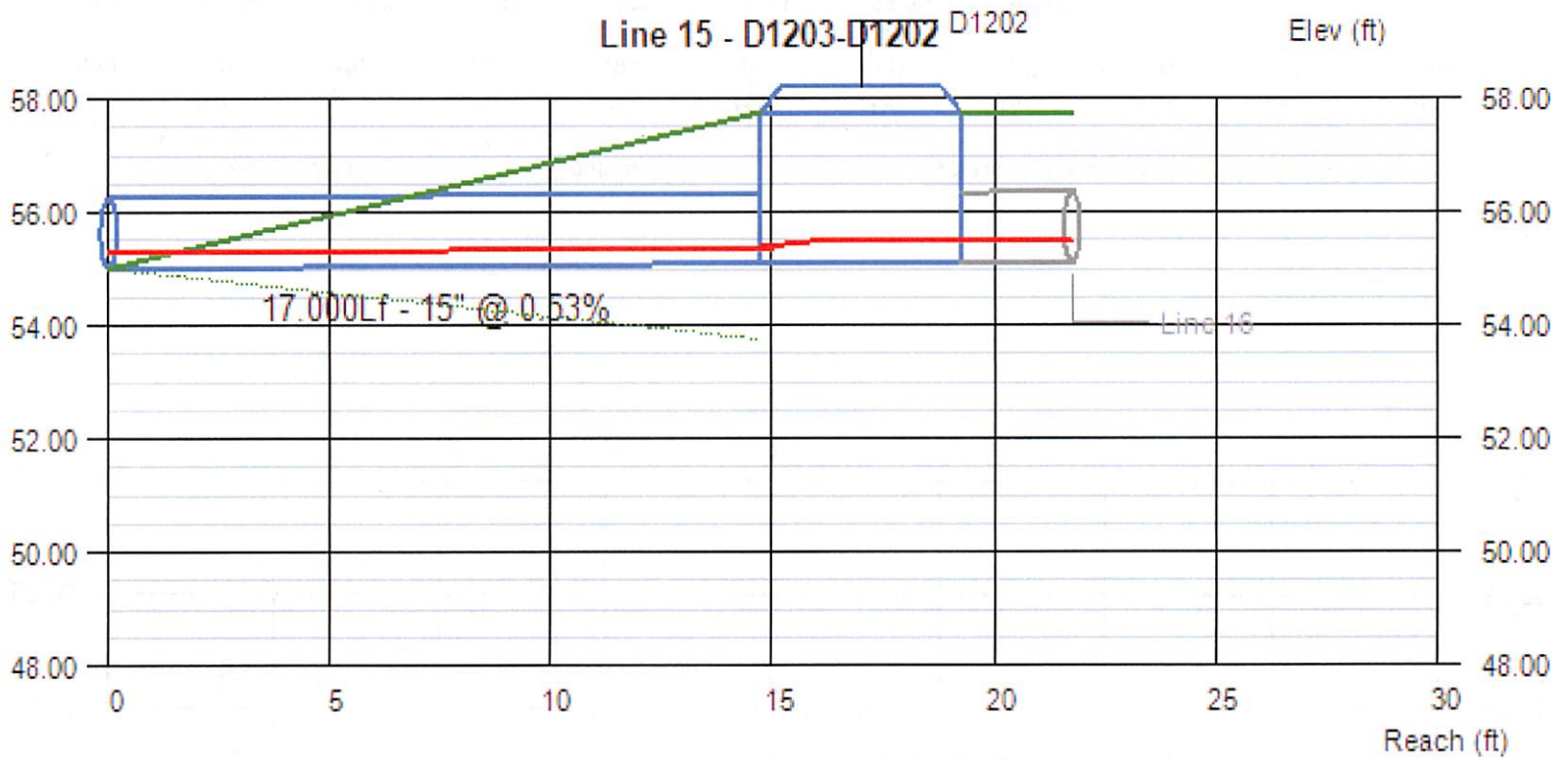
Line Profile (Line 14) - D1102-D1101



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
14	0.54	55.76	55.87	0.63	0.52	0.54	56.39	56.39	56.41	0.89	1.13	0.99	0.88

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

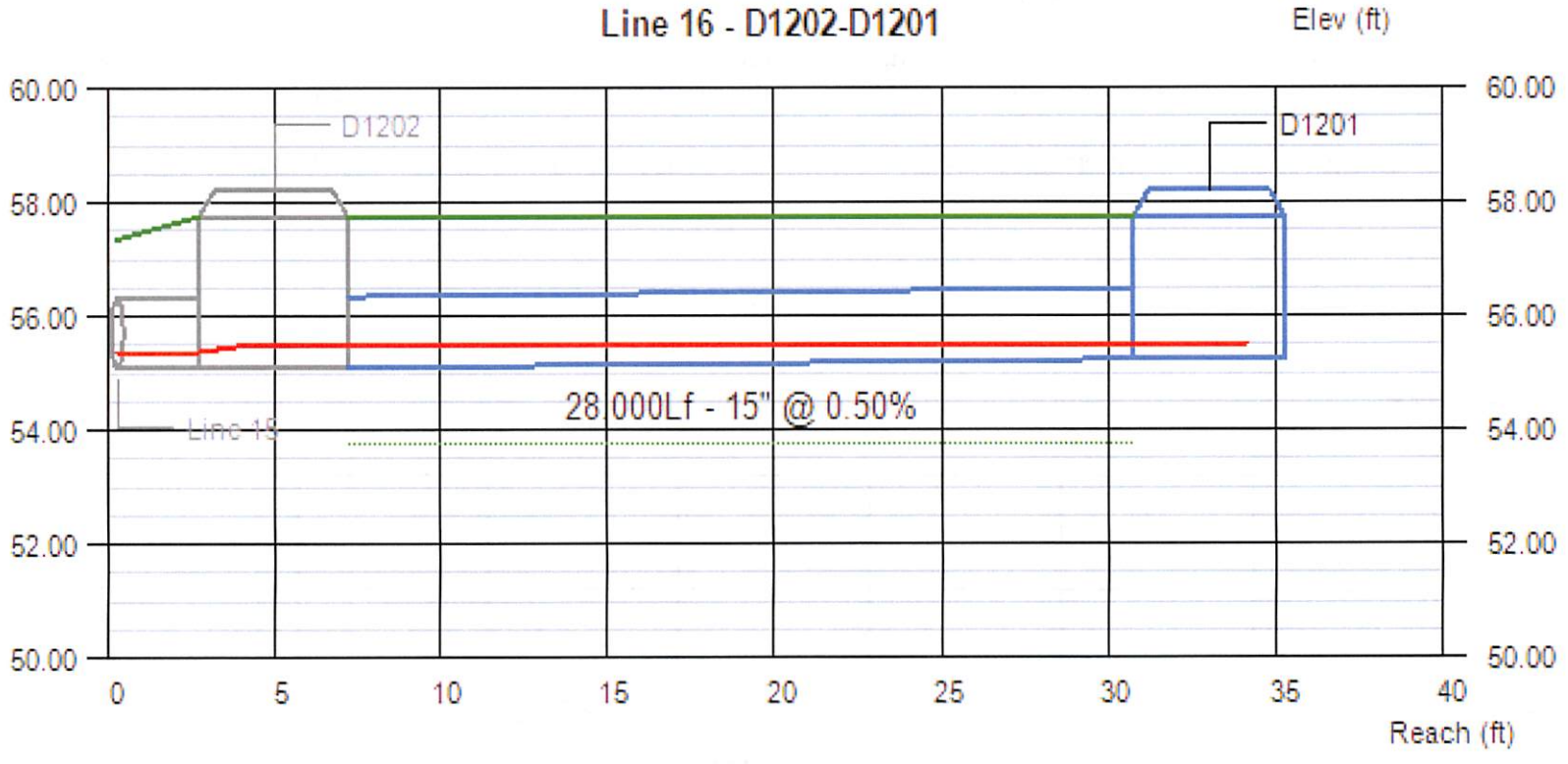
Line Profile (Line 15) - D1203-D1202



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
15	0.48	55.00	55.09	0.28	0.28	0.38	55.28	55.37 j	55.47	2.32	2.33	-1.25	1.41

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

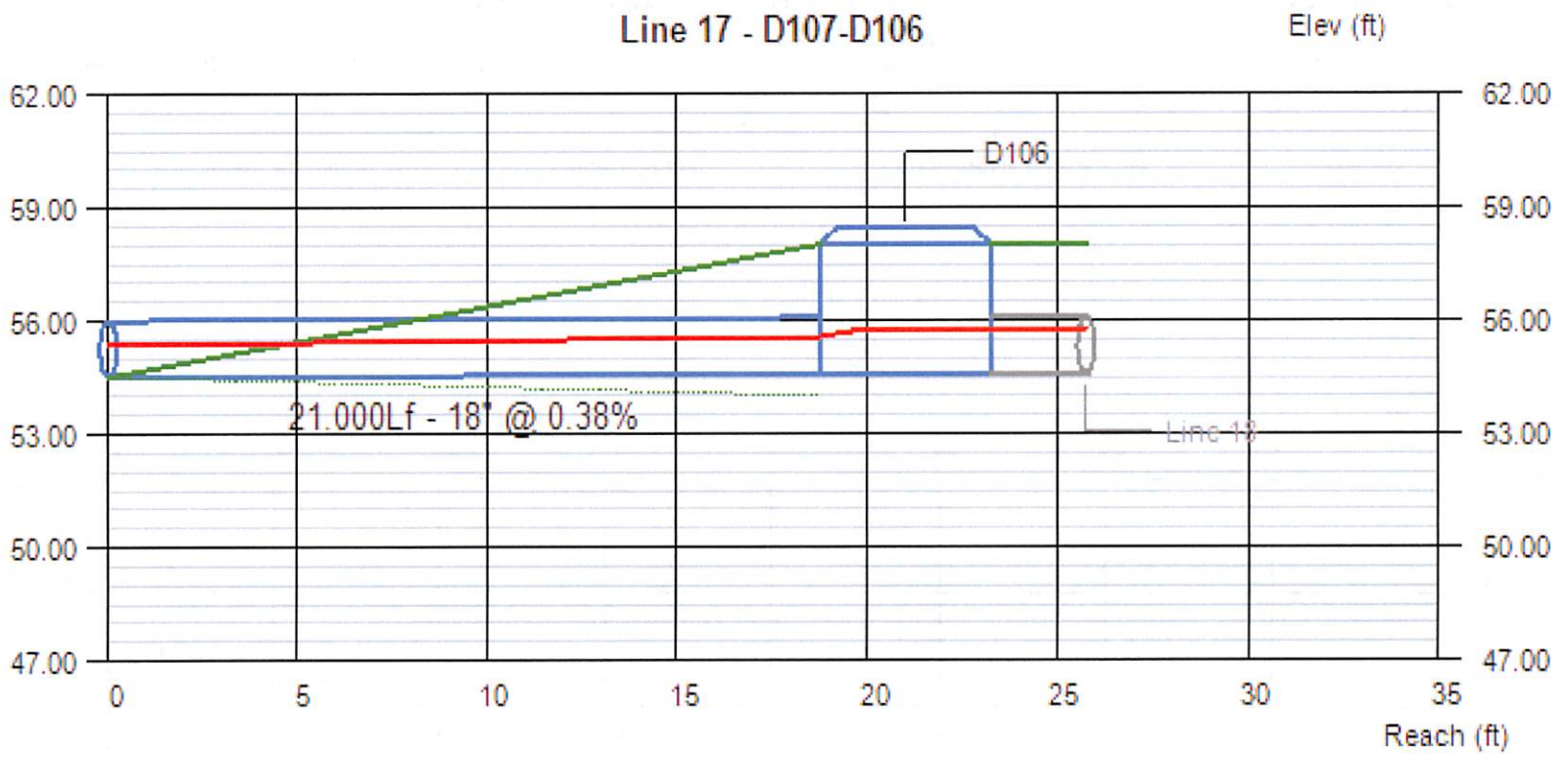
Line Profile (Line 16) - D1202-D1201



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
16	0.24	55.09	55.23	0.38	0.25	0.28	55.47	55.48	55.51	0.77	1.39	1.41	1.27

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

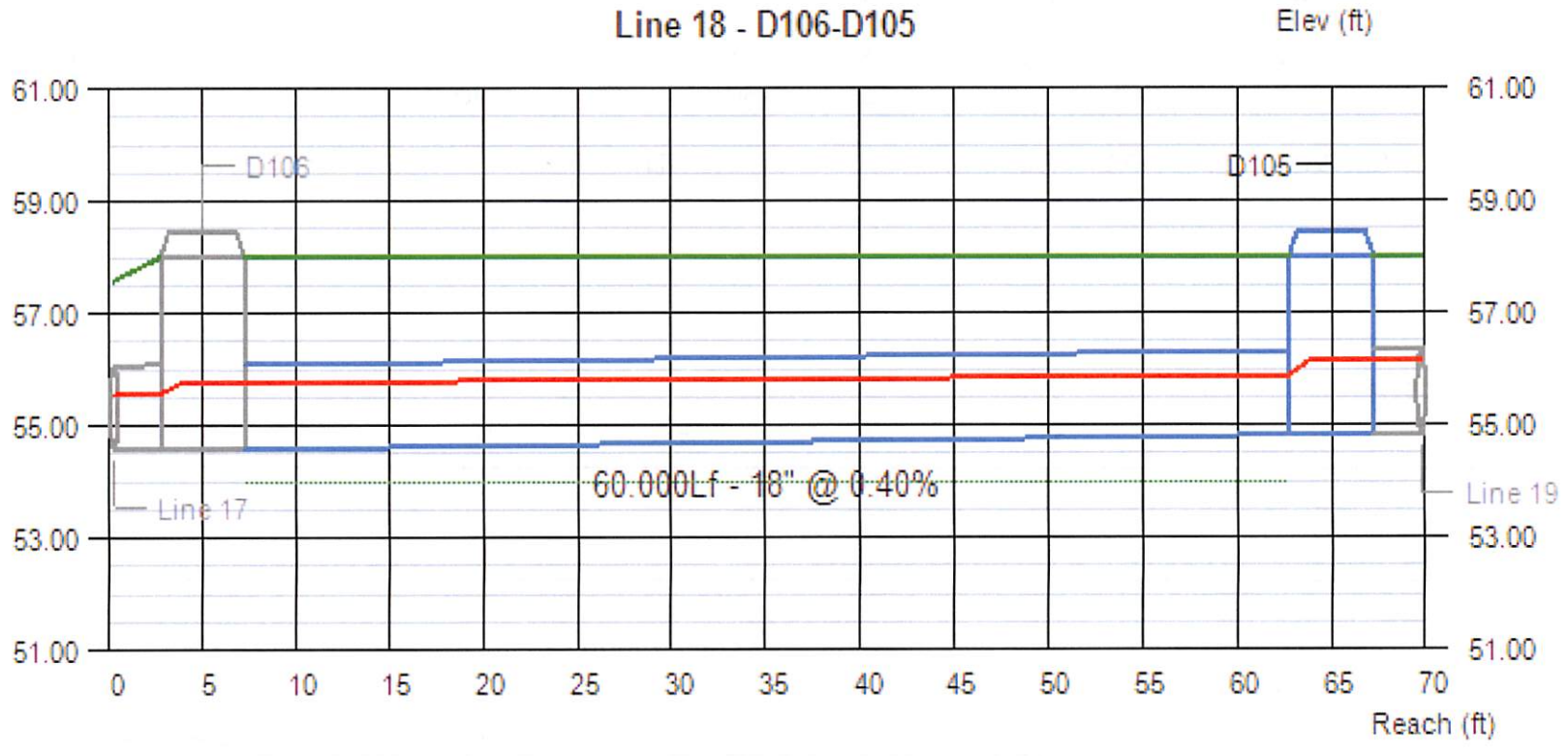
Line Profile (Line 17) - D107-D106



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
17	5.08	54.50	54.58	0.86	0.98	1.18	55.36	55.56	55.76	4.85	4.13	-1.50	1.92

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

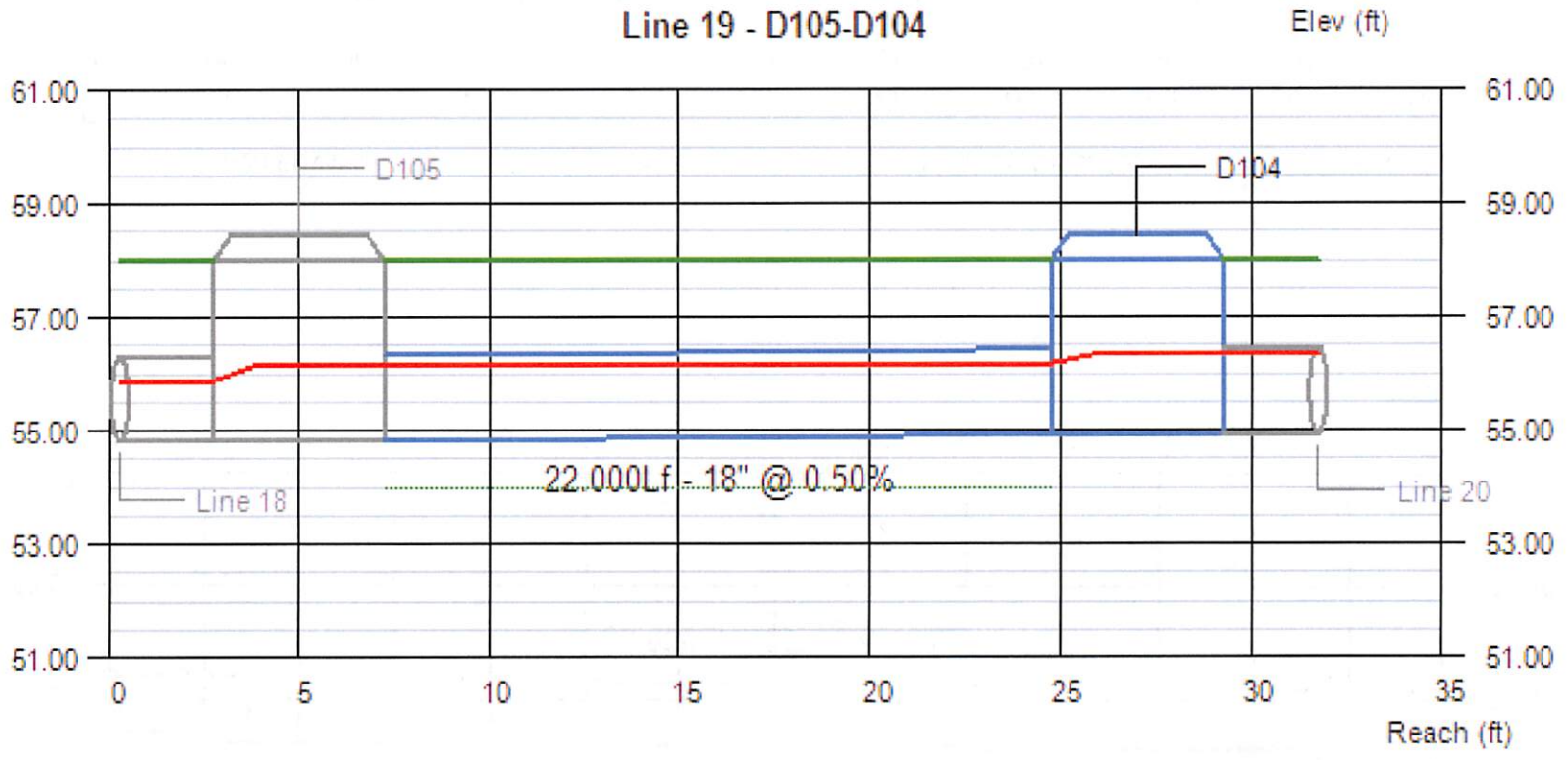
Line Profile (Line 18) - D106-D105



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
18	4.64	54.58	54.82	1.18	1.05	1.33	55.76	55.87	56.15	3.11	3.52	1.92	1.68

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

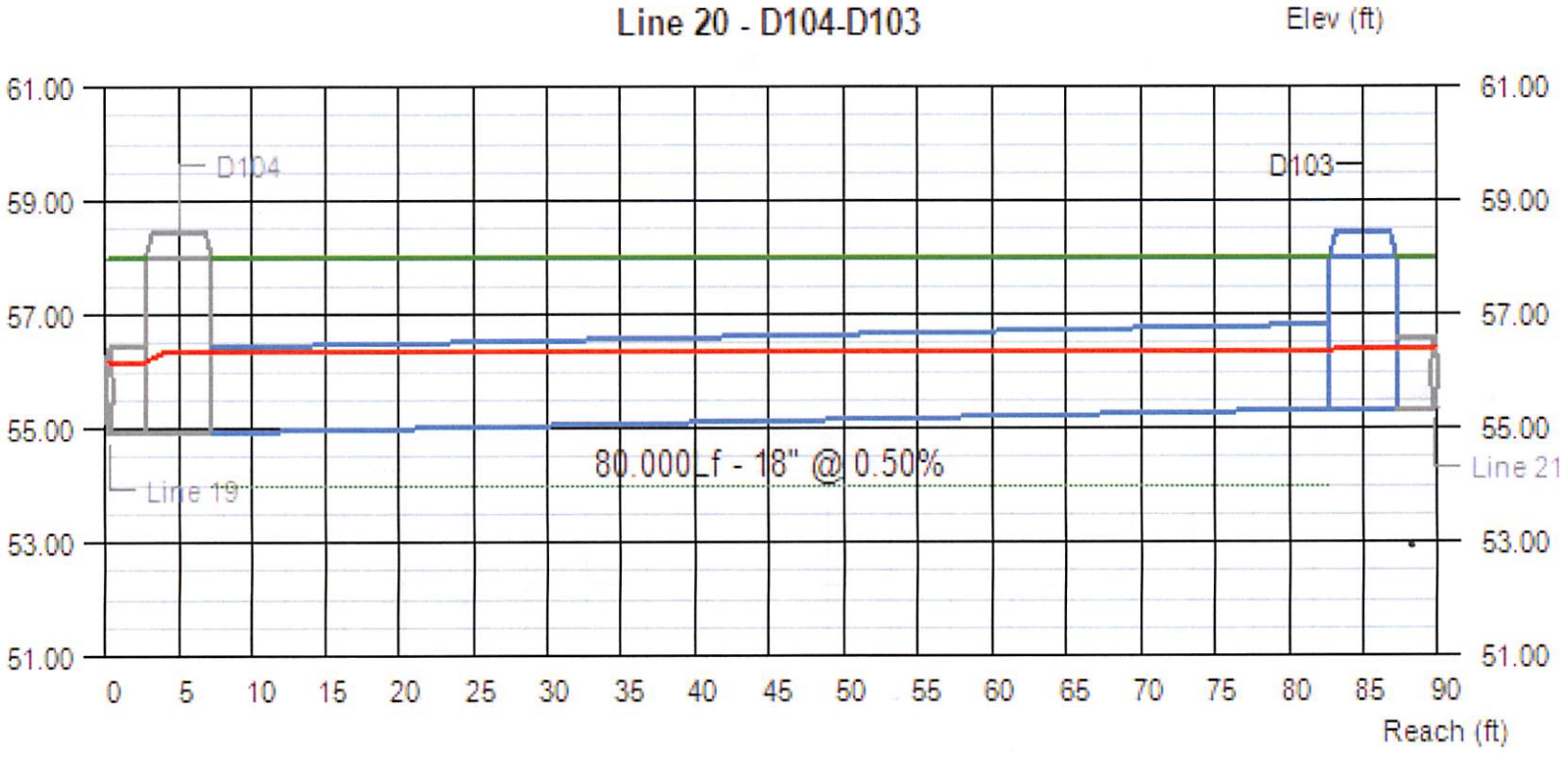
Line Profile (Line 19) - D105-D104



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
19	4.08	54.82	54.93	1.33	1.24	1.39	56.15	56.17	56.32	2.46	2.62	1.68	1.57

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

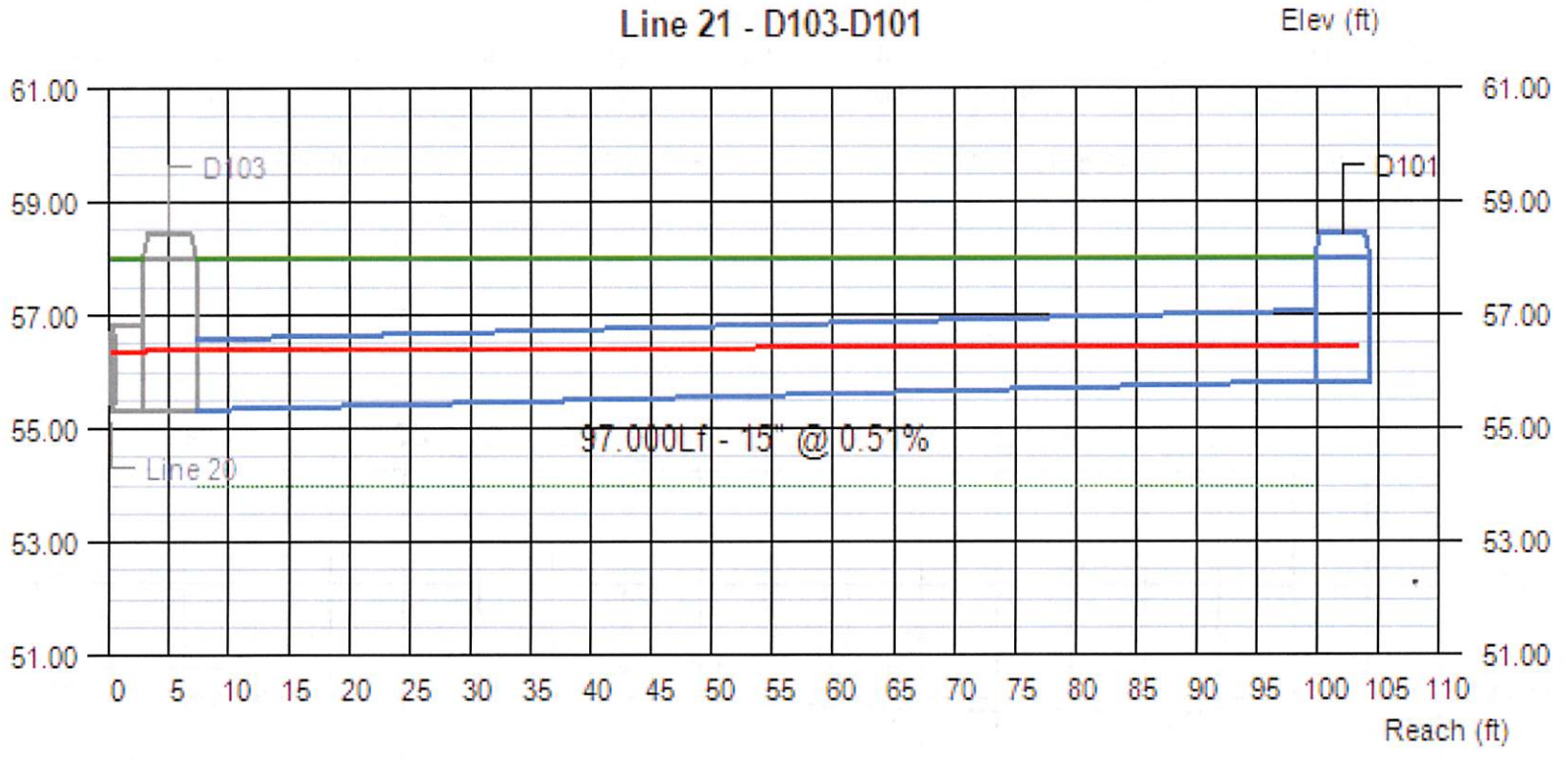
Line Profile (Line 20) - D104-D103



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
20	2.55	54.93	55.33	1.39	1.02	1.08	56.32	56.35	56.41	1.49	1.99	1.57	1.17

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

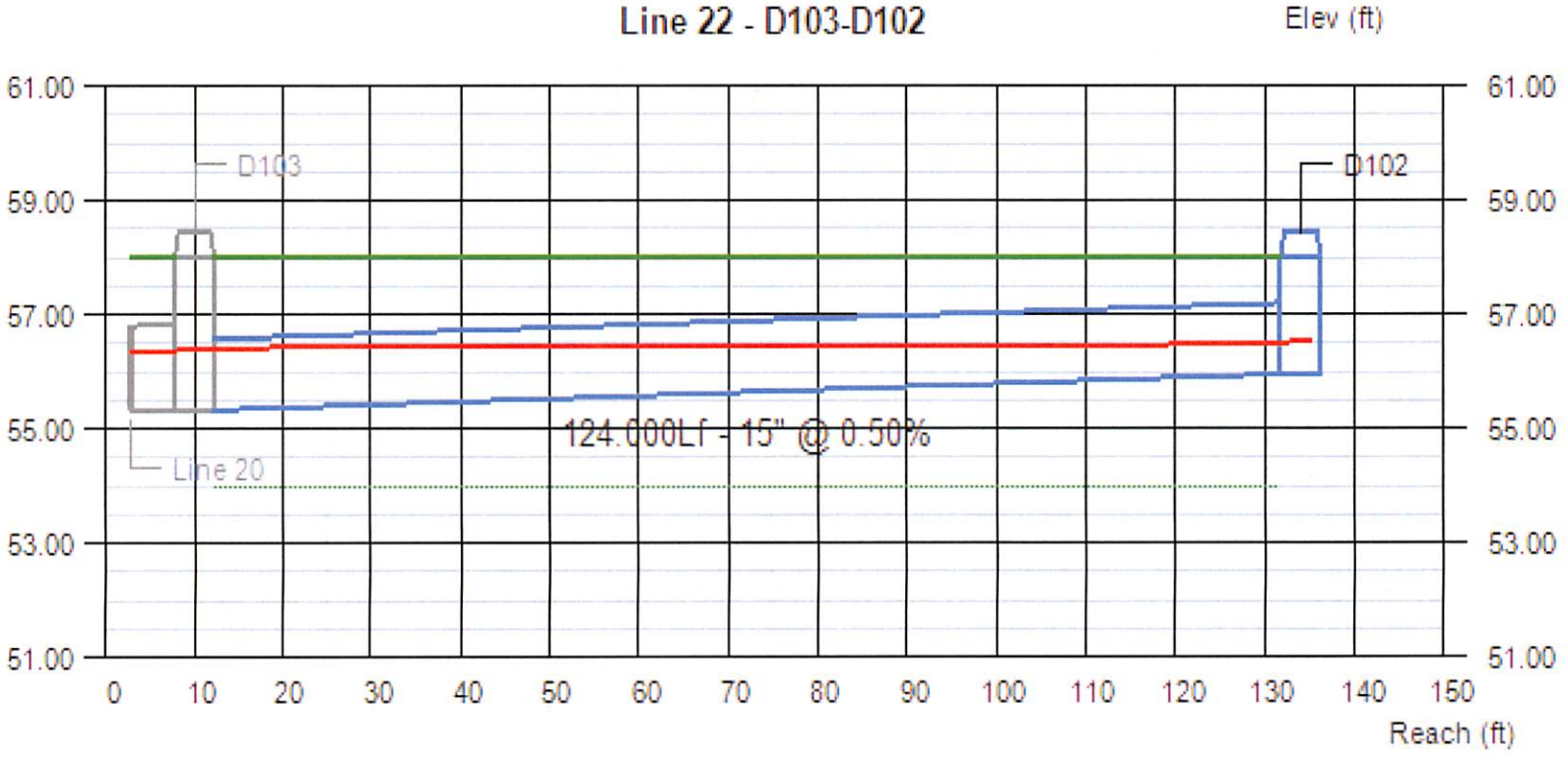
Line Profile (Line 21) - D103-D101



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
21	0.51	55.33	55.82	1.08	0.60	0.61	56.41	56.42	56.43	0.45	0.88	1.42	0.93

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

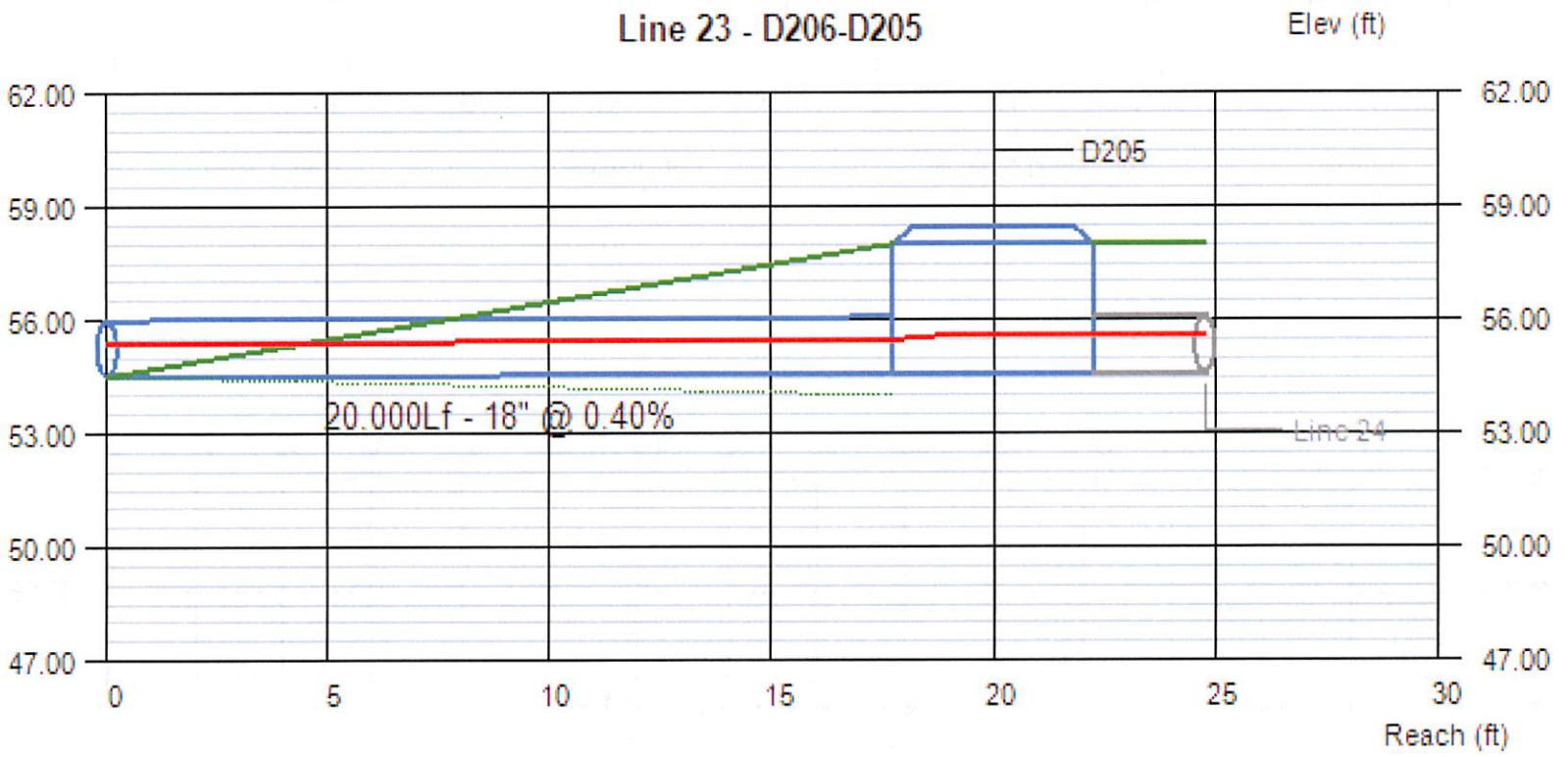
Line Profile (Line 22) - D103-D102



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
22	0.88	55.33	55.95	1.08	0.52	0.57	56.41	56.47	56.52	0.78	1.81	1.42	0.80

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

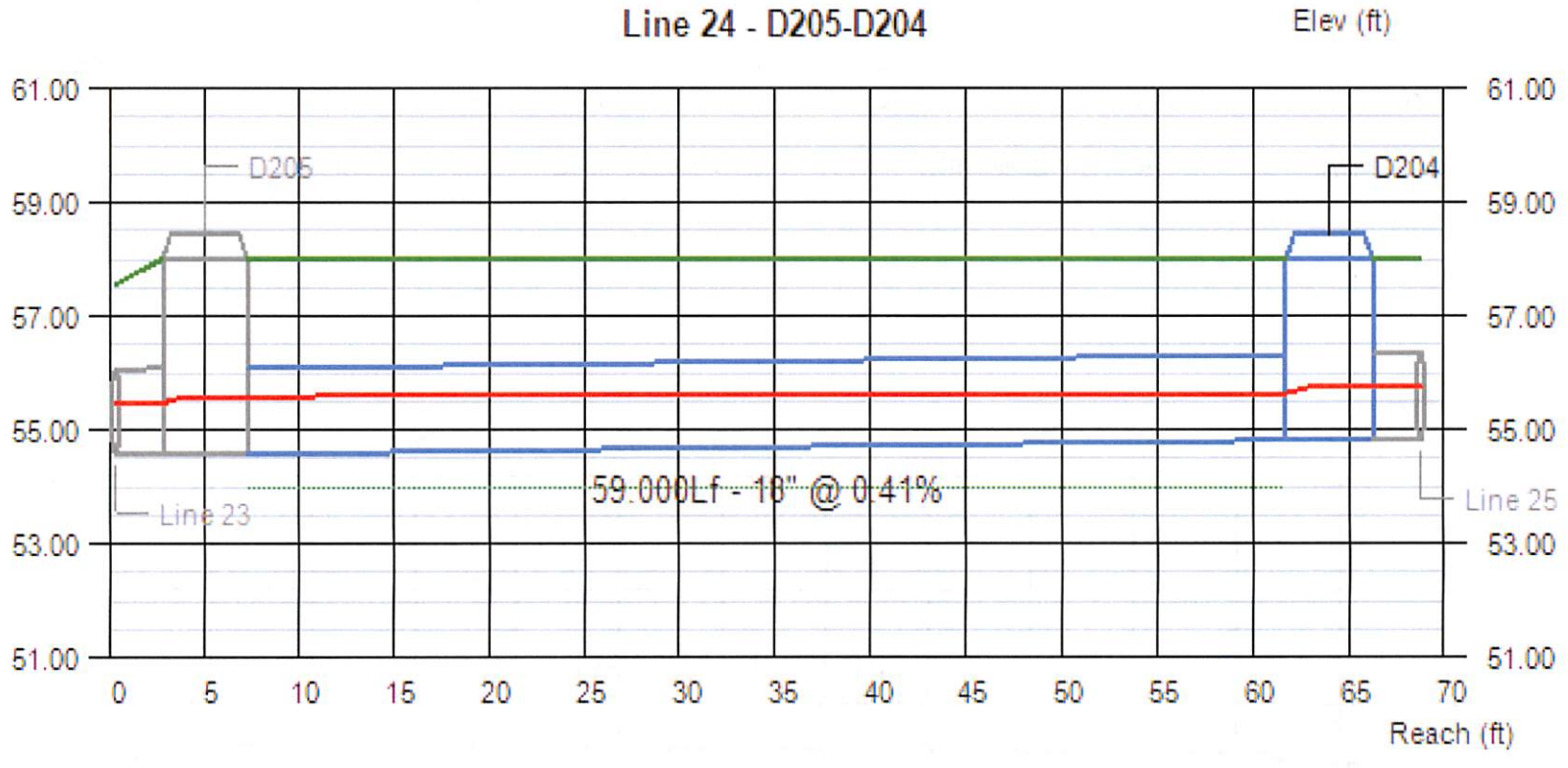
Line Profile (Line 23) - D206-D205



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
23	4.32	54.50	54.58	0.88	0.88	1.01	55.38	55.46	55.59	4.01	3.99	-1.50	1.92

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

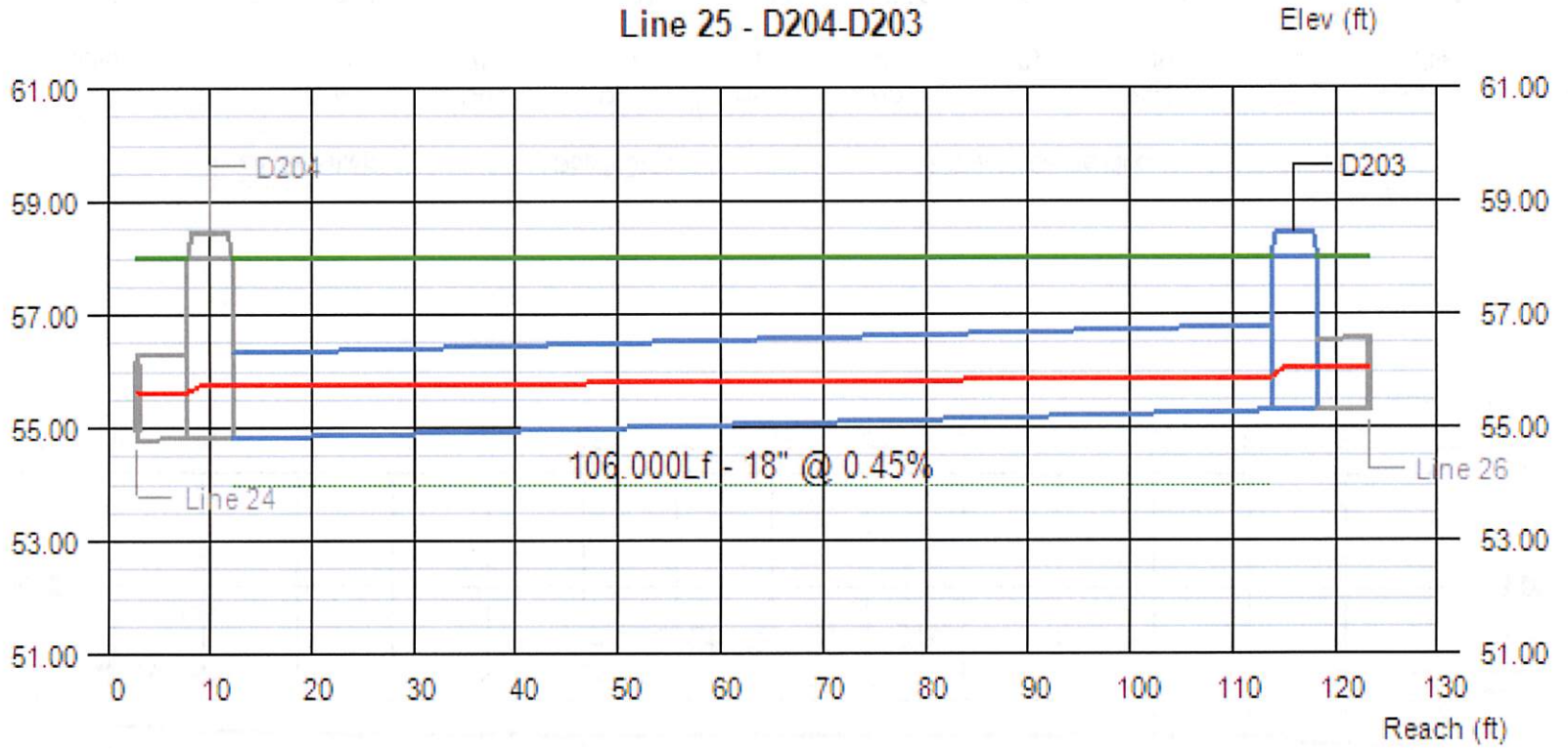
Line Profile (Line 24) - D205-D204



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
24	2.77	54.58	54.82	1.01	0.81	0.92	55.59	55.63	55.74	2.20	2.84	1.92	1.68

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

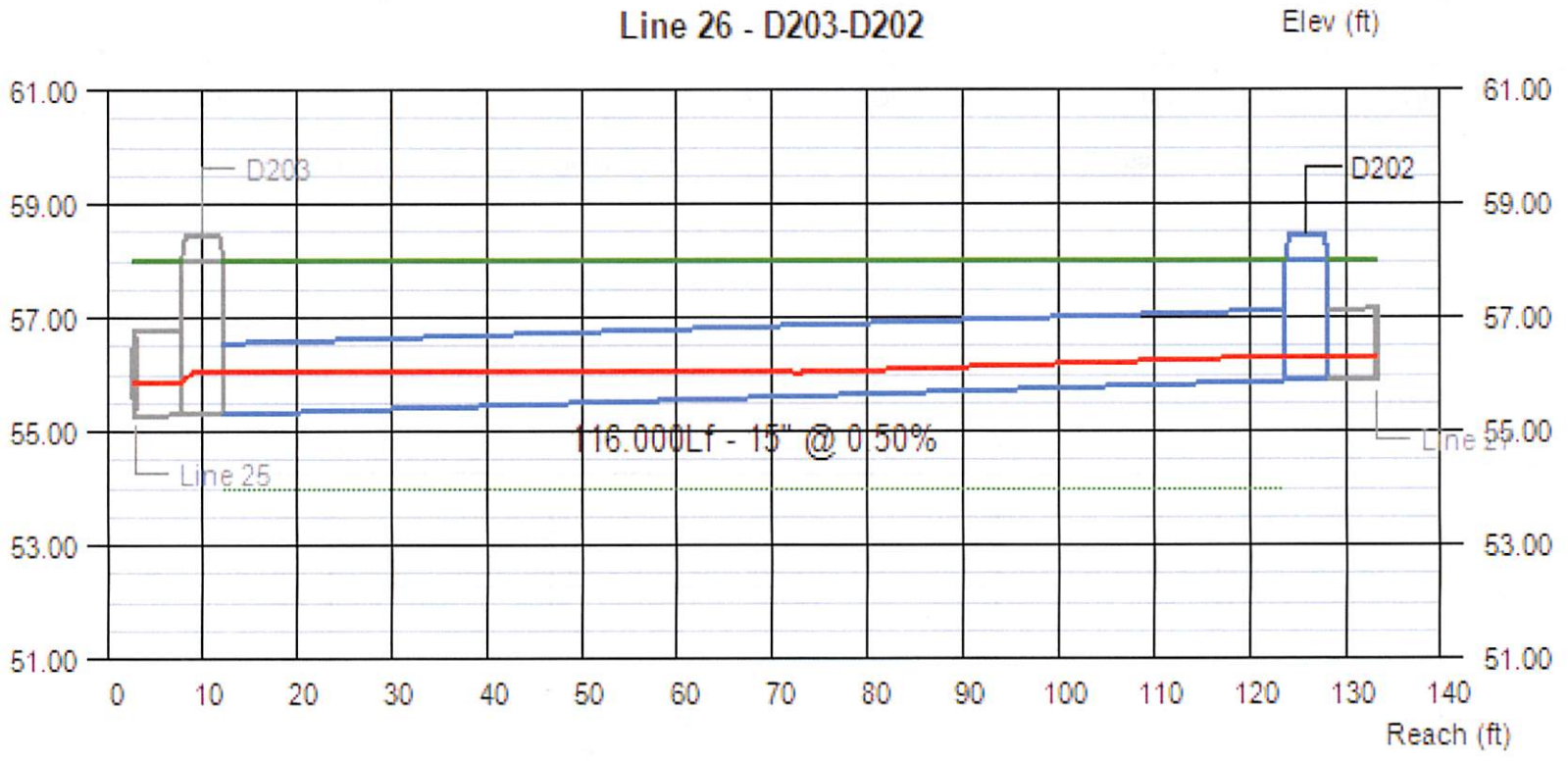
Line Profile (Line 25) - D204-D203



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
25	2.04	54.82	55.30	0.92	0.57	0.73	55.74	55.87	56.03	1.80	3.30	1.68	1.20

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

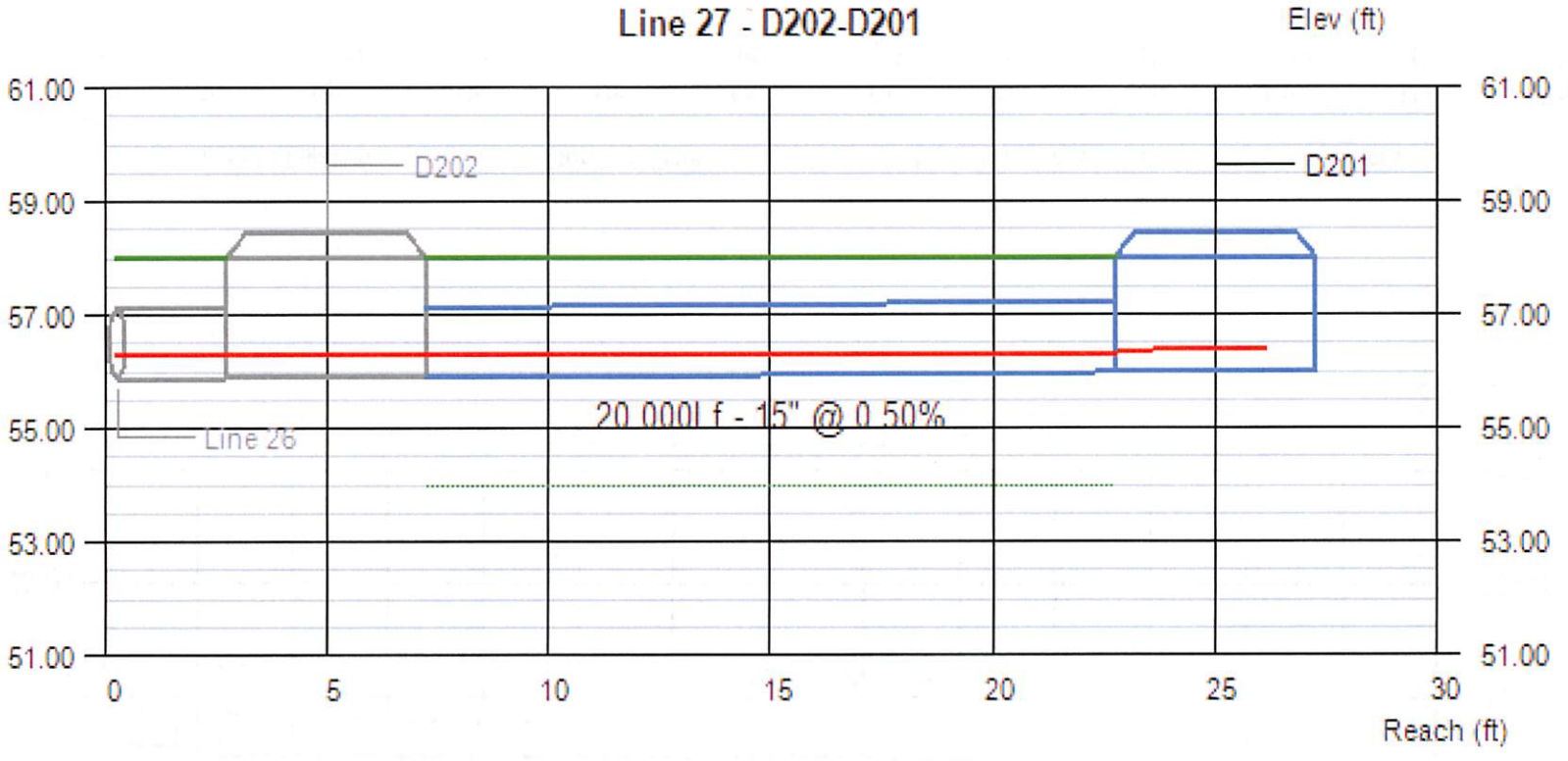
Line Profile (Line 26) - D203-D202



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
26	1.13	55.30	55.88	0.73	0.43	0.43	56.03	56.31 j	56.31	1.53	3.07	1.45	0.87

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

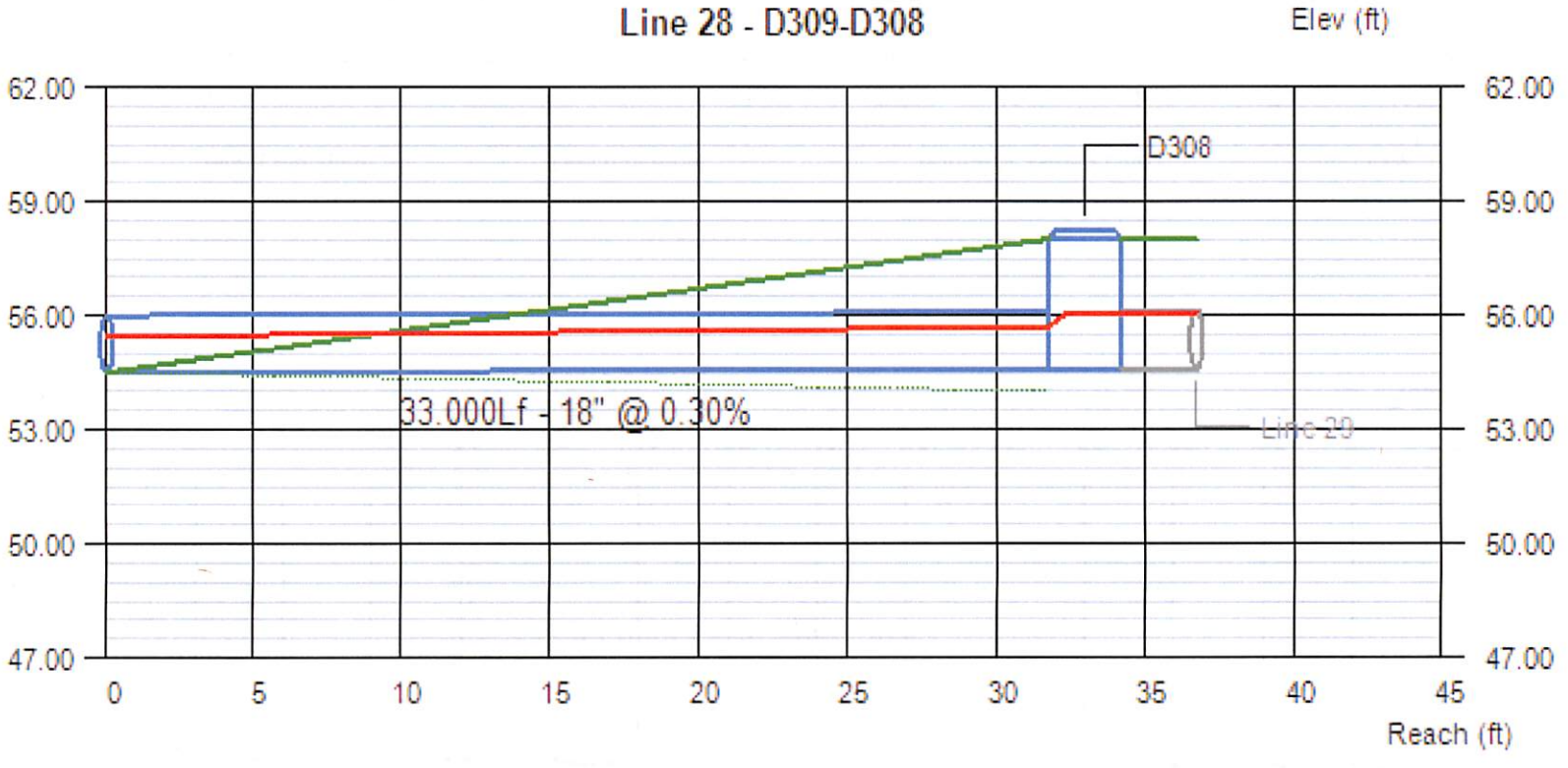
Line Profile (Line 27) - D202-D201



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
27	0.57	55.88	55.98	0.43	0.34	0.41	56.31	56.32	56.39	1.55	2.16	0.87	0.77

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

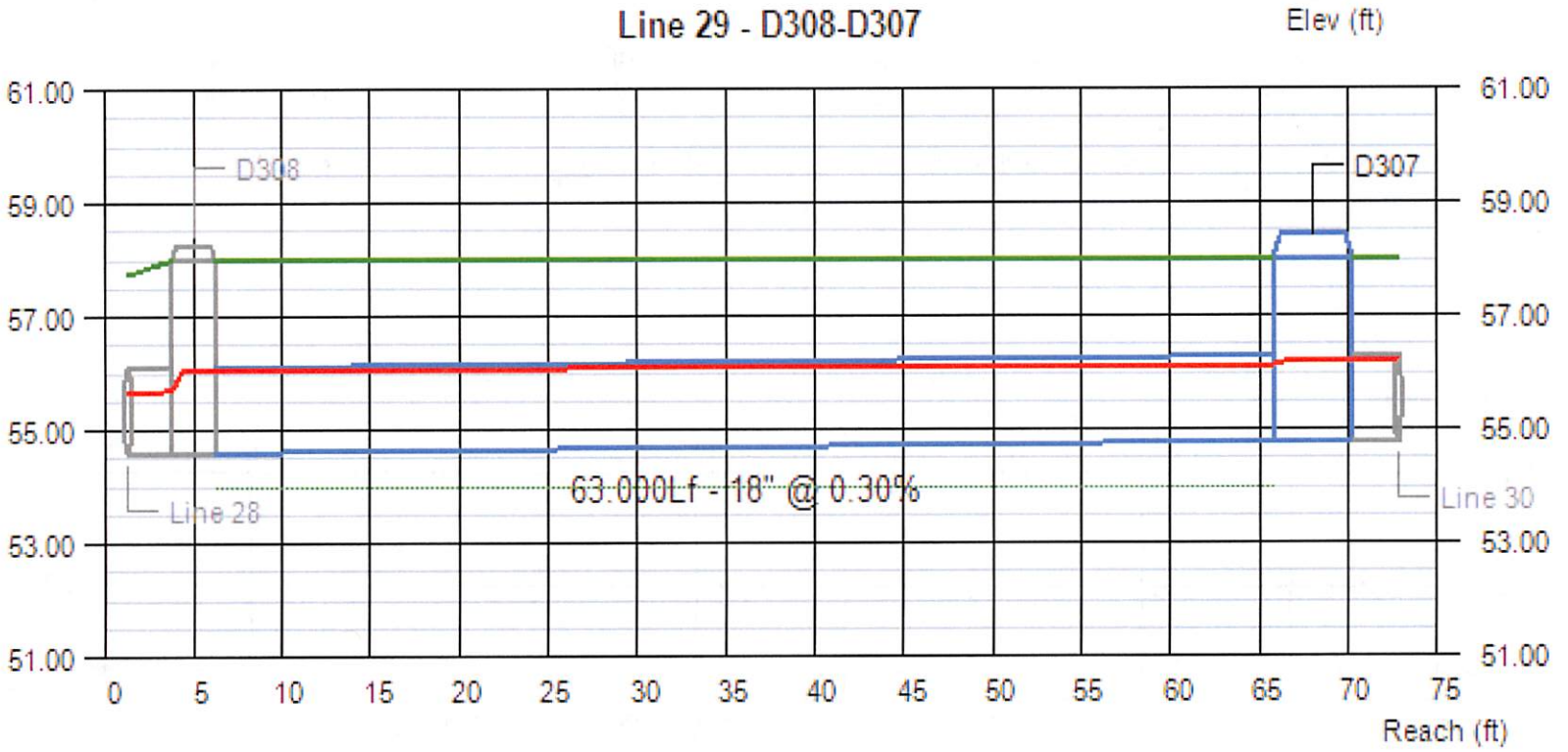
Line Profile (Line 28) - D309-D308



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
28	5.58	54.50	54.60	0.95	1.09	1.45	55.45	55.69	56.05	4.73	4.06	-1.50	1.90

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

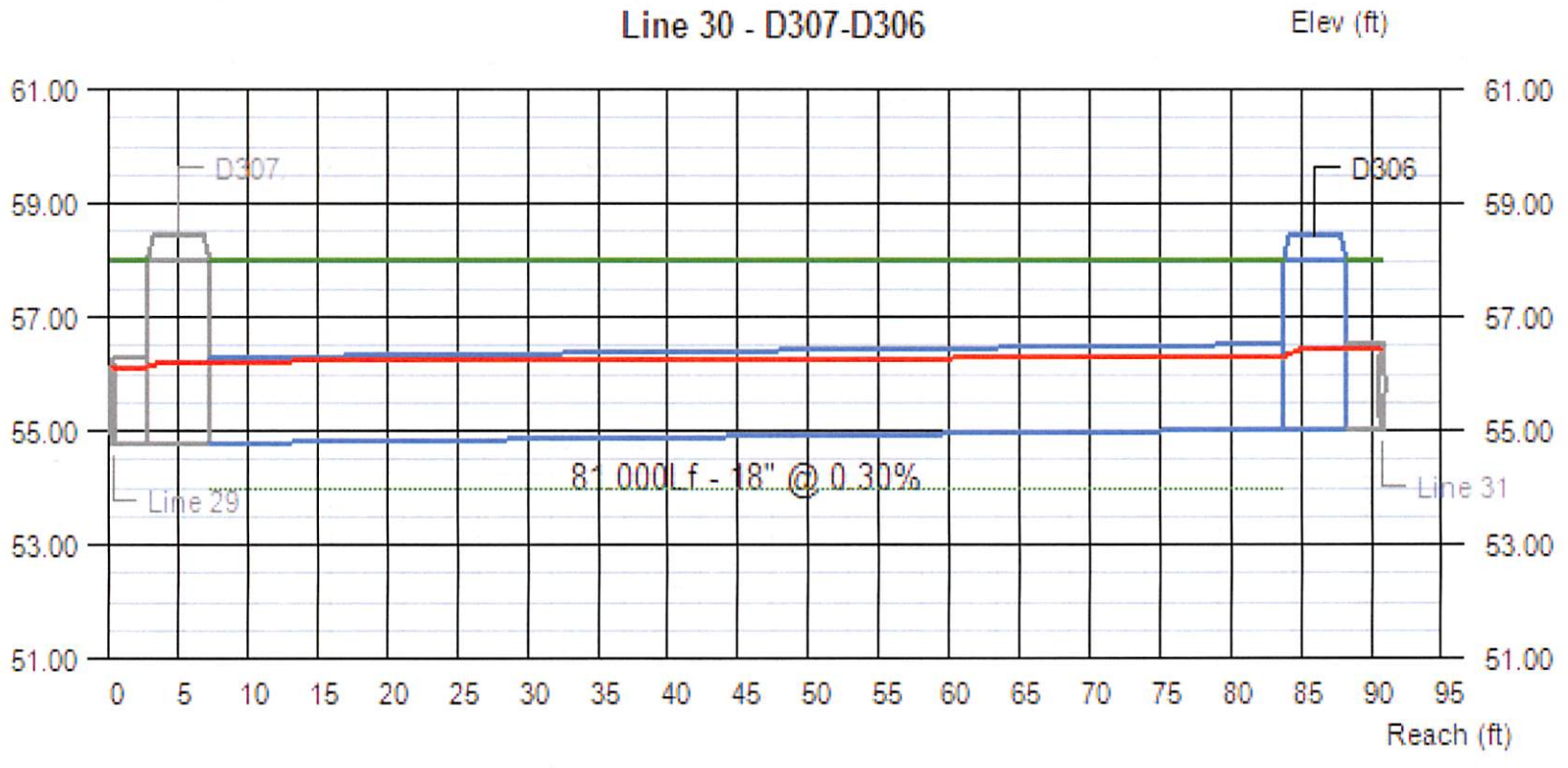
Line Profile (Line 29) - D308-D307



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
29	4.02	54.60	54.79	1.45	1.33	1.43	56.05	56.12	56.22	2.30	2.42	1.90	1.71

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

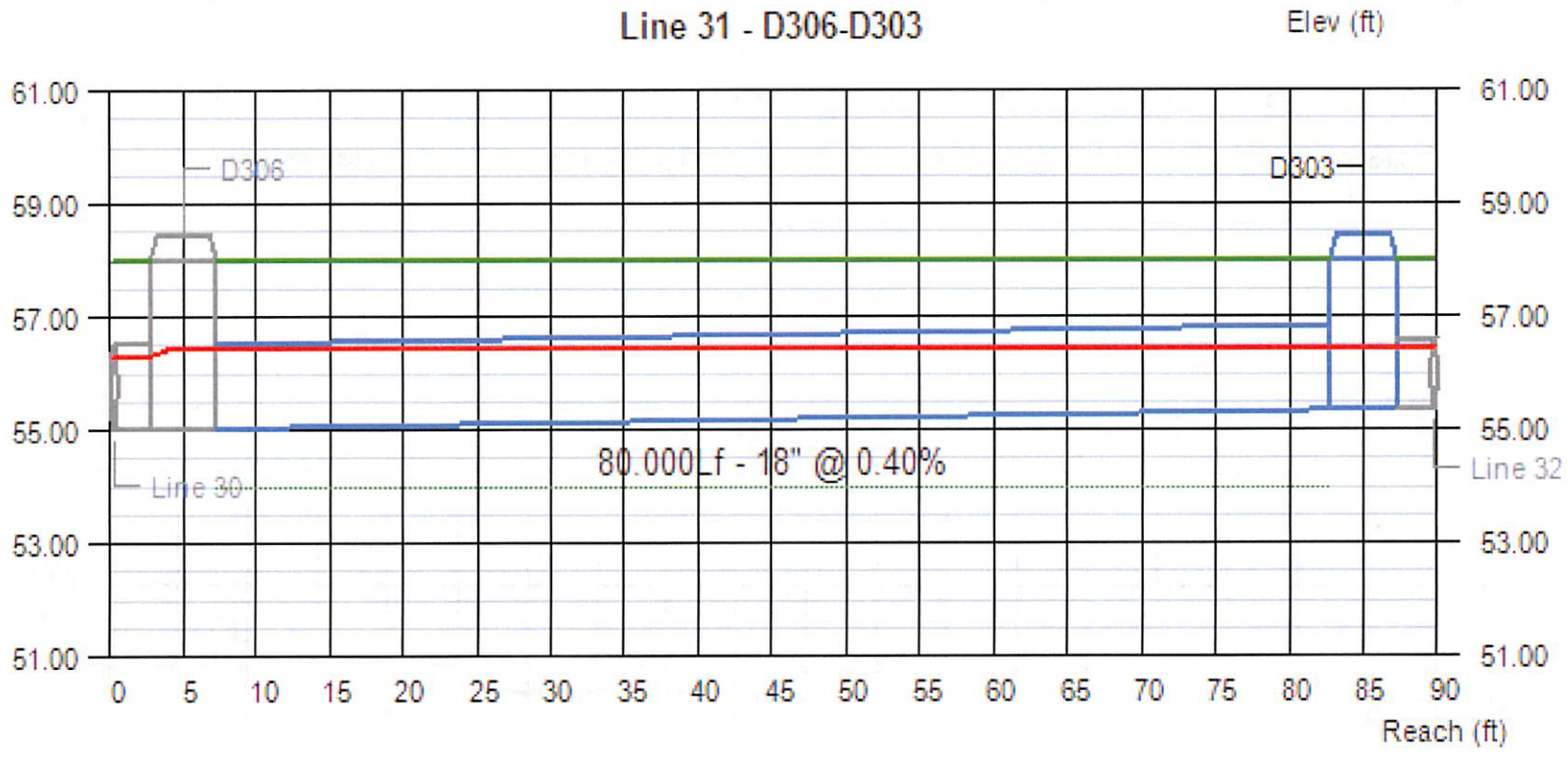
Line Profile (Line 30) - D307-D306



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
30	3.68	54.79	55.03	1.43	1.26	1.39	56.22	56.29	56.42	2.12	2.32	1.71	1.47

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

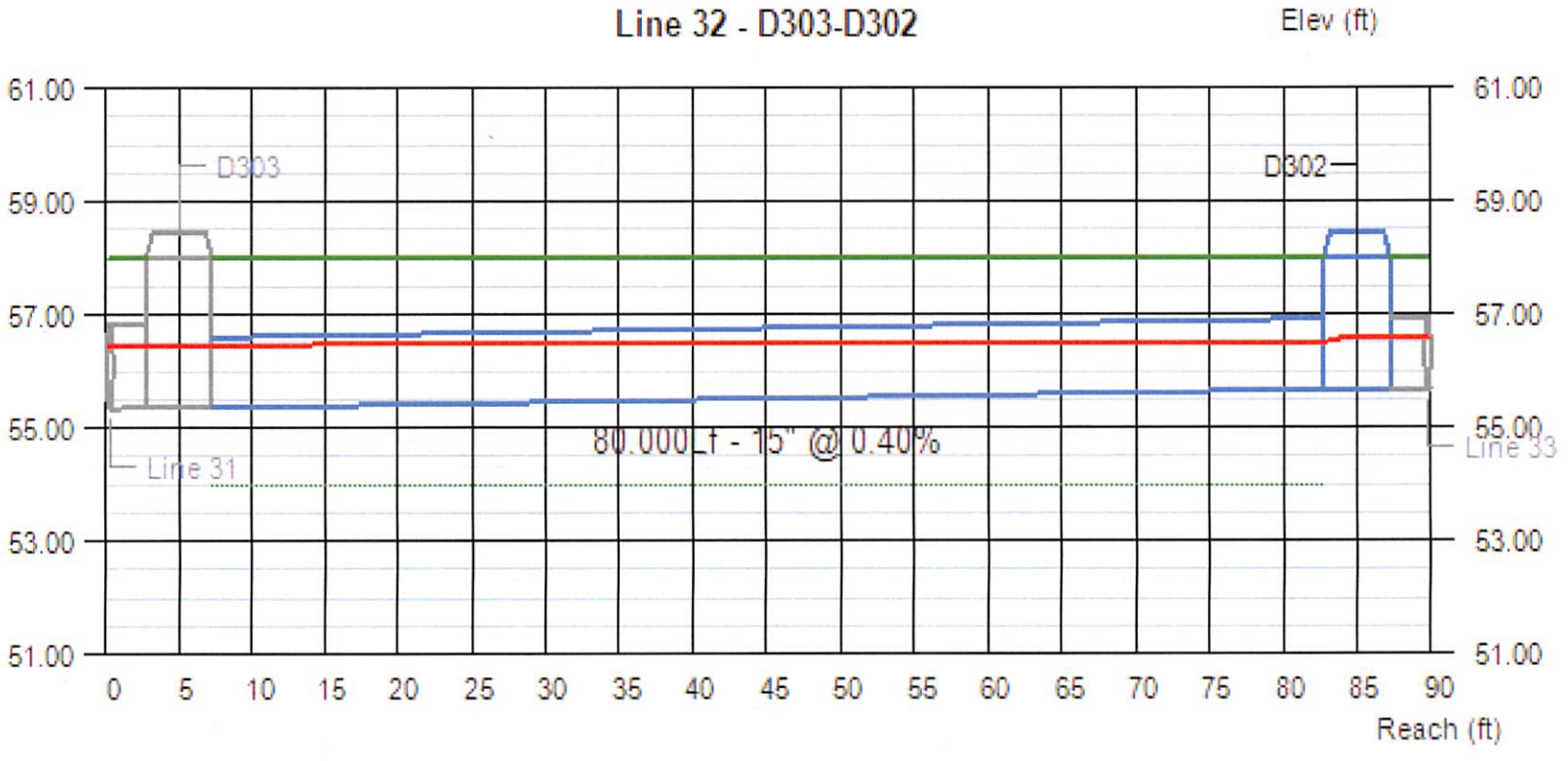
Line Profile (Line 31) - D306-D303



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
31	2.13	55.03	55.35	1.39	1.09	1.11	56.42	56.44	56.46	1.25	1.55	1.47	1.15

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

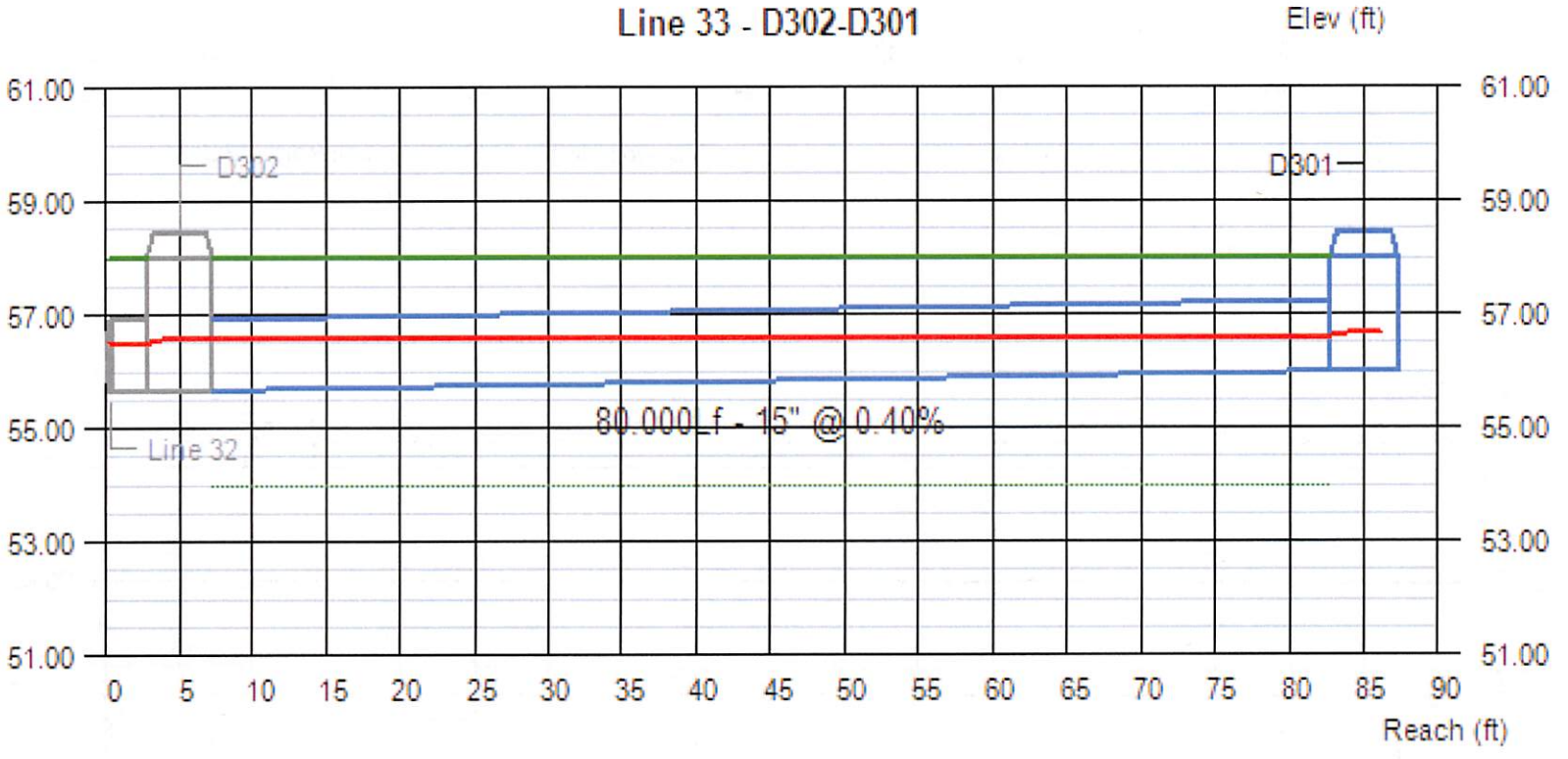
Line Profile (Line 32) - D303-D302



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
32	1.53	55.35	55.67	1.11	0.83	0.90	56.46	56.50	56.57	1.32	1.77	1.40	1.08

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

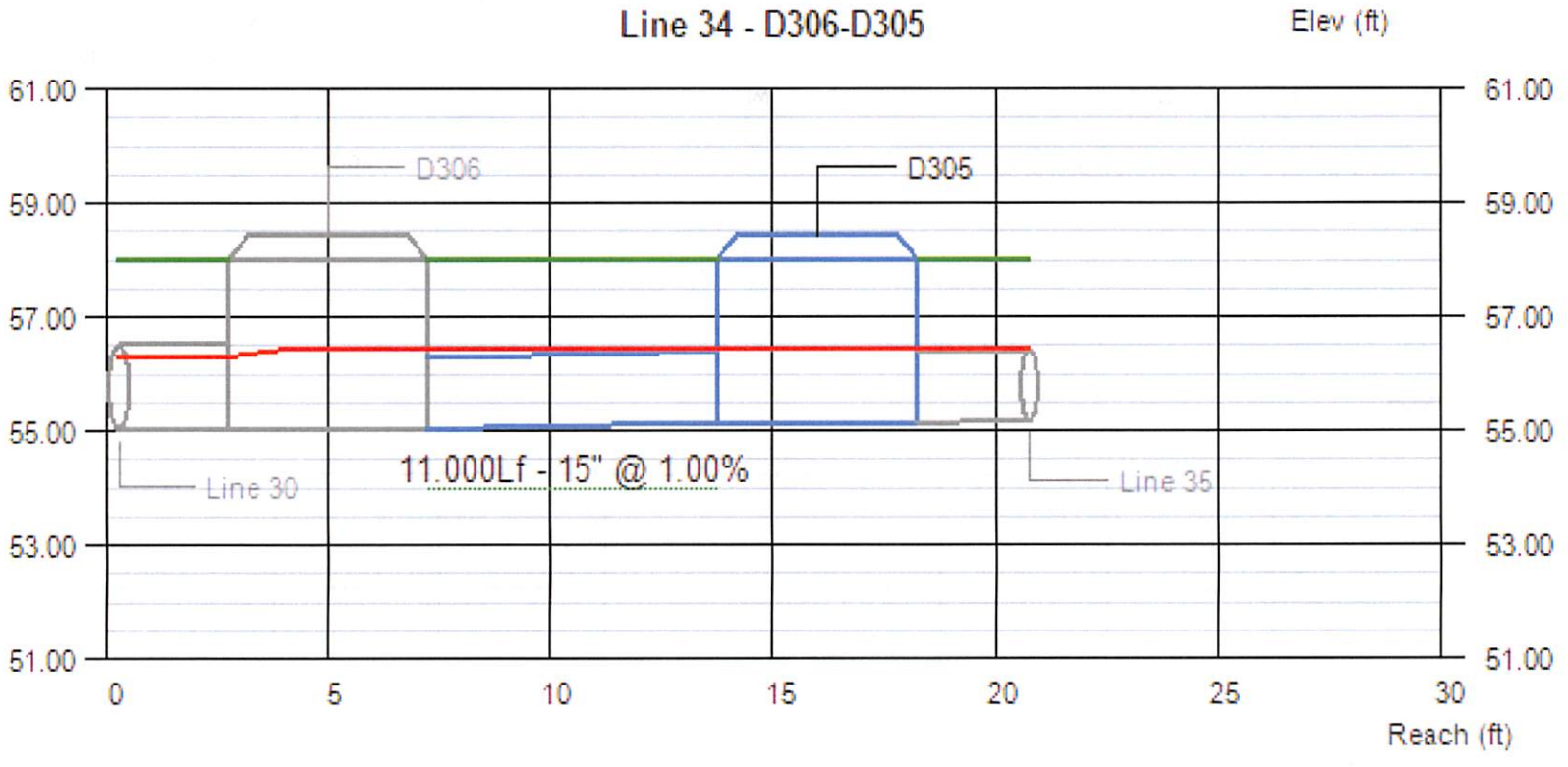
Line Profile (Line 33) - D302-D301



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
33	1.15	55.67	55.99	0.90	0.62	0.67	56.57	56.61	56.66	1.21	1.90	1.08	0.76

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

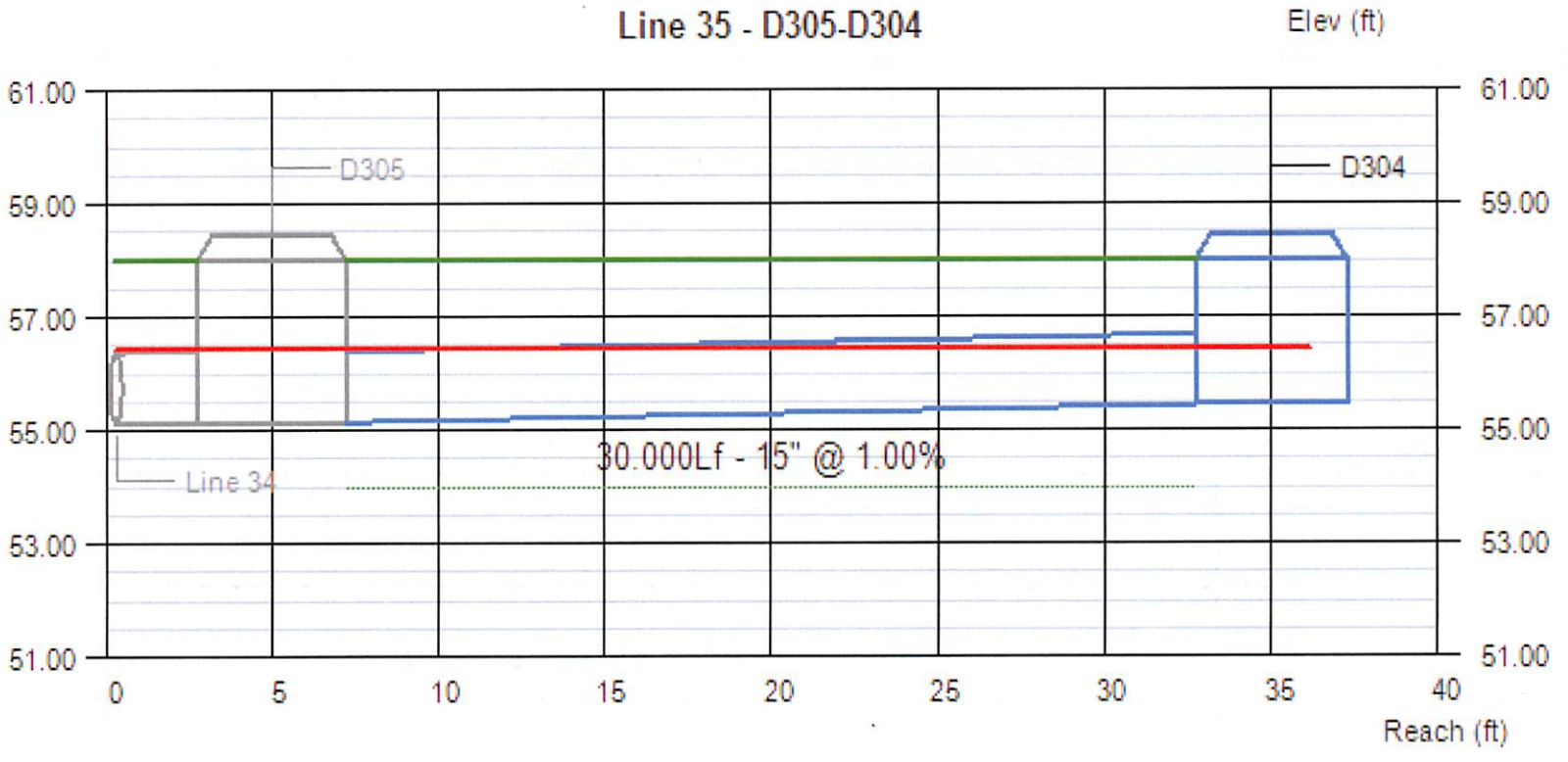
Line Profile (Line 34) - D306-D305



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
34	0.90	55.03	55.14	1.25	1.25	1.29	56.42	56.42	56.43	0.74	0.74	1.72	1.61

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

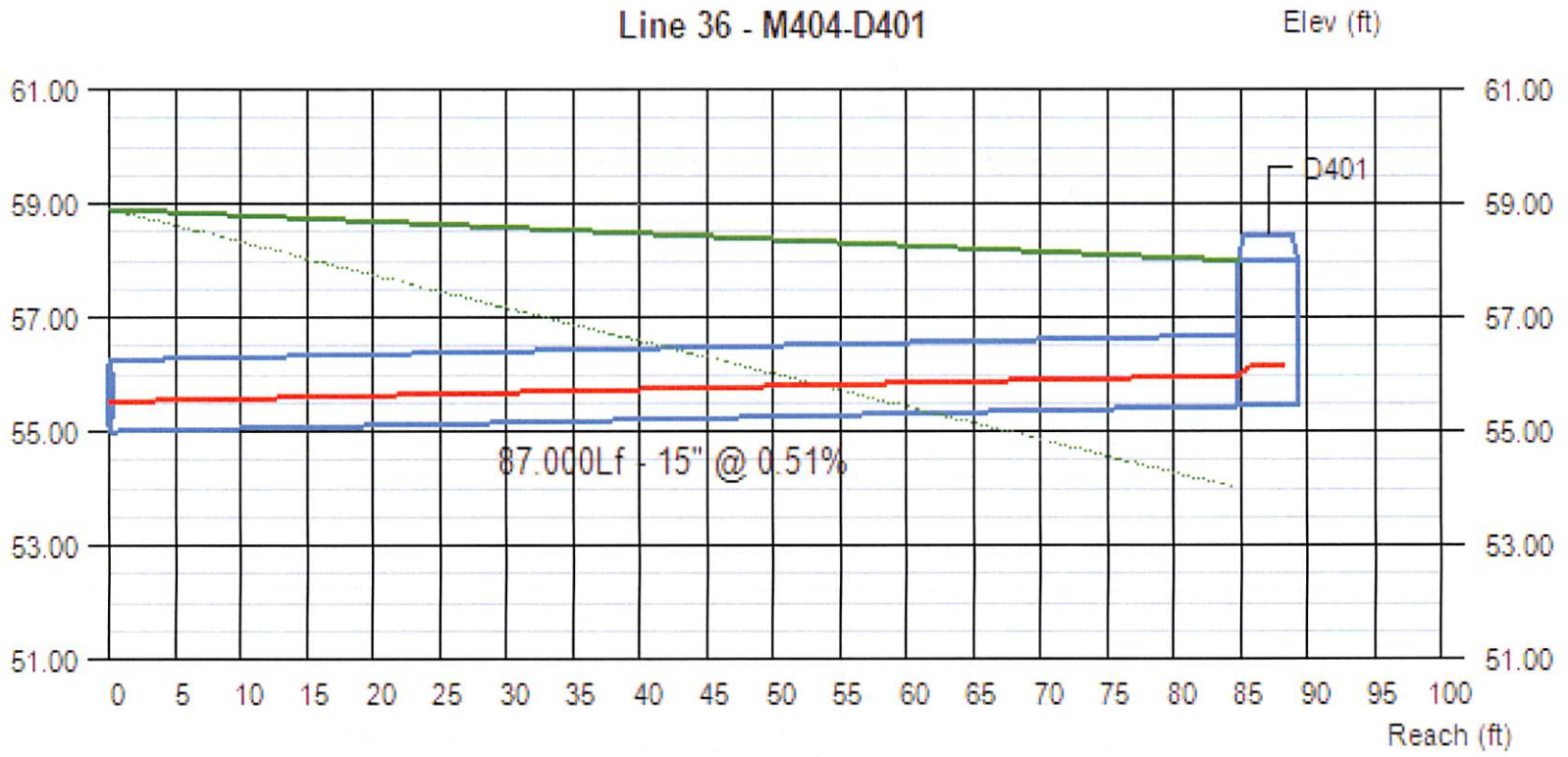
Line Profile (Line 35) - D305-D304



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
35	0.46	55.14	55.44	1.25	0.99	0.99	56.43	56.43	56.43	0.37	0.44	1.61	1.31

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

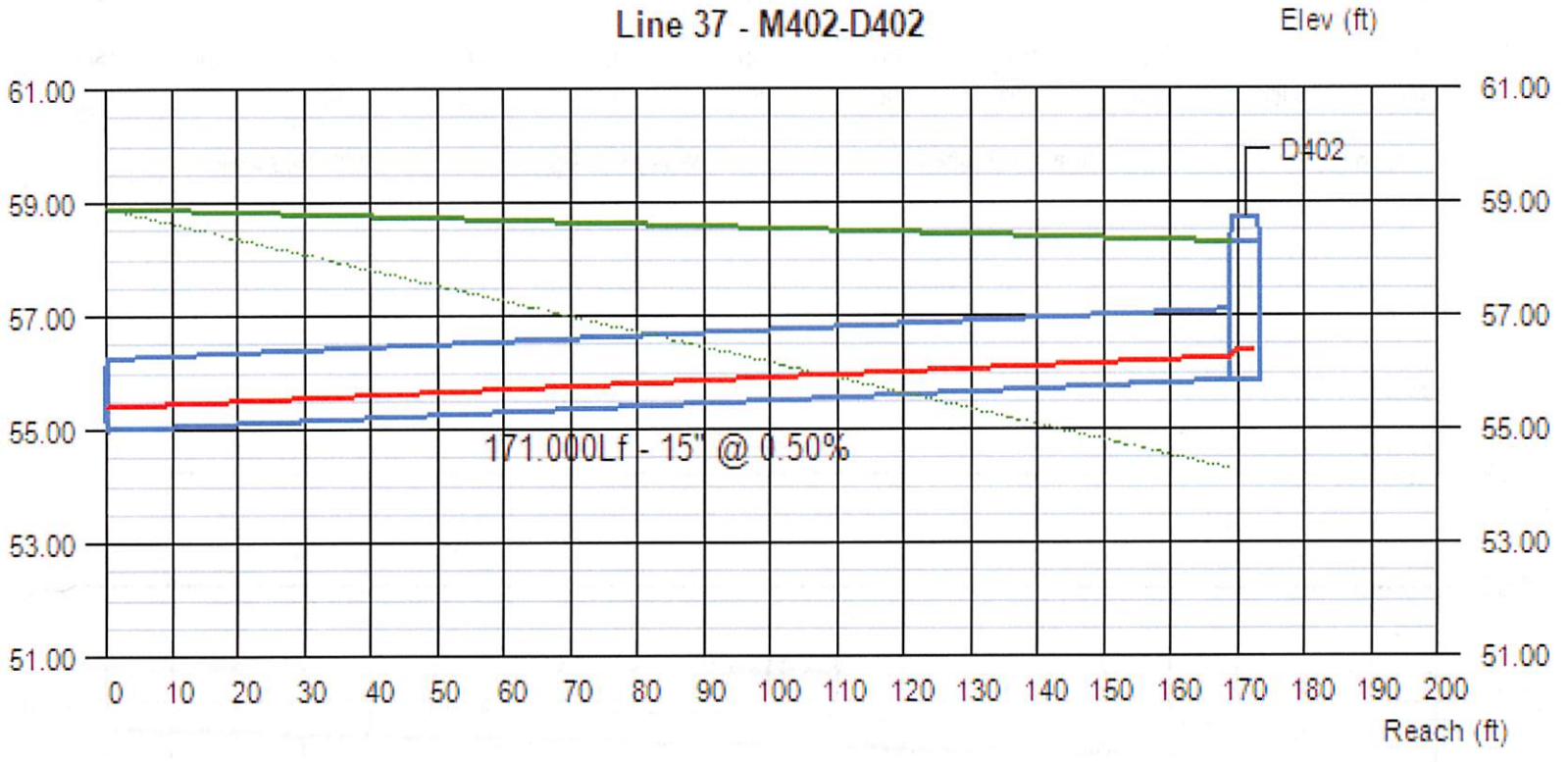
Line Profile (Line 36) - M404-D401



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
36	1.70	55.00	55.44	0.52	0.53	0.71	55.52	55.97	56.15	3.50	3.42	2.65	1.31

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

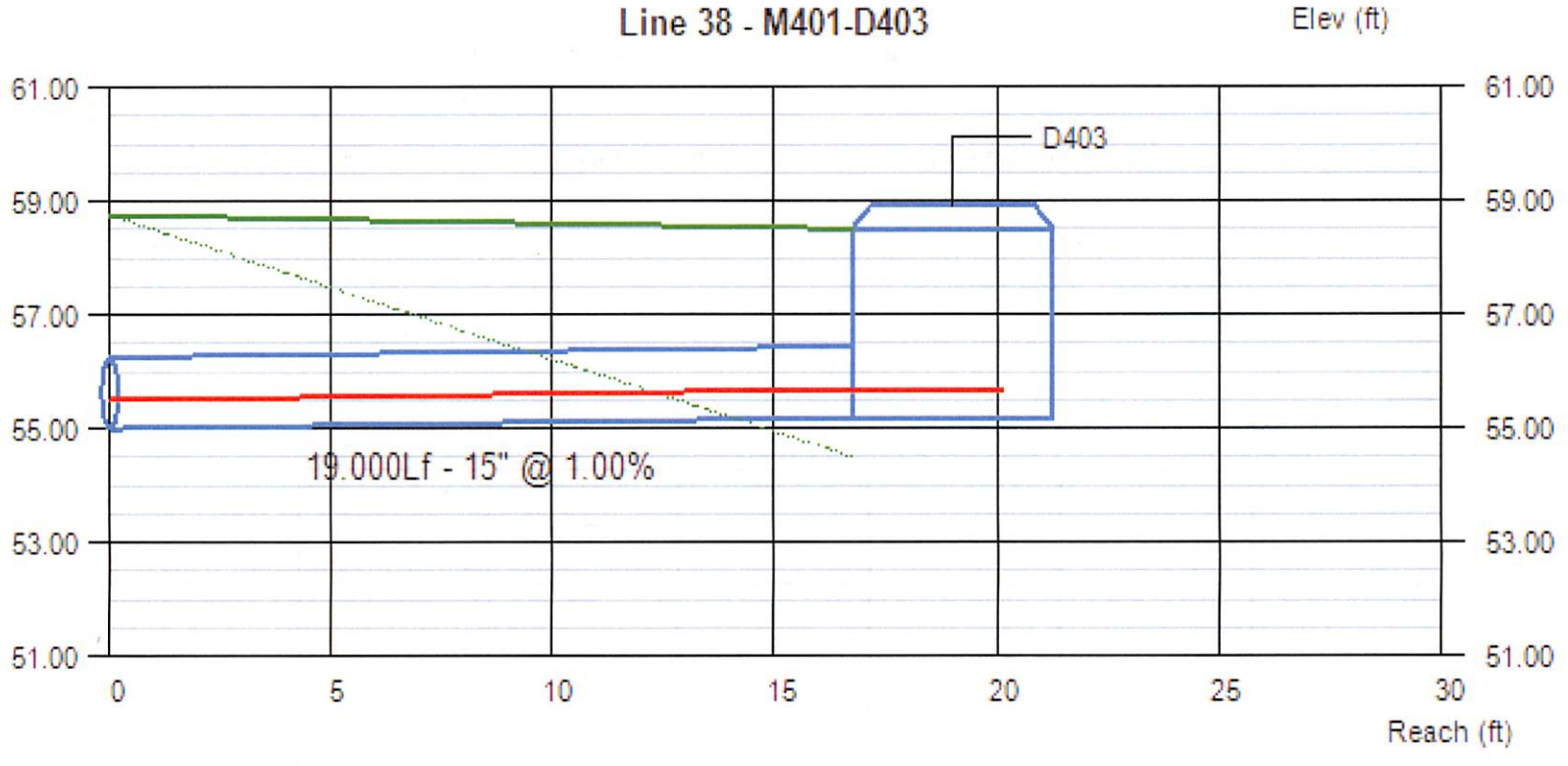
Line Profile (Line 37) - M402-D402



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
37	0.97	55.00	55.86	0.39	0.40	0.53	55.39	56.26	56.39	2.93	2.90	2.65	1.19

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

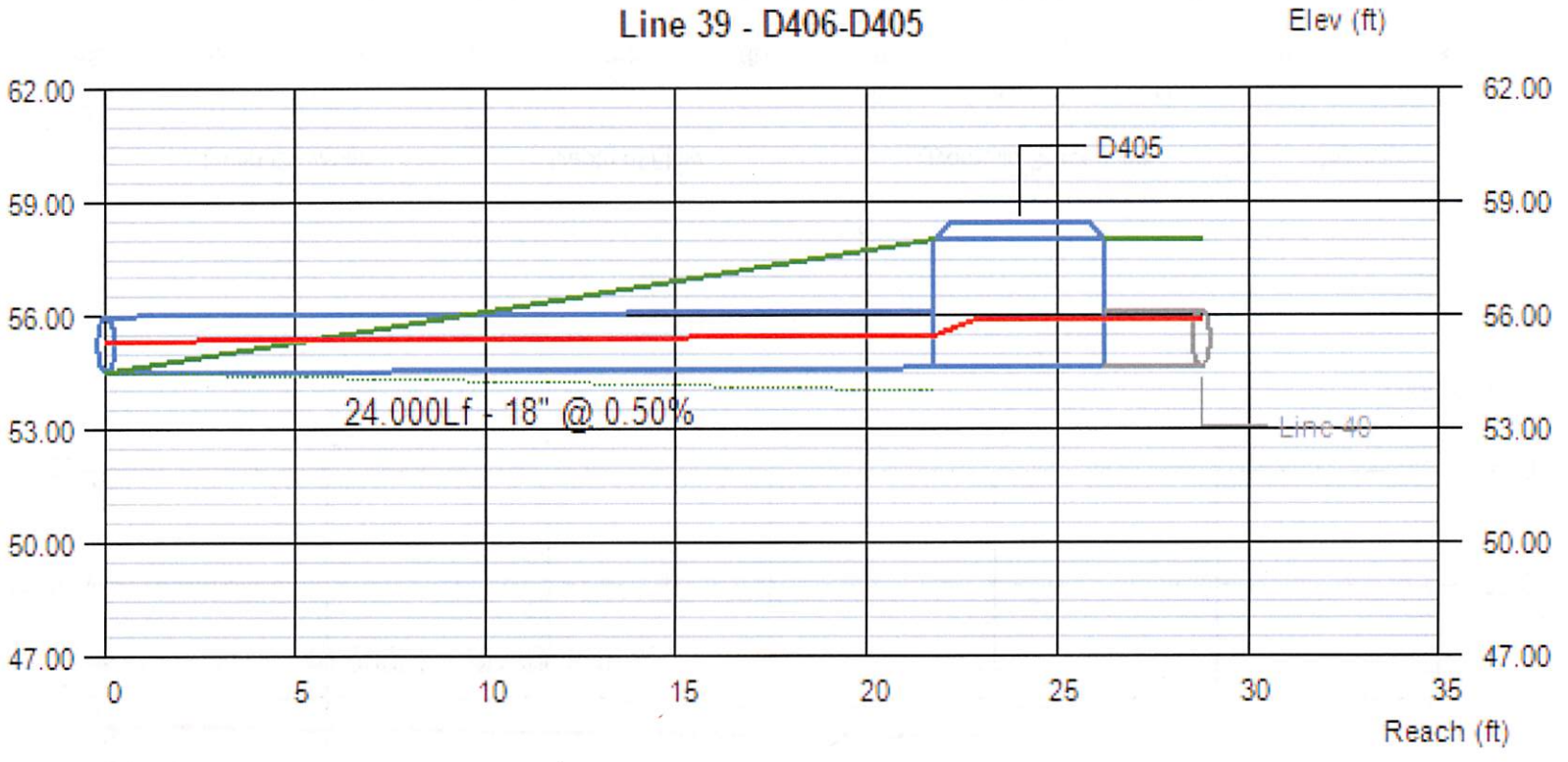
Line Profile (Line 38) - M401-D403



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
38	1.50	55.00	55.19	0.49	0.49	0.49	55.49	55.68	55.68	3.35	3.36	2.50	2.06

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

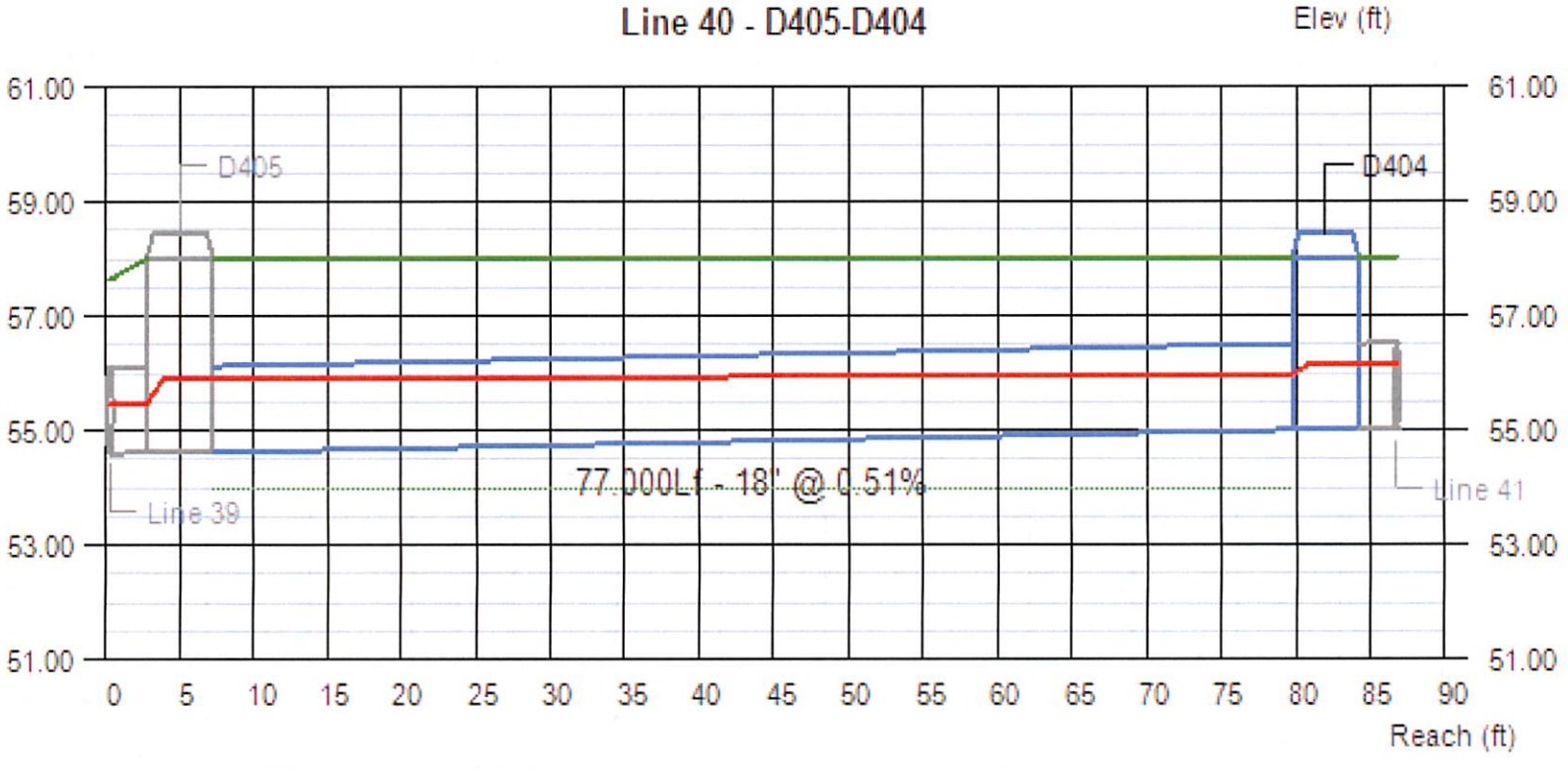
Line Profile (Line 39) - D406-D405



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
39	4.42	54.50	54.62	0.83	0.84	1.27	55.33	55.46	55.89	4.41	4.37	-1.50	1.88

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

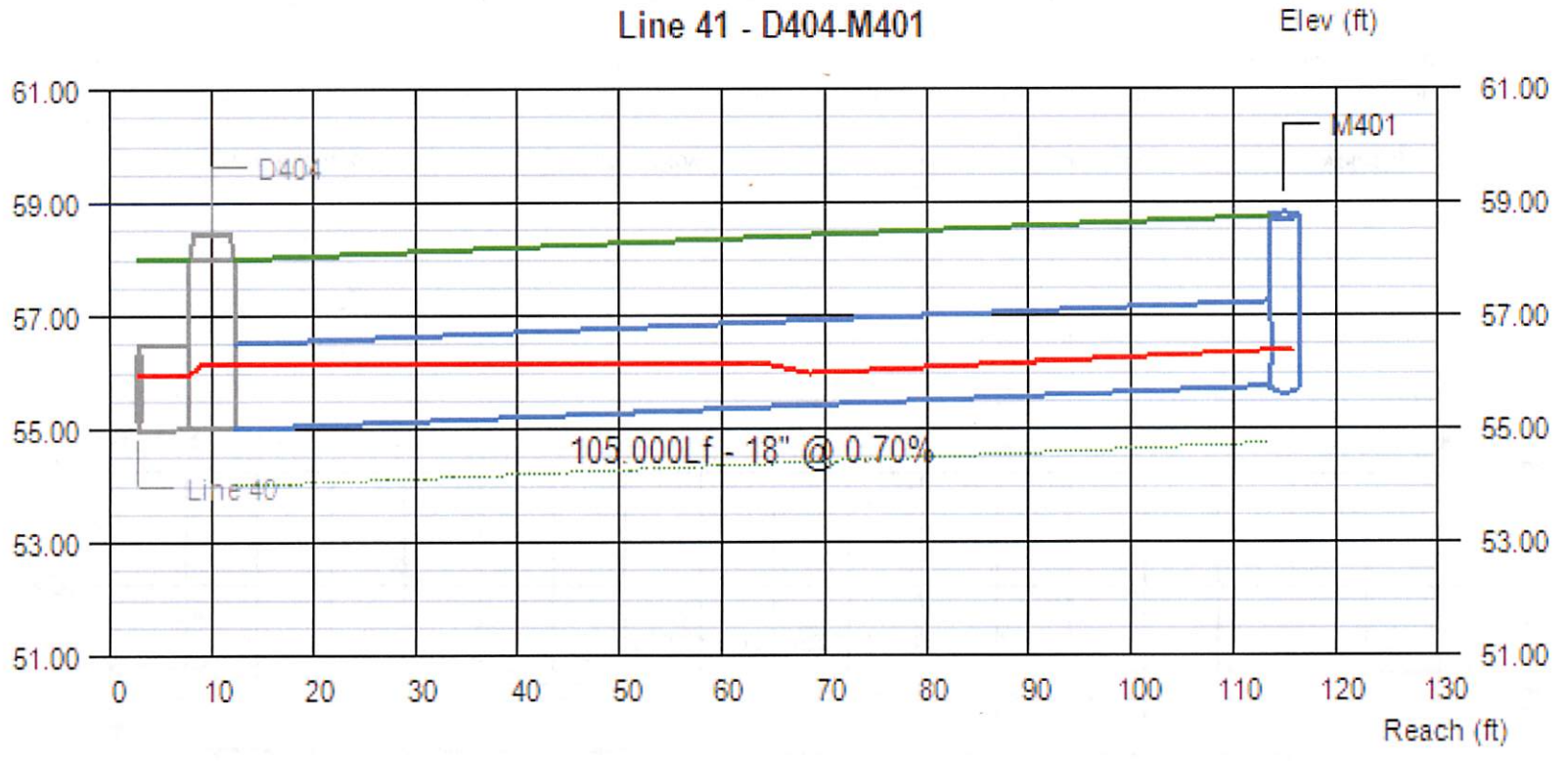
Line Profile (Line 40) - D405-D404



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
40	3.80	54.62	55.01	1.27	0.95	1.13	55.89	55.96	56.14	2.37	3.20	1.88	1.49

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

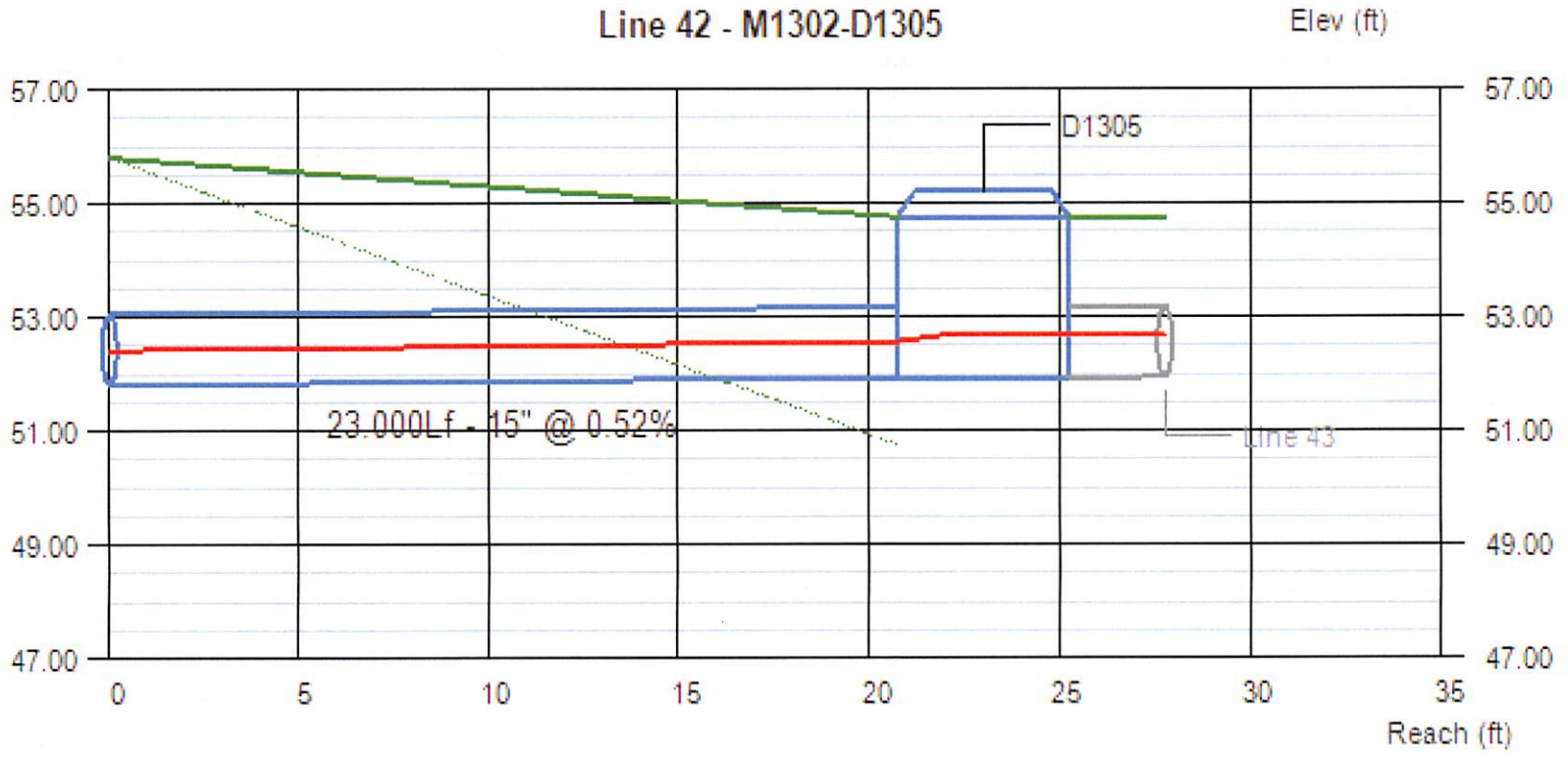
Line Profile (Line 41) - D404-M401



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
41	2.70	55.01	55.75	1.13	0.63	0.63	56.14	56.38 j	56.38	1.89	3.86	1.49	1.50

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

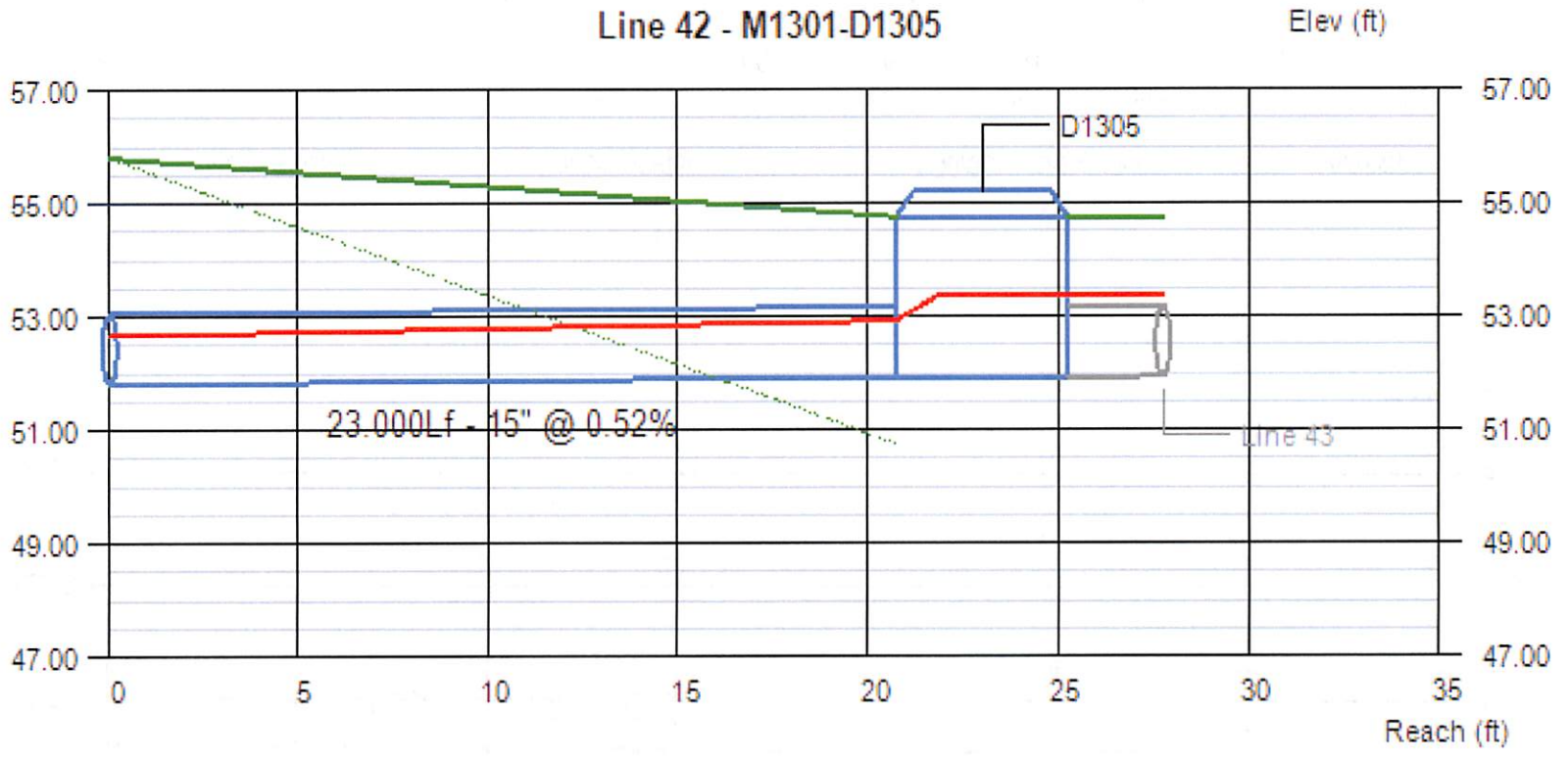
Line Profile (Line 42) - M1302-D1305



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
42	2.33	51.80	51.92	0.61	0.64	0.74	52.41	52.56	52.66	3.91	3.72	2.75	1.58

Lawrence MUCD | No. Lines: 52 | Run Date: 11/15/2012

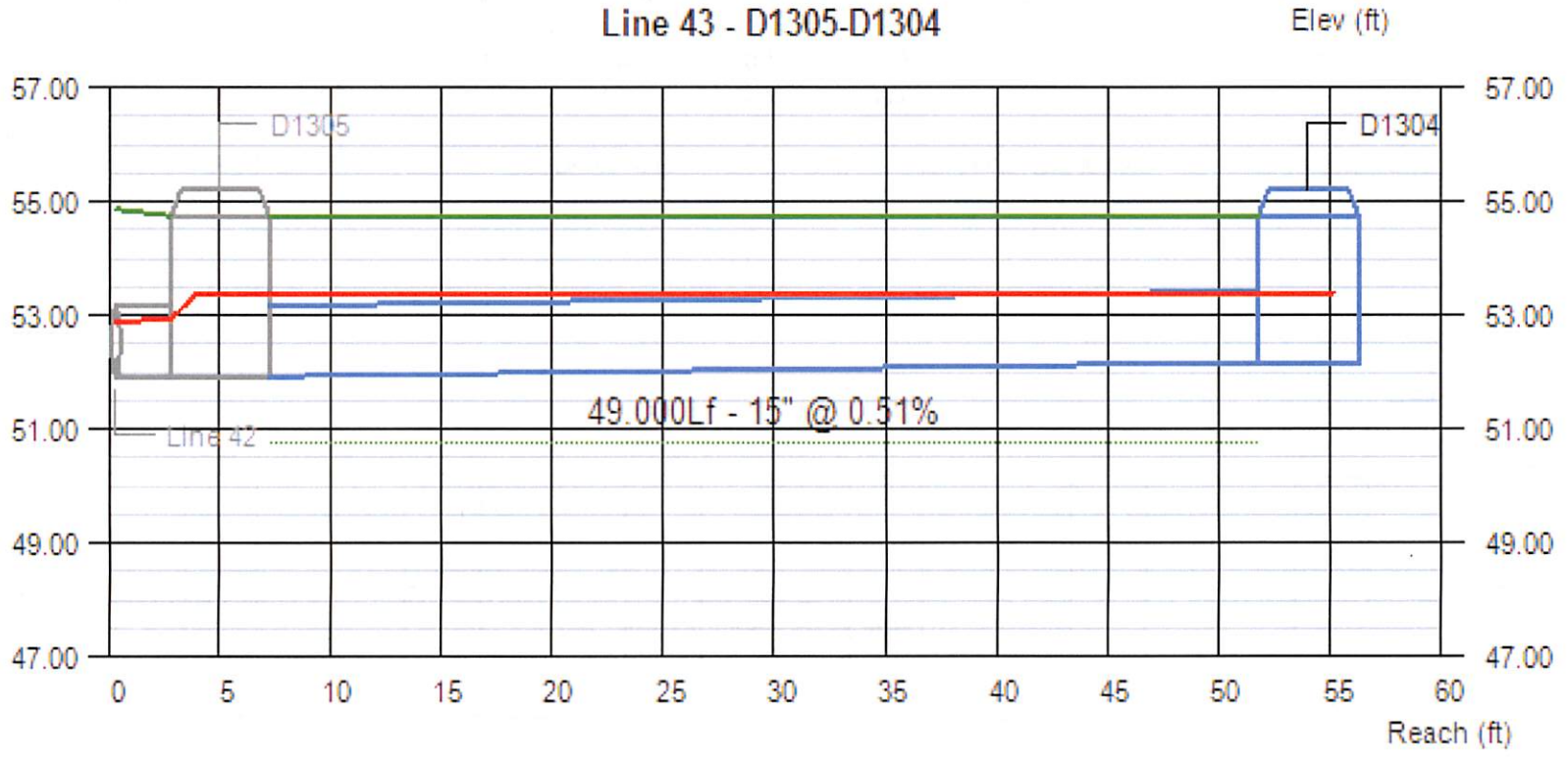
Line Profile (Line 42) - M1301-D1305



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
42	4.63	51.80	51.92	0.86	1.00	1.45	52.66	52.92	53.37	5.14	4.40	2.75	1.58

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

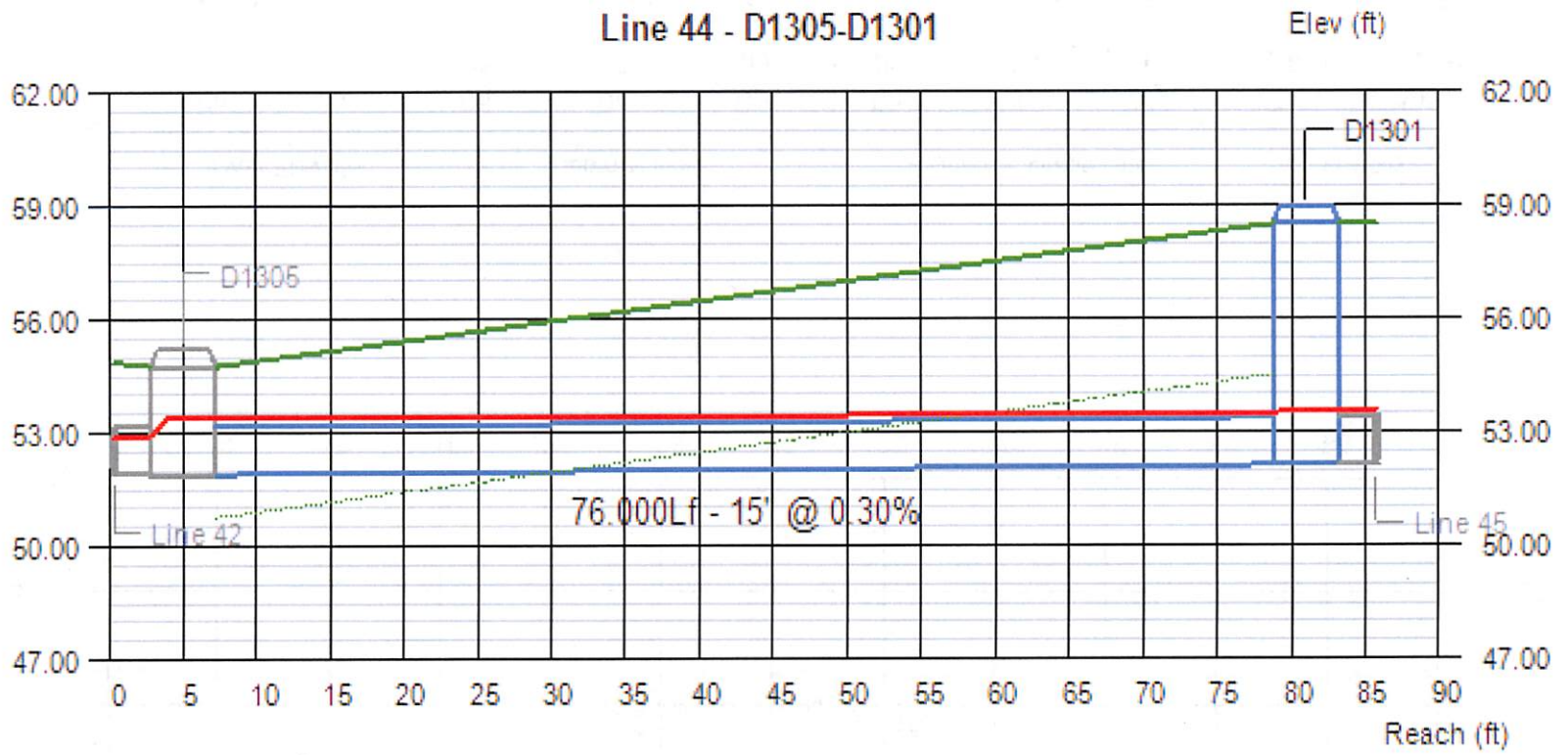
Line Profile (Line 43) - D1305-D1304



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
43	0.75	51.92	52.17	1.25	1.21	1.21	53.37	53.38	53.38	0.61	0.62	1.58	1.33

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

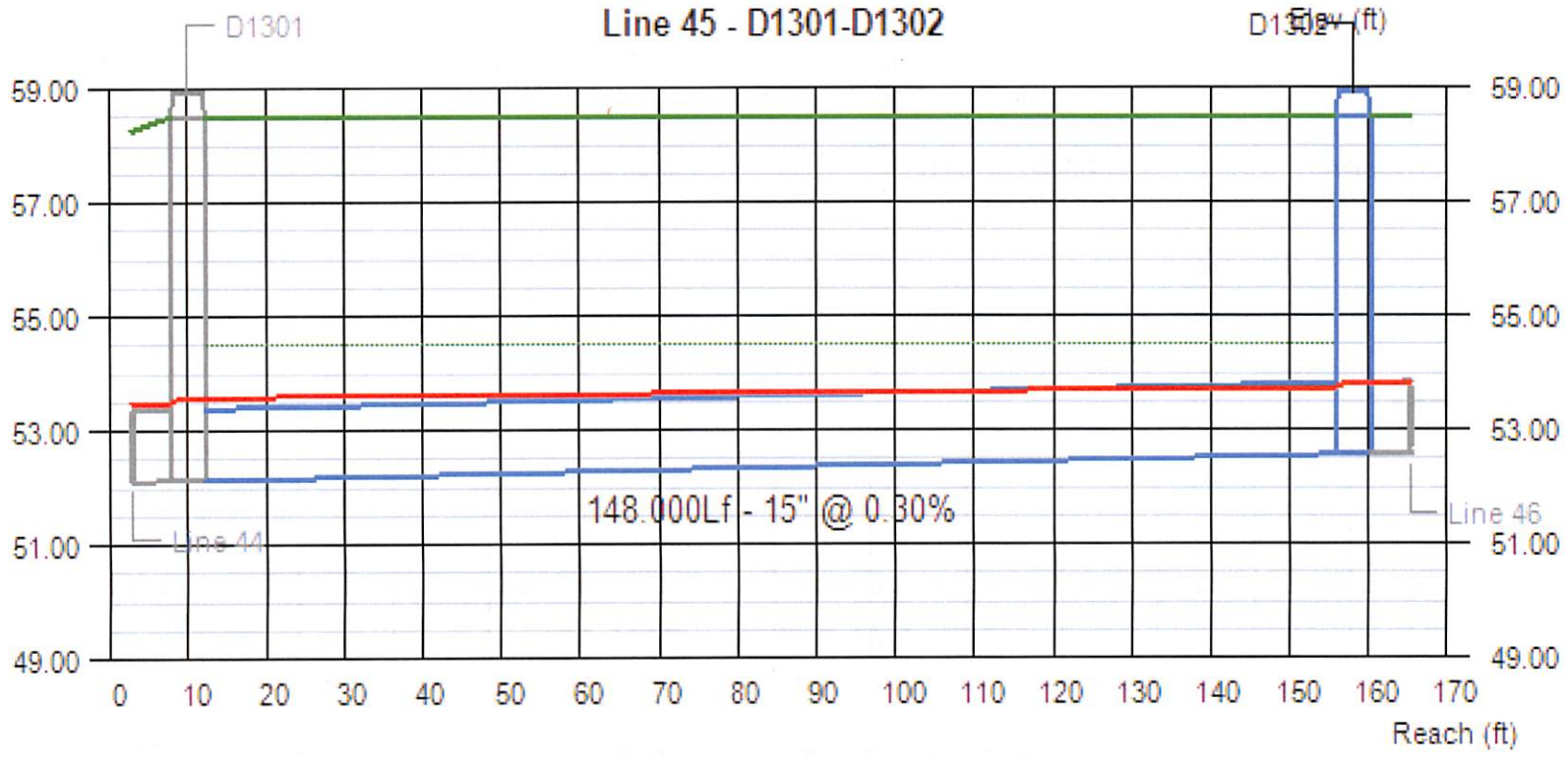
Line Profile (Line 44) - D1305-D1301



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
44	2.51	51.90	52.13	1.25	1.25	1.45	53.37	53.49	53.58	2.05	2.05	1.60	5.12

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

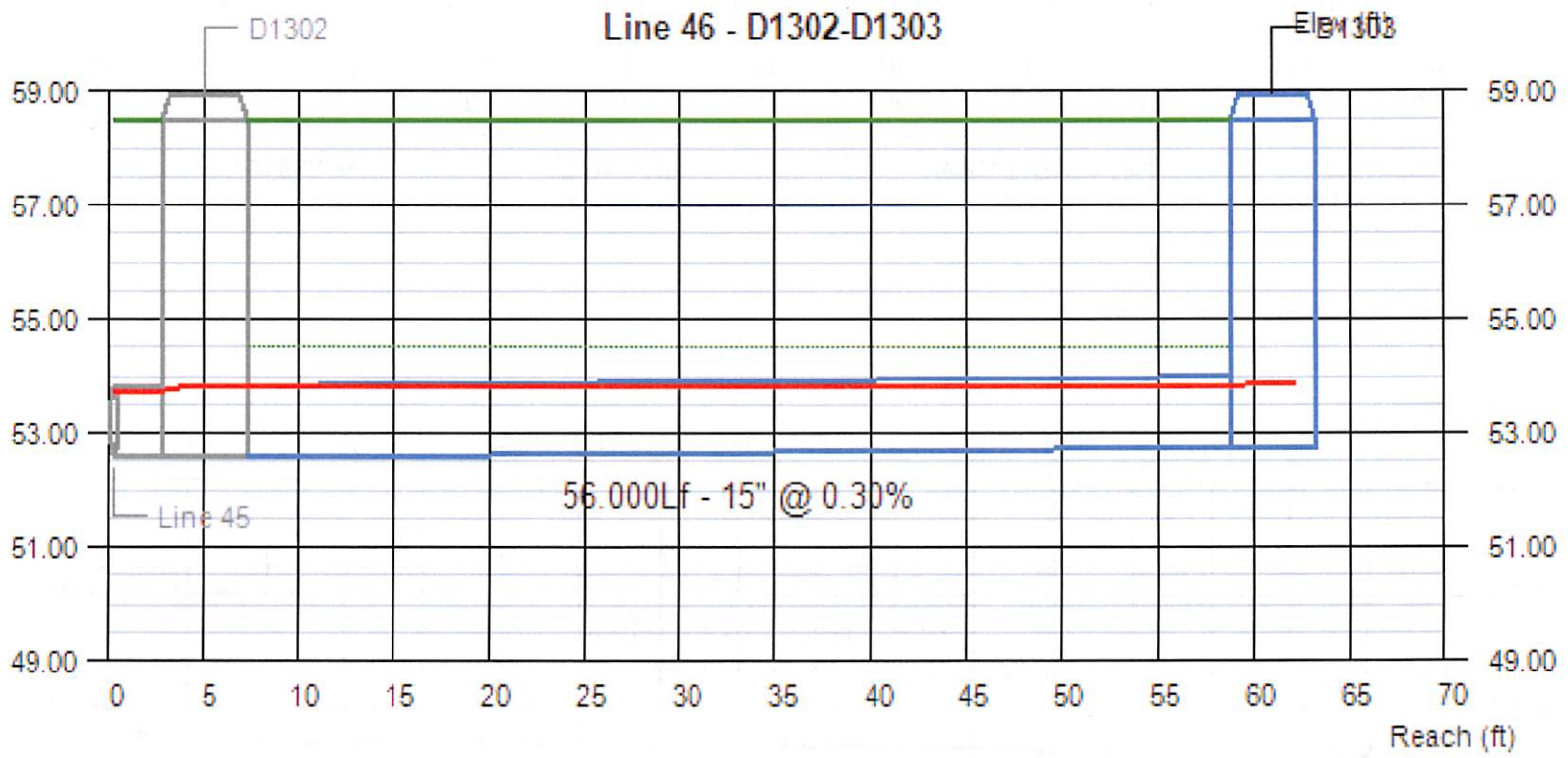
Line Profile (Line 45) - D1301-D1302



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
45	2.10	52.13	52.57	1.25	1.15	1.23	53.58	53.72	53.80	1.71	1.78	5.12	4.68

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

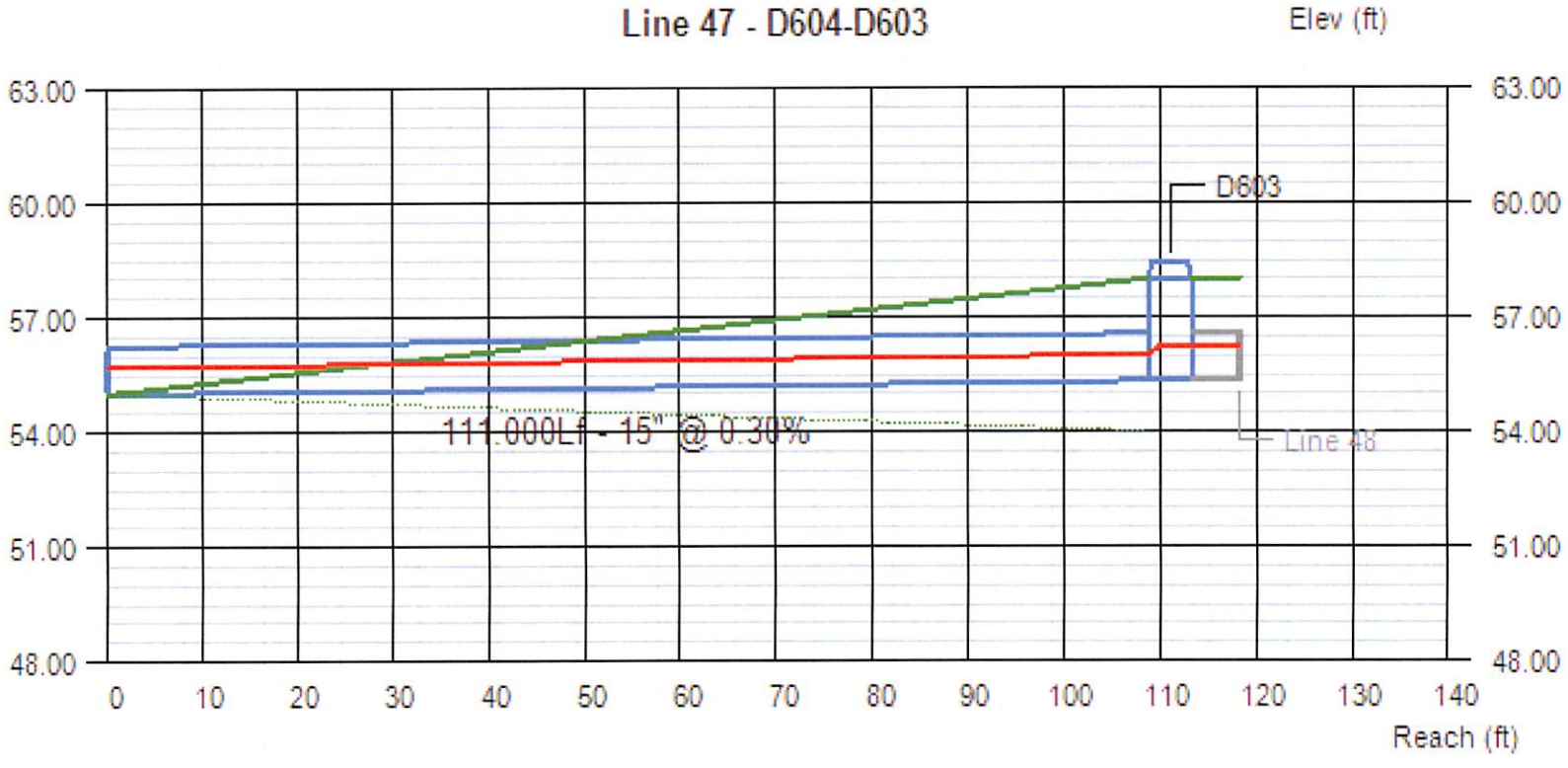
Line Profile (Line 46) - D1302-D1303



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
46	1.32	52.57	52.74	1.23	1.08	1.10	53.80	53.82	53.84	1.08	1.17	4.68	4.51

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

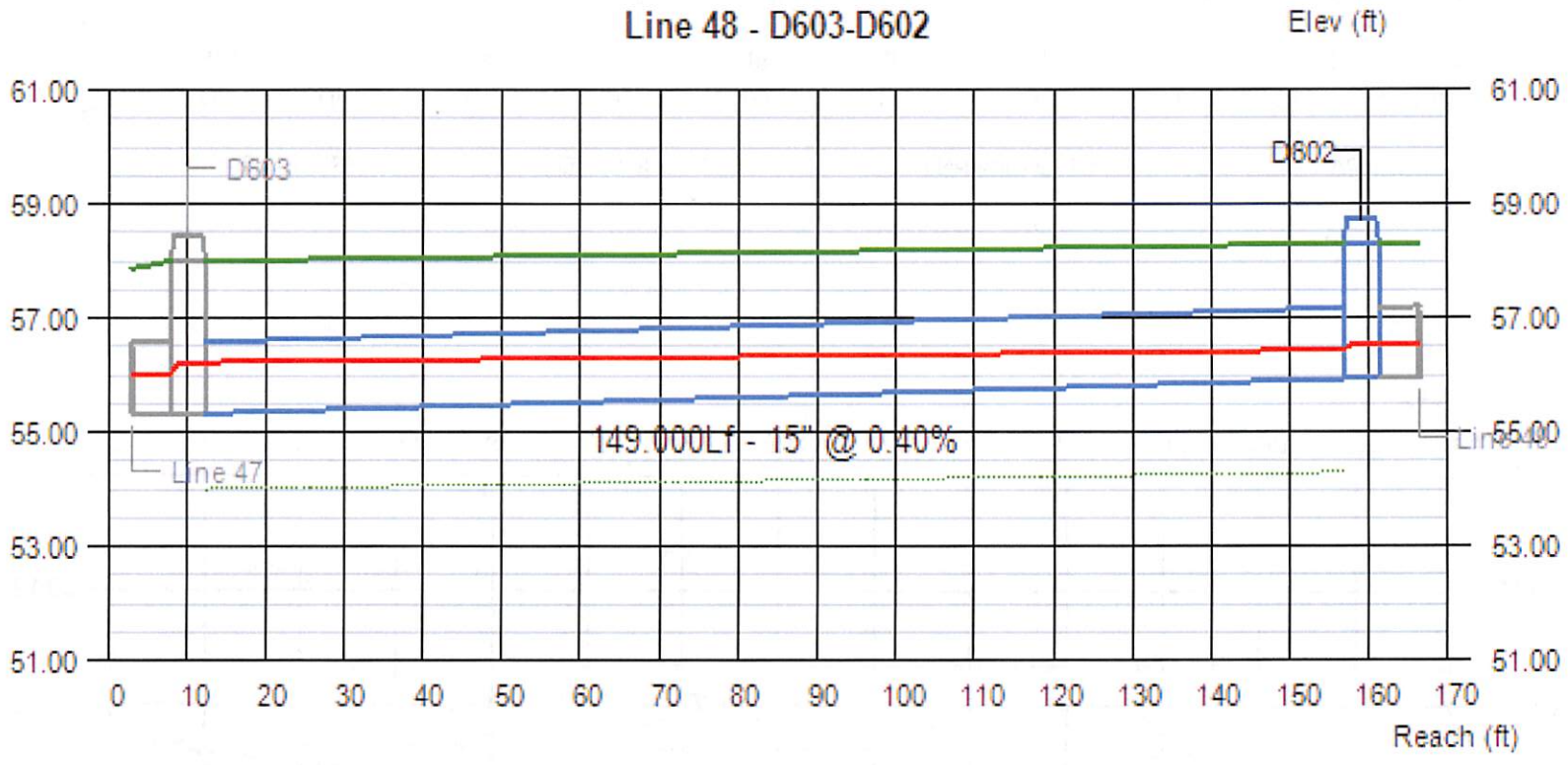
Line Profile (Line 47) - D604-D603



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
47	2.05	55.00	55.33	0.69	0.69	0.89	55.69	56.02	56.22	2.96	2.98	-1.25	1.42

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

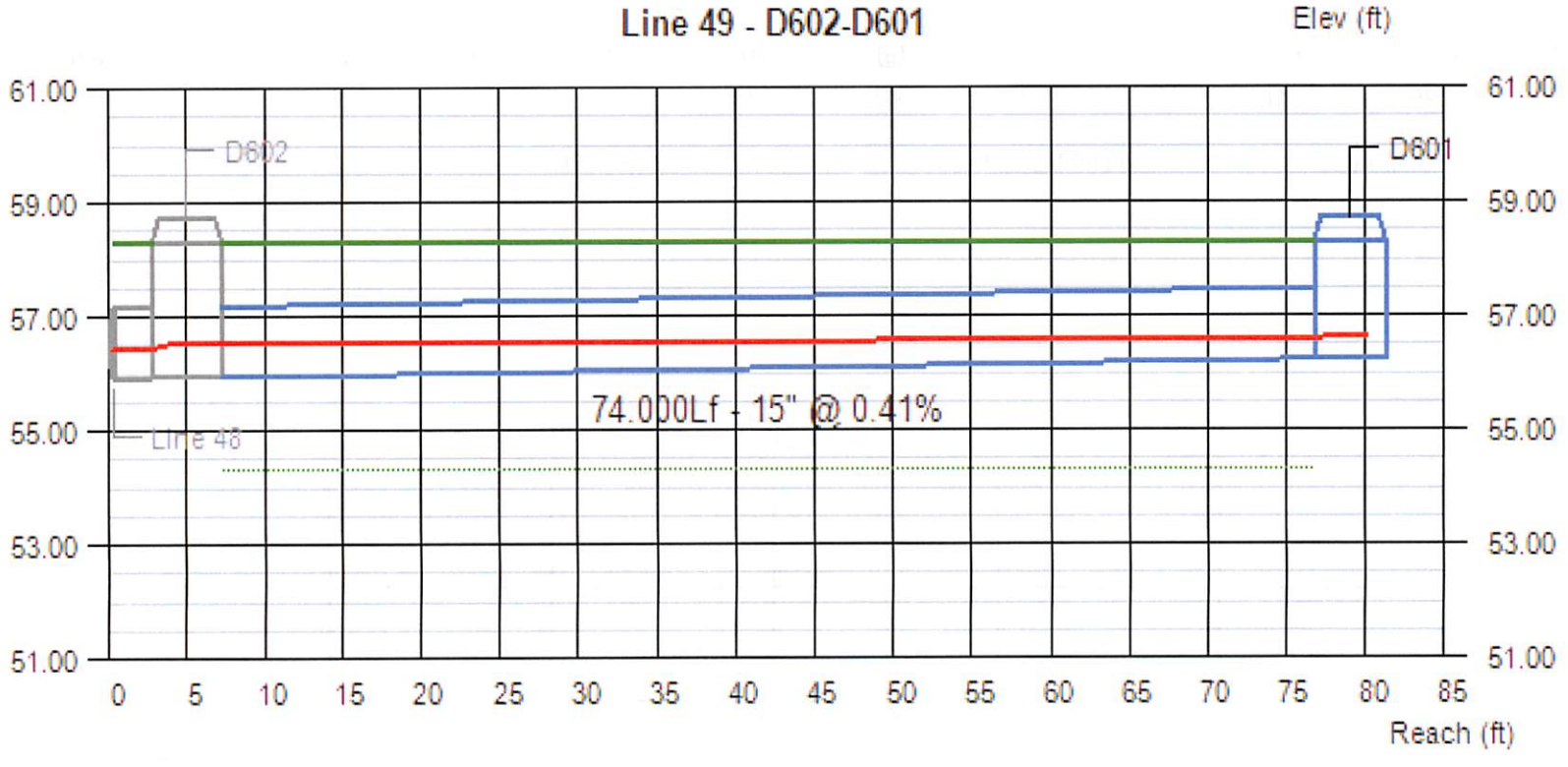
Line Profile (Line 48) - D603-D602



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
48	1.32	55.33	55.93	0.89	0.50	0.60	56.22	56.43	56.53	1.41	2.86	1.42	1.12

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

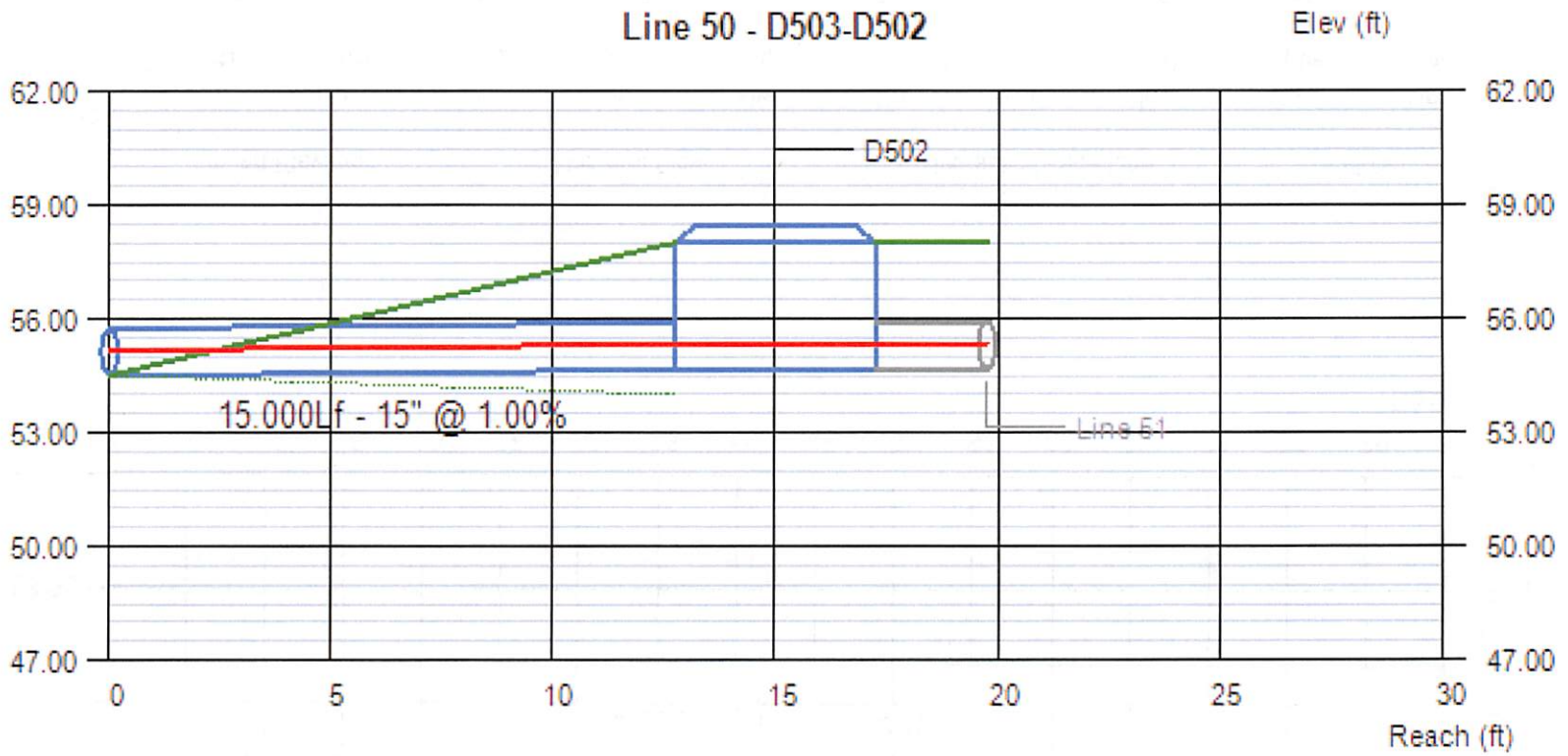
Line Profile (Line 49) - D602-D601



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
49	0.57	55.93	56.23	0.60	0.36	0.42	56.53	56.59	56.65	0.98	1.97	1.12	0.82

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

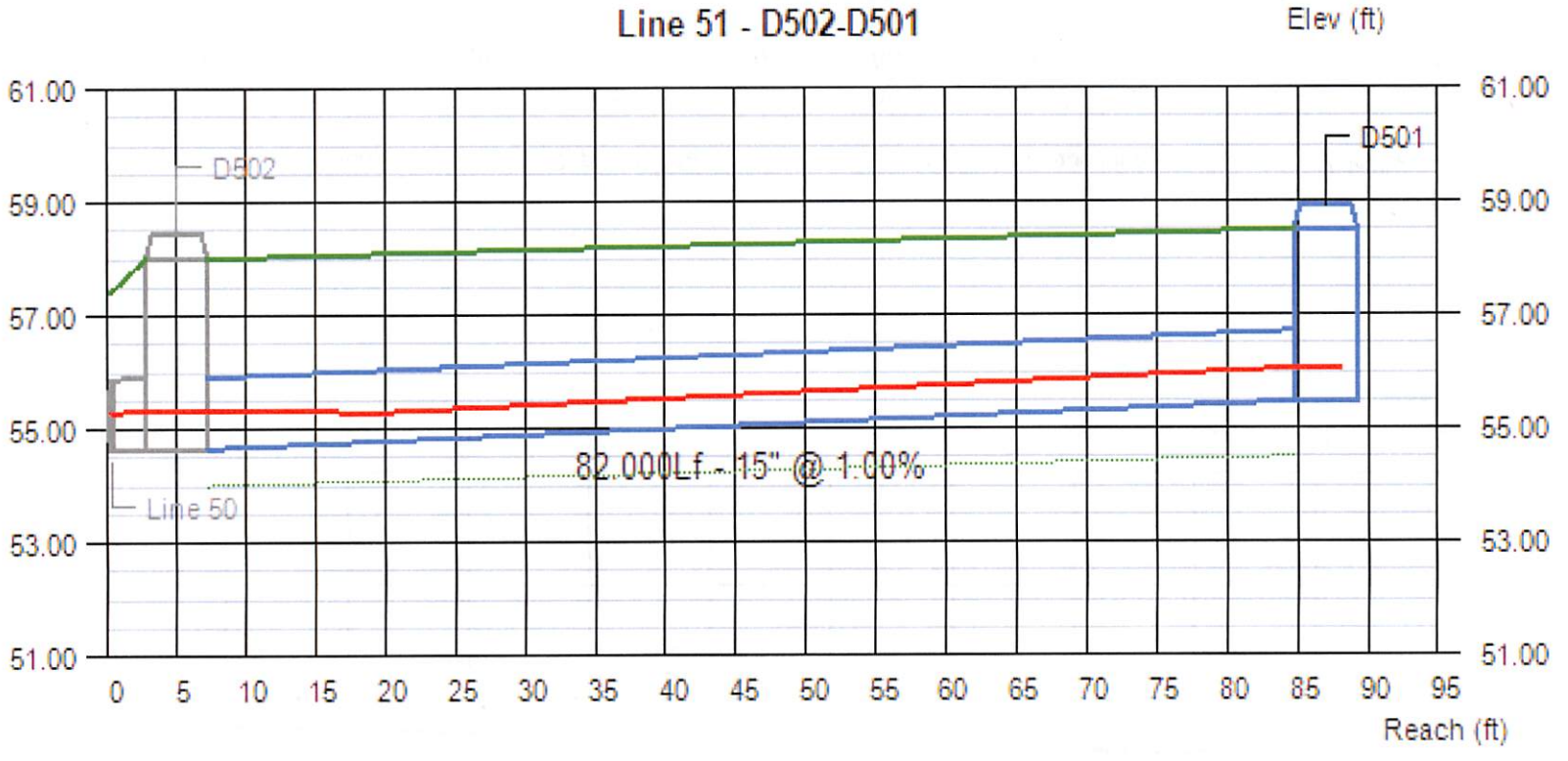
Line Profile (Line 50) - D503-D502



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
50	2.74	54.50	54.65	0.66	0.66	0.66	55.16	55.31	55.31	4.15	4.15	-1.25	2.10

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

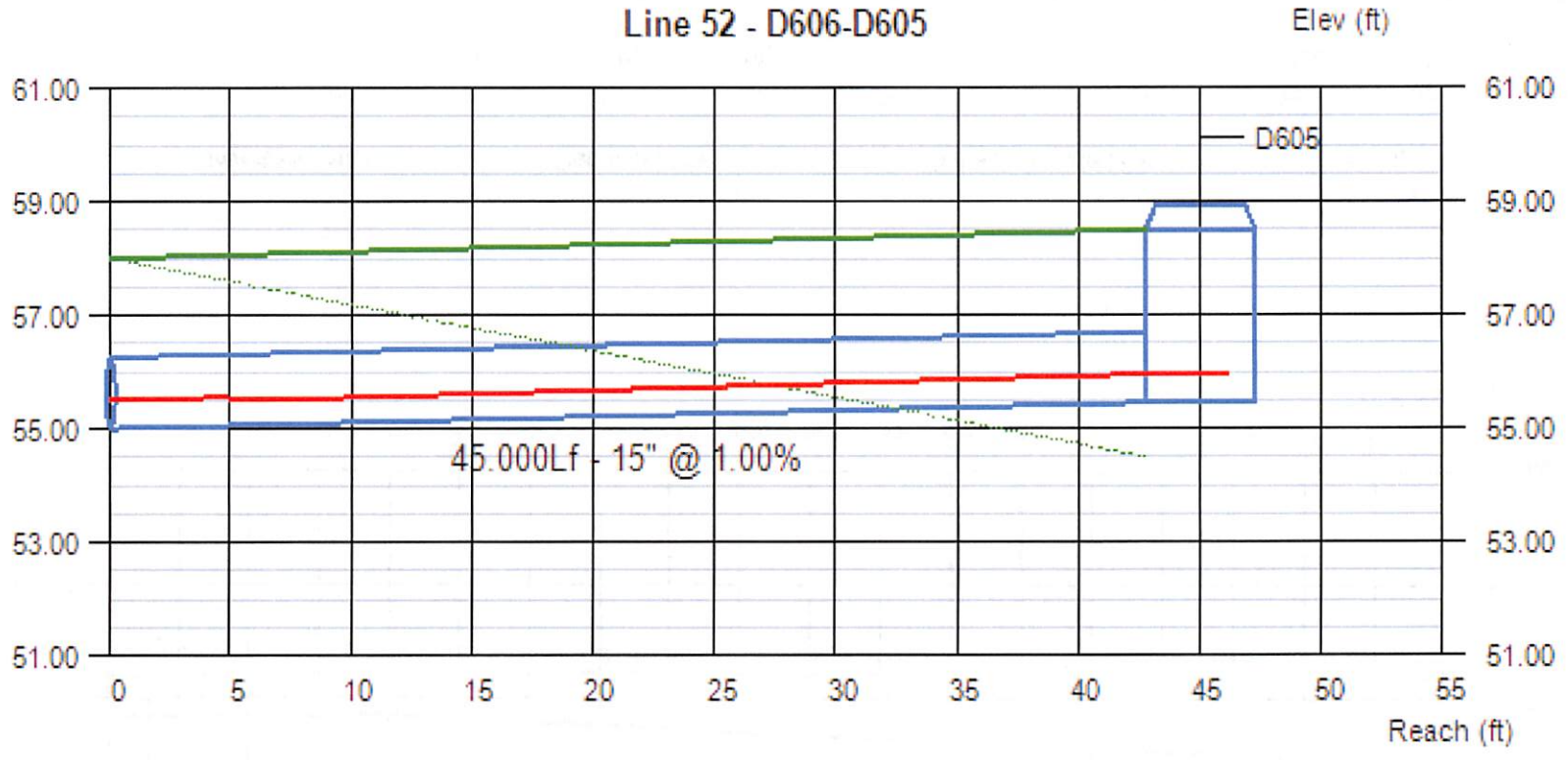
Line Profile (Line 51) - D502-D501



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
51	2.11	54.65	55.47	0.66	0.58	0.58	55.31	56.05 j	56.05	3.19	3.77	2.10	1.78

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

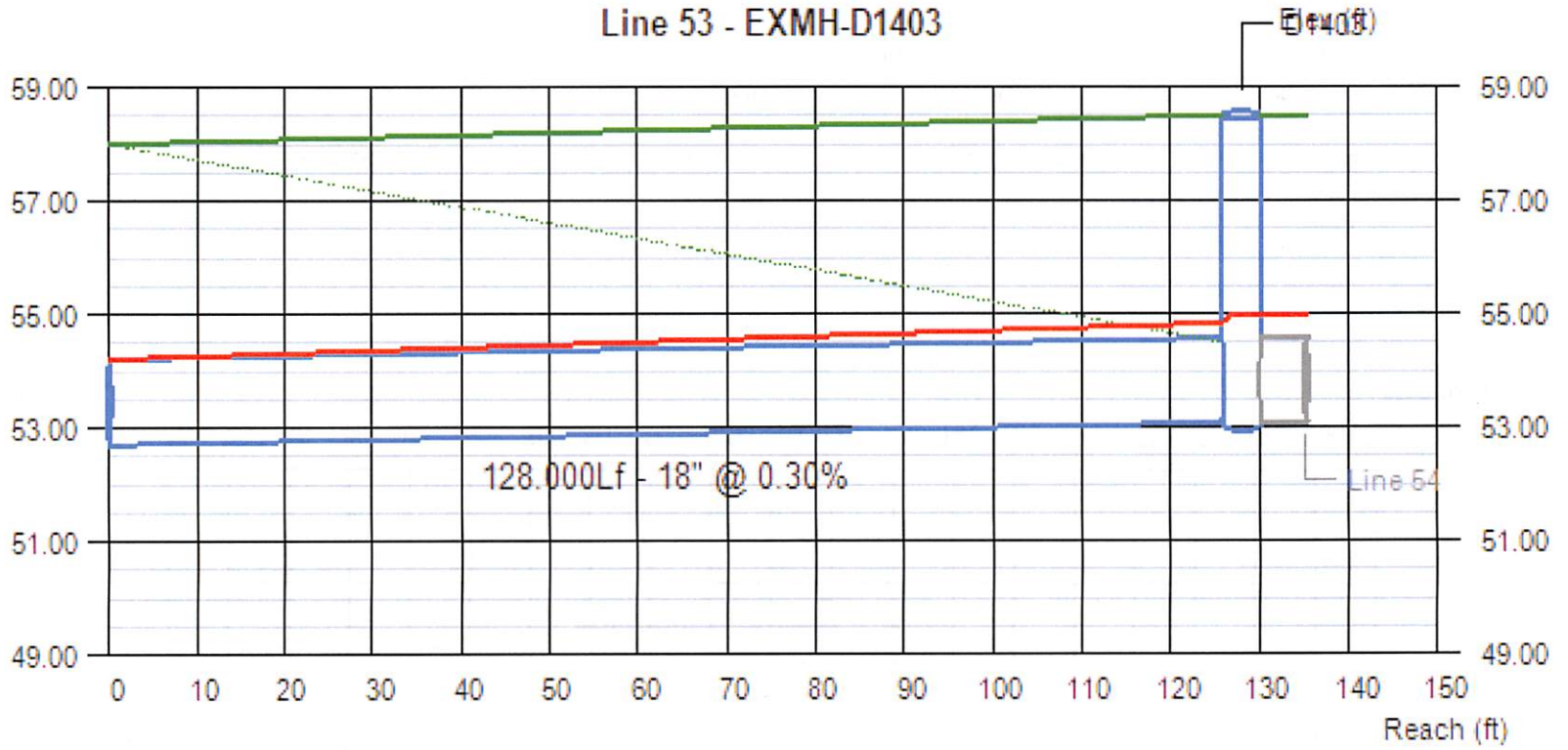
Line Profile (Line 52) - D606-D605



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
52	1.54	55.00	55.45	0.50	0.50	0.50	55.50	55.95 j	55.95	3.36	3.39	1.75	1.80

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

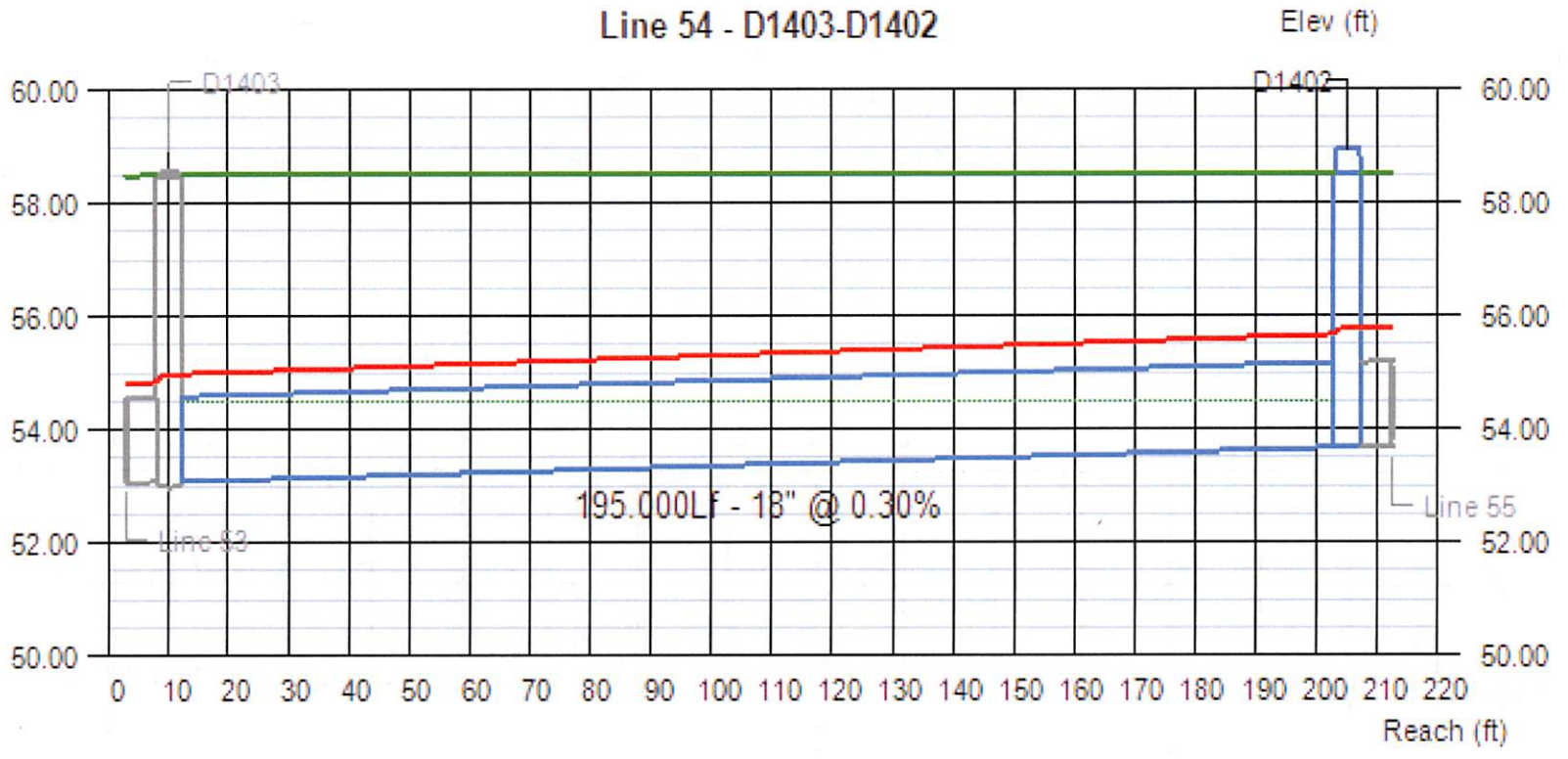
Line Profile (Line 53) - EXMH-D1403



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
53	7.39	52.70	53.08	1.50	1.50	1.89	54.20	54.83	54.97	4.18	4.18	3.80	3.92

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

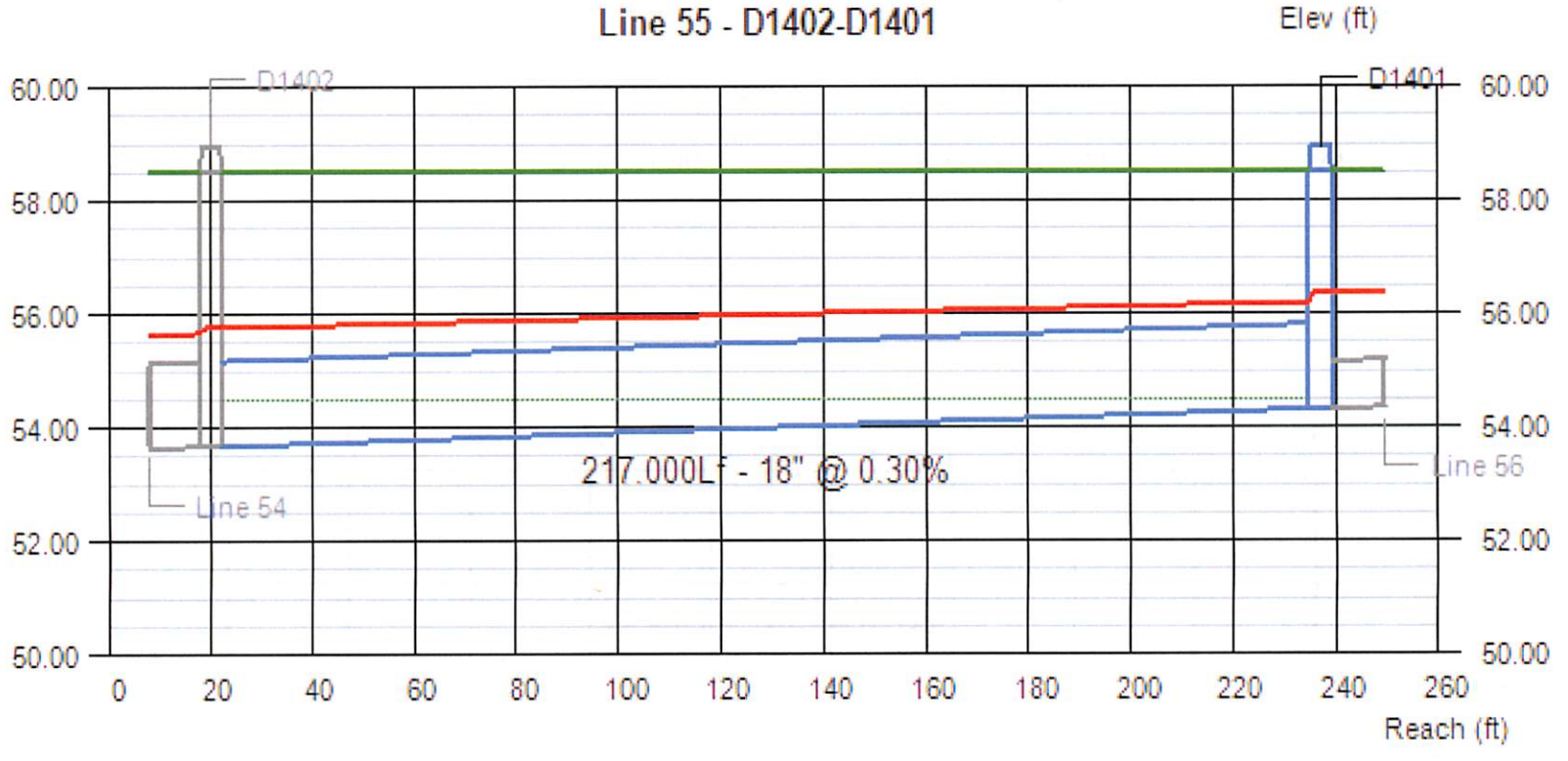
Line Profile (Line 54) - D1403-D1402



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
54	6.26	53.08	53.67	1.50	1.50	2.09	54.97	55.66	55.76	3.54	3.54	3.92	3.33

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

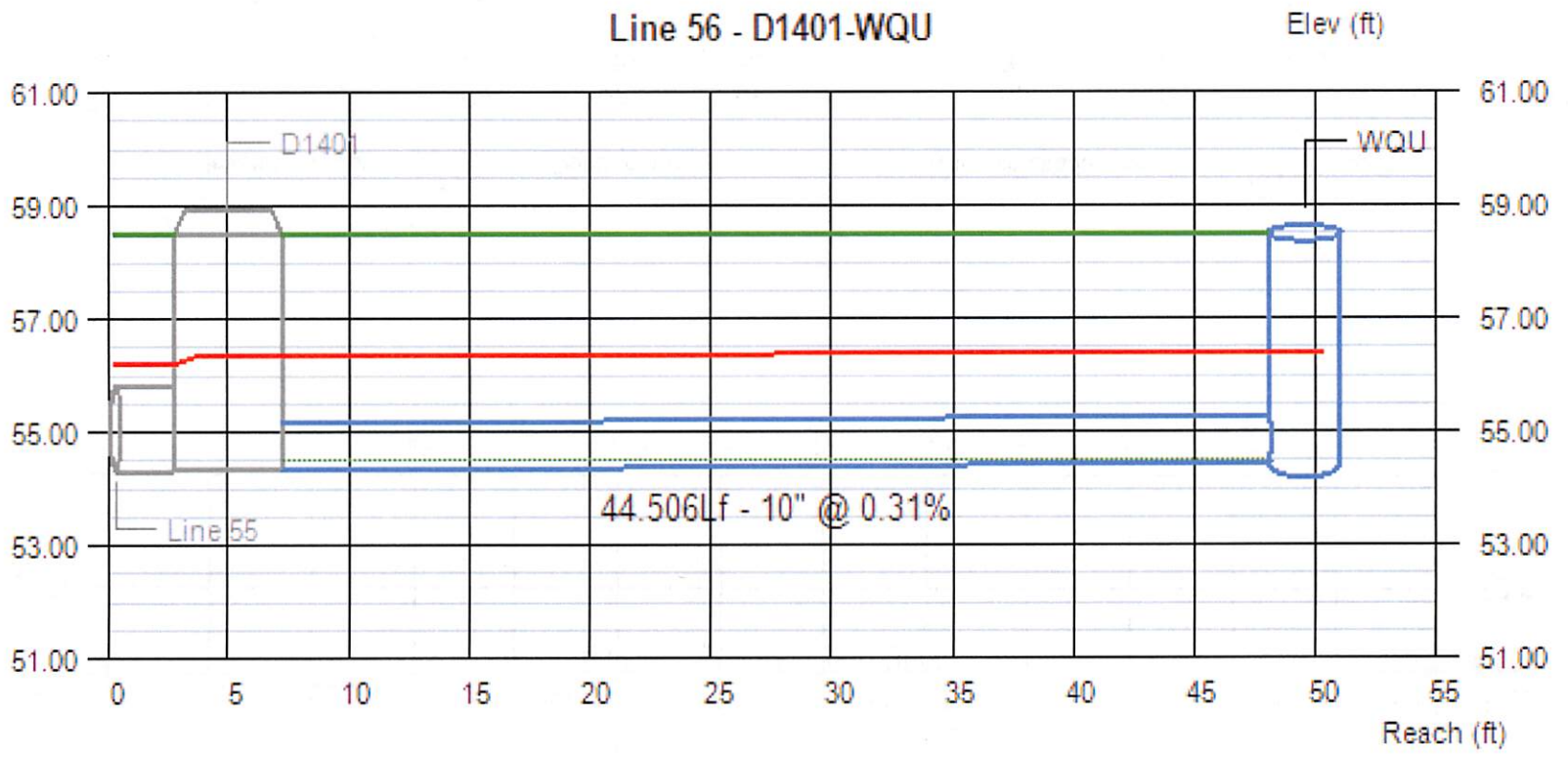
Line Profile (Line 55) - D1402-D1401



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
55	4.71	53.67	54.32	1.50	1.50	2.04	55.76	56.20	56.36	2.67	2.67	3.33	2.68

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

Line Profile (Line 56) - D1401-WQU



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
56	0.26	54.32	54.46	0.83	0.83	1.91	56.36	56.37	56.37	0.48	0.48	3.35	3.21

Lawrence MUCD | No. Lines: 58 | Run Date: 3/11/2013

OUTLET NO. D-109

OUTLET PARAMETERS

PIPE WIDTH:	2.00 FT	PIPE HEIGHT:	2.00 FT
FLOW AT OUTLET:	5.43 CFS	UNIT DISCHARGE:	2.72 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	17.46 FT	RIPRAP SIZE:	0.89 IN
WIDTH:	23.46 FT		
WIDTH (OUTLET):	6.00 FT		

OUTLET NO. D-206

OUTLET PARAMETERS

PIPE WIDTH:	2.00 FT	PIPE HEIGHT:	2.00 FT
FLOW AT OUTLET:	3.70 CFS	UNIT DISCHARGE:	1.85 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	16.35 FT	RIPRAP SIZE:	0.54 IN
WIDTH:	22.35 FT		
WIDTH (OUTLET):	6.00 FT		

OUTLET NO. D-309

OUTLET PARAMETERS

PIPE WIDTH:	2.00 FT	PIPE HEIGHT:	2.00 FT
FLOW AT OUTLET:	5.43 CFS	UNIT DISCHARGE:	2.72 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	17.46 FT	RIPRAP SIZE:	0.89 IN
WIDTH:	23.46 FT		
WIDTH (OUTLET):	6.00 FT		

OUTLET NO. D-407

OUTLET PARAMETERS

PIPE WIDTH:	1.50 FT	PIPE HEIGHT:	1.50 FT
FLOW AT OUTLET:	4.05 CFS	UNIT DISCHARGE:	2.70 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	6.61 FT	RIPRAP SIZE:	0.89 IN
WIDTH:	7.15 FT		
WIDTH (OUTLET):	4.50 FT		

OUTLET NO. D-503

OUTLET PARAMETERS

PIPE WIDTH:	1.50 FT	PIPE HEIGHT:	1.50 FT
FLOW AT OUTLET:	2.70 CFS	UNIT DISCHARGE:	1.80 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	4.41 FT	RIPRAP SIZE:	0.52 IN
WIDTH:	6.26 FT		
WIDTH (OUTLET):	4.50 FT		

OUTLET NO. D-605

OUTLET PARAMETERS

PIPE WIDTH:	1.50 FT	PIPE HEIGHT:	1.50 FT
FLOW AT OUTLET:	3.36 CFS	UNIT DISCHARGE:	2.24 CFS/FT
TAILWATER DEPTH:	1.44 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	5.49 FT	RIPRAP SIZE:	0.39 IN
WIDTH:	6.69 FT		
WIDTH (OUTLET):	4.50 FT		

OUTLET NO. D-705

OUTLET PARAMETERS

PIPE WIDTH:	1.50 FT	PIPE HEIGHT:	1.50 FT
FLOW AT OUTLET:	1.88 CFS	UNIT DISCHARGE:	1.25 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	3.07 FT	RIPRAP SIZE:	0.32 IN
WIDTH:	5.73 FT		
WIDTH (OUTLET):	4.50 FT		

OUTLET NO. D-903

OUTLET PARAMETERS

PIPE WIDTH:	1.25 FT	PIPE HEIGHT:	1.25 FT
FLOW AT OUTLET:	1.32 CFS	UNIT DISCHARGE:	1.06 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	2.83 FT	RIPRAP SIZE:	0.25 IN
WIDTH:	4.88 FT		
WIDTH (OUTLET):	3.75 FT		

OUTLET NO. D-1003

OUTLET PARAMETERS

PIPE WIDTH:	1.25 FT	PIPE HEIGHT:	1.25 FT
FLOW AT OUTLET:	1.56 CFS	UNIT DISCHARGE:	1.25 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	3.35 FT	RIPRAP SIZE:	0.32 IN
WIDTH:	5.09 FT		
WIDTH (OUTLET):	3.75 FT		

OUTLET NO. D-1203

OUTLET PARAMETERS

PIPE WIDTH:	1.25 FT	PIPE HEIGHT:	1.25 FT
FLOW AT OUTLET:	0.48 CFS	UNIT DISCHARGE:	0.38 CFS/FT
TAILWATER DEPTH:	1.06 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	1.03 FT	RIPRAP SIZE:	0.05 IN
WIDTH:	4.16 FT		
WIDTH (OUTLET):	3.75 FT		

OUTLET NO. D-1105

OUTLET PARAMETERS

PIPE WIDTH:	1.25 FT	PIPE HEIGHT:	1.25 FT
FLOW AT OUTLET:	1.41 CFS	UNIT DISCHARGE:	1.13 CFS/FT
TAILWATER DEPTH:	0.81 FT	TAILWATER?	YES

APRON DIMENSIONS

LENGTH:	3.03 FT	RIPRAP SIZE:	0.28 IN
WIDTH:	4.96 FT		
WIDTH (OUTLET):	3.75 FT		

OUTLET NO. B-102

OUTLET PARAMETERS

PIPE WIDTH:	2.00 FT	PIPE HEIGHT:	2.00 FT
FLOW AT OUTLET:	0.64 CFS	UNIT DISCHARGE:	0.32 CFS/FT
TAILWATER DEPTH:	0.00 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	14.41 FT	RIPRAP SIZE:	0.11 IN
WIDTH:	20.41 FT		
WIDTH (OUTLET):	6.00 FT		

OUTLET NO. B-202

OUTLET PARAMETERS

PIPE WIDTH:	2.00 FT	PIPE HEIGHT:	2.00 FT
FLOW AT OUTLET:	0.64 CFS	UNIT DISCHARGE:	0.32 CFS/FT
TAILWATER DEPTH:	0.00 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	14.41 FT	RIPRAP SIZE:	0.11 IN
WIDTH:	20.41 FT		
WIDTH (OUTLET):	6.00 FT		

OUTLET NO. D-1306

OUTLET PARAMETERS

PIPE WIDTH:	1.25 FT	PIPE HEIGHT:	1.25 FT
FLOW AT OUTLET:	0.22 CFS	UNIT DISCHARGE:	0.18 CFS/FT
TAILWATER DEPTH:	0.00 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	9.03 FT	RIPRAP SIZE:	0.08 IN
WIDTH:	12.78 FT		
WIDTH (OUTLET):	3.75 FT		

OUTLET NO. B-1202

OUTLET PARAMETERS

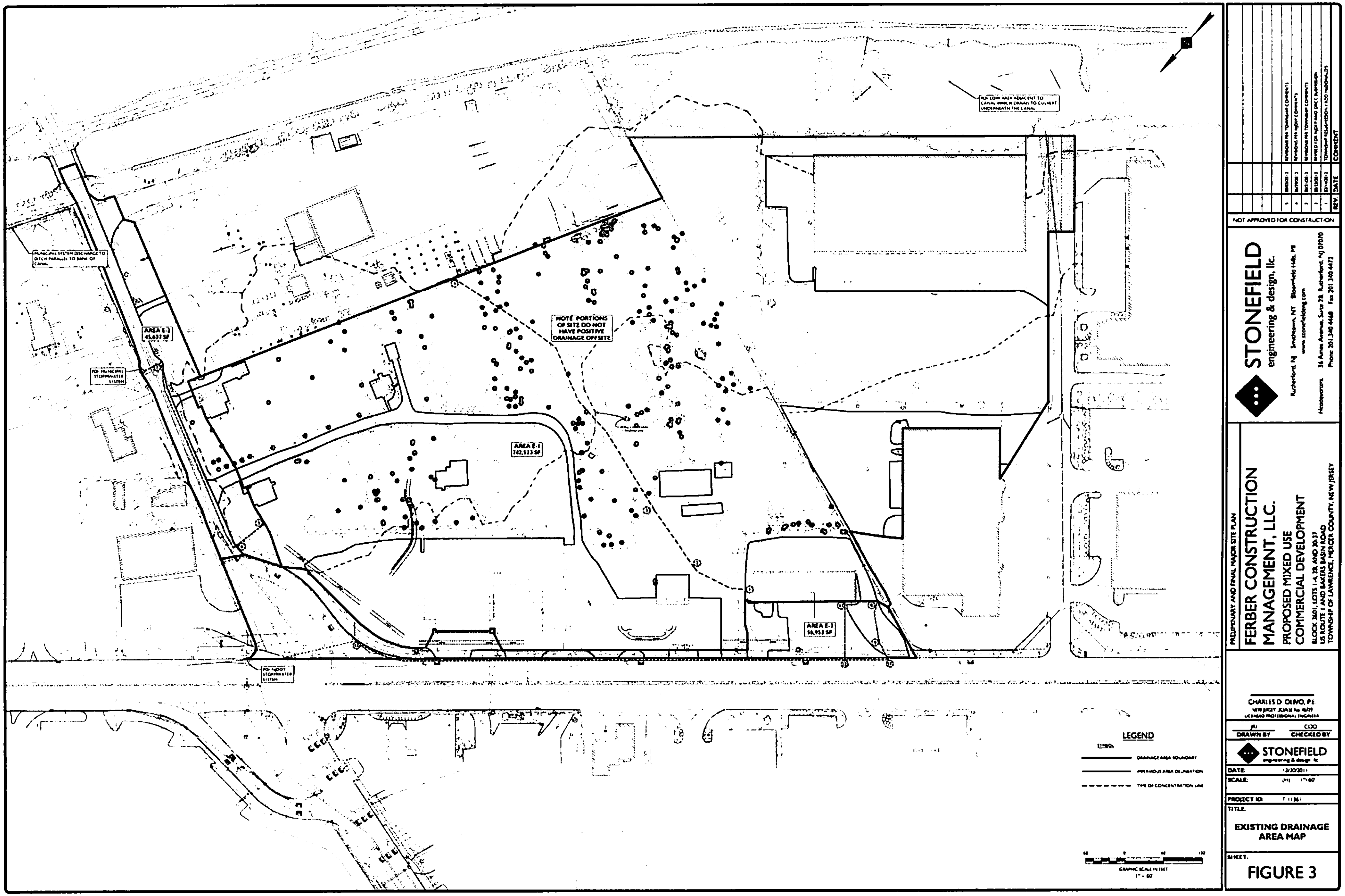
PIPE WIDTH:	1.25 FT	PIPE HEIGHT:	1.25 FT
FLOW AT OUTLET:	0.75 CFS	UNIT DISCHARGE:	0.60 CFS/FT
TAILWATER DEPTH:	0.00 FT	TAILWATER?	NO

APRON DIMENSIONS

LENGTH:	9.72 FT	RIPRAP SIZE:	0.39 IN
WIDTH:	13.47 FT		
WIDTH (OUTLET):	3.75 FT		

APPENDIX F

STONEFIELD STORMWATER MANAGEMENT REPORT, DATED DECEMBER 30, 2011, LAST REVISED MARCH 11, 2023
DRAINAGE AREA MAPS


FOR LOW AREA ADJACENT TO CANAL WHICH DRAINS TO CULVERT UNDERNEATH THE CANAL
MUNICIPAL SYSTEM DISCHARGE TO DITCH PARALLEL TO BANK OF CANAL
AREA E-2 45,637 SF
POI MUNICIPAL STORMWATER SYSTEM
NOTE: PORTIONS OF SITE DO NOT HAVE POSITIVE DRAINAGE OFFSITE
AREA E-1 742,523 SF
AREA E-3 56,953 SF
POI NJDOT STORMWATER SYSTEM
LEGEND
DRAINAGE AREA BOUNDARY
IMPERVIOUS AREA DELINEATION
TIME OF CONCENTRATION LINE
GRAPHIC SCALE IN FEET
1" = 60'
NOT APPROVED FOR CONSTRUCTION
REV. DATE COMMENT
STONEFIELD
engineering & design, llc.
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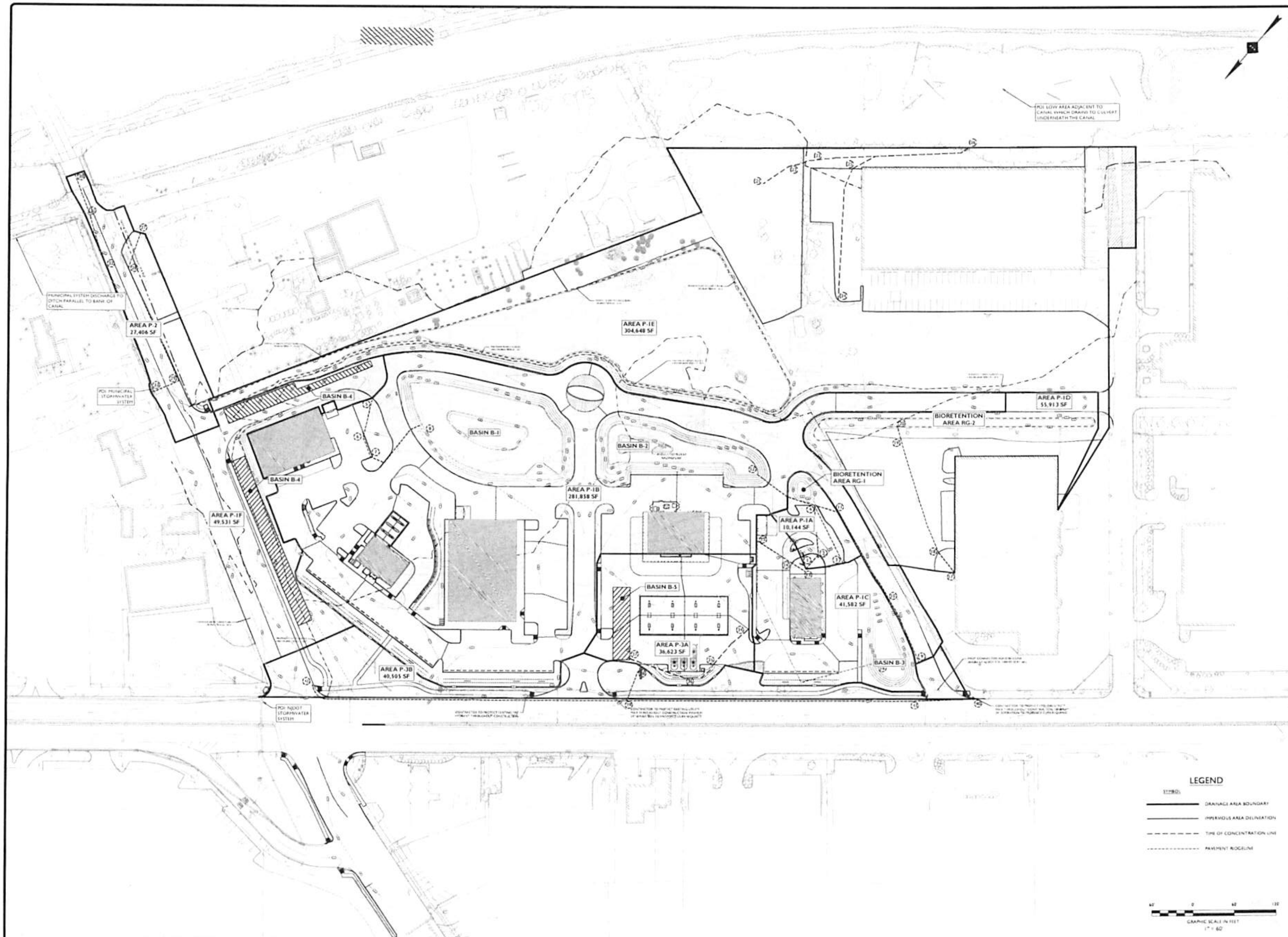
www.stonefielddeng.com
Headquarters: 36 Ames Avenue, Suite 2B, Rutherford, NJ 07070
Phone 201 340 4468 · Fax 201 340 4472
PRELIMINARY AND FINAL MAJOR SITE PLAN
FERBER CONSTRUCTION MANAGEMENT, LLC.
PROPOSED MIXED USE COMMERCIAL DEVELOPMENT
BLOCK 3601, LOTS 1-4, 28, AND 30-37
US ROUTE 1 AND BAKERS BASIN ROAD
TOWNSHIP OF LAWRENCE, MERCER COUNTY, NEW JERSEY
CHARLES D. OLIVO, P.E.
DRAWN BY JU
CHECKED BY CDO
DATE: 12/30/2011
SCALE: 1" = 60'
PROJECT ID: T-11361
TITLE: EXISTING DRAINAGE AREA MAP
SHEET: FIGURE 3



REV	DATE	COMMENT
		REVISIONS PER TOWNSHIP COMMENTS
		REVISIONS PER NJDEP COMMENTS
		REVISIONS PER TOWNSHIP COMMENTS
		REVISED FOR NJDEP AND DRCC SUBMISSION
		TOWNSHIP RESUBMISSION / ADD McDONALD'S

NOT APPROVED FOR CONSTRUCTION

STONEFIELD
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PRELIMINARY AND FINAL MAJOR SITE PLAN

FERBER CONSTRUCTION MANAGEMENT, LLC.

PROPOSED MIXED USE
COMMERCIAL DEVELOPMENT

BLOCK 3601, LOTS 1-4, 28, AND 30-37
US ROUTE 1 AND BAKERS BASIN ROAD
TOWNSHIP OF LAWRENCE, MERCER COUNTY, NEW JERSEY

CHARLES D. OLIVO, P.E.
NEW JERSEY LICENSE No. 46719
LICENSED PROFESSIONAL ENGINEER

DRAWN BY	CHECKED BY
JRI	CDO

STONEFIELD engineering & design, llc

DATE: 12/30/2011
SCALE: (H) 1"=60'
PROJECT ID: T-11361
TITLE:

PROPOSED DRAINAGE AREA MAP

SHEET:

FIGURE 4

PRELIMINARY AND FINAL MAJOR SITE PLAN

FERBER CONSTRUCTION MANAGEMENT, LLC.

PROPOSED MIXED USE
COMMERCIAL DEVELOPMENT

BLOCK 3401, LOTS 1.4, 28, AND 30.37
US ROUTE 1 AND BAKERS BASIN ROAD
TOWNSHIP OF LAWRENCE, MERCER COUNTY, NEW JERSEY

CHARLES D. OLIVO, P.E.
NEW JERSEY LICENSE No. 24371
CERTIFIED PROFESSIONAL ENGINEER

DRAWN BY	CHECKED BY
JRJ	COO

STONEFIELD engineering & design, llc.

DATE: 12/20/2013
SCALE: (H) 1"=40'
PROJECT ID: 11138
TITLE: INDIVIDUAL INLET DRAINAGE AREA MAP

SHEET: FIGURE 5

NOT APPROVED FOR CONSTRUCTION

STONEFIELD
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Phone 201 340 4468 Fax 201 340 4472

REV	DATE	COMMENT
1	08/05/2013	REVISIONS PER TOWNSHIP COMMENTS
2	08/29/2013	REVISIONS PER NJDEP COMMENTS
3	09/13/2013	REVISIONS PER TOWNSHIP COMMENTS
4	09/19/2013	REVISED FOR NJDEP AND DMCC SUBMISSION
5	09/24/2013	TOWNSHIP RESUBMISSION / ADD MONUMENTS